

# OfficeServ™ Wireless

## General Description

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# **PART 1. SYSTEM OVERVIEW**

## **1.1 GENERAL DESCRIPTION**

Samsung, the leader in wireless voice solution, offers the industrial most advanced wireless IP telephony solution for enterprise network. Samsung OfficeServ Wireless system operates on a converged wired and wireless infrastructure to improve employee mobility and productivity. Samsung OfficeServ Wireless provides rich functionalities with tight integration with Samsung IP enabled PBX systems.

Samsung OfficeServ Wireless offers superior voice quality across wireless LAN access points. Voice IP packets are handled at higher priority than data packets in the access points. No matter how heavy the data traffic in the WLAN, the voice traffic is always guaranty to serve.

Samsung OfficeServ Wireless access points offer separate voice and data connection that allows flexible configuration. Dealer can choose to either manager voice network only (and let IT to manager the data network), or to manager both voice and data network.

The same handset and access points can be used for all Samsung IP enabled systems. If customers out grow the current system, the same wireless handset and access points can be used in the next bigger system.

This advanced in-building OfficeServe wireless product can be adjunct to the Samsung OfficeServ 100, OfficeServ 500, and OfficeServ 7200 systems. Depending on the system platform, Samsung OfficeServ Wireless system can support up to 240 wireless handsets.

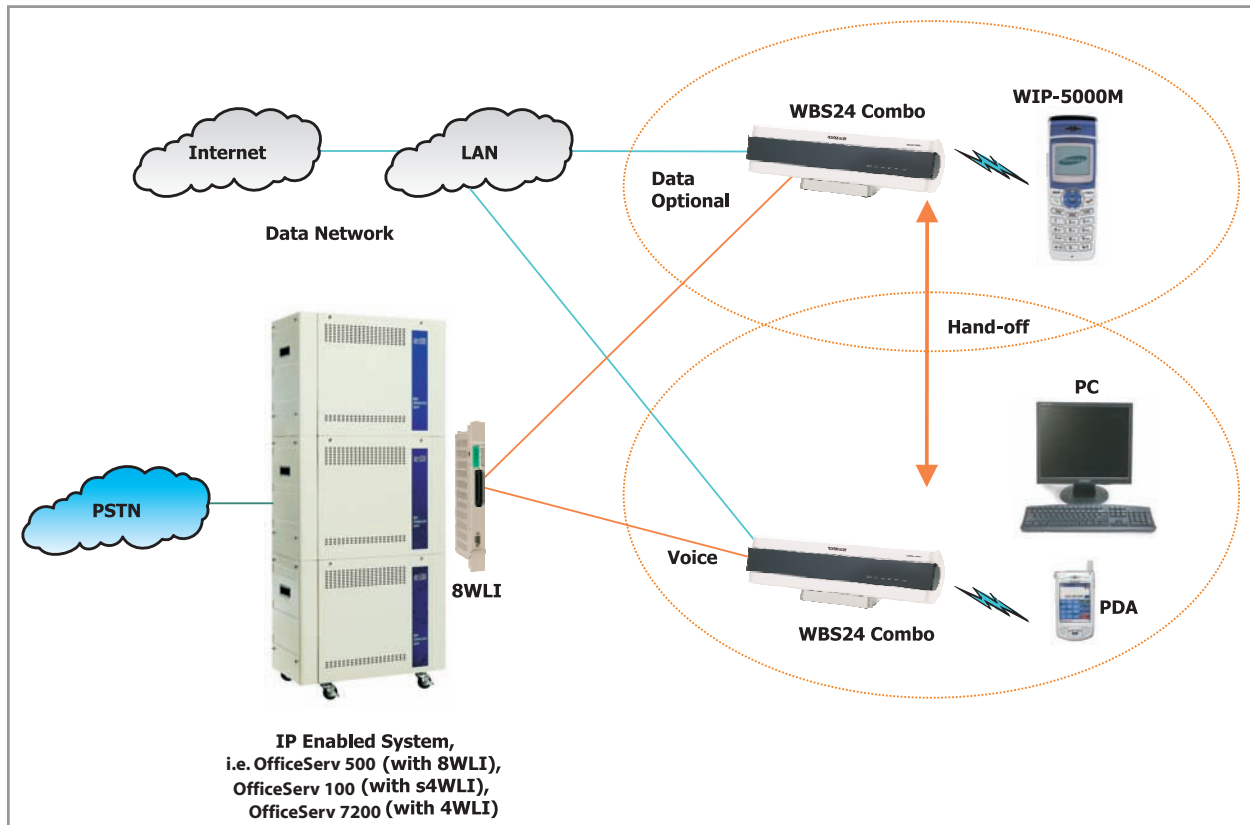
## **1.2 PRODUCT ADVANTAGES**

- Advanced wireless products using IEEE 802.11b WLAN technology
- No monthly air time charge by using unlicensed 2.4 GHz frequency band
- Wireless VoIP using SIP protocol with proprietary extension
- Products support both wireless voice and wireless data services
- Excellent voice quality with guaranty priority on voice IP packets
- Full feature integration with Samsung IP enabled PBX systems
- Easy installation and operation without lengthy training
- Innovative and lightweight wireless handset with easy access to system features
- Flexible configuration allows separate voice and data network management
- Seamless hand-off among different access points
- Programming through the existing KMMC and PCMMC

## 1.3 SYSTEM COMPONENTS

1. Wireless Line Interface (WLI) Card
2. Wireless Base Station 2.4 GHz (WBS24 Combo) Access Point
3. Wireless Internet Phone 5000 Mobile Handset (WIP-5000M)

### System Configuration



## 1.4 SOFTWARE VERSIONS

The Samsung OfficeServ Wireless LAN products require the latest system software versions that are released after September, 2005 launch.

## 1.5 SYSTEM CAPACITY TABLE

	OfficeServ 100	OfficeServ 500	OfficeServ 7200
Maximum WLI Cards	1 s4WLI	1 (M) 8WLI 3 (L) 8WLI	3 4WLI
Maximum Access Points (WBS24 Combo)	4	8 (M) 24 (L)	12
Maximum Handset WIP-5000M Subscriptions	64	120 (M) 240 (L)	120
Maximum Simultaneous Handset Voice Calls	16	32 (M) 96 (L)	48

## 1.6 PROGRAMMING

The wireless system can be programmed via KMMC from any LCD display keyset without interrupting system operation.

The system can also be programmed via PCMMC. This permits a technician to program the system using a personal computer.

### New MMCs

Five new MMCs (845 to 849) are introduced for the OfficeServ Wireless products.

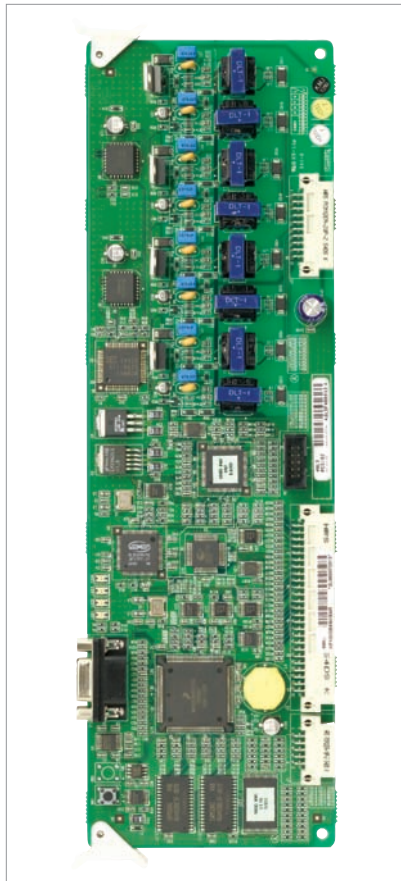
Related Function	MMC No.	Description
Registration and Setting of WLI / WBS24 / WIP-5000M	<a href="#">845</a>	Sets WLI, WBS24 parameter
	<a href="#">846</a>	Sets WIP-5000M information
	<a href="#">847</a>	Checks WLI or WBS24 RESET/STATUS
	<a href="#">848</a>	Sets WIP-5000M IP and DATA terminal MAC address
	<a href="#">849</a>	De-registers WLI REGIST and encryption setting

# PART 2. HARDWARE DESCRIPTIONS

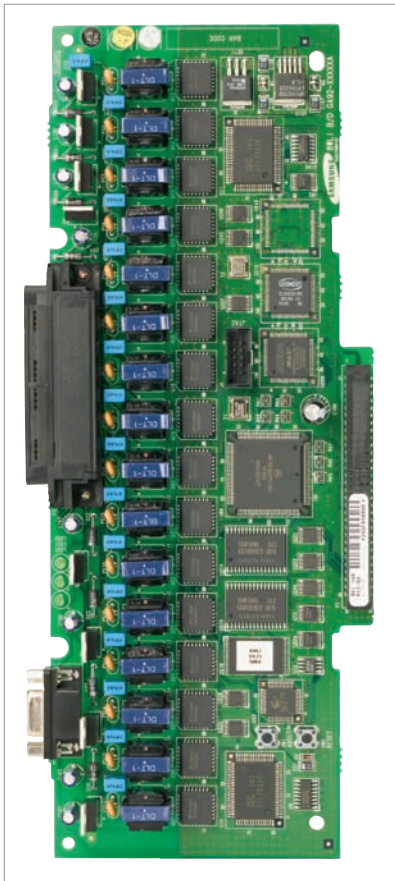
## 2.1 WIRELESS LINE INTERFACE (WLI CARD)

The WLI is the main interface card for the IP enabled systems to add wireless functionalities. It provides the following main functions:

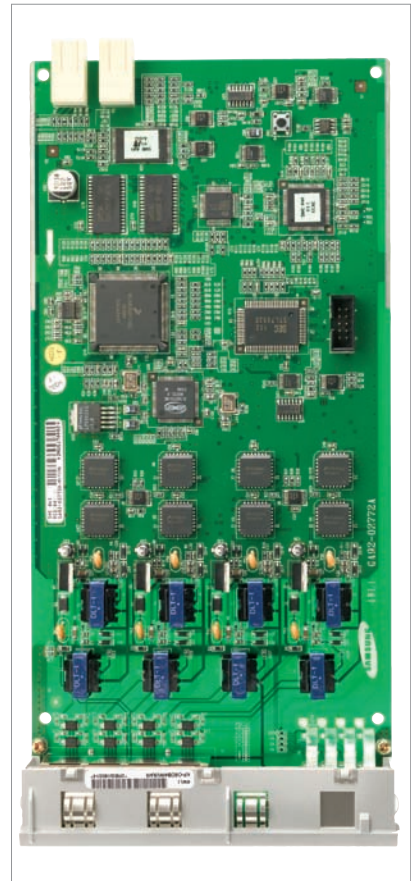
- Supplies power to the access points
- Transport digital voice between the access points and systems



*s4WLI*



*8WLI*



*4WLI*

### **s4WLI**

- Interface card for OfficeServ 100 system
- Each s4WLI can connect up to 4 access points
- It requires 16 power units
- Main cabinet can accommodate up to one s4WLI card
- Expansion cabinet can't take any s4WLI card
- Maximum one s4WLI can reside in the OfficeServ 100 system
- It can only reside in the universal slot 1 to 3 of main cabinet

## 8 WLI

- Interface card for OfficeServ 500 system
- Each 8WLI can connect up to 8 access points
- It requires 32 power units
- Each cabinet can accommodate one 8WLI card
- Maximum three 8WLI can reside in the OfficeServ 500 system
- It can only reside in the slot 1 to 3 of main or expansion cabinet

## 4 WLI

- Interface card for OfficeServ 7200 system
- Each 4WLI can connect up to 4 access points
- It requires 16 power units
- Main or expansion cabinet can accommodate up to three 4WLI card
- Maximum three 4WLI can reside in the OfficeServ 7200 system
- It can reside in the slot 1 to 5 of main or expansion cabinet

## 2.2 WIRELESS ACCESS POINT (WBS24 COMBO)

The wireless access point (WBS24 Combo) provides the wireless coverage to the building. It supports IEEE 802.11b WLAN standard for both voice and data. It gives IP packets priority to the voice. The quality of the service for voice is always guaranty. It takes wireless voice IP packets and convert them to the TDM digital packet to the system.



WBS24 Combo

### Highlight of WBS24 Features

- Easy to manage  
All access points programming are done through the MMCs. Users can use either KMMC or PCMMC to do the programming.
- Support 4 voice calls simultaneously  
It can handle 4 simultaneous voice conversations per access point. Built-in LEDs indicate the voice channels usage.
- Adjustable transmission power to accommodate demand coverage or density  
5 levels of power adjustment: from 10 mW/10 dBm to 100 mW/20dBm
- Built-in 128-bit WEP security and default hidden system ID (SSID)
- Built-in Web server for status monitor and software upgrading  
Software upgrade can be done through wireless connection. There is no need to remove the unit or make physical wire connection to perform software upgrade.
- One connectors for voice and power and one connector for data  
The cable to WLI supplies in-line power and supports voice application. Optional data connection to the data network can be resided in complete different subnet.



## 2.3 WIRELESS INTERNET PHONE (WIP-5000M HANDSETS)

Wireless Internet Phone (WIP-5000M) is a compact handheld unit that works within the Samsung OfficeServ Wireless system. The three ounce handset comes with a rich set of features. Its graphical display and menu-driven function make it very simple to use. The handset package comes with a two-hour fast charging unit, a leather carrying case and a headset with hook switch.

### Highlight of WIP-5000M Features

- Caller name and number display
- Call Waiting
- Voice mail indication
- Hot key for voice mail access
- System hold
- Call transfer
- Call forward
- Call mute
- Call pick up
- Do not disturb
- Dynamic soft keys
- Hard keys for TRANSFER, HOLD, and CONFERENCE
- Redial
- Pre-dial
- Local phone book with 200 entries.
  - Each entry can store 3 phone numbers
  - There is a total of 600 phone numbers
  - 100 Speed Dial (Entry 0 to 99) can be assigned from the Phone Book
- Hot key for vibrator function (\*)
- 32 incoming call log and 32 outgoing call log
- Adjustable volume
- 10 different ringer tones and adjustable ringer volume
- Hot key for keypad lock/un-lock (#)
- Microphone mute key
- Talk/standby time 2.5/25 hours
- 2 hours fast charger
- Spare battery slot in charger
- Weight 3.2 oz including battery
- Support two system registration
- Built-in Web server for status monitor and software upgrading
- Software upgrade through wireless connection



WIP-5000M Handset

## SALE DEMO/SITE SURVEY KIT



*OfficeServ 100 Wireless Addition*

The OfficeServ 100 wireless addition can be added to the OfficeServ 100 demo kit. This kit allows sale staff to demonstrate the Samsung OfficeServ Wireless product at the customer sites. It also allows technical staff to measure the radio signal strength to determine the number of required access points and the locations of the access points.

## PART 3. SPECIFICATIONS

### 3.1 WIRELESS LAN IN OFFICESERV 100

Category	Specification
System	OfficeServ 100
Number of Mountable WLI Boards	One s4WLI in the system, it can reside only in the universal slot 1 to 3 of the main cabinet.
Number of APs (WBS24)	4 WBS24 (Combo) per s4WLI board
Number of Subscribers	Up to 64 handsets
Distance	It can vary depend on the building materials Typical distance between 50 ft to 150 ft.
Wiring Distance Between WLI and WBS24	Up to 1300 ft
Number of Simultaneous Voice Conversations	4 voice channels per WBS24 Combo) 16 voice channels per s4WLI

### 3.2 WIRELESS LAN IN OFFICESERV 500

Category	Specification
System	OfficeServ 500
Number of Mountable WLI Boards	One 8WLI board per OfficeServ 500 cabinet; Up to three 8WLIs in the three cabinet systems. It can resides only in slot 1 to 3.
Number of APs (WBS24)	8 WBS24 (Combo) per 8WLI board
Number of Subscribers	OfficeServ 500-L: up to 240 handsets; OfficeServ 500-M: up to 120 handsets
Distance	It can vary depend on the building materials Typical distance between 50 ft to 150 ft.
Wiring Distance Between WLI and WBS24	Up to 1300 ft
Number of Simultaneous Voice Conversations	4 voice channels per WBS24 (Combo) 32 voice channels per 8WLI

### 3.3 WIRELESS LAN IN OFFICESERV 7200

Category	Specification
System	OfficeServ 7200
Number of Mountable WLI Boards	Up to three 4WLIs in the system, it can be all in main cabinet. It can reside on slot 1 to 5.
Number of APs (WBS24)	4 WBS24 (Combo) per 4WLI board
Number of Subscribers	Up to 120 handsets
Distance	It can vary depend on the building materials Typical distance between 50 ft to 150 ft.
Wiring Distance Between WLI and WBS24	Up to 1300 ft
Number of Simultaneous Voice Conversations	4 voice channels per WBS24 (Combo) 16 Voice channels per 4WLI

### 3.4 WBS24 COMBO

Category	Specification
Standard	WLAN: 802.11b VoIP: SIP (proprietary extension)
RF Frequency	2.4~2.483 GHz
RF Output Power	From 10mW to 100 mW
RF Channels	Three non-overlapping channels
Ethernet	10/100 BASE-T
Voice CODEC	G.711, G729A
Size	328 (width) x 80 (length) x 41 (height) mm
Weight	About 1 kg
Power	WBS24(Combo): -48 V (Supplied from the WLI)
Antenna	2 Internal Antenna Diversity
LED	Power, Voice1, Voice2, Link, Data, Wireless
External Connector	External connector, RJ-45 LAN, RJ-45 API, RJ45 SIO
Operating Temperature	+320F (00C) to +1130F (+450C)
Storage Temperature	-400F (-200C) to +1580F (+700C)
Humidity	0 – 90% non-condensing

## 3.5 WIP-5000M

Category	Specification
Standard	WLAN: 802.11b VoIP: SIP (proprietary extension)
RF Frequency	2.4~2.483 GHz
RF Output Power	Up to 100 mW
Transmission Protocols	Direct Sequence Spread Spectrum (DSSS)
Voice CODEC	G.711, G729A
Size	43 mm (width) x 126 mm (length) x 20 mm (height)
Weight	95 g
Battery	3.8V Li-Ion/1000mA
Talk Time	2.5 Hours
Standby Time	25 Hours
Configuration	LCD: eight icons with 4 lines display
	Key Pad
	External Battery Charger
	Antenna: Super Sensitive Antenna
Operating Temperature	+32°F (0°C) to +113°F (+45°C)
Storage Temperature	-40°F (-20°C) to +158°F (+70°C)
Humidity	0 - 90% Non-Condensing