

OfficeServ 7030

System Description



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INTRODUCTION

Purpose

This document introduces product overview, Hardware configuration, Specification and functions of OfficeServ 7030, which are required to understand OfficeServ 7030 system.

Document Content and Organization

This document consists of four Chapters and Annex and Abbreviations.

CHAPTER 1. Overview of OfficeServ 7030

Describes the features and the main functions of OfficeServ 7030 overall and introduces system configuration and interface programming.

CHAPTER 2. Hardware of OfficeServ 7030

Introduces Hardware features, cabinet composition, boards by functions and configuration of OfficeServ 7030. In addition, this chapter describes various stations, wireless equipment and additional equipment available for OfficeServ 7030.

CHAPTER 3. Specification of OfficeServ 7030

Introduces the detailed standards, such as system capacity, electrical standards, power standards, ring and tone, equipment specification, of OfficeServ 7030.

CHAPTER 4. Functions of OfficeServ 7030

Describes Call, VoIP, Data, Voice Mail (VM), and Web and System management functions provided by OfficeServ 7030.

ANNEX A. Required Public Statement for GPL/LGPL Licensed Software used in this Product

This chapter describes the GPL/LGPL software used in this product and the GPL/LPGL License Agreements.

ABBREVIATION

Describes the acronyms used in this manual.

Conventions

The following types of paragraphs contain special information that must be carefully read and thoroughly understood. Such information may or may not be enclosed in a rectangular box, separating it from the main text, but is always preceded by an icon and/or a bold title.

**CAUTION****CAUTION**

Provides information or instructions that the reader should follow in order to avoid a service failure or damage to the system.

**NOTE****NOTE**

Indicates additional information as a reference.

Reference

OfficeServ 7030 Installation Manual

This manual describes the prerequisite for the installation of the OfficeServ 7030 system as well as how to install, inspect and operate the system.

OfficeServ 7030 Service Manual

This manual provides an overview, specification, hardware circuit configuration and feature of the system.

Revision History

EDITION	DATE OF ISSUE	REMARKS
00	05. 2008	First Edition
01	07. 2008	<ul style="list-style-type: none">- Functions of BRI/MEM/LAN LED are changed.- Cautions are added.<ul style="list-style-type: none">• Turning off power switch after dismounting MEM• Checking MEM LED before power off• Checking LAN cable during lighting LAN LED on• Caution for using extension cable- ANNEX A is added.

SAFETY CONCERNS

For product safety and correct operation, the following information must be given to the operator/user and shall be read before the installation and operation.

Symbols

**Caution**

Indication of a general caution

**Restriction**

Indication for prohibiting an action for a product

**Instruction**

Indication for commanding a specifically required action



CAUTION



Checking MEM LED before power off

Don't turn off the power whilst the MEM LED is blinking. It may cause a malfunction of the system. If you want to turn off the power, turn off power switch after using 'Key MMC 817 MEM UMOUNT'.



Turning off power switch after dismounting MEM

You should dismount MEM before turning off the power switch. Use 'Key MMC 817 MEM UMOUNT' to dismount the MEM.



Checking LAN cable during lighting LAN LED on

The LAN LED lights when an EPM board is installed, even when the LAN cable is not connected. Check if the LAN cable is connected during when the LAN LED is on.



Caution for using extension cable

Check if the expansion cable is connected during operation. The expansion cabinet may malfunction if the expansion cable is not connected during operation. In that case, you should connect extension cable again and restart expansion cabinet.

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**ANNEX A. Required Public Statement for GPL/LGPL Licensed
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ABBREVIATION	I
2 ~ D	I
F ~ Q	II
S ~ V	III

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CHAPTER 1. Overview of OfficeServ 7030

This chapter describes the features and the main functions of OfficeServ 7030 overall and introduces system structure, interface and programming.

1.1 Introduction to System

OfficeServ 7030 is the best communication product for offices with 4 to 20 lines and provides advanced functions including voice and applications. Users can enjoy various phone functions and applications using the various devices such as digital phones, IP phones, WLAN phones, PCs and servers.

1.1.1 Main Functions

The Main functions and features of OfficeServ 7030 are as follows:

Integrated Communication Environment

OfficeServ 7030 provides data transmission by using Local Area Network (LAN) modules as well as the voice call functions. Users can communicate by using wireless and wired integration platforms (Telephones, PCs, Wireless Phones and peripherals).

LAN Functions

OfficeServ 7030 supports LAN interface modules so that it can exchange data with network applications and devices via its 100 base-T interface without additional data equipment.

Wireless LAN Service

OfficeServ 7030 provides a wireless LAN solution for wireless voice and data services. OfficeServ 7030 uses wireless LAN base stations so that the OfficeServ 7030 can serve wireless voice and data communication and internet access.

A Variety of Application Solutions

OfficeServ 7030 offers a variety of application solutions such as OfficeServ EasySet, Integrated Fax Server, OS Call and Digital Integrated Recording Systems.



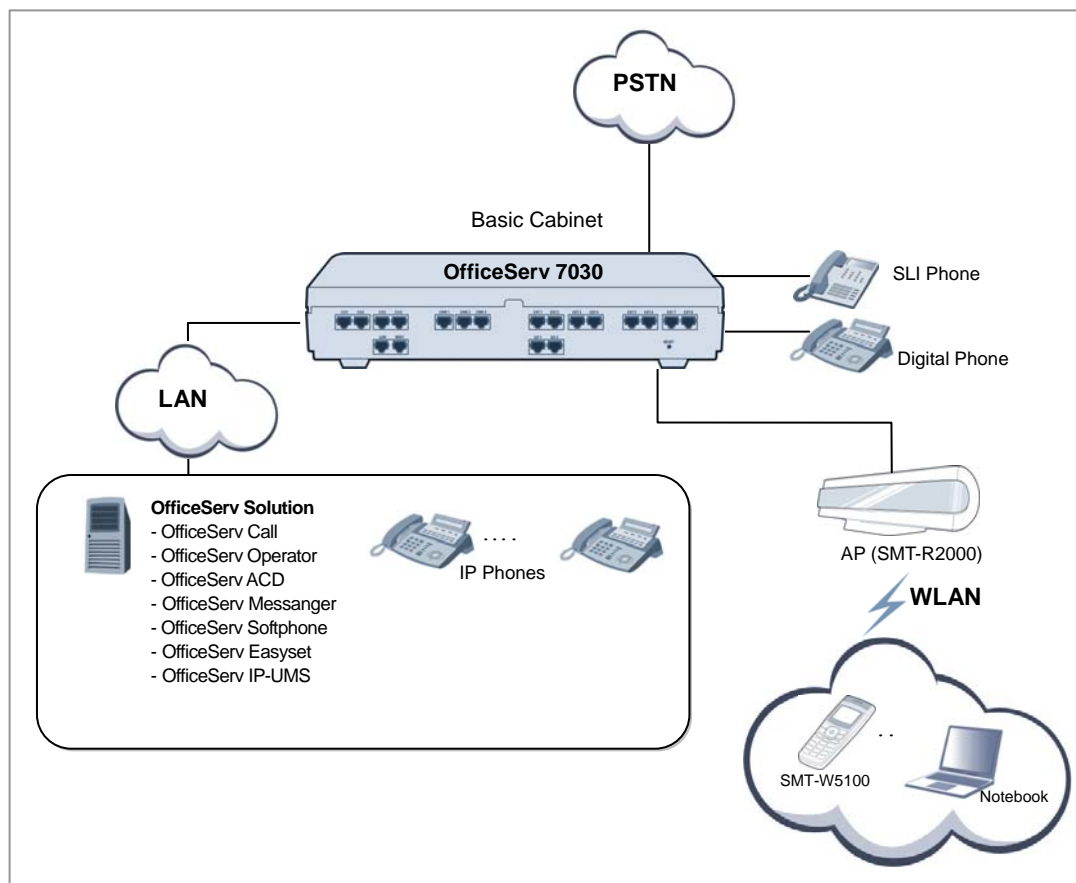
NOTE

Integrated and Application Solution

- 'Integrated' means that OfficeServ 7030 system inter-works with an external solution server and the system and the server operates as one integrated function.
- For detailed information about how to use each application solution, refer to the User's Guide for each application.

1.1.2 System Architecture

OfficeServ 7030 is configured with a basic cabinet and expansion cabinet mounted either on a wall or positioned in a 19" rack. The cabinet consists of a control part on the base board and three daughter board parts on the base board. The service configuration diagram of OfficeServ 7030 system is shown in the figure below:



Voice Station Part

The voice station part is configured with Digital Line Interface (DLI), which is a digital station, and Single Line Interface (SLI), which is an analog station, and provides voice services. Multiple station boards can be mounted depending on the combination of port numbers and stations. The digital station has 4DM and 2DM daughter boards, and the analog station has the 4SM daughter board.

Data Transmission Part

The data module is configured with 4LM, which is a LAN interface board. 4LM is a daughter board that supports data transmission/reception and can be mounted on the Base board. 4LM provides 4 x 100 base-T interfaces.

Voice Application Part

The voice application module supports VoIP services through a data network (LAN/WAN). Data networks can be configured by Local Area Network (LAN). The Media Gateway Interface Module (MGI) converts voice into data and provides VoIP services in on data network.

Application Solutions

OfficeServ 7030 provides the following application software. OfficeServ Solutions and OfficeServ Admin are constructed in additional servers.

- OfficeServ Solution (CTI, OfficeServ Operator)
- OfficeServ Admin (Web Management, Installation Tool)

1.2 Interface

This section describes the interfaces between the sub-modules of OfficeServ 7030 and the VoIP elements.

1.2.1 Interfaces between Sub-modules

Table 1.1 Interface between Sub-Modules

Categories	Types	Interfaces
4LM Interface	Physical Access	IEEE 802.3 10 BASE-TX, IEEE 802.3u 100 BASE-TX
	Connector Type	RJ-45
PSTN Interface	Physical Access	Foreign Exchange Office (FXO)
	Connector Type	RJ-45
	Access Protocol	Loop Start
ISDN Interface	Physical Access	ISDN BRI
	Connector Type	RJ-45
	Access Protocol	ISDN BRI
Voice Terminal Interface	Analog Phone	Foreign Exchange Station (FXS)
	Digital Phone	SAMSUNG's Digital Phone
	Wireless LAN AP (Access Point)	802.11a/b/g, SMT-R2000 (SAMSUNG's Wireless LAN AP)
	Access Protocol	User Agent (UA) to UA

1.2.2 Interfaces between VoIP Components

OfficeServ 7030 provides various VoIP interfaces as follows:

- VoIP Networking
- Session Initiation Protocol (SIP Trunking)
- System SIP User Agent (UA)
- IP Telephone
- Standard SIP Telephone

In view of signal processing, the interface interworking standards between VoIP components are as follows:

- Proprietary TCP Inter Process Communication (IPC)
- SIP UA-to-UA
- UA-to-Server

1.3 Programming

The Man Machine Communication (MMC) program is used to change the data value for system operation and programming. The MMC program is categorized into three levels, which are technician, operator, and subscriber. Depending on these levels, some MMCs can be programmed by the subscribers while some MMCs cannot.

A password is required for technician level programming or operator level programming; however, a password is not required for subscriber level programming.

Technician-Level Programming

All programs are programmable.

Programming can be made at any digital station on the OfficeServ system, but programming can only be accessed from one station at a time.

Operator Level Program

The operator can program only the programs specified in 'Specification of Program 802 Operator Program Range' by a technician. Programming can be made at any digital station on the OfficeServ system, but programming can only be accessed from one station at a time.

Subscriber Level Program

Only subscriber/user programs are programmable. Programming can be made at any digital station on the OfficeServ system, and programming can be accessed at multiple stations at once.

CHAPTER 2. Hardware of OfficeServ 7030

This chapter introduces the hardware features, cabinet configuration, board functions and the configuration of OfficeServ 7030 system. In addition, this chapter describes terminals, wireless LAN equipment, and additional equipment available in OfficeServ 7030 system.

2.1 Features of Hardware

The H/W of OfficeServ 7030 has the following features:

Reliability

The materials and parts used for OfficeServ 7030 hardware are robust and satisfy the mechanical and electric features required for communication systems.

- The cabinet of OfficeServ 7030 complies with the industrial standards and is molded plastics with flame retardant materials.
- OfficeServ 7030 hardware does not generate poisonous or corrosive gas, which might be harmful for human bodies or affect the system operation.
- OfficeServ 7030 hardware has a failure-tolerance to protect the system from the damage caused by over-voltage.

Modularity

OfficeServ 7030 hardware has functional modules.

- Each module can be easily installed or removed via a plug-in plug-out operation.

Maintenance

OfficeServ 7030 hardware is designed to be maintained with ease and safety.

- The cabinet is designed to maintain sufficient strength.
- The installers or maintainers can connect cables easily as the ports are accessed via removing the side panel.
- OfficeServ 7030 hardware is designed to protect electronic devices from damage caused by the external environment while installing or maintaining.

Fire Resistance and Heat Processing

OfficeServ 7030 hardware is made of fire-resistant materials and parts to protect the hardware from fire. OfficeServ 7030 hardware is designed not to affect system performance due to heat generated from inside the system.

- A specific heat-generated part of hardware is blocked in order not to affect temperature-sensitive components.
- The parts installed into the modules are located on the basis of heat distribution.
- Heat from the inner part is removed by convection current method naturally.

2.2 Cabinet Configuration

OfficeServ 7030 consists of two cabinets (basic/expansion cabinet). The basic cabinet manages the entire OfficeServ 7030, performs switching, processes signals, and manages the subscriber terminals. The expansion cabinet is the minor control part and controls the line boards and sends/receives information to/from the basic cabinet.



Figure 2.1 Left side view of OfficeServ 7030 cabinet

The descriptions of each part on the left of the cabinet are listed in the table below.

Table 2.1 Parts on the left side of the cabinet

Part	Function
① Power Switch	Power on/off OfficeServ 7030 system
② Power I/O Connector	Connector for the power cable connection



Turning off power switch after dismounting MEM

You should dismount MEM before turning off power switch. Use 'KMMC 817 MEM UMount' to dismounting MEM.

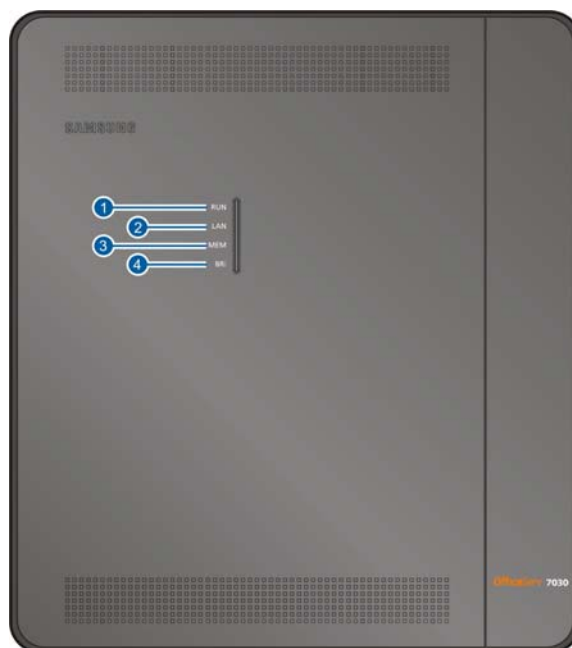


Figure 2.2 Top side view of OfficeServ 7030 cabinet

The descriptions of each part of the top of the cabinet are listed in the table below.

Table 2.2 Parts on the top side of the cabinet

Part	Function
① RUN LED	Status of Main CPU operation - Off: No-Operation - On (Green): On Booting - Blink (Green): Normal Operation of Program - ON (Red): Flash Memory (Data base) clear
② LAN LED	LAN operation status - Off: LAN is not connected - On (Green) <ul style="list-style-type: none"> • LAN is connected • EPM is connected - Blink (Green): Tx/Rx of data through LAN port
③ MEM LED	MEM operation status - Off: Before recognizing Flash memory - On (Green): After recognizing Flash memory and normal state of the Flash memory - Blink (Green): Accessed by application and Read/Write/Erase
④ BRI LED	The status of ports - Off: Not used - On (Green): In use - Blink (Green): BRI line is activated



CAUTION

Checking MEM LED before power off

Don't turn off the power whilst the MEM LED is blinking. It may cause a malfunction of the system. If you want to turn off power, turn off power switch after dismounting MEM with 'KMMC 817 MEM UMount'.



CAUTION

Checking LAN cable during lighting LAN LED on

LAN LED lights on when an EPM board is installed LAN cable is not connected. Check if LAN cable is connected during lighting LAN LED on.

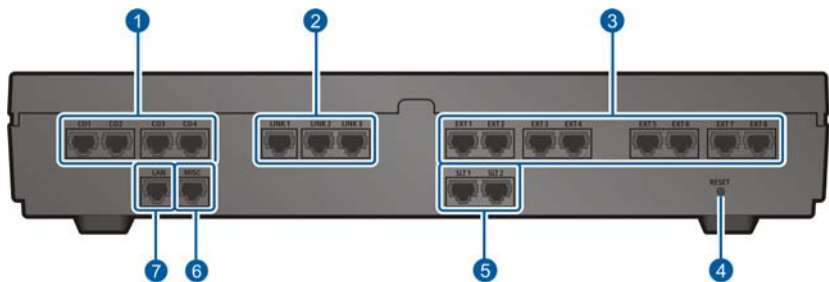


Figure 2.3 Right side view of OfficeServ 7030 cabinet

The descriptions about each part on the right of the cabinet are listed in the table below.

Table 2.3 Parts on the right panel of the cabinet

Part	Function
① C.O 1-4	Trunk ports
② LINK1-3	Ports that connect the Base cabinet with the expansion cabinet
③ EXT1-8	Station ports for subscribers (ex. analog phone, digital phone, LAN)
④ Reset	Button for resetting the system
⑤ SLT1, 2	Station ports for analog phones
⑥ MISC	Ports that connect external music sources, paging device, loud bell, common bell, or door bell
⑦ LAN	LAN port

2.2.1 Configuration of daughter boards

OfficeServ 7030 has three daughter board slots. These slots can be equipped with the following daughter boards depending on the configuration of OfficeServ7030:

Table 2.4 Daughter boards that can be mounted on the slots

Parts	Slots	Mountable Boards
Trunk Part	Slot 4	4TM, 2BM
Subscriber Part	Slot 2 and Slot 3	4DM, 2DM, 4SM, 4LM

2.3 Boards by Functions

OfficeServ7030 has Base board and three slots to mount daughter boards. Each slot can have a daughter board that can perform the following function depending on the configuration type of OfficeServ7030.

Table 2.5 Boards by Functions

Functions	Board and daughter boards
Main Control	Base
Voice Trunk Line	2BM and 4TM
Voice Station	4DM, 2DM and 4SM
Data	4LM, MODEM (optional)
Expansion	EPM (optional)
Power	PSU

2.3.1 Control Board (Base)

This paragraph describes the configuration and the functions of the Base Board, which is the main control board that controls all functions of OfficeServ7030.

The Base board is the main control part board that controls all functions of OfficeServ7030 and is mounted on the cabinet. It performs the voice switching function, signal processing function and Programmable Store System (PSS) management function. The Base board carries out the system booting function also.

If a 4LM, which is a daughter board, is installed, The Base board starts various applications. The Base board strengthens the flexibility of the system and by applying the VoIP function and IPC between cabinets raises the reliability by using Transmission Control Protocol (TCP) protocol.

Main Functions

The Base board offers the following functions:

- Various application operations via LAN interface
- Installation via Flash Memory
- Database backup
- Port for Universal Asynchronous Receiver and Transmitter (UART) test
- External/Internal Music On Hold (MOH) and Loud/common bell functions
- Time setting and display function
- Analog Phase Locked Loop (APLL) function for the synchronization with digital subscribers

Option Board

The Base board can have a MODEM Board, or a EPM board as an optional extra.

The MODEM board has the following functions:

- A 2-Wire Full Duplex modem. Be careful of the direction of the Modem board when mounting/demounting the Modem to the Base board.
- The Modem board operates via V.24 interface and uses a modem chip for Central Office, which can perform Pulse Code Modulation (PCM) highway interface. In addition, the Modem board supports V.90 protocol. OfficeServ7030 controls the Modem board via serial communication using standard AT commands.

The EPM board has the following functions:

- EPM has three link ports. One is a LAN and the others are HDLC links
- EPM is necessary for connection between 4LM and LAN port, connection between basic cabinet and expansion cabinet with extension cable.
- If a 4LM is mounted on Base board, EPM must be installed for connection between the LAN port of base board and LAN ports of 4LM.
- An EPM on the Base Board must be connected to the EPM in expansion cabinet with three extension cables, which are straight LAN cables.



CAUTION

Caution for using extension cable

Check if extension cable is connected during operation. The expansion cabinet may malfunction if the extension cable is not connected during operation. In that case, you should connect extension cable again and restart expansion cabinet.

Specification

The specification of The Base board sub-control board is as follows:

Table 2.6 Specification of Base Board

Categories	Names	Standards
CPU	Processor	M82805
	System Clock	375 MHz
	Package	484 BGA (BALL GRID ARRAY)
SDRAM (Memory for programs and data)	Capacity	128 MByte
	Width of Data Bus	32 Bit
Flash Memory (For Booting)	Capacity	512 KByte
	Width of Data Bus	8 bit
Flash Memory (For Program and Data)	Capacity	1 GByte
	Width of Data Bus	8 bit

Table 2.6 Specification of Base Board (Continued)

Categories	Names	Standards
Time Switch	Device	STC9604
	Basic Switch	256 x 256 Channel
	Data Bus Width	8 Bit
RTC	Device	RTC8564
	Time for Backup	12 days
EEPROM Data memory (example: MAC/IP Address)	Capacity	4 kByte
	Data Bus Width	8 Bit
Others	Internal MOH port	1
	External MOH port	1
	LAN port	1
	SLI port	2

Board View of Base

The front view of the base board is as shown in the figure below.

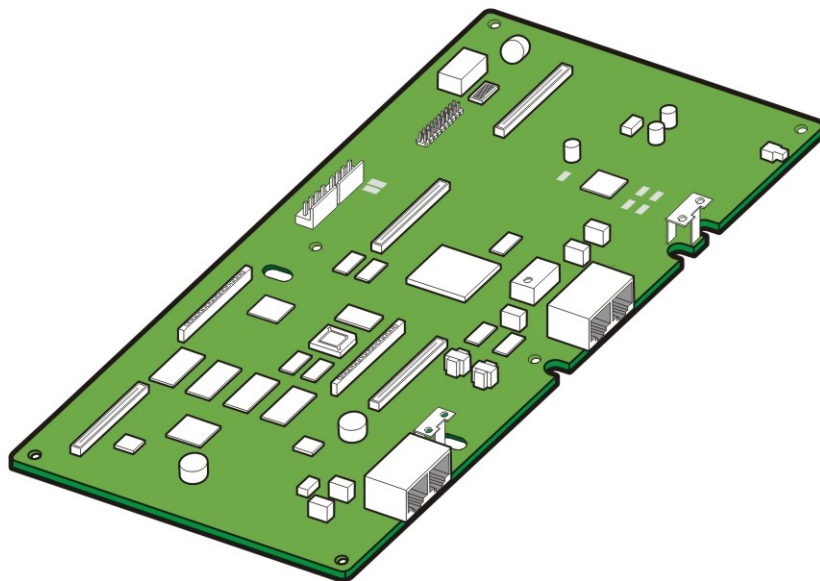


Figure 2.4 View of Base Board

The components on the front panel of the base board are as below:

Table 2.7 Ports of Base Board

Ports and LEDs	Functions
LAN	Port to connect 100 BASE-T LAN
MISC	Port to connect Ext PAGING, DRY CONTACT and Ext MOH
SLT1, SLT2	Port to connect SLI
RST	Switch for system Reset Switch for Data base clear when pushed and held for more than 5 seconds

2.3.2 Voice Trunk Line Board

This section describes the boards that offer the voice service trunk lines.

2.3.2.1 2BM

The 2 BM (2 port BRI Module) provides a digital trunk line. A 2BM board provides 2B+D channels. This board transmits voice via the trunk line and a channel transmits the voice data at 64 Kbps.

Major Functions

The 2BM voice trunk line board performs the functions as below:

- Uses 2 port T mode
- Endures the ITU-recommended level of surge.
- Protects the output port by monitoring line signals.
- Crystal-less wander and jitter attenuation/compensation to TR62411.

Specifications

The specifications of the 2BM voice trunk line board are as follows:

- Two trunk line port
- T-Interface: 4 channels

Board View of 2BM

The front view of 2BM voice trunk line board is shown in the figure below:

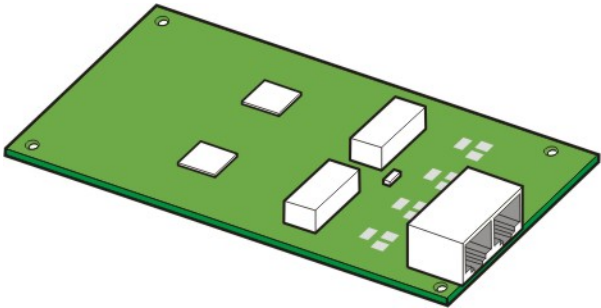


Figure 2.5 Board View of 2BM

The components on the front panel of 2BM have the functions below:

Table 2.8 Ports of 2BM Board

Port	Function Description
P1, P2	Ports to connect BRI cables

2.3.2.2 4TM

4TM (4 port Trunk Module) provides analog trunk line ports. One board has the CID path. In addition, the board provides voice through trunk lines and transmits the voice data at 64 kbps to each channel.

Main Functions

4TM voice trunk line board performs the functions below:

- Detecting ring reception
- Detecting on/off-hook
- Transmitting dial pulse
- CID function
- Line monitoring function that checks if the line is connected periodically
- Caller information relay path function

Specifications

The specifications of 4TM voice trunk line board are as follows:

- Four trunk line ports

Board View of 4TM

The front view of 4TM board is shown in the figure below:

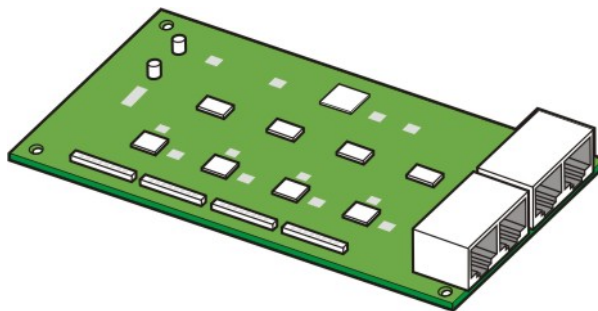



Figure 2.6 Board View of 4TM

The components on the front panel of 4TM have the functions below:

Table 2.9 Ports of 4TM Board

Port	Function Description
P1~P4	Trunk Ports



Description of 4TM
4TM Module supports only DTMF dialling, but does not support Pulse dialling

NOTE

2.3.3 Voice Station Board

This section describes the boards that offer station services

2.3.3.1 4SM

4SM (4 port SLI Module) supports 4-port for analog stations.

Main Functions

The main functions of 4SM voice station board are as follows:

- Generating the ring at 20 Hz
- Detecting Dial Tone Multi Frequency (DTMF)/dial pulse
- Detecting on/off-hook
- Generating a tone

Specifications

The specifications of 4SM voice station board are as follows:

- Four station ports

Board View of 4SM

The front view of 4SM board is shown in the figure below:

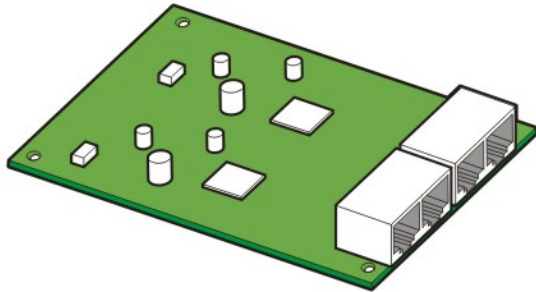


Figure 2.7 Board View of 4SM

The components on the front panel of 4SM have the functions below:

Table 2.10 Ports of 4SM

Port	Function Description
P1~P4	Station ports of analog phones

2.3.3.2 4DM

4DM (4 port DLI Module) supports 4-port for digital stations.

Specifications

The specifications of 4DM voice station boards are as follows:

- Four station ports and 2B+D (Two voice channel and one signal channel) provided

Board View of 4DM

The front view of 4DM voice station board is shown in the figure below:

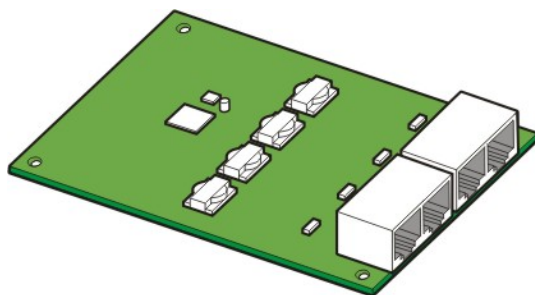


Figure 2.8 Board View of 4DM

The components on the front panel of 4DM have the functions below:

Table 2.11 Ports of 4DM Board

Port	Function Description
P1~P4	Station ports of Samsung digital phones

2.3.3.3 2DM

2DM (2 port DLI Module) board supports 2-port for digital stations.

Specifications

The specifications of 2DM voice station boards are as follows:

- 2DM Board: Two station ports and 2B+D (Two voice channel and one signal channel) provided

Board View of 2DM

The front view of 2DM voice station board is shown in the figure below:

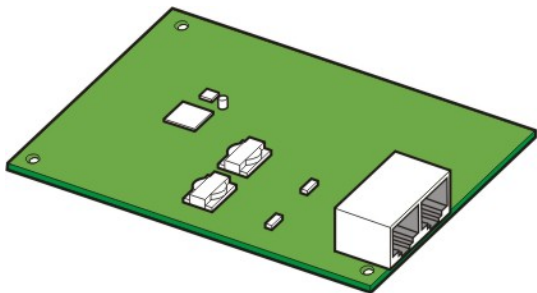


Figure 2.9 Board View of 2DM

The components on the front panel of 2DM have the functions below:

Table 2.12 Ports of 2DM Board

Port	Function Description
P1, P2	Station ports of Samsung digital phones

2.3.4 Data Board (4LM)

4LM (4 port LAN Module), which is the data board of OfficeServ 7030, provides 100 Base-T interface and performs Switching Hub functions.

Main function

The main functions of 4LM board are as follows:

- Auto-detection function of 100 BASE-T and Full/Half duplex

Specifications

The specifications of 4LM data boards are as follows:

- Four 10, 100 Base-T ports

Board View

The board view of the 4LM is shown in the figure below:

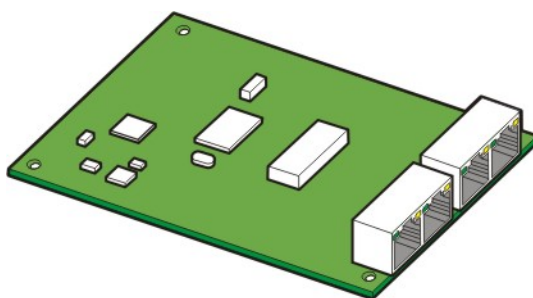


Figure 2.10 Board View of 4LM

Table 2.13 Ports and LEDs of 4LM Board

Port, LED	Function Description
P1~P4	Ethernet Connection Port
Left LED of Each Port	Link Operation - Blinking: Link is in operation
Right LED of Each Port	10/100 BASE-T Operation - Off: In operation as 10 BASE-T - On: In operation as 100 BASE-Tx

2.4 Station Phones

This section describes the types and features of analog/digital station phones that can be connected to OfficeServ 7030 system.

2.4.1 SLT (single line telephone) Phones

The SLT phones used for voice calls are connected to the ports of 4SM boards, or the 2 SM ports on the Base board.

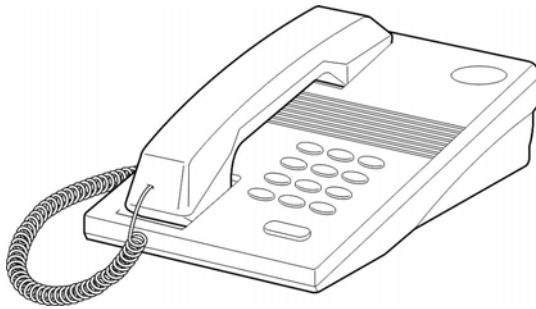


Figure 2.11 Regular Phone

2.4.2 Digital Phones

Digital phones are used for the transmission of voice calls and data, and are connected to the ports of 4DM board mounted on the slot of OfficeServ 7030 system.

2.4.2.1 DS-5000 Series

DS-5038D/5021D/5014D

DS-5038D/5021D/5014D phones are two-line LCD digital phones and have 38, 21, or 14 program buttons that allow the subscribers to register their desired functions and make calls by using a handset/speaker phone.

DS-5021D/5014D phones have the navigation buttons that allow the users to easily use the phone functions (searching phone numbers by recent calling number, recent called number and name, setting call forwarding and an alarm, and searching speed dials) and connect with the KDB-D/S/F devices. For detailed information on the phones, refer to 'User's Guide for OfficeServ Digital Phones, DS-5038D/5021D/5014D'.



Figure 2.12 DS-5014D



Figure 2.13 DS-5021D



Figure 2.14 DS-5038D

2.4.3 IP Phone

The IP phones use the installed data network lines to make voice communications and do not need telephone lines.

ITP-5112L

The ITP-5112L is a large LCD phone, which allows the users to transmit data, make calls using a handset/speaker phone, or use the full-duplex speaker phone.

A variety of functions are provided through the large LCD.

The buttons of the ITP-5112L are convenient to operate because the ITP-5112L phone has navigation buttons as well as regular buttons. Also, it provides the functions of a phone book.

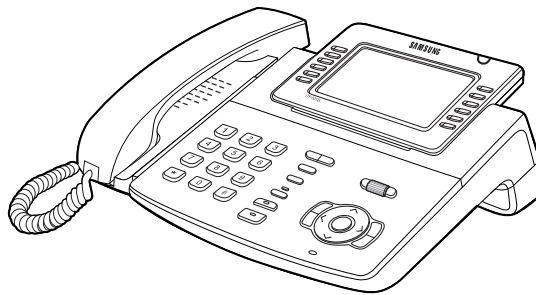


Figure 2.15 ITP-5112L

ITP-5121D/5114D

The ITP-5121D/5114D phone is a two line LCD digital phone and has 21 or 14 programmable buttons that allow the subscribers to register their desired functions and make calls by using a handset/speaker phone.

The ITP-5121D/5114D phone has the navigation buttons that allow the users to easily use the phone functions (recent called number, recent connected number, search phone numbers by name, call forwarding, search abbreviated numbers, or alarm setting).



Figure 2.16 ITP-5114D



Figure 2.17 ITP-5121D

2.4.4 AOM

The Add On Module (AOM) is the extended module type digital terminal where the program buttons and LEDs in a digital phone are expanded. Desired functions can be assigned to the buttons on the AOM. For information on the figure of each AOM or how to connect the AOM, refer to the User's Guide about the AOM.

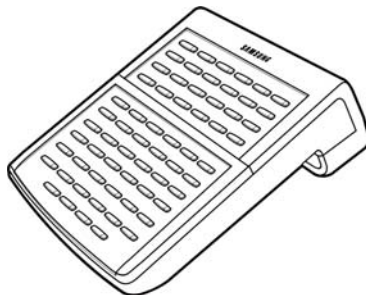


Figure 2.18 DS-5064B

The AOMs available in OfficeServ 7030 system and phones that can be connected with the AOM are as follows:

Table 2.14 AOM Type

AOM Type	Connectable Phone
DS-5064B AOM	DS-5000 series digital phone
DS-4014 AOM	DS-4000 series digital phone (Not available in all counties)
DS-4064 AOM	

2.4.5 Door Phone Interface Module

Door Phone Interface Module (DPIM) is the module that connects door phones and door open/close devices to OfficeServ7030. The line port of the door phone interface device is connected to the DLI port of OfficeServ7030 system. The door box port of the door phone interface device is connected to the line port of the door phone.



Figure 2.19 DPIM



NOTE

Reference

For information on how to connect terminals such as a door phone interface device, refer to 'OfficeServ7030 Installation Manual'.

2.5 Wireless LAN Device

This section describes the wireless LAN BTS and mobile stations that can be connected with OfficeServ7030 system.

2.5.1 Wireless LAN Base Station (Basic)

The Wireless LAN Base Station (SMT-R2000) consists of both wire and wireless processing parts. There is IEEE 802.3 Ethernet interface connected with LAN in the wire processing part. The wireless processing part has two wireless LAN RF interfaces which are IEEE 802.11 b/g standard with the wireless frequency band of 2.4 GHz and IEEE 802.11a standard with the wireless frequency band of 5 GHz.

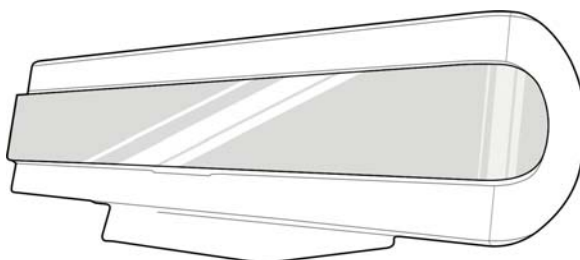


Figure 2.20 SMT-R2000

The wire Ethernet interface is connected with the LAN based on 10/100 BASE-T and transmits/receives data (e.g., Internet access). The wireless processing part transmits/receives voice data for wireless voice calls and accesses the wireless Internet

2.5.2 Mobile Station

SMT-W5100 (Wireless IP-Phone Mobile type), which is a local wireless mobile station, uses the wireless LAN of IEEE 802.11b/g to allow the users to make voice calls. The SMT-W5100 supports hand-over when moving between the APs (SMT-R2000). SMT-W5100 performs the message service functions supported by OfficeServ 7030 system as well.



Figure 2.21 SMT-W5100

2.6 Additional Devices

This section describes the types and the features of devices that can be connected as options.

2.6.1 Music-on-hold/Background (MOH/BGM)

OfficeServ7030 is connected with MOH sources such as CD players in addition to the basic tone provided by the system or internal sound source to allow subscribers to listen to melodies other than ones specified to the subscribers. Devices such as CD players or radios are called on hold/background sound source.

The on hold/background sound source is mainly used for on hold tone, background music, or announcement and can be used by being connected with the external sound source devices below:

- FM radio
- CD player
- Cassette tape recorder



Output Resistance

The speaker output resistance of FM radios, CD players, or cassette recorders is normally 8 Ω or 16 Ω .

2.6.2 External Paging/Broadcasting Units

OfficeServ7030 is connected with external broadcasting units such as amplifiers or speakers for consumers instead of internal speakers. These external broadcasting circuits are embedded in the control board, and are connected via the MISC ports.

2.6.3 Loud Bell

The Loud Bell allows the users to listen to ring signals from outside, and amplifiers or external speakers are used for the Loud Bell.

The Loud Bell is connected via the MISC port of Base board. Once the secondary call device is connected, a call signal rings from only a specific phone set to MMC 205 Assign Pair Station of Loud Bell.

2.6.4 Common Bell

The Common Bell is a ring that can be specified when a station group is set. Once a station in a group rings, other stations in the group ring. The Common Bell is connected via the MISC port of Base board

2.6.5 WEB Management tool

The Web management is the software for the installation/maintenance of OfficeServ7030. The functions for controlling the system database are implemented in the form of menus in the Web management tool; thus, the WEB management is convenient to use when the system data are displayed or changed.

2.6.6 SMDR

The Station Message Detail Recording (SMDR) manages entire calling data such as calls between station subscribers connected with OfficeServ7030 as well as local/long distance/international calls. OfficeServ7030 provides calling data. Connect the SMDR printer or SMDR computer with OfficeServ7030 to use the SMDR data provided by OfficeServ7030 system.

- The SMDR printer can display call history received from OfficeServ7030, however does not display data other than the call history (i.e., toll data).
- The SMDR computer displays call history received from OfficeServ7030 and calculates toll using the SMDR software based on the call history. Accordingly, the SMDR computer allows the users to use data more efficiently than the SMDR printer.

2.6.7 CTI

The Computer Telephony Integration (CTI) is the integrated system of computer and telephony. That is, the CTI interworks computers with PBXs so that the computer makes use of the PBX as computer resources and the PBX shares the computer resources. The CTI provides the operator with convenience and reduced costs and the customers with enhanced services and reduced call processing time.

OfficeServ7030 supports the standard Telephony Application Programming Interface (TAPI), which is implemented in a client/server environment and controls third party calls.

CHAPTER 3. Specification of OfficeServ 7030

This chapter describes the capacity of OfficeServ7030, various signal specifications, power specifications, rings and tones, compatible boards and terminals, and equipment specifications.

3.1 System Capacity

Up to 20 lines can be installed and operated in OfficeServ7030 system, and the line ratio of the station and trunk line can be adjusted within the capacity depending on the users' needs. Table 3.1 below shows the maximum line capacity of OfficeServ7030:

Table 3.1 OfficeServ 7030 System Capacity

System Configuration	Maximum Line Capacity
Basic Cabinet	<ul style="list-style-type: none"> - Digital trunk line channel: 4 - Analog trunk line channel: 4 - Station port: 10 - VoIP channel: 4 - SIP trunk channel: 8 - SPnet trunk channel: 8 - Samsung IP phone channel: 18 - WIP phone channel: 18 - SIP phone channel: 18 - Voice mail channel: 2 - DTMF channel: 4 - CID generation/reception channel: 4 - Conference function: 5-person 6-group
Basic cabinet + Expansion cabinet	<ul style="list-style-type: none"> - Digital trunk line channel: 8 - Analog trunk line channel: 8 - Station port: 20 - VoIP channel: 8 - SIP trunk channel: 8 - SPnet trunk channel: 8 - Samsung IP phone channel: 16 - WIP phone channel: 16 - SIP phone channel: 16 - Voice mail channel: 4 - DTMF channel: 8 - CID generation/reception channel: 8 - Conference function: 5-person 6-group

3.1.1 Trunk Line Capacity

The maximum trunk line capacity of OfficeServ7030 based on its configuration is shown in the table below:

Table 3.2 Trunk Line Capacity

System Configuration	Analogue LOOP TRK	Digital BRI TRK
Basic cabinet	4	4
Basic cabinet + Expansion cabinet	8	8

3.1.2 Station (Subscriber) Line Capacity

The maximum station line capacity for regular phones and digital phones in OfficeServ 7030 based on its configuration is shown in the table below:

Table 3.3 Station Line Capacity

System Configuration	Regular Phones	Digital Phones
Basic cabinet	10	8 (DS-5012L: 1EA/4DM or 2DM board)
Basic cabinet + Expansion cabinet	20	16 (DS-5012L: 1 EA/4DM or 2DM board)

3.1.3 Line Capacity

Line Capacity of OfficeServ 7030 is as follows:

Table 3.4 Line Capacity

System Configuration	SMT-R2000	SMT-W5100
Basic cabinet	N/A	18
Basic cabinet + Expansion cabinet	N/A	16

3.2 Electrical Specification

3.2.1 Signal Specification

The signal processing protocol means the methods for connecting signals between the trunk lines, stations and system, and also means the method of providing the status information.

3.2.1.1 Trunk Line Signaling

Loop Start

In processing loop start signals, the on-hook and the off-hook statuses are controlled by the flow of electric current. The loop is a closed loop trunk circuit or a standard 2500-type set loop.

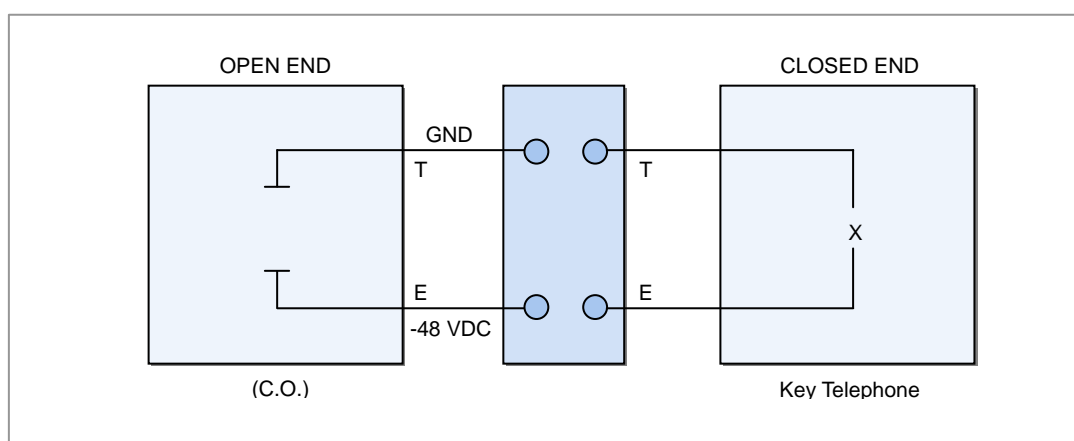


Figure 3.1 Trunk Line Loop Start Signaling

Characteristics of the ISDN Interface Transmission

The electrical characteristics of the ISDN (BRI) interface comply with the ITU I.430 and ETS 300 012 standards.

Table 3.5 Electrical Characteristics of the BRI Trunk Line

Category	Specification
Transmission speed	192 kbit/s \pm 100 ppm
Code	Alternate Mark Inversion (AMI)
Pulse type	Regular square wave: When indicating all valid signals, comply with the mask (I.403) regardless of the codes.
Transmission media	A pair of twisted lines
Load resistance	120 Ω
Indicated (pulse) nominal peak voltage	2.75 V

The electrical characteristics of the Digital Line Interface (DLI) are shown in the table below:

Table 3.6 Electrical Characteristics of the DLI Line

Categories	Specifications
Transmission speed	384 kbits/s
Code	Alternate Mark Inversion (AMI)
Pulse type	Typical AMI Waveform

3.2.1.2 LAN Signaling

The electrical characteristics of the 10 BASE-T, which complies with the IEEE 802.3 standard, are shown in the table below:

Table 3.7 Electrical Characteristics of the LAN Interface (10 BASE-T)

Category	Specification
Transmission speed	10 Mbit/s \pm 50 ppm
Transmission code	Manchester coding - When the transmission data bit is '0', the higher level of the middle bit is inversed into the lower level. When the transmission data bit is '1', the lower level of the middle bit is inversed into the higher level.
Access control method	CSMA/CD
Transmission media	UTP CAT3, CAT4, CAT5, STP
Number of the UTP pairs	2 pairs
Characteristic resistance	100 Ω
Cable thickness	Diameter: 0.51 mm (24 AWG), External diameter: 5 mm

The electrical characteristics of the 100 Base-Tx, which comply with the IEEE 802.3u standards, are shown in the table below:

Table 3.8 Electrical Characteristics of the LAN Interface (100 Base-Tx)

Categories	Specifications
Transmission speed	100 Mbps
Transmission code	4B/5B+MLT-3 - 4-bit/5-bit converts the data of 4bit into the data of 5bit and encodes the data on the physical layer. Multi Level Transmission-3 (MLT-3) encodes transmission data into 3 levels (high, middle, and low).
Access control type	CSMA/CD
Transmission media	UTP CAT5, STP
Number of UTP pairs	2 pairs
Characteristic resistance	100 Ω
Cable thickness	Diameter: 0.51 mm (24 AWG), External diameter: 6 mm



NOTE

Categories of UTP Cable

UTP Cables are classified into Straight-through UTP cable and Crossover UTP cable. The Straight-through UTP cable is used for connecting the 4LM module of OfficeServ 7030 system to other modules.

3.2.1.3 Station Signaling

Dial Pulse Signaling

- Ratio-10 Pulse Per Second (PPS)
- Make/Break Ratio (M/B ratio) 33 % : 66 % (It can be adjusted by the software.)
- The minimum signaling time between digits-20 msec (It can be adjusted by the software.)
- 4TRM Module board is only support DTMF dialing, but not supports for Dial Pulse dialing. 4TM Cards is support DTMF and Dial Pulse dialing.

DTMF Push Button Dialing

The DTMF signal processing complies with the ITU standard, which enables the user to send/receive the signals of digital phones through the trunk line and to process the signals of regular phones.

3.2.2 Transmission Characteristics

- Attenuation
 - Attenuation between subscribers: Less than 6 dB
 - Attenuation between the subscriber and local trunk line: Less than 0.5 dB
- Characteristic resistance of the line: 600 Ω
- Weighted noise: Less than -65 dBm
- Crosstalk attenuation: Less than -68 dBm
- Frequency band: 300~3400 Hz
- Insulation resistance: More than 1 M Ω

3.2.3 Line Conditions

- Length for installation:
 - Regular phones: Up to 1 km (When the AWG #24 cable is used)
 - Digital phones: Up to 400 m (When the AWG #24 cable is used)
 - Door phones: Up to 400 m (When the AWG #24 cable is used)
 - AOMs: Up to 400 m (When the AWG #24 cable is used)
 - Length between LAN port of Base or 4LM and to SMT-R2000: Up to 100 m (When the Ethernet cable is used)
- Leakage resistance between lines: More than 20 K Ω
- Leakage resistance between grounds: More than 20 K Ω

3.3 Power Specification

3.3.1 OfficeServ 7030 System Power

OfficeServ 7030 operates by AC input power or battery power and supplies the system cabinet with the backup power of -54 V, +5 V, +12 V.

Table 3.9 I/O Voltage of PSU

Power Supply Devices		Specifications
Power Supply Board (PSU)	Input power	AC 200~240 V, 64W
	output power	- DC -54 V, 0.5 A - DC +5 V, 3 A - DC +12 V, 1.8 A

3.4 Rings and Tones

3.4.1 Ring Cycles

OfficeServ 7030 provides the trunk line rings, station rings, door rings, and alarm rings. The ON/OFF cycle of each ring is shown in the table below:

Table 3.10 System Ring Cycles

Rings	ON/OFF Cycles
Trunk line ring	1000/3000 ms
Station ring	400/200/400/3000 ms
Door ring	400/200/400/200/400/2000 ms
Alarm ring	400/200/400/200/400/200/400/1000 ms



NOTE

Ring ON/OFF Cycle

The ON/OFF cycle can be adjusted by changing the values of the system database

3.4.2 Tones

The output voltage and the frequency of the ring signals in OfficeServ 7030 are as follows:

- Output voltage: 75 V
- Frequency: 20 Hz

OfficeServ 7030 provides the users with various tones to notify the users of the status of functional operation and give feedback to the users. The ON/OFF cycles of currently specified tones are shown in the table below:

Table 3.11 Cycles of the System Tones

Tones	ON/OFF Cycles
Dial tone	1000/250 ms
Busy Tone	500/500 ms
Do Not Disturb tone	250/250 ms
Ring Back tone	1000/2000 ms
Call Park tone	Continuous
Confirmation/Caution/Barge-In tone	50/50 ms
Call Back/Hold tone	500/3500 ms
Ring Back tone	1000/2000 ms
Error/Number Unobtainable tone	250/250 ms
Message Camp On tone	Continuous

3.5 Available Terminals

The terminals available to OfficeServ 7030 are shown in the table below:

Table 3.12 OfficeServ 7030 Compatible Terminals

Types	Terminals
DS-5000 series digital phones	DS- 5038S/5021D/5014D/5007S/5000S/5064B
ITP-5100 series IP phones	ITP-5121D/5114D/5107S, ITP-5112L
Wireless LAN devices (WLAN)	SMT-W5100 (Mobile Station), SMT-R2000 (Access Point Device)
iDCS Series	iDCS28D/18D/14D/64D
Others	DPIM, door phone



NOTE

Compatible Terminals

All the compatible terminals of iDCS 500 Premium system are available to OfficeServ 7030. Since the compatible terminals can be changed depending on system settings, contact the system administrator.

3.6 IP Port Table

3.6.1 OfficeServ 7000 Families IP Port Numbers

The IP Port Numbers used in OfficeServ 7000 families are shown in the table below:

Table 3.13 OfficeServ 7000 Families IP Port Numbers

Category	Service Type	Protocol	Port Number	Remarks
System	SPnet	TCP	6100	For connection setup
			1024~4999	For maintaining TCP Connection
	IP Phone interface	TCP, UDP	6000	For connection setup
		UDP	1024~4999	For signaling to IP phone
	H.323 Gateway	UDP	1719	For connection with Gatekeeper
			1720	For connection setup
			1024~4999	For maintaining TCP Connection
	SIP Gateway	UDP	5060	For connection setup
	OSM interface	TCP	5000, 5200	OSM connection
	CTI interface	TCP	5002	CTI Connection
	Program Upload		5003	Program upload to Media card
	OfficeServ News		5012	OfficeServ News Server connection
	WebMMC		5080, 5081	OfficeServ 7400 WebMMC connection
	Installation Tool		5090, 5091	OfficeServ Installation Tool connection
	7030 Web (internal)		5092, 5093	Web Server-MP/ VM/Router connection
	reserved		5000~5099	Reserved for new service
	SMDR Report		5100	SMDR printout to IP connection
	UCD Report		5101	UCD printout to IP connection
	Traffic Report		5102	Traffic Report to IP connection
	Alarm Report		5103	System Alarm Report to IP connection

Table 3.13 OfficeServ 7000 Families IP Port Numbers (Continued)

Category	Service Type	Protocol	Port Number	Remarks
System	Periodic UCD	TCP	5105	Periodic UCD printout to IP connection
	Hotel/Motel Report		5106	Hotel Report to IP connection
	BD-PMS		5107, 5109	Bi-direction PMS connection
	Centralized M&A		5110, 5210	Centralized M&A connection
	GPS Clock		5111	GPS Clock Server connection
	PIN Server		5112	PIN Code Server connection
	SMDR/ANI		5113	SMDR/ANI Server connection
	SMDR Server		5150, 5151	SMDR Server connection
	reserved		5100~5199	Reserved for new service
	QoS Monitor		8500	QoS Monitor Server connection
NMS	NMS	UDP	161	Well-known port. Can set 1024~65535
MGI	MGI 16/64	RTP, RTCP	30000~30127	For stream data
		UDP	6000	For Link test with MCP
	7030 APIS (internal)	TCP	50000~50010	For CSP-MSP Signaling Interface
	OfficeServ 7030 MGI	RTP, RTCP	30000~30017	For stream data
IP Phone	System Interface	UDP	6000	Signaling for MCP
		RTP, RTCP	9000, 9001	Voice data for MGI or ITP
WiFi Phone	System interface	UDP	8000, 8001	For signaling interface
			10000, 10001	For Link Indication interface
	proprietary DHCP		7000, 7001	For proprietary DHCP (Samsung)
	EasySync		6320	For PC link connection
	SIP		5060, 5080	For SIP interface
	RTP	RTP	8004, 8005	For RTP, RTCP

3.6.2 OfficeServ Solutions IP Port Numbers

The IP Port Numbers used in OfficeServ Solutions are shown in the table below:

Table 3.14 OfficeServ Solutions IP Port Numbers

Solution	Protocol	Port Number	Remarks
IP-UMS	UDP	5025, 5026	mcplink CS - US
		5061, 5070	SIP CS - US
		14000~14511	RTP, RTCP (= RTP+1)
	TCP	8080	WebAdmin
		20001	File Server
		3681, 3683, 50000~55999	Outlook Sync Protocol
		25	Mail Alarm (SMTP)
		110, 995	Pop3, Pop3/SSL
		8624	Port Activity Monitor Program
IP-IVR	UDP	5060	SIP Port
ACD	TCP	18828	SRVPORT
		18818	CNTPORT
		18848	AGTMONISRVPORT
		54301	CTCCMDPORT
		54302	CTCEVTPORT
		17770	IODSMONIPORT
		18000	IODSALARMPORT
		17771	IODSSNDPORT
		17772	IODSRCVPORT
		17773	LOGRCVPORT
		17774	DBNETPORT
		17777	ARSLOGPORT
		17776	IODLOGRCVPORT
		17779	IODUPDATERCVPORT
		2600	ARSSNDPORT
		2601	ARSRCVPORT
		2605	VMSSNDPORT
		2700	ACSSNDPORT
		2701	ACSRCVPORT
		19000	MONIPORT
		19010	PROCMONIPORT
		8500	DBRECVPORT

Table 3.14 OfficeServ Solutions IP Port Numbers (Continued)

Solution	Protocol	Port Number	Remarks
ACD	TCP	8501	DBSENDPORT
		10018	CNTMONIPORT
		8600	HOSTPORT
		2555	ACDMANRECPORT
		30000	WallBoardPort1
		30001	WallboardPort2
		30002	WallBoardPort3
VCS	UDP	11000	For EasySync
		9000	Multicast Audio
		9230	Multicast Video
		35000	Live Push Control
		35001	GIPS listen Port
		35100	Live Push Audio
		35102	Live Push Video
		5000~6000	Internal Station
		20000~20100	External Station
		6000~7000	Internal Recording
		20100~20120	External Recording
MCS	UDP	Dynamic	SIP (System:Default 5060~n channels)
	RTP	Dynamic	Voice/Video
Easysset	TCP	5004	Easysset Web Server Listening Port (Can be changed)
7400 WebMMC	TCP	5020	WebMMC Web Server Listening Port (Can be changed)
OfficeServ Link (All ports can be changed by the option configuration.)	TCP	6000	Licensed Client Connection Port
		6001	CTI Message Monitoring Port (Self Monitoring)
		6002	SMDR & UCD Message Monitoring Port for Samsung Solution like Easysset
		6003	SMDR & UCD ports for 3 rd party application
		6500	Server Solution Connection Port

CHAPTER 4. Functions of OfficeServ 7030

This chapter describes the functions of OfficeServ7030 related to calls, VoIP, data, UMS, and web/system management

4.1 Call Functions

OfficeServ7030 processes station calls, trunk line calls, application calls, or various signals through the PSTN and VoIP networking.

4.1.1 IP Phone Configuration

IP Phone Configuration

IP phones or SIP phones registered to OfficeServ7030 also can be operated by the dynamic allocation of IP address from the DHCP or manual IP address allocation is available.

4.1.2 VM Function

Auto Attendant/Voice Mail

OfficeServ7030 provides auto-attendant functions and the voice mail functions by using embedded DSP for the Voice mail service.

4.2 VoIP Function

VoIP function indicates the voice communication service through network. It can be made by the standard protocols and OfficeServ7030 supports SIP.

4.2.1 VoIP Network

To communicate with another system through the VoIP networking, MGI s/w license should be installed into OfficeServ7030.

4.2.2 VoIP Trunk Line Interface

OfficeServ 7030 provides the VoIP trunk line interface (SIP). VoIP trunks can be connected with an external server. OfficeServ 7030 controls calls, and individual MGI s/w licenses connects speech paths.

4.3 Voice Mail Function

OfficeServ 7030 provides auto answering, voice messages and e-mail transfer by using embedded DSP without additional devices.

4.3.1 System Features

Caller ID Compatible

If you subscribe to Central Office based Caller ID, the OfficeServ7030 Voice Mail is compatible. The Caller ID data that appears on keysets is also saved in your voice mail box for each message you receive. This can be used for call back or simply to identify the caller.

Flexible Numbering Plan

An organization can assign an extension, a mailbox, or an announcement to any identification number from one to ten digits. All of these resources can share the same identification numbering plan without conflict. For example, an organization can have, in one OfficeServ 7030 Voice Mail System, an extension numbered 123, a mailbox numbered 123 and an announcement numbered 123. In addition, OfficeServ 7030 Voice Mail can distinguish between variable length identification numbers beginning with the same digit, such as extension number 1, or 12, or 1234567890.

Individually Defined Mailboxes and Extensions

Extensions and Mailboxes are separate and independent system resources. A mailbox does not have to be defined in terms of an extension, or an extension in terms of a mailbox, in order for OfficeServ 7030 Voice Mail to associate them. An Extension is used for routing callers to the Subscriber. This gives the Subscriber complete control (if authorized) over how, where and when they take their calls. A Mailbox is simply used for taking and controlling messages for the subscriber in the event he/she cannot (or does not wish to) speak to their callers.

Keypad Display and Soft Key Support

If you have a display keypad the number of new messages will be displayed on it. The display will also echo many of the options available. You will be able to negotiate through the OfficeServ 7030 Voice Mail menus using the keypad display and the soft keys below the display to respond to the prompts.

MOH Supply

Music or announcements may be recorded in the OfficeServ 7030 Voice Mail memory and used by the phone system for Music On Hold. The recorded announcement or music will play in a continuous loop and may be used to provide custom on hold announcements or promotional messages.

Multiple Mailbox Support

The OfficeServ 7030 Voice Mail can, in principle, support up to 1000 mailboxes, although obviously having only the 4 port hardware places practical limits on the system according to the individual system traffic, and type of application.

Operating Mode-Oriented Call Processing

The OfficeServ 7030 Voice Mail can be configured to automatically change between up to 99 different customer operating modes, based upon the time of day, day of week, or specific calendar date. During an operating mode, every aspect of the call automation application, including port utilization, caller scripts, routing solutions, and call coverage options can be customized to meet the organization's operating requirements. OfficeServ 7030 Voice Mail Schedule Table automatically changes to the correct mode without human involvement.

Operating Mode Override

Under exceptional circumstances, such as adverse weather conditions or other organizational emergencies when the office may be inaccessible, the administrator can override the Schedule Table. The administrator calls the OfficeServ 7030 Voice Mail, enters the administrative password, and selects a new operating mode for any or all ports. The new operating mode can be programmed for the circumstances, or the administrator can simply record a new company greeting which explains the circumstances to callers.

Recordable System Prompts

Although the OfficeServ 7030 Voice Mail contains all the spoken prompts to provide an operational system, some people may want to add or record some additional prompts. This can easily be done using the built in voice studio. Any prompt in the system can be recorded.

Schedule Table

The schedule table automatically controls system mode by individual ports, time of day, day of week and calendar date without human intervention. It is capable of scheduling ninety-nine mode changes per day for 366 consecutive days. The administrator can manually override the schedule table at any time from a touchtone telephone, or from the web management. For Holidays and Calendar of Events, the Schedule Table can be used to schedule holiday and special event caller prompts to better inform and serve callers.

Synchronized Clock

The OfficeServ 7030 Voice Mail clock is responsible for providing each message with a date and time stamp. This clock is always synchronized with the phone system, as is changing between day and night modes.

4.3.2 Auto Attendant

Alphabetic Directory (Multiple)

Callers who do not know an extension number in the system but do know a name, may enter the first few letters of the person's name and be transferred to the relevant extension user. This system may even be used internally if an extension number is not known. The OfficeServ 7030 Voice Mail allows for over 1000 unique directory systems, each one can search on either the first or last name.

Auto Attendant Routing

The Auto Attendant can transfer or route callers based on the digits they enter. Callers may be transferred to a station, group or the system directory to select a subscriber based on their name.

Automatic After Hours Answering

The Main Auto Attendant greeting changes, depending on the day or night mode greeting, automatically, when the phone system changes from day to night mode. Multiple additional modes may be defined for special applications.

Announce Hold Position

If callers are allowed to hold for a busy extension, the OfficeServ 7030 Voice Mail is able to intermittently inform the caller of their place in the queue.

Announce Hold Time

If callers are allowed to hold for a busy extension, the OfficeServ 7030 Voice Mail is able to intermittently inform the caller of the estimated hold time before being answered.

Camp On Support

Each station user on the system may decide if they want the OfficeServ 7030 Voice Mail to transfer additional calls to them if they are on the phone. Calls transferred to a busy station, if unanswered will be sent to voice mail or any other destination according to the user's needs.

Direct to Mailbox

You may have mailboxes on the OfficeServ 7030 Voice Mail system that do not have associated stations. This is ideal if you have a small number of employees in your office but numerous employees outside the office that need to keep in contact.

Holidays and Special Events

When your business closes because of a holidays or special events the OfficeServ 7030 Voice Mail can provide a special appropriate prompt to your callers. You may create specific holiday schedules so that this process becomes automatic.

Incoming Call Overflow

The OfficeServ 7030 Voice Mail may be programmed to answer any or all lines immediately or answer only the calls that your operator does not pick up. Overflowed calls may be routed to either a mailbox or the main company prompt.

Interruptible Voice Prompts

At any time during an announcement or greeting, callers may dial a selection and the OfficeServ 7030 Voice Mail will immediately respond. It is not necessary to listen to all the options if you are a 'power user' and know what you are doing.

Multiple Call Handling

The OfficeServ 7030 Voice Mail Module can answer and process up to 4 calls simultaneously.

Operator Access

Callers may connect with an available operator any time by dialing 0. This is provided that the customer has someone answering the Operator's calls.

Single Digit Call Routing

A menu processor can be configured to recognize single digit routing options, or use the same digit as the leading entry of a multi-digit routing option. For example, in the menu processor, '1' can be used to route a caller to the sales department and '103' to transfer the caller to a subscriber's extension.

4.3.3 Access Manager

The Access Manager empowers the Subscriber with control over how, what, when, and where they wish to speak to their callers. The Subscriber may prevent calls from ringing at their extension, or have the calls transferred to any other extension in the phone system, transferred off-site to any other phone number, or screen the call before answering them. Any of these conditions can be set to be active until a specified time. The OfficeServ 7030 Voice Mail can even be set with a high priority 'Find Me' instruction that will try to reach the subscriber at multiple locations.

Blocked Personal Greeting

This greeting is played to the caller anytime the subscriber enables the Call Blocking feature in the OfficeServ 7030 Voice Mail or sets their keyset to Call Forward All/DND.

Busy Personal Greeting

This greeting is played to the caller anytime the subscriber is on the phone and they have their keyset set to Call Forward Busy or Call Forward Busy/No-Answer.

Call Blocking

While a subscriber has call blocking set, the OfficeServ 7030 Voice Mail does not attempt to transfer a call to the subscriber's extension. Instead, it immediately plays the subscriber's Call Blocking Greeting-if recorded. If the Call Blocking Greeting is not recorded, OfficeServ 7030 Voice Mail plays the subscriber's Primary No-Answer Greeting - if recorded. When that greeting is not recorded, OfficeServ 7030 Voice Mail advises the caller that the called party is not available and offers to the caller additional options.

A subscriber sets Call Blocking active through Access Manager Services.

After activating Call Blocking, the subscriber is prompted to indicate how long blocking is to remain active. This feature can be activated for a number of hours, 1 to 9, for the end of the current business day, for the beginning of the next business day, for a day of the coming week, for Monday through Sunday, for a specific date, for hour and minute, or until further notice.

Call Forwarding

Forward All Calls allows a subscriber to have their incoming calls answered by an associate at another internal extension-it is not used to forward calls to an external telephone number. To have calls connected an external number, the subscriber should use the Designated Location Service.

When calls are forwarded to another associate's extension, a caller entering the forwarder's extension number will immediately hear 'Transferring to 'Called Party's Name'.

Calls are being forwarded to 'Associate's Name'. If the associate answers the call, the associate will be prompted as to who the call is forwarded from. This feature can be activated for a number of hours, 1 to 9, for the end of the current business day, for the beginning of the next business day, for a day of the coming week, for Monday through Sunday, for a specific date, for hour and minute, or until further notice.

Day/Night Personal Greeting

The Night Personal Greeting works in conjunction with the subscriber's Weekly Availability Schedule. During the defined availability period the OfficeServ 7030 Voice Mail will automatically play the Primary No-Answer Greeting to callers, unless the subscriber is busy on another call and has recorded a Busy Greeting or Call Blocking is set active, and a Call Blocking Greeting is recorded.

During the time periods a subscriber is not scheduled available to take calls, and does not have Call Blocking activated, OfficeServ 7030 Voice Mail plays the subscriber's Night Greeting if recorded.

Find Me

When Find Me is set active, the OfficeServ 7030 Voice Mail attempts to deliver calls to the subscriber's designated location, provided neither Call Blocking, nor Forward All Call, is active. The OfficeServ 7030 Voice Mail first tries to locate the subscriber at the subscriber's designated location. Then, if necessary, it tries each of the subscriber's Stored Telephone Numbers until all numbers have been called.

After each stored telephone number, the OfficeServ 7030 Voice Mail will prompt the caller that it is continuing to locate the subscriber. If OfficeServ 7030 Voice Mail cannot locate the subscriber, the subscriber's Call Blocking Greeting is played to the caller. This feature can be activated for a number of hours, 1 to 9, for the end of the current business day, for the beginning of the next business day, for a day of the coming week, for Monday through Sunday, for a specific date, for hour and minute, or until further notice. Calls transferred to a designated location are automatically a confirmed transfer. The subscriber must press a digit to accept the transfer or they can press other digits to, 'Reject', 'Redirect', or record a real time greeting that plays immediately to that caller.

Follow Me (Off Premises Transfer)

Each subscriber may have their calls automatically forwarded to a designated location. We call that location, the subscriber's Designated Location. A Designated Location can be an internal extension or an external telephone number. It can be entered digit-by-digit or the subscriber can enter a Stored Telephone Number Index Digit representing the location of the appropriate number.

Whenever a subscriber sets his designated location to a number other than his extension number, OfficeServ 7030 Voice Mail prompts, 'How long do you want this number to be your designated location?'. This feature can be activated for a number of hours, 1 to 9, for the end of the current business day, for the beginning of the next business day, for a day of the coming week, for Monday through Sunday, for a specific date, hour and minute, or until further notice. Calls transferred to a designated location are automatically a confirmed transfer. The subscriber must press a digit to accept the transfer or they can press other digits to, 'Reject', 'Redirect', or record a real time greeting that plays immediately to that caller.

Hold for Busy Station

The OfficeServ 7030 Voice Mail may be enabled to allow callers to hold for a busy station. When a caller elects to hold, the OfficeServ 7030 Voice Mail places the caller in a Hold Queue. If additional callers attempt to reach the busy extension and they choose to hold, they can be informed of their position in the queue and the estimated hold time before being connected. Callers given the option to hold may be limited to insure that system ports are not monopolized. When the limit is reached, callers can be routed to other extensions or applications that have been configured to deal with this condition.

Multiple Personal Greetings (9)

When a subscriber does not answer and accept a call, the OfficeServ 7030 Voice Mail will answer. OfficeServ 7030 Voice Mail recognizes five different reasons why a subscriber does not answer a call. We refer to these reasons as 'Call Coverage Conditions'.

OfficeServ 7030 Voice Mail allows a subscriber to assign a different personal greeting to each Call Coverage Condition. A condition should be considered a 'socket' into which a personal greeting is plugged. The greeting that gets plugged into each 'socket' should offer caller options appropriate for that condition. OfficeServ 7030 Voice Mail provides each subscriber nine (9) personal greetings, labeled 1 through 9.

A subscriber can assign (plug in) any greeting to any Call Coverage Condition. However, when a subscriber first logs on to the OfficeServ 7030 Voice Mail, personal greetings numbered 1, 2, 3, 4, and 5, are assigned to their respective Call Coverage Conditions (No Answer, Busy, Fwd All/DND, Night and Call Screening). The remaining four personal greetings, labeled 6 through 9 are normally used as alternatives to the greetings assigned to these conditions.

Night Intercept

This feature is used in conjunction with the subscriber's availability schedule. When enabled and the Subscriber is scheduled as unavailable, callers are NOT transferred to the subscriber's extension. Instead, the OfficeServ 7030 Voice Mail immediately plays the subscriber's Night Greeting if recorded.

Night Personal Greeting

This greeting plays to the caller anytime the subscriber is scheduled as unavailable based on the availability schedule. If the subscriber is scheduled unavailable the caller will here the Night Greeting during a No-Answer Call condition or if Night Intercept is enabled.

Park and Overhead Page

For those users who are frequently away from their desk, the OfficeServ 7030 Voice Mail provides Park and Page capability. When a subscriber does not answer a call, the subscriber's personal greeting can contain an option to be paged. When the caller elects to have the subscriber paged, the OfficeServ 7030 Voice Mail parks the call and plays a prompt through the overhead paging facility that contains the subscriber's name and a pickup code. The OfficeServ 7030 Voice Mail waits a programmable period of time for the subscriber to pick-up the call. When the call is not picked up, the OfficeServ 7030 Voice Mail notifies the caller that the page was not answered and plays the subscriber's Primary or No-Answer greeting.

Personal Customized Options

Each subscriber may have different personal options played to the caller. For example, the caller may wait while the subscriber is paged or the caller may hold until the subscriber is available to take the call. These options must be enabled by the system administrator.

Retrieve Public Caller From Hold

When a subscriber logs on they are notified if a caller is holding, and the OfficeServ 7030 Voice Mail offers to transfer the caller to the subscriber's designated location. If the caller is identified OfficeServ 7030 Voice Mail will speak the caller's name. When the subscriber elects to speak with the caller, he simply presses 1 and hangs up. If the subscriber elects not to speak with the caller, OfficeServ 7030 Voice Mail immediately plays the subscriber's mailbox greeting.

Screened Rejected Personal Greeting

This greeting plays to the caller anytime a subscriber rejects a screened transferred call from the OfficeServ 7030 Voice Mail. The system administrator can authorize the Call Screening feature per subscriber. Call Screening must be authorized to have a Call Screening Greeting.

Stored Telephone Numbers

A subscriber can store up to five telephone numbers where they can usually be reached, this simplifies the follow me feature as it allows the subscriber to quickly activate commonly used settings.

Weekly Availability Schedule

The Weekly Availability Schedule tells OfficeServ 7030 Voice Mail the days of the week, and the hours of the day, that a subscriber is normally available to take calls. When the subscriber does not answer a call during those time periods, the appropriate Day or Night greeting is played. This schedule may be set by the Administrator or the Subscriber.

4.3.4 Voice Mail Features

Answer Machine Emulation

This feature allows you to monitor calls being left in your voice mail box through the speaker of your keyset. In function it is very much like screening a call on your home answer machine.

Auto Conversation Record

With the OfficeServ 7030 Voice Mail card installed in your phone system, you may record all the phone conversations for specific extensions. An optional tone with a programmable delay may be played to alert callers and employees during the recording process. When calls are recorded, any mailbox settings that would normally effect maximum message duration are ignored.



NOTE

Call Record utilizes the conference feature

The number of people who can use the CR feature simultaneously, is limited to the number of available conference circuits in the system.

Auto Forward

The Message Auto Forward allows messages left in one mailbox to be automatically forwarded to another mailbox if the message is not listened to. The delay time before the message is forwarded is programmable between 00:00 (immediately) and 23:59 (1 day). After the message is forwarded it may be deleted or saved in the original mailbox. The forwarded message, when accessed by the receiving subscriber, will play this message was forwarded from 'subscriber recorded name'.

Auto Log In

When calling Voice Mail, the system can correctly identify you as the caller and ask for your password (optional). The benefit of this is that you do not have to identify yourself to the OfficeServ 7030 Voice Mail, it knows who is calling and what mailbox you want to access.

Auto Message Play

Each subscriber may choose to select messages to play (new or old) or may configure their mailbox to automatically play new messages. This is useful if you are in a situation where keystrokes must be kept to a minimum.

Broadcast

If authorized, a Subscriber can broadcast a message to everyone in the system. Any or all of the subscribers can be given this option. By default, no subscribers are authorized.

Call Back

When listening to your voice mail messages you may press one key to automatically call back the person who left you the message, this call back feature may be allowed for internal calls and/or external calls. Long distance may be either allowed or denied and specific area codes may be allowed or denied. For external calls, Caller ID is used and therefore must be received from the phone company.

Call Forward to Voice Mail

Any station on the phone system may be forwarded to the OfficeServ 7030 Voice Mail voicemail. Forwarding types are Forward All Calls, Forward Only When Busy, Forward Only When No Answer, or Forward When either Busy or No Answer.

Call Record

With the OfficeServ 7030 Voice Mail card installed in your phone system, you may record conversations in progress. Simply press a button to record the current conversation in your mailbox or any other mailbox. An optional tone with a programmable delay may be played to callers during the recording process. When calls are recorded, any mailbox settings that would normally effect maximum message duration are ignored.



Call Record utilizes the conference feature. The number of people, who can use the CR feature simultaneously, is limited to the number of available conference circuits in the system.



Caution for legal use

Before using this feature, make sure that you are not violating any UK or EU laws. Some countries require that the recorded party be notified. Samsung is not responsible for any illegal use of this feature.

Call Back Request Messages

Messages left by and for subscribers may be flagged as Call Back Requested. The caller can enter a specific number that will allow the subscriber to return the call by pressing one key.

Date and Time Stamp

Each message you receive will be stamped with the time and date of its arrival. This information may be played to the subscriber before each message or may be played only on demand. Each individual subscriber may set this option.

Delivery Imperative

When a message is designated as Delivery Imperative, the OfficeServ 7030 Voice Mail will take extra steps to deliver it. The recipient's pager will be called and then each of his stored telephone numbers will be tried.

Direct Messaging/Quick Memo

This feature makes it easier to leave messages for others in the office. It allows the user to access mailboxes without dialing the extension number first. Easily leave a message for anyone that has a mailbox.

Distribution Lists

Lists of mailboxes may be set up and given a simple numeric identity. Subscribers may use these lists to easily leave or transfer messages into multiple mailboxes simultaneously. This list can include any number of subscriber mailboxes and other lists. OfficeServ 7030 Voice Mail does not limit the number of lists that a subscriber can access. When a message is sent to a list, each mailbox on the list receives a copy. OfficeServ 7030 Voice Mail's unique message management facilities make the process of distributing a copy to each mailbox on the list immediate, even for very large lists.

Extended Prompting

With Extended Prompting set active, OfficeServ 7030 Voice Mail offers all prompts for the menu the subscriber has accessed. When Extended Prompting is not set active, OfficeServ 7030 Voice Mail offers only the name of the menu the subscriber is accessing and the prompt 'For additional options, press 0'.

External Number Notification

When you have messages in your mailbox, you may be alerted at your cell phone, home phone or any other phone. The OfficeServ 7030 Voice Mail will make 3 attempts to contact you. If it encounters a busy signal it will try again in 5 minutes, if it encounters a no answer it will try again in 15 minutes.

Future Delivery

When a subscriber leaves a Self Memo (Reminder), Direct Message (Quick Memo) or any other message for another subscriber, a future delivery date may be specified. This is particularly useful if you use the 'reminder' feature as a virtual 'to do' list. Delivery Scheduling options are: for a number of hours, 1 to 9, for the end of the current business day, based on the subscriber's current availability schedule, for the beginning of the next business day, also based on the subscriber's current availability schedule, for a day of the coming week, for Monday through Sunday or for a specific date, for hour and minute. Also for any message not yet delivered, a subscriber can review, modify and discard future delivery messages sent, but not yet delivered.

Group and Sort Messages Prior to Play

A subscriber can group for playback either new or saved messages. Grouping categories are, Urgent, Callback Request, Reminders, Fax Messages, Messages from a Specific Sender, or Private Messages.

Individual Mailbox Greeting

Each mailbox has its own associated individual greeting recorded in the subscriber's (mailbox owner's) voice. This may be changed as frequently as you desire. This only gets played if another subscriber transfers a caller using the VT key or you do not have one of your call condition greetings recorded.

Individual Mailbox Name

Each mailbox has its own associated individual name recorded in the mailbox owner's voice.

Individual Mailbox Password

Each mailbox has its own associated individual password selected by the user or system administrator. This provides some security and prevents unauthorized access. The password may be up to 8 digits long.

Maximum Number of Messages

The maximum number of messages a mailbox will hold is 9,999. The maximum number of messages can be set for each mailbox.



This is a software setting. Maximum number of messages is also influenced by the size of the storage media; either Compact Flash or Hard Drive size, number of subscribers, maximum message length settings, and the length of the actual messages recorded and left on the system.

Message Address Verification

After entering the mailbox number to which a message is being sent, the OfficeServ 7030 Voice Mail echoes the name of the recipient, confirming the message is going to the intended subscriber. The address verification is also played when the subscriber forwards an existing message.

Message Alert Notification Schedule

The Weekly Notification Schedule tells OfficeServ 7030 Voice Mail the days of the week, and the hours of the day, that a subscriber wants to be notified of new messages at an alternate phone number. This Schedule may be set by the Administrator or the Subscriber. This schedule is independent from the Pager Notification Schedule.

Message Counter

Whenever you access your mailbox, you are told the number of new and old messages. You may selectively listen to the new or the old messages.

Message Delete

When a message has been heard, you may delete it.

Message Delivery Options

At anytime prior to sending a message, a subscriber can assign any or all of the following delivery options to a message, Urgent Priority, Return Receipt/Certified, Callback Request, Private or Reply Required.

Message Fast Forward

When listening to a message you may fast-forward 5 seconds. This is useful if you are looking for a specific piece of information like a phone number.

Message Forward With Append

Messages received in your mailbox may be forwarded to other mailboxes or lists on the system. A message may be forwarded to another subscriber, or distribution list by entering a destination mailbox. The subscriber may record an introductory comment if desired. The message header is modified to reflect the forwarding party and time. Forwarding multiple copies allows the subscriber to record introductions for each destination mailbox. Forwarded messages may be re-forwarded, with additional introductions, using the same procedure.

Message Pause

At any time while listening to your voice mail messages, you can pause the playback.

Message Play Order

Each mailbox may be set up to play messages in order of oldest first (First In First Out-FIFO) or newest first (Last In First Out-LIFO).

Message Replay

Messages may be replayed as many times as you like.

Message Reply

When listening to your voice mail messages you may press one key to automatically leave a message for the person who left you a message, this call return feature may always be used for internal calls, and also outside calls if Caller ID is received, and the feature is allowed by the system administrator. A subscriber may reply to a message sent by a public caller. If the public caller requested a return call, OfficeServ 7030 Voice Mail will play the message envelope and announce, 'Callback Requested'. This means the public caller entered his telephone number into the mailbox with touch-tone at the time he left the message.

Message Retention Time by Subscriber

The length of time messages are stored prior to automatic purging may be set for each mailbox. Retention Time can be set from 1 to 9,999 days. Retention Time applies to both new and saved messages. Each time a message is saved, the Retention Time is reset. Only messages that have not been accessed are automatically deleted.

Message Retrieve

Any sent message may be canceled before the recipient has received it. Any message that has been sent but not listened to by the recipient may be retrieved ('pulled back') into the sender's mailbox. If the message was independently sent to several subscribers, each copy may be retrieved separately. A message sent to a distribution list may be retrieved up to the time it is first played by any member of the list. Retrieving a message from a distribution list pulls it back from all list members. It may then be edited, updated, rerecorded, deleted, or sent to a different destination. This capability is particularly useful if the sender incorrectly addresses one copy of a message to several subscribers or if a change in events makes the message no longer relevant.

Message Rewind

When listening to a message you may rewind 5 seconds. This is useful if you are looking for a specific piece of information like a phone number.

Message Save

You may save any message. Once saved, it will remain as a 'saved' message until it is manually deleted or until the message retention timer expires for unlistened messages.

Message Send

From within your mailbox you may send a message to any other mailbox owner on the system. This makes it easy for any employee who is out of the office to send a message to another internal user.

Message Scan

Message Scan allows a user who is retrieving their messages to 'scan' through them. The first few seconds of each message will be played. This makes it easy to find a specific message.

Message Skip

When listening to new messages, if you are searching for a specific one you can skip over new messages. This saves the message as a new message. It is like picking one thing out of your in-basket without disturbing all the others.

Message Undelete

At some time, everyone discards a message, and immediately wishes they had kept it. The undelete feature of the OfficeServ 7030 Voice Mail will allow you to retrieve messages that have been deleted. The subscriber is allowed to 'Undelete' a message any time before the next Daily Maintenance is performed. By default the system performs Daily Maintenance everyday at 3:00 am. Deleted messages are PERMANENTLY deleted after Daily Maintenance is finished.

Message Waiting Light Indication

An indication on your keyset tells you when you have new messages. Pressing this one button will connect with your voice mail. Additionally, if you have a display keyset, the display will show you the current new message status.

Minimum Password Length

This option is set by the System Administrator. The setting range is from 0 (No Minimum) to 8 Digits. This requires the subscriber to set their password to less than the digit length specified. This is useful for heightening mailbox access security.

Multiple Subscriber Mailboxes Login

Multiple subscribers may simultaneously logon to the same mailbox and access messages. All mailbox functions are available to each subscriber. Message playback is distributed. The first subscriber logged on will hear the first message. The second subscriber will first hear the second message, and can access the first message after subscriber 1 is finished. The mailbox continues to be available to receive new messages, regardless of the number of subscribers logged on. This is useful if you wish to use a mailbox for transcription storage or order taking applications.

Multiple Subscriber Mailboxes

Since Extensions and Mailboxes are separate and independent system resources, a mailbox does not have to be defined in terms of an extension, or an extension in terms of a mailbox, in order for the OfficeServ 7030 Voice Mail to associate them. A subscriber's mailbox number need not match the subscriber's extension number (though it typically does). A Subscriber could have multiple mailboxes. These mailboxes can be independent of extensions and be useful for isolation different types of messages such as in a departmental mailbox. A subscriber can have multiple extensions within the system. Each extension can be directed to one specific mailbox for taking messages. This is also the case of departmental messaging where many subscribers share a common mailbox. An extension may also be directed to a different mailbox at different times of the day or days of the week, as in departments with rotating staffs.

Name Addressing

This feature allows a subscriber to address messages to other subscribers by name instead of by mailbox number, eliminating the need to look up numbers or carry personal directories while traveling.

Net Mailbox (AMIS)

Receives, records and, sends voice messages to mailboxes at off-premise locations.
Can send a message to individual mailbox/telephone number, or to a Distribution List.
Can send/receive messages to or from any voicemail system that is Audio Messaging Interchange Specification (AMIS) Network compliant.

New/Old Selection

When you access your mailbox you may choose to listen to either new or old messages. This makes it easier to find specific information contained in an old message without having to listen to all the new messages first.

One Touch Access

The OfficeServ 7030 Voice Mail Voice Mail can be accessed to check messages or perform administration simply by pressing one button on your keyset.

Personal Mailbox Administration

You may change settings for your mailbox any time you like. Personalize the greeting that callers will hear your name, password and notification options.

Private (Confidential) Messages

A message can be marked Private. A private message can not be forwarded to another subscriber. If the recipient of the private message attempts to forward the message he is informed that the message is private and may not be forwarded.

Reply Required

A message marked for delivery as Reply Required cannot be saved or deleted until the recipient performs a voice reply to the message.

Retrieve Public Caller From Mailbox

When a subscriber logs on they are notified if a caller is in their mailbox, and the OfficeServ 7030 Voice Mail offers to transfer the caller to the subscriber's designated location. If the caller is identified OfficeServ 7030 Voice Mail will speak the caller's name. If the subscriber elects to speak with the caller, the caller is told that the subscriber is now available and transfers them to the subscriber's designated location. If the subscriber elects not to retrieve the caller, the subscriber can go about listening to other messages while that caller finished leaving them a message.

Return Receipt (Certified Messages)

A subscriber may request to be notified when the recipient listens to a message. After the message has been delivered and played back by the recipient, a confirmation receipt is placed in the new message queue of the sender's mailbox, it contains the date and time that the message was played.

Self Memo/Reminder

Easily and quickly leave a reminder in your own mailbox. This virtual notepad is available wherever there is a phone, and can be set for immediate or future delivery. This makes them useful for keeping track of your entire workload to schedule or serve as reminders for meetings.

Self Memo/Reminder Categories

If allowed by the system administrator a subscriber may designate the reminders they create as either a Commitment, Follow Up or Task. The individual meaning of these labels may vary from person to person. Their intent is to provide a way of separating reminders into different categories. These categories can be reviewed in the subscriber Workload Manager

Subscriber Workload Manager

This allows a subscriber to group reminders by a Commitment, Follow Up or Task in order to better organize the workload. Their entire workload can be reviewed or a specific group.

Until... Scheduling

The Until... Scheduling method is an easy way to schedule the termination of an OfficeServ 7030 Voice Mail service relative to the time the service is set active. Most of the services in the OfficeServ 7030 Voice Mail give subscribers greater control over their communications by providing Until... Scheduling. The subscriber just sets a time for the service to terminate, concurrent with activating it, and does not have to worry about remembering to deactivate the service in the future. The Until... Scheduling options are, a number of hours, 1 to 9, the end of the current business day, based on the subscriber's current availability schedule, for the beginning of the next business day, also based on the subscriber's current availability schedule, a day of the coming week, Monday through Sunday, a specific date, hour and minute, or until further notice.

4.3.5 Administration Features

Activity Display

While the OfficeServ 7030 Voice Mail system (VMS) is running, a status screen in the web management will show useful statistics about the system. Number of calls, average calls per week, number of times all ports were busy, total messages and space available.

Administrators Mailbox

A subscriber designated as a Mailbox Administrator is given the added functionality when they log in to be able to record and send a broadcast message.

Auto Delete Subscribers

Unused subscribers are automatically deleted after a programmable period of disuse. This prevents unauthorized users from 'High-Jacking' unused mailboxes.

Automatic Setup

When the OfficeServ 7030 Voice Mail is first installed, a range of mailboxes matching the system's database is created. This reduces set up time.

Back Up And Restore

The customer database can be saved and restored at a later date. This is useful in a number of maintenance scenarios. Additional hardware is necessary to accomplish this.

Default Operation

The OfficeServ 7030 Voice Mail is designed to be in operation as soon as it is installed.

Password Security

All administration is under password control to prevent unauthorized access.

Programming-On Site Or Remote

By logging in from a touch tone telephone, the designated system administrator can perform routine activities by using the System Administration Special Menu. These activities include recording custom system prompts, Adding/Deleting/Modifying subscribers, and switching scheduled modes of operation. This makes routine administration easy and convenient. If set up on a customer's LAN with remote access permissions, the Web Services can be accessed from anywhere through an internet connection.

Subscriber Administration

When logging into the System Administrator Menu the System Administrator can access Subscriber Administration. While with in Subscriber Administration you can Add/Delete/Modify Subscribers with in the OfficeServ 7030 Voice Mail system. If you select to modify a subscriber, you can default their password, record their name, enter their directory name, enable/disable extended prompting, and record their Mailbox Greeting.

Subscriber Database

A database of subscribers can be viewed at the web management.

System Reports

Many useful system reports are available from the web management. These may aid in traffic studies, or detecting misuse.

Voice Prompted Programming

From any touch-tone phone in the world an administrator can record custom prompts, add, delete, or modify mailboxes, and change scheduled modes.

Voice Studio

An included voice studio lets you re-record any prompt in the system and even edit it for better sound.

4.3.6 Voice Form Questionnaire Features

This feature allows the OfficeServ 7030 Voice Mail to be used to conduct surveys or collect a response to a pre-programmed questionnaire. Answers are collated and stored in a specific mailbox (es), or the answers may be split into many different mailboxes. These mailboxes and messages are administered by subscribers just like any other mailbox and message, the subscriber simply logs in and listens to the message. This is a useful tool any time you need to collect specific information from a caller and do not have an available staff member to take the call directly. The answers are then listened to so that a paper or electronic form could be filled out by the subscriber listening to the message.

Multiple Response Destinations

Caller responses during a VoiceForm session can be routed to multiple mailboxes. Any part of a caller's response may be distributed among several mailboxes. For example, a VoiceForm session might be designed to process customer orders. Portions of the caller's responses could be sent to an accounting mailbox for credit approval while the rest of the responses are routed to a shipping department mailbox to expedite the order.

Playback Header Prompt

Each response recorded by a caller in a VoiceForm session can be prefaced by a playback header prompt which links the response to the question. This feature helps in transcription of caller responses by providing reference markers within the caller's total response. With playback headers, when a caller skips a question, the transcriber does not lose his place within the composite VoiceForm message.

Team Transcription

OfficeServ 7030 Voice Mail allows simultaneous multiple user access to VoiceForm messages in a Transcription Mailbox. When multiple access occurs, the OfficeServ 7030 Voice Mail assigns the user the next new message so that there is no duplication of transcription.

The maximum number of questions-Voice Queries-possible in a single VoiceForm session is not bound by architectural constraints. Voice Queries can be linked to form extended VoiceForm transactions.

VoiceForm is an information collection and distribution facility, which allows an organization to gather specific information efficiently. An organization creates a series of questions, called a script, designed to elicit specific responses from a caller. One question with its response constitutes a Voice Query, and a complete set of questions is a VoiceForm. The responses generated during a dialogue are collected into one or more messages and delivered to designated transcription mailbox (es). The OfficeServ 7030 Voice Mail manages these messages in the same manner as any other voice message. Designated recipients of these messages may review, save, and forward them with comments using the complete range of voicemail features. Because VoiceForm Questionnaire is an integral part of the OfficeServ 7030 Voice Mail's software, callers engaged in a VoiceForm dialogue may be routed to any and all system resources.

4.3.7 E-mail Gate Way Function

Sending Voice mails by using E-mails

This function enables to convert a newly incoming voice mail into a WAV file format that can be replayed in a PC and attach the voice mail to the user's E-mail.

Notifying the arrival of voice mails by using E-mails

This function enables to notify the arrival of a voice mail by using an E-mail.

4.4 Web Management

OfficeServ 7030 system performs the management for Voice Call, Voice Mail and Router/Switch server configuration and the information search function via the embedded Web service.

4.4.1 Web Management

Database Backup

The user can back up and restore the system database to a MMC card via Web.

Software Package Upload

The user can update the software package via Web.

User Account Management

The user ID can added and deleted. User IDs operate with a level.

Voice Call Management

The user can program the call server features of OfficeServ 7030 system.

Voice Mail Management

The user can program the VM/AA features of OfficeServ 7030 system.



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ABBREVIATION

2

2BM	2 port BRI Module
2DM	2 port DLI Module

4

4DM	4 port DLI Module
4LM	4 port LAN Module
4SM	4 port SLI Module
4TM	4 port Trunk Module

A

AC	Alternating Current
AOM	Add On Module
APLL	Analog Phase Locked Loop
AP	Access Point
AMIS	Audio Messaging Interchange Specification
AWG	American Wire Gauge

B

BRI	Basic Rate Interface
BGA	BALL GRID ARRAY

C

CID	Caller Identification
CTI	Computer Telephony Integration

D

DPIM	Door Phone Interface Module
DC	Direct Current
DHCP	Dynamic Host Configuration Protocol
DLI	Digital Line Interface
DTMF	Dial Tone Multi Frequency

F

FXS	Foreign Exchange Station
FXO	Foreign Exchange Office

H

HDLC	High-level Data Link Control
------	------------------------------

I

IP	Internet Protocol
IPC	Inter Processor Communication
IPSec	Internet Protocol Security

K

KDB	Keyset Daughter Board
-----	-----------------------

L

LAN	Local Area Network
LCD	Liquid Crystal Display

M

MMC	Man Machine Communication (Code, Command)
MOH	Music On Hold

N

NAT	Network Address Translation
-----	-----------------------------

O

OSPF	Open Shortest Path First
------	--------------------------

P

PCM	Pulse Code Modulation
PPS	Pulse Per Second
PRS	Polarity Reverse Signal
PSS	Programmable Store System

Q

QAM	Quadrature Amplitude Modulation
QoS	Quality of Service

S

SIP	Session Initiation Protocol
SLI	Single Line Interface
SMDR	Station Message Detail Recording

T

TAPI	Telephony Application Programming Interface
TCP	Transmission Control Protocol

U

UA	User Agent
UART	Universal Asynchronous Receiver and Transmitter

V

VMS	Voice Mailing System
VoIP	Voice over Internet Protocol



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OfficeServ 7030 System Description

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