# OfficeServ™ 7200

## General Description

Publication Information

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# Convergence: One Solution
## (Voice, Data, Wireless)

**OfficeServ Management**
Web Browser (Data Modules)
OS7200
Manager
(Voice
modules)

**PSTN**

**Applications**
SVMi-20E
OS Call
OS Operator
OS EasySet
OS Dataview
OS Open TSP

**WAN**

**LAN**

**OfficeServ 7200**

**Data Services**
IP Router/Switch
DHCP, QoS
NAT/NAPT
Firewall, IDS
VPN

Softphone

IP Phones

Wireless
Phone

TDM and
Analog sets

**Voice Services**

FIGURE 1-1

# PART 1. SYSTEM OVERVIEW

## 1.1 GENERAL DESCRIPTION

The Samsung OfficeServ 7200 converged communications platform offers one solution for voice, data, and wireless for the small to medium size enterprise. Although the 7200 can function as a square key system, PABX, or hybrid, it offers much more. The OfficeServ 7200 is an "office in a box" solution providing data router and switching functions (LAN/WAN), TDM voice processing, Voice over IP integration, wireless communications, voice mail, computer telephony integration (CTI), and much more all in one powerful platform.

The OfficeServ 7200 can be mounted in a standard 19" rack, wall mounted or set on a desktop. Media Gateway Cards (MGI), local IP keysets, remote IP keysets and IP networking are easily and economically added as needed.

The OfficeServ 7200 offers a variety of interface cards that allow connection to the public telephone network or to private networks. These are generally referred to as trunk cards. Proprietary digital phones called "keysets" connect to Digital Line Interface cards (DLI). In addition to these conventional digital keyset, Samsung offers IP keysets. These IP keysets use the latest Voice over Internet protocol (VoIP) technology. They are ideal for distant (remote) locations where the digital keysets will not work. Connect to an Ethernet LAN and communicate with the system through the Media Gateway Interface cards (MGI). The MGI allows IP phones to communicate with TDM devices. Standard telephones generally called "single line sets" connect to single line interface cards (SLI). In addition, DLI station ports are used to connect peripheral devices such as door phones and add-on modules. Miscellaneous circuits are provided to allow such optional features as external paging, music on hold, background music, and common audible devices.

All keysets utilize a single PCB with surface-mounted components assuring the highest product quality and long life. Samsung's customary large, easy-to-read displays and LEDs in the button design make them much easier to use. In many instances, sophisticated features are made simple through the use of friendly display prompts or push-on/push-off feature keys.

Expanding the OfficeServ 7200 system is both economical and easy. Begin with a single cabinet configured as a basic Key Service Unit and then add up to one more cabinet as your business grows. Its low and medium density card design allows greater flexibility when configuring a system for the right combination of lines and stations. A removable software cartridge (MMC+ card) makes it convenient to upgrade to future feature packages.

# 1.2 SIZE AND CONFIGURATION



**FIGURE 1-2**



**FIGURE 1-3**

The OfficeServ 7200 is a modular and flexible system available as a single cabinet or fully expanded two cabinet system. See figures 1-2 and 1-3.

Each cabinet has one dedicated processor slot and five universal slots. The MCP card is the main processor that fits into dedicated slot 0 of the main cabinet. The LCP card is the local processor that fits into the dedicated slot 0 of the expansion cabinet. There is only one cabinet type. The presence of an MCP or LCP determines whether it is a main cabinet or an expansion cabinet. In total there can be 10 universal card slots to configure the OfficeServ 7200 as required. See figure 1-4

When configuring a system to meet your requirements, select the appropriate number of interface cards listed in Part 2 of this book to support the various types of trunks, stations, data needs, voice mail and miscellaneous functions. Your authorized Samsung Installation and Service Company has special knowledge and training to do this.

The decision to install the Samsung data modules in the OfficeServ 7200 system or use third party external data equipment will impact the maximum system capacity. Using internal data modules will decrease total system capacity of stations and trunks as they utilize the same 10 universal cards slots.

# 1.3 MAXIMUM DEVICE QUANTITIES

| | | | |
|---|---|---|---|
| **Stations** | Wireless Handsets | | 32 |
| | Standard SIP Phones* | | |
| | Analog Phones | | 120 |
| | Digital Phones | | |
| | Samsung IP Phones / Softphone | | |
| | Voice Mail (SVMi-20E) | | 12 |
| | **Maximum Stations** | | **120** |
| **Trunks** | Standard SIP Trunks | 32 | 32 |
| | Standard H.323 Trunks | 16 | |
| | Analog Trunks | | 60 |
| | Digital Trunks T1/PRI | | |
| | Networking Trunks | | |
| | **Maximum Trunks** | | **60** |
| | **Maximum Stations + Trunks + Voice Mail** | | **180** |

| DEVICE TYPE | MAXIMUM | NOTES |
|---|---|---|
| Networking Nodes<br>■ Using QSIG over PRI<br>■ Using QSIG over IP | <br>5<br>99 | <br>Uses available T1/PRI card slots.<br>Limited by IP Address Table, MMC 820. |
| Media Gateway Ports | 120 | Required to connect an IP phone to a TDM device including paging and background music and ports used for networking or trunking. |
| Conferencing Circuits<br>■ 5 Party Add-On<br>■ Unsupervised<br>■ Barge-In<br>■ Call Record<br>■ AME | <br>6<br>6<br>6<br>6<br>6 | <br><br>Six Conference Circuits to be shared by all of these features. |
| Common Resources<br>■ DTMF Receivers<br>■ DTMF Senders<br>■ Analog Caller ID Senders/Receivers<br>■ External Music On Hold (MOH) | <br>16<br>32<br>14<br>2 | <br>4 on MCP plus 12 on optional MFM board<br>All on MCP<br>Optional RCM2 daughter board<br>Requires CPE and optional MIS |
| Paging<br>■ Audio Output<br>■ Internal Zones<br>■ External Zones | <br>1<br>5<br>2 | <br>1 on MIS daughter card.<br>(99 members each zone)<br>Requires customer provided equipment. |
| Maximum BHCA<br>(Busy Hour Call Attempts) | 1,800 | |

*Future Software Release

# OfficeServ 7200 Cabinet Configuration

Slots 1 ~ 5 are universal slots.

**Front View of the Expansion Cabinet**

| Slot 0 LCP | Slot 1 Universal | Slot 2 Universal |
| Slot 3 Universal | Slot 4 Universal | Slot 5 Universal |

**Front View of the Main Cabinet**
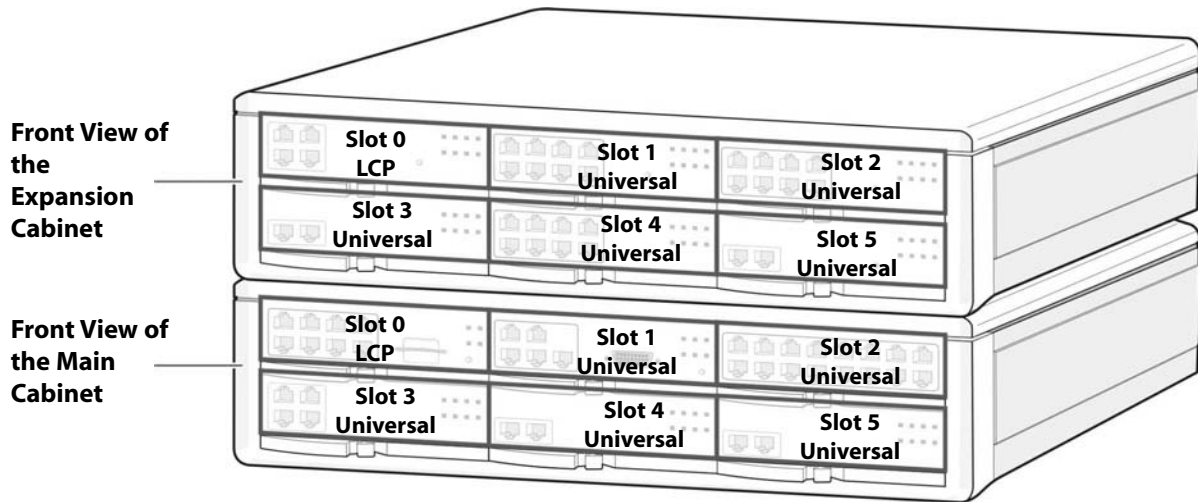
| Slot 0 LCP | Slot 1 Universal | Slot 2 Universal |
| Slot 3 Universal | Slot 4 Universal | Slot 5 Universal |

| Cabinet | Slot | Mountable Boards |
|---------|------|------------------|
| **Expansion Cabinet** | Slot 0 | LCP only |
| | Slot 1 | All boards **EXCEPT** for MCP, LCP, TEPRI, and PLIM. |
| | Slot 2 | All boards **EXCEPT** for MCP, LCP, TEPRI, and WIM. |
| | Slot 3 | All boards **EXCEPT** for MCP, LCP, and WIM. |
| | Slot 4 | All boards **EXCEPT** for MCP, LCP, TEPRI, and WIM. |
| | Slot 5 | |
| **Main Cabinet** | Slot 0 | MCP Only |
| | Slot 1 | All boards **EXCEPT** for MCP, LCP, TEPRI, and PLIM. |
| | Slot 2 | All boards **EXCEPT** for MCP, LCP, TEPRI, and WIM. |
| | Slot 3, 4, 5 | All boards **EXCEPT** for MCP, LCP, and WIM. |

**FIGURE 1-4**

## 1.4 TECHNOLOGY

### MEMORY

The system operates using stored program control. This program is stored on a 64MB MMC+ card inserted into the Main Control Processor card (MCP). The MMC+ card also provides space for a backup customer database and a backup operating program. The system boots from a 1 Megabyte boot ROM and downloads the operating program into thirty two megabytes of DRAM on the Main Control Processor (MCP) card. The customer database is stored in four megabytes battery backed-up (super capacitor) SRAM. The SRAM is protected for approximately 2 days, when system is powered off.

### MICROPROCESSORS

OfficeServ 7200 uses distributed processing. Its primary processor is a 32 bit Motorola MPC855T operating at a clock speed of 50 MHz on the MCP card. This provides all the processing necessary for a single cabinet system. In a multi cabinet system the secondary level of processing is on the LCP card for the expansion cabinet. The tertiary level of processing is done in the keysets. The digital keysets use a Hitachi H8 processor for data communication within the system.

## 1.5 PROGRAMMING

The OfficeServ 7200 is a self-configuring system. This means that immediately after applying power, the OfficeServ 7200 reads the types and locations of all installed interface cards and keysets and assigns default data to them. This data provides for system operation within a few minutes after applying power. All trunks and stations are assigned three or four digit numbers according to the settings of the switches on the MCP card and the default numbering plan. This numbering plan is flexible and may be changed to suit customer requirements. The installing technician customizes this default data to meet the end user's requirements.

The system can be programmed from any LCD display keyset without interrupting system operation. There are three levels of programming: technician, customer and station. The technician level has access to all programs and can allow the customer access to system programs as needed. Technician and customer access levels are controlled by a different security passcodes and access procedure.

The OfficeServ 7200 also allows the use of a proprietary computer program called OfficeServ Manager (OSM). This permits a technician to program the system using a personal computer. OSM can be used on-site to modify the customer database or to download (save) the entire customer database to a file. This file can then be saved as a backup and be uploaded when required to restore the database. Through the use of LAN connection, OSM can access the OfficeServ 7200 system remotely (off-site) to make database changes or perform uploads or downloads of the customer database as if the technician were on-site.

## 1.6 MIGRATION TO OFFICESERV 7400

When communication requirements exceed the maximum capacity of the OfficeServ 7200, Samsung provides a convenient, easy and affordable migration path to the larger OfficeServ 7400. Simply install a 7400 as the main cabinet. Replace the MCP card with an LCP card and your existing 7200 cabinets and interface cards become part of a much larger OfficeServ 7400 system. Features and operation are the same so there is no need to retrain users. See the OfficeServ 7400 General Description for more details.

See figure 1.5, 1-6, and 1-7 for possible hardware combinations.

# POSSIBLE COMBINATIONS OF OFFICESERV 7200 AND OFFICESERV 7400
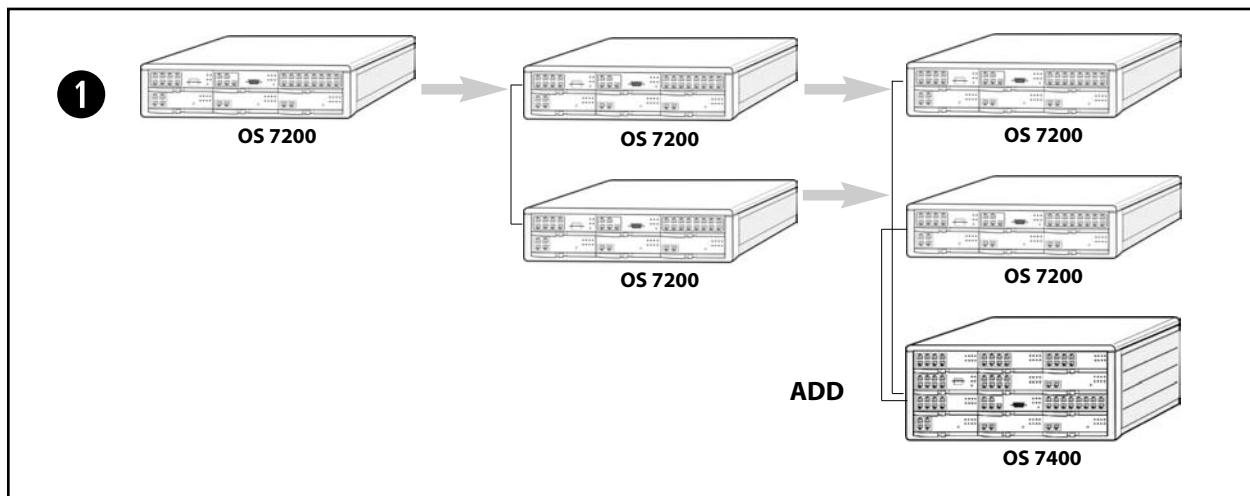


**FIGURE 1-5**
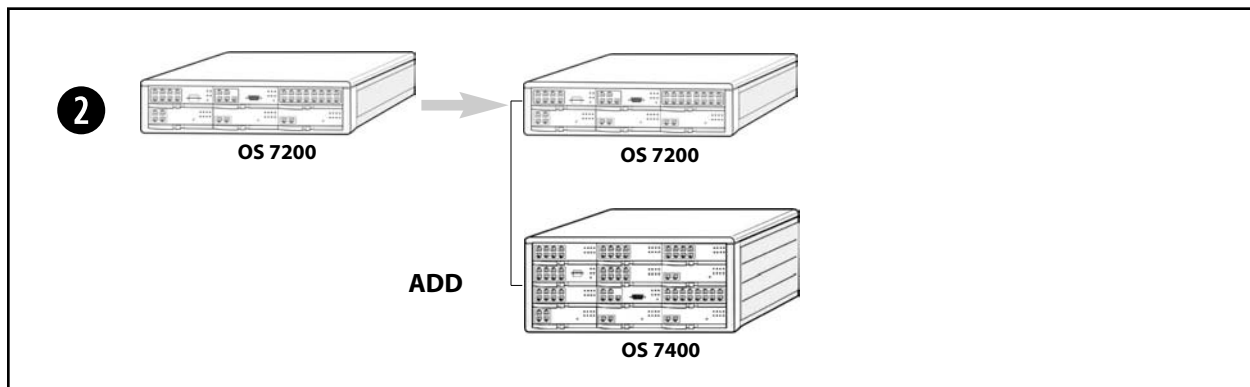


**FIGURE 1-6**
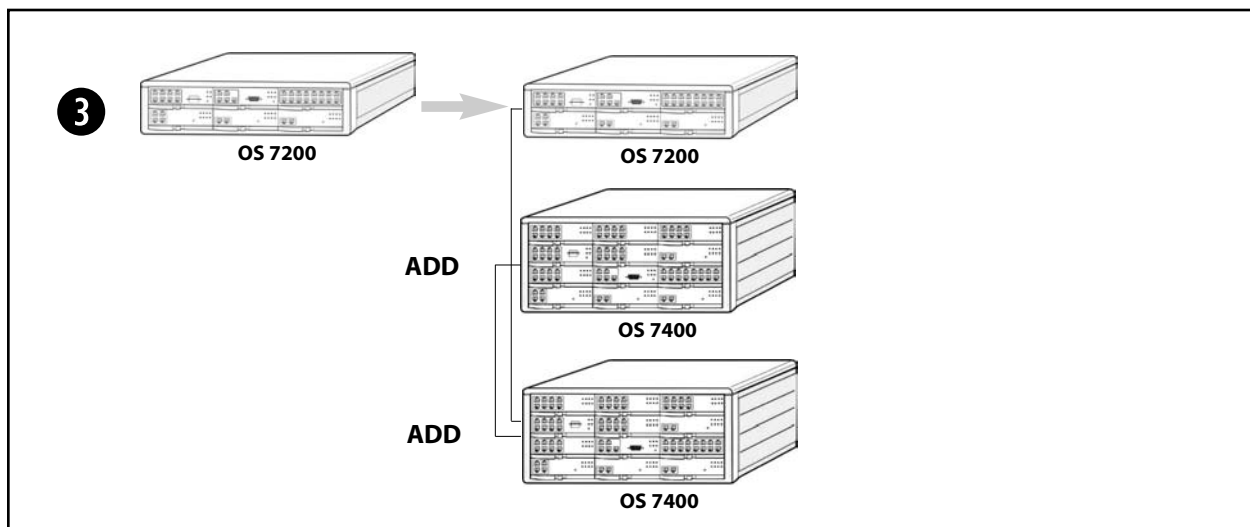


**FIGURE 1-7**

See OfficeServ 7400 General Description booklet for more details.

# PART 2. HARDWARE DESCRIPTIONS

## 2.1 SYSTEM CABINETS

The cabinets that make up the OfficeServ 7200 system are of metal construction and may be utilized as either as an expansion cabinet or as a main cabinet / key service unit (KSU). The cabinets may be used individually or may be stacked up to two (2) high to achieve maximum capacity. A single cabinet may be wall mounted for smaller applications or alternatively the system may be mounted in a standard nineteen inch (19") equipment rack. Each cabinet is comprised of the following:

- Five (5) interface card slots
- One processor card slot
- One power supply (installed in back panel of the cabinet)
- AC power connector
- DC power (Battery Backup) connector

## 2.2 PROCESSOR CARDS

The OfficeServ 7200 requires a processor card or cards in order to operate. In a single cabinet OfficeServ 7200 system, only one processor card, the Main Control Processor (MCP), is required. Each expansion cabinet requires its own Local Control Processor (LCP). These processor cards are described below.

### MAIN CONTROL PROCESSOR (MCP)

The Main Control Processor (MCP) is installed in a dedicated processor slot, slot 0, of the first cabinet and has positions for three daughter boards. The first daughter board position (labeled "MIS") can support the MIS daughter board ONLY. The second daughter board position is only for the RCM2 daughter boards. The third daughter board position is dedicated only for the MFM daughter board.

The MCP includes without additional daughter boards the following common system resources: 4 DTMF Receivers and 32 DTMF Senders.

| MAIN CONTROL PROCESSOR (MCP) DAUGHTER BOARD CAPABILITIES | |
|---|---|
| Position | Types of Daughter Boards allowed per position |
| MCP - D1 | MIS |
| MCP - D2 | RCM2 |
| MCP - D3 | MFM |

Note: The four types of daughter boards mentioned above can only reside on the MCP.

### LOCAL CONTROL PROCESSOR (LCP)

The Local Control Processor (LCP) card is installed in a dedicated processor slot, slot 0, of the expansion cabinet. The LCP controls the interface boards in the expansion cabinet and communicates with the MCP. A three (3) wire link cable connects the LCP to the MCP.

# 2.2.1 PROCESSOR CARD DAUGHTER BOARDS

There are four (4) types of daughter board that can fit on the MCP card. These daughter boards will only work on the Main Control Processor (MCP). The various daughter boards and their uses are described below.

### MULTI-FREQUENCY MODULE (MFM)

The MFM Module installs in the third position of the MCP. The main purpose of the MFM daughter board is to provide DSPs for DTMF and tone detection.

- Twelve (12) DSPs for DTMF and tone detection.

### R2/CID-Tx MODULE (RCM2)

The RCM2 Module installs in the second position of the MCP. The main purpose of the RCM2 daughter board is to provide Caller ID decoders for use with that telephone company provided service over analog trunks. A secondary use of the RCM is to provide R2 MFC senders and receivers to the system although these are not used in the US. The system can support only one (1) RCM2 card.

The RCM2 consists of the following:

- Fourteen (14) CID receivers (for use with Caller ID on analog trunks).
- Sixteen (16) CID senders (to pass Caller ID from trunk to single line port).

### MISCELLANEOUS FUNCTION MODULE (MIS)

The Miscellaneous Function Module (MIS) daughter board installs in the first position on the MCP card. The MIS daughter  board is used to provide external music on hold/audio inputs (radios, digital announcers, etc.), external paging auto output, loud bell, common bell and programmable dry contact closures. Only one MIS per system is allowed.

The MIS consists of the following:

- Two (2) external music/audio inputs
- One (1) external paging audio output
- One (1) loud bell audio output
- One (1) common bell relay contact closure
- Two (2) software programmable relay contact closures

# 2.2.2  MMC+ MEDIA CARDS

An OfficeServ 7200 system must have a 64MB MMC+ card installed in the main control processor (MCP) as the MMC+ card contains the system operating software. The MMC+ card can also be used to store a backup customer database to supplement the database stored on the MCP card. In addition the MMC+ card can store backup copies of the operating software for the LCP, and TEPRI cards.

# 2.3 INTERFACE CARDS

These cards provide the interface connections for telephone lines and stations to the KSU and expansion cabinets. These cards fit into the universal card slots to configure the system as required.

# 2.3.1 TRUNK CARDS

## 8TRK BOARD

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

## TEPRI DIGITAL TRUNK BOARD

When programmed as a T1 this card provides up to 24 trunk circuits in any combination of the following:

- Loop start lines
- DID (Direct Inward Dialing)
- Ground start lines
- E & M tie lines or two way DID calling

When the card is programmed as a PRI it will provide 23 bearer channels and 1 data channel (23B+D). This card can be installed in slots 3, 4, and 5 of main cabinet and slot 3 in the expansion cabinet. This card is also used for networking to other systems (QSig/PRI networking)*. A maximum of 4 TEPRI boards can be installed per system.

## MGI (MEDIA GATEWAY INTERFACE)

The MGI card supports up to 16 VoIP channels. **THERE ARE 0 EMBEDDED ON THE CARD**. 4 channels can be added by plugging in a MGI-D daughter board. Up to four (4) MGI-D daughter boards can be added to the MGI board, where each MGI-D daughter board provides 4 voice channels.
The MGI has the following capabilities:

- IP Phones
- IP Networking (Network multiple systems over an IP Network)*
- G.729 (8K) CODEC, G.723.1, G.711, G.729A CODECs
- IP Trunking (SIP/H.323)
- T.38 Fax CODEC
- Inband or Out-of-band signaling of DTMF tones

## MGI-16 (MEDIA GATEWAY INTERFACE)

The MGI-16 card supports 16 VoIP channels. The MGI-16 has the following capabilities:

- IP Phones
- IP Networking (Network multiple systems over an IP Network)*
- G.729 (8K) CODEC, G.723.1, G.711, G.729A CODECs
- IP Trunking (SIP/H.323)
- T.38 Fax CODEC
- Inband or Out-of-band signaling of DTMF tones
- QoS (ToS / DiffServ)
- 802.1q, 802.1p VLAN Tagging, Priority

*The OfficeServ 7200 can network using QSig over PRI and QSig over IP to other Samsung OfficeServ systems or 7200 systems.

# 2.3.2  STATION CARDS

## 8DLI

This card is an eight circuit digital station interface card that provides 2B+D service when installed in any universal card slot in all cabinets. Keyset daughter boards will only work when connected to this card.

## 16DLI2

This card is a sixteen circuit digital station interface card that provides 1B+D service when installed in any universal card slot in all cabinets. Keyset daughter boards will not work when connected to this card.

## 8SLI

This card is a eight circuit analog station interface for industry standard single line telephones or other analog peripheral devices. The 8SLI does not contain any over-voltage protection and is not qualified as OPX. It also does not contain DTMF receivers, but shares system DSP resources. It can be inserted in any universal card slot in all cabinets. Each port on this card is intended for connection to one telephone. Connecting multiple telephones to a port may result in incorrect operation or damage to the card. This card supports Power Fail Transfer feature. See the installation manual for details.

## 16MWSLI

This card is a sixteen circuit analog station interface for industry standard single line telephones that require operation of an industry standard message waiting lamp with a voltage range of 85 ~ 96 VDC. The lamp can be programmed to be on continuously or flash at a programmable rate of 100ms to 2000ms ON/OFF times. The 16MWSLI does not contain any over-voltage protection and is not qualified as OPX. It also does not contain DTMF receivers, but instead shares the system DSP resources. It can be inserted in any universal card slot in all cabinets. Each port on this card is intended for connection to one telephone. Connecting multiple telephones to a port may result in incorrect operation or damage to the card. This card supports the Power Fail Transfer feature. See installation manual for details.

## 8COMBO

This card has a combination of eight dedicated digital stations ports (1B+D) for Samsung Digital Keysets and eight dedicated analog station ports for industry standard single line telephones or other analog devices. This card installs in any universal slot in any cabinet. A maximum of 10 8COMBO cards can be installed per system.

## 2.3.3  SPECIAL FEATURE CARDS

### SVMi-20E

The SVMi-20E is designed to meet the demands of the sophisticated voice mail user with-out sacrificing simplicity.  The SVMi-20E is a self contained plug in (In-Skin) Auto Attendant and Voice Mail card.

The SVMi-20E may act as an Auto Attendant system only, a Voice Mail System only, or both.  The SVMi-20E is equipped with 4 Ports built onto the main PCB assembly and can handle 4 calls simultaneously. The SVMi-20E can currently (at the time of this writing) be upgraded to 8 and/or 12 Ports by adding one or two 4 Port VPMs to handle up to either 8 and/or 12 calls simultaneously.

On the SVMi-20E unit, no external line or power connection is necessary as it is an In-Skin product. The power and telephone connections are accomplished directly through the phone system on the backplane edge connectors. Because the SVMi-20E does not draw from the -48DC supply it has a Zero (0) SEPU rating under all possible configurations.

Currently the Message Storage capacity, on the SVMi-20E is approximately 7 hours with the 128MB Compact Flash configuration or approximately 140 hours with the Hard Drive configuration.

The modular design of the SVMi-20E allows it to be expanded to add voice ports as needed. Only one SVMi-20E card can be installed in a system and another voice mail system can NOT be used in combination with the SVMi-20E.

## 2.3.4  DATA CARDS

### WIM (WAN INTERFACE MODULE)

The WIM is a data router module that transmits/receives data to and from the external internet. It provides 3 WAN (Wide Area Network) interfaces for connecting to external networks plus a DMZ port (De-militarized Zone).

One WIM module can be installed per system. The WIM must be installed in slot 1 of either cabinet.

- Routing Functions: Static Routing, Dynamic Routing (RIP, OSPF), Inter-VLAN routing, Multicast IGMP
- Network Functions: NAT/NAPT, Firewall, IDS, VPN, QoS

### PLIM (LAN INTERFACE MODULE)

The PLIM board sends/receives data from the internal LAN, and provides an interface of 10/100 BASE-T. It functions as a layer 2 LAN switch. The PLIM board can connect with the WIM through the internal back panel if it is in slot 2 and the WIM is in slot 1 with appropriate jumper settings. The PLIM supports Power over Ethernet (IEEE 802.3af). This means that it can provide power to any IEEE 802.3af compliant device that is connected to any of its Ethernet ports. All Samsung ITP phones and SMT-R2000 Dual-Band AP can receive power when connected to PLIM. When connected to the PLIM Ethernet port, these devices no longer need the AC power adapter.

The PLIM can be installed in slots 2 through 5 of any cabinet. However, for the PLIM to be a managed switch, it must be installed in slot 2 with a WIM in slot 1. A maximum of 8 PLIMs can be added however only one PLIM per system can be a "managed" switch.

When a PLIM acts as an unmanaged switch, it simply performs as a simple data switch (10/100 BASE-T). When it is managed (by WIM), advanced features such as Layer 2 QoS, 802.1q (VLAN), IGMP snooping, and much more are available.

Note: When installing more than one PLIM per cabinet the optional OfficeServ 7150 Supplemental 48 VDC power module is required.

## 2.3.5  OfficeServ 7150 SUPPLEMENTAL PoE POWER SUPPLY

This module provides additional power to the OfficeServ 7200 allowing you to add more PLIM cards and connect more PoE devices.

- Supplemental Power Supply for additional PoE Devices.
- Rack mountable cabinet
- Add up to 2 PoE-M PSU modules
- Supports external back up battery connection



**FIGURE 2-1**

# 2.4 STATION EQUIPMENT

# 2.4.1 DS 5000 SERIES EQUIPMENT

## DS 5021D KEYSET (See Figure 2–2)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- 21 programmable keys with tri-colored lights
- Five fixed function keys
- Terminal Status Indicator
- Built-in speakerphone
- Optional Full Duplex speakerphone module
- Eight selectable ring tones
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Desk- or wall-mounted



**FIGURE 2-2**

## DS 5014D KEYSET (See Figure 2–3)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- 14 programmable keys with tri-colored lights
- Five fixed function keys
- Terminal Status Indicator
- Built-in speakerphone
- Optional Full Duplex speakerphone module
- Eight selectable ring tones
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Desk- or wall-mounted



**FIGURE 2-3**

## DS 5007S KEYSET (see Figure 2–4)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- 7 programmable keys with tri-colored lights
- Five fixed function keys
- Terminal Status Indicator
- Built-in speakerphone
- Eight selectable ring tones
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Desk- or wall-mounted



**FIGURE 2-4**

Note: This keyset type cannot use keyset daughter boards or the 14 button strip.

## DS 5064B AOM (See Figure 2–5)

- 64 programmable keys with red lights
- A maximum of 4 can be assigned to any keyset to provide additional programmable keys
- Can connect any number of these to the system. This number is limited only by the available DLI ports.



**FIGURE 2-5**

## DS-KDB-FULL DUPLEX INTERFACE (DS-KDBF)

This is a daughter board that can be installed only in the DS 5021D or DS 5014D keysets. The standard speakerphone mode of operation for a iDCS keyset is "half duplex". This means that you cannot transmit and receive speech at the same time. Adding a KDBF to your keyset will convert the speakerphone into full duplex mode enhancing its operation. The FKDBF does not require a second "B".

Note: Only one KDB can be installed on a keyset.

# 2.4.2 iDCS SERIES EQUIPMENT

## iDCS 28D KEYSET (See Figure 2–6)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- 28 programmable keys with tri-colored lights
- Four fixed function keys
- Terminal Status Indicator
- Built-in speakerphone
- Eight selectable ring tones
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Desk- or wall-mounted
- Available in dark gray or light gray



**FIGURE 2-6**

## iDCS 18D KEYSET (See Figure 2–7)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- 18 programmable keys with tri-colored lights
- Four fixed function keys
- Terminal Status Indicator
- Built-in speakerphone
- Eight selectable ring tones
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Desk- or wall-mounted
- Available in dark gray or light gray



**FIGURE 2-7**

## iDCS 8D KEYSET (see Figure 2–8)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- 8 programmable keys with tri-colored lights
- Four fixed function keys
- Terminal Status Indicator
- Built-in speakerphone
- Eight selectable ring tones
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Desk- or wall-mounted
- Available in dark gray or light gray



**FIGURE 2-8**

Note: This keyset type cannot use keyset daughter boards or the 14 button strip.

## iDCS 64B AOM (See Figure 2–9)

- 64 programmable keys with red lights
- A maximum of 4 can be assigned to any keyset to provide additional programmable keys
- Can connect any number of these to the system. This number is only limited by the number of available DLI ports.
- Available in dark gray
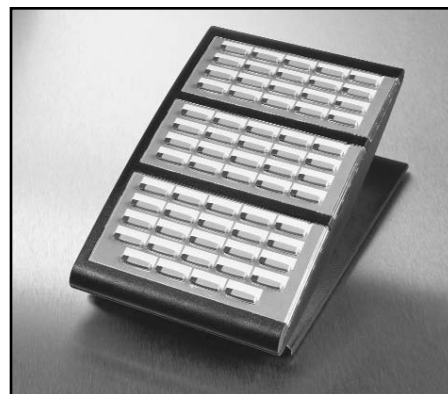


**FIGURE 2-9**

## iDCS 14B STRIP (See Figure 2–10)

- 14 programmable keys with red lights
- A maximum of one can be added to any 28D or 18D keyset to provide additional programmable keys
- Available in dark gray
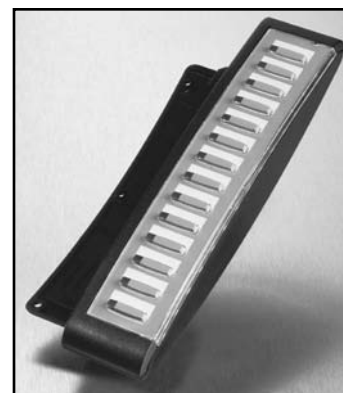


**FIGURE 2-10**

## iDCS KDB-DIGITAL LINE INTERFACE (FKDBD)

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

Note: Only one KDB can be installed on a keyset.

## iDCS KDB-SINGLE LINE INTERFACE (FKDBS)

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

Note: The circuitry on a FKDBS does not provide a loop open disconnect signal or have the over-voltage protection necessary for OPX operation. Only one KDB can be installed on a keyset.

## iDCS KDB-FULL DUPLEX (FKDBF)

This is a daughter board that can be installed only in the 18 or 28 button keyset. The standard speakerphone mode of operation for a iDCS keyset is "half duplex". This means that you cannot transmit and receive speech at the same time. Adding a FKDBF to your keyset will convert the speakerphone into full duplex mode enhancing its operation. The FKDBF does not require a second "B" channel like the FKDBD or FKDBS and so can be used on a 16 DLI2 card. In addition the FKDBF may have up to three (3) external microphones attached to it for conference room type applications. These microphones require an "EXTMIC" key programmed on the keyset to activate or deactivate them.

Note: Only one KDB can be installed on a keyset.

## DOOR PHONE INTERFACE MODULE (DPIM) & DOOR PHONE

(see Figures 2–11 and 2–12)

- The DPIM adapts any DLI circuit for use with the door phone unit
- Commonly used to request entry through locked doors (interior or exterior) or as a room monitoring box
- Provides contact control to be used with customer-provided electric door lock
- Door phone is wall-mounted
- Door phone is weather resistant


**FIGURE 2-11**


**FIGURE 2-12**

# 2.4.3 DCS SERIES KEYSETS

The OfficeServ 7200 system is compatible with the following models of Samsung's earlier DCS Keyset family version 1.2 or higher:

- LCD 24B
- LCD 12B
- 7B Keyset
- 32 Add-On-Module
- 64 Button Module

# 2.4.4 OfficeServ™ ITP-5100 SERIES EQUIPMENT

### ITP-5121D IP KEYSET (See Figure 2–13)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- Built-in Full Duplex speakerphone
- 21 programmable keys with tri-colored LEDs
- Five fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- QoS (OfficeServ/ToS)
- VLAN Tagging/Priority (802.1 p/q)
- Desk or wall-mounted



**FIGURE 2-13**

### ITP-5112L IP KEYSET (See Figure 2–14)

- Built-in Full Duplex speakerphone
- Five fixed function keys
- 3 Inch x 2.25 LCD display with twelve associated soft keys and a scroll wheel
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Navigation key
- QoS (OfficeServ/ToS)
- VLAN Tagging/Priority (802.1 p/q)



**FIGURE 2-14**

### ITP-5107S IP KEYSET (See Figure 2–15)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- Built-in Full Duplex speakerphone
- 7 programmable keys with tri-colored LEDs
- Five fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- QoS (OfficeServ/ToS)
- VLAN Tagging/Priority (802.1 p/q)
- Desk or wall-mounted



**FIGURE 2-15**

# 2.4.5 OfficeServ™ SOFTPHONE

Samsung OfficeServ™ Softphone is a software-based application that turns your computer into a full-featured Samsung IP telephone. It is installed directly onto your laptop or desktop PC running Microsoft Windows XP or 2000 operating system. Once a USB headset or a USB handset is connected; the Softphone delivers virtually identical functionality as the ITP-5112 L and ITP-5121D desktop ITP phones.

OfficeServ™ Softphone is ideal for telecommuter and mobile users. Remote workers can simply connect their laptop to the corporate network, snap in a USB headset, and function as if they were in their own office. They can place, receive, and handle calls on both the internal and external network, providing a truly portable and practical solution.

# 2.4.6 OfficeServ™ Wireless

# MGI-16/DUAL-BAND AP SOLUTION

## WIRELESS DUAL-BAND ACCESS POINT (SMT-R2000)  (See Figure 2–16)



**FIGURE 2-16**

The wireless access point (SMT-R2000) provides wireless coverage to the building. It supports IEEE 802.11a/b/g WLAN standard for both voice and data. It gives priority to voice packets. The quality of the service for voice is always guaranty.

## Highlights of SMT-R2000 Features

- Two radios WLAN access point. Radio 1: 5GHz IEEE 802.11a (54 Mbps) and Radio 2: 2.4 GHz IEEE 802.11b/g (54 Mbps)
- 8 voice calls per AP
- Wireless data stations or handsets association per AP, 802.11a: 255, 802.11b/g: 255. Total: 510
- Wireless access or repeater mode
- RP-SMA type connector for external antenna
- Support router mode
- Enhanced security mode (WEP, WPA, WPA2, etc.)
- Support PoE (Power over Ethernet)
- Easy Web Management
- Wi-Fi certified
- No MGI channel required for conversation between handset to handset or handset to ITP desktop phone

## WIRELESS INTERNET PHONE (SMT-W5100E HANDSETS) (see Figure 2-17)

Wireless Internet Phone (SMT-W5100E) 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 charger, two batteries, a leather carrying case and a headset with hook switch.

## Highlights of SMT-W5100E Features

- IEEE 802.11g
- Wi-Fi Certified
- 1.5 Color LCD
- Security: WEP/WPA/WPA2
- QoS: 802.11e (WMM)
- 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 2,400 Entries
    - Each entry can store 3 phone numbers
    - There is a total of 800 phone numbers
- Hold Key for Vibrator Function *
- 99 Incoming Call Log, 99 Outgoing Call Log and 99 Missed Call Log
- Adjustable Volume
- 16 different Ringer Tones and adjustable Ringer Volume
- Hot Key for Keypad Lock/Unlock (#)
- 4 Hours Talk Time
- 40 Hours Standby Time
- 3.5 Hours Fast Charger
- Spare Battery Slot in Charger
- Software Upgrade Through Wireless Connection



**FIGURE 2-17**

# PART 3. SPECIFICATIONS

## 3.1 ELECTRICAL SPECIFICATIONS

### POWER SUPPLY UNIT

The Power Supply Unit (PSU) is installed in the cabinet of the OfficeServ 7200. The PSU supplies the power of -48 V DC received from the external power supply unit to each board. The rating is as follows.
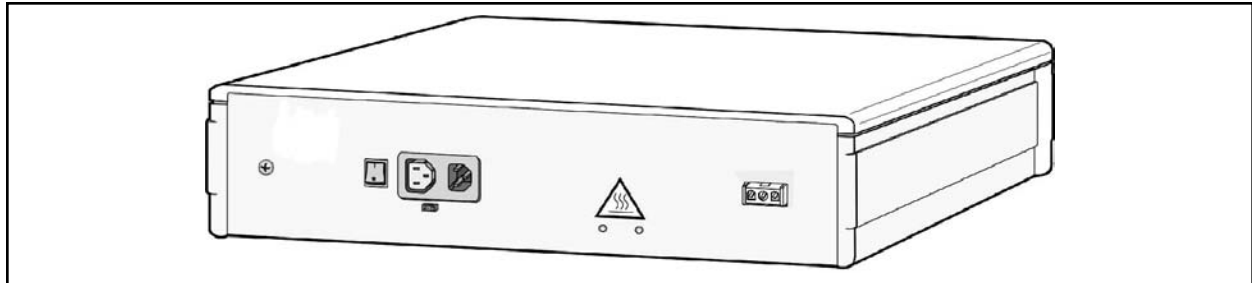
FIGURE 3-1

- RATING: AC220-240 V; 6A; 50/60 Hz or DC48 V 3 A
- RATING: AC100-120 V; 6 A; 50/60 Hz or DC48 V 3 A

The specifications of the power I/O are shown in the table below.

## 3.1a  I/O VOLTAGE of the PSU

| | | |
|---|---|---|
| PSU (OfficeServ 7200) | Input Voltage | 110 V  AC<br>-48 VDC (for Battery Backup) |
| | Output Voltage | -48 V/2.2 A |
| | | -54 V/0.4 A Backup |
| | | +5 V/8 A |
| | | +3.3 V/10 A |
| | | +12 V/0.4 A |
| | | -56 V Backup 0.4 A |

## 3.1b  I/O VOLTAGE of OfficeServ 7150 PoE Power Supply

| Rated Output for AC Operation | |
|---|---|
| 1 Module | DC -54V / 7.5A |
| 2 Module | DC -54V / 15A |
| Battery | DC 54V / 0.45A |
| **Rated Output for DC Operation** | |
| 1 Module | Battery By-Pass (DC 48V, 48AH or lower) / 7.5A |
| 2 Module | Battery By-Pass (DC 48V, 48AH or lower) / 15A |

# 3.2 DIMENSIONS

The OfficeServ 7200 consists of two cabinets, main cabinet and expansion cabinet, as shown in the figure below:
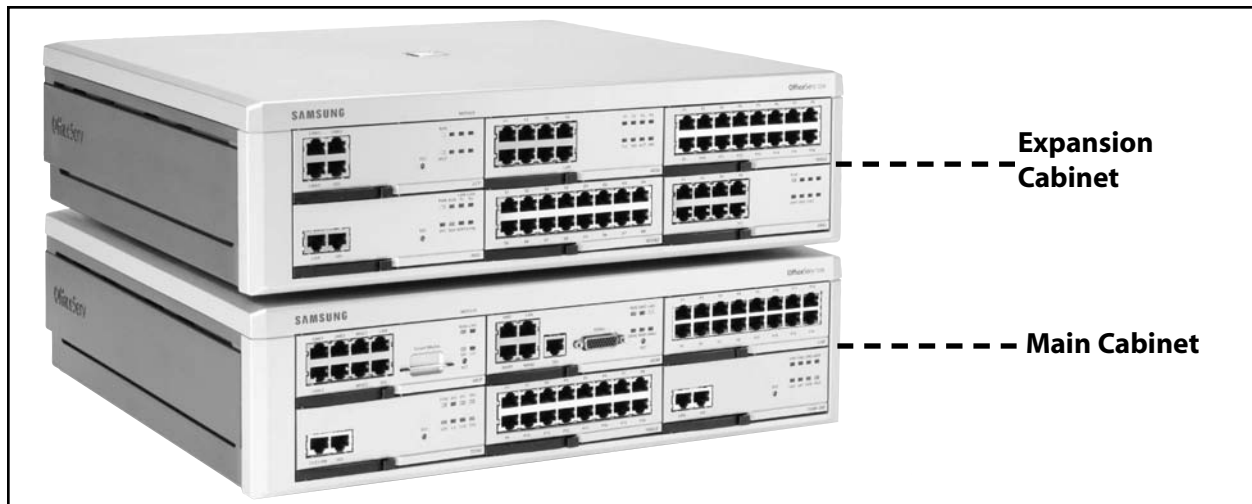


**FIGURE 3-2**

|  | **HEIGHT** | **WIDTH** | **DEPTH** |
|---|---|---|---|
| OfficeServ 7200 Main Cabinet | 4.87" | 17.32" | 16.14" |
| OfficeServ 7200 Main Cabinet + Expansion Cabinet | 9.74" | 17.32" | 16.14" |

Note: When the cabinets are rack mounted, the rack mount bracket will add some heighth to the system.

# 3.3  ENVIRONMENTAL LIMITS

| OPERATING TEMPERATURE | 32—113 °F / 0—45 °C |
|---|---|
| STORAGE TEMPERATURE | 14—122 °F / –10—50 °C |
| HUMIDITY | 10%—90% Non-Condensing |

## 3.4 CABLE REQUIREMENTS

| EQUIPMENT | CABLE | AWG | MAX FEET | MAX METERS |
|---|---|---|---|---|
| DIGITAL KEYSET | 1 PR. TWISTED | 24 | 1300 | 400 |
| ADD-ON MODULE | 1 PR. TWISTED | 24 | 1300 | 400 |
| SINGLE LINE STATION | 1 PR. TWISTED | 24 | 3000 | 1 KM |
| DOOR PHONE | 2 PR. TWISTED | 24 | 330* | 100 |

*This the maximum distance a door phone can be from the DPIM. The DPIM can be up to 900 cable feet from the KSU. The total distance must not exceed 1230 feet.

## 3.5 RINGS AND TONES

## 3.5.1 RING CYCLES

The OfficeServ 7200 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 (it is different according to the country, and can be modified by MMC programming).

## 3.5.1a SYSTEM RING CYCLES

| RING | ON/OFF CYCLE |
|---|---|
| TRUNK LINE RING | 1000/2000 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: The ON/OFF cycle can be adjusted by changing the values of the system database.

## 3.5.2 RING

The output voltage and frequency of the ring signals in the OfficeServ 7200 are as follows:

- Output voltage: 75 Vrms Square Wave (Built in SLI)
- Frequency: 20 or 25 Hz

The OfficeServ 7200 provides the users with various tones to notify the users of the status of functional operations. The ON/OFF cycles of currently specified tones are shown in the table on the next page.

## 3.5.3 SYSTEM TONES

| TONE | ON/OFF CYCLE |
|------|--------------|
| 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 |

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

## 3.6 KEYSET LED INDICATIONS

| CONDITION | LED COLOR | LED ON | LED OFF |
|-----------|-----------|--------|---------|
| LINE IDLE | OFF | — | OFF |
| LINE IN USE | RED / GREEN | STEADY | — |
| RECALL | AMBER | 500 ms | 500 ms |
| CALL ON HOLD | RED / GREEN | 500 ms | 500 ms |
| RINGING C.O. CALL | GREEN | 100 ms | 100 ms |
| RINGING INTERNAL CALL | GREEN | 100 ms | 100 ms |
| DND INDICATION | RED | 112 IPM for 500 ms | 500 ms |
| OPERATOR CALLS | RED | 100 ms | 100 ms |
| ANS / RLS (DND)* | RED | 112 IPM for 500 ms | 500 ms |
| ANS / RLS (HANDSET MODE)** | RED | STEADY | — |
| TRSF (FORWARD ALL)** | RED | STEADY | — |

*Overrides headset mode.
 **DCS model keysets only.

# OfficeServ 7200 Feature Capacities

| | | | | |
|---|---|---|---|---|
| Station Groups | 40 | | Call Buttons per Station | 8 |
| Trunk Groups | 30 | | Call Logs Entries | 2000 |
| UCD Groups | 20 | | Call Log per Station | 50 |
| Station Group Members | 48 | | Tenant Groups | 2 |
| Unconditional Group Members | 32 | | Ring Plans | 6 |
| Trunk Group Members | 99 | | Programmed Messages | 20 (15+5) |
| Internal Page Members | 99 x 5 | | AOM Pairs per Station | 4 |
| External Page Members | 8 x 4 | | Call Cost Digit Entries | 500 |
| Toll Restriction Entries | 500 | | Call Cost Rate Tables | 8 |
| Toll Allowance Entries | 500 | | PBX Access Code Entries | 5 |
| DID Translation Entries | 999 | | Special Code Entries | 10 |
| Authorization Code Entries | 500 | | Emergency/Override Code Entries | 8 |
| Account Code Entries | 999 | | | |
| Station Groups | 40 | | Holiday Entries | 60 |
| LCR Digit Entries | 2000 | | Class of Service | 30 |
| LCR Modify Digit Tables | 200 | | LCR Classes | 8 |
| LCR Time Tables | 4 | | Message Waiting per Station | 5 |
| LCR Time Bands | 4 | | Conference Groups | 6 |
| LCR Route Tables | 32 | | Conference Group Members | 5 |
| Alarm Reminder Buffers | 3 | | Pickup Groups | 99 |
| Speed Dial Entries | 2000 | | Internal/External Page Zones | 5/4 |
| System Buffers (MAX) | 500 / 950 | | Redial & External FWD Dial Digits | 18 |
| Station Buffers (MAX) | 50 | | IP Keysets | 120 |
| CID Review Buffers | 2000 | | Virtual Extensions | 62 |
| CID Abandon Lists | 100 | | Text Messages | 10/100 |
| CID Name Translation Entries | 1000 | | | |

# PART 4. BUSINESS FEATURE PACKAGE

## SYSTEM FEATURES

Account Code Entry
    Forced - Verified
    Forced - Not Verified
    Voluntary
Account Code Key
Account Code Key - One Touch
Administrator Program Key
All Call Voice Page
Attention Tone
Audio Message with Alarm
    (Timer) Reminder
Authorization Codes
    Forced
    Voluntary
Auto Answer on CO
Auto Attendant†
Automatic Call Distribution (ACD)
Automatic Hold
Background Music
Branch Group
Call Activity Display
Call Center
    Agent Busy/Manual Wrap-Up Key
    Agent PIN (ID) Numbers
    Agent Login & Logout
    Automatic Logout
    Automatic Wrap-Up Timer
    Priority Call Queuing
    Embedded Reporting Package
        Agent Statistics
        Call Statistics
        Group Supervisors
        Printed Reports
    OfficeServ DataView
        UCD Statistics
        UCD Monitoring
        Wall-Style Display Windows
Call Costing
Caller Identification†
    Automatic Number Identification (ANI)
    Caller ID
    Calling Line Identification (CLI)
    PRI

Caller ID Features
    Name/Number Display
    Next Call
    Save Caller ID Number
    Store Caller ID Number
    Inquire Park/Hold
    Caller ID Review List
    Investigate
    Abandon Call List
    Caller ID on SMDR
    Number to Name Translation
    Caller ID to PSTN
    Caller ID to Analog Port
Call Forwarding
    All Calls
    Busy
    No Answer
    Busy/No Answer
    Forward DND
    Follow Me
    External
    To Voice Mail
    Preset Destination
    Preset Forward Busy
Call Hold
    Exclusive
    System
    Remote
Call Park and Page
Call Pickup
    Directed
    Groups
    Established
Call Recording
Call Waiting/Camp-On
Caller Emergency Service ID (CESID)
Centrex/PBX Use
Chain Dialing
Chain Forward
Class of Service
Common Bell Control
Computer Telephony Integration (CTI)
    OfficeServ™ Link
    OfficeServ™ DataView

OfficeServ™ EasySet
OfficeServ™ Call
OfficeServ™ Operator
OfficeServ™ Softphone
Conference Group
Customer Set Relocation
Data Security
Database Printout
Daylight Saving Time-Automatic
Dialed Number Identification Service (DNIS)
Direct In Lines
Direct Inward Dialing (DID) T1
    Day/Night Routing
    Busy or Camp-On Option
    MOH Source
    DID  Call Limits
Direct Inward System Access (DISA)
Direct Trunk Selection
Directory Names
DISA Security
Distinctive Ringing
Door Lock Release (Programmable)
Door Phones
E & M Tie Lines T1
Executive Barge-In (Override)
    With Warning Tone
    Without Warning Tone
    Trunk Monitor or Service Observing
External Music Interfaces
External Page Interfaces
Flash Key Operation
Flexible Numbering
Ground Start Trunks (T1)
Group Busy Setting
Hot Line
In Group/Out of Group
Incoming Call Distribution
Incoming/Outgoing Service
Individual Line Control
IP Keysets
ISDN Service
    Primary Rate Interface (PRI)
LAN Interface
Least Cost Routing

Live System Programming
   From any Display Keyset
   With a Personal Computer
Meet Me Page and Answer
Memory Protection
Message Waiting Indications
Message Waiting Key
Microphone On/Off per Station
Multiple Language Support
Music on Hold—Flexible
Music on Hold—Sources
Networking
   QSIG over IP
   QSIG over PRI
Operator Group
Overflow
   Operator
   Station Group
Override Codes
Paging
   Internal Zones (5)
   External Zones (4)
   All External
   Page All
Park Orbits
Power over Ethernet (PoE)
Prime Line Selection
Priority Call Queuing
Private Lines

Programmable Line Privacy
Programmable Timers
Recalls
Recall to Operator
Redial Review
Remote Programming—PC
Ring Modes
   Time Based Routing–Plans
   Automatic / Manual
   Holiday Schedule
   Temporary Override
Ring Over Page
Secretary Pooling
Single Line Connections
Speed Dial Numbers
   Station List
   System List
Speed Dial by Directory
Station Hunt Groups
   Distributed
   Sequential
   Unconditional
Station Message Detail Recording (SMDR)
Station Pair
System Alarms
System Maintenance Alarms
System Directory
Tenant Services (2)

Toll Restriction
   By Day or Night
   By Line or Station
   Eight Dialing Classes
   Special Code Table
Toll Restriction Override
Tone or Pulse Dialing
Traffic Reporting
Transfer
   Screened/Unscreened
   Voice Mail Transfer Key
   With Camp-On
Trunk Groups
Uniform Call Distribution (UCD)
Universal Answer
Virtual Extensions
Voice Mail
   Inband Signalling
   Integrated (In-Skin)
VoIP
Walking Class of Service
Wireless Handsets—*See Mobility Solution*

†Requires optional hardware and/or software. Ask your dealer for details.

# 4.1 SYSTEM FEATURE DESCRIPTIONS

## ACCOUNT CODE ENTRY

Station users may enter an account code (maximum 12 digits) before hanging up from a call. This account code will appear in the SMDR printout for that call record. Keyset users may enter this code using an account code key without interrupting a conversation. Single line telephone users must temporarily interrupt the call by hook-flashing and dialing the feature access code. Manually entered account codes can be up to 12 digits long. In some cases users can be forced to enter an account code and this account code may or may not be verified as described below.

### Forced – Verified

When set for this option the user must enter an account code for all outgoing calls. The account code entered will be verified from a system list of 999 entries. Forced Verified codes can contain the digits 0~9.

### Forced - Not Verified

When set for this option the user must enter an account code for all outgoing calls, but the account code is not verified against the system list. Non verified account codes can contain the digits 0~9, * and #.

### Voluntary

In this case account codes are not required to make outgoing calls but may be used if desired. This is also the method used to assign an account code to incoming calls. These account codes can contain the digits 0~9, * and #.

## ACCOUNT CODE KEY

The account code (ACCT) key can be programmed on any keyset and will appear as a soft key on display keysets. This key allows the user to enter account codes without interrupting a call.

## ACCOUNT CODE KEY – ONE TOUCH

The account code (ACC) key can be programmed on any keyset. This key can be programmed with an extender and operates in three different ways depending on the extender as follows.

### Extender = 000

When programmed with an extender of 000 the user will be prompted to enter an account code when the key is pressed.

### Extender = 001~999

When programmed with an extender ranging from 001 to 999 the key will, when pressed, automatically insert the account code contained in that bin of the system account code list. This is known as One Touch account codes. This option can be denied in system programming to prevent users from bypassing the security of system account codes.

### No Extender

When programmed without an extender the key will, when pressed, prompt the user to enter the bin number the system account code table where the account codes are stored.

## ADMINISTRATOR PROGRAM KEY

This feature gives designated stations the ability to administer a number of System functions from their keyset using a flexibly assigned button. The Administrator Program (PROG) key is programmed in MMC 722. The station passcode must be changed from the default value to use this feature. See the System Administrator Guide for more information.

## ALL CALL VOICE PAGE

Users can page internal zone zero and all external paging zones at the same time by dialing the All Page code. Keysets may be restricted from making or receiving pages in system programming. A maximum of 99 keysets can be programmed in each internal page zone to receive page announcements.

Note: Each IP keyset being paged requires an MGI channel to carry the page audio. If all MGI channels are busy then no IP keysets will receive a page.

## ATTENTION TONE

To get your attention, a brief tone precedes all page announcements and intercom voice calls. There are separate programmable duration timers for page and voice announce tones.

## AUDIO MESSAGE WITH ALARM (TIMER) REMINDER

This feature provides an option that allows a recorded message to be played to a user when they go off hook to answer an alarm reminder ring (timed reminder ring). The message is recorded on the SVMi-20E/AA card. In addition, if the AA group is busy when the reminder call is answered the system will play a designated MOH source to the user. Alternatively System programming can define an external music source to be played when the Appointment Reminder is answered.

## AUTHORIZATION CODES

Authorization codes are used to give permission to make a call. A maximum of 500 four to ten-digit authorization codes can be either forced or voluntary. When used, authorization codes will automatically change the dialing station's class of service to the level assigned to the authorization code. Authorization codes may be programmed to print or not print on SMDR.

### Forced

When a station is programmed for forced authorization, the user must always enter this code before dialing is allowed. The dialed authorization code is verified from the system list of 500 authorization codes.

### Voluntary

Any station user can always enter an authorization code before they begin dialing. The dialed authorization code is verified from a system list of 500 authorization codes.

## AUTO ANSWER ON CO

Allows new CO calls directed to a certain keyset to auto answer and be in the call announce mode. This means that private lines and DID calls can be "auto answered" in the same manner as intercom calls. Transferred calls and calls to a station group of which that keyset is a member will continue to ring.

## AUTO ATTENDANT

When installed in the OfficeServ 7200, the SVMi-20E provides very powerful and extremely flexible Auto Attendant functionality.   As it is fully integrated into the OfficeServ 7200 the Auto Attendant provides Customized interactive Call routing for Public and Internal (Subscriber) callers.

The SVMi-20E allows multi-level customizable Menu Trees. These Menu trees can be very simple or as complex as needed for the application. Callers can be automatically routed based on CID, ANI, CLI, DNIS, and/or Trunk ID information received.

The SVMi-20E (at the time of this writing) can handle from 4 to 12 simultaneous callers depending on which port options are purchased.

There are 500 professionally recorded prompts per language installed that help the caller navigate through the system and 9000 customizable prompts per system that can be added to personalize the application to an organization's specific needs. The SVMi-20E has three languages included from the factory; English, Spanish, and French/Canadian.

When a caller is routed to an extension and that extension is then forwarded back to the SVMi-20E, the SVMi-20E will speak default professionally recorded prompts stating the reason the called party did not answer based on their call condition (Busy, No-Answer, Blocked) or speak a customized greeting recorded by the intended extension owner (subscriber).

## AUTOMATIC CALL DISTRIBUTION (ACD)

ACD is a call distribution method by which callers in a queue are routed to the next available agent. While waiting in a queue a canned or customized announcement can be periodically played to the caller based on a programmable timer while retaining their place in the queue. Statistical and historical reports are available to assist supervisors in managing a call center. See Call Center.

## AUTOMATIC HOLD

While a keyset user is engaged on an outside (C.O.) call, pressing another trunk key, route key or CALL button automatically places the call on hold when Automatic Hold is enabled. Pressing TRSF, CONFERENCE, PAGE or a DSS key always automatically places a C.O. call on hold. Intercom calls can be automatically held only by pressing TRSF or CONFERENCE. Each keyset user can enable or disable Automatic Hold.

## BACKGROUND MUSIC

Keyset users may choose to hear music through their keyset speakers when optional external sources are installed. Each user may adjust this level by the use of a volume control program at the selected keyset.

## BRANCH GROUP

This feature allows stations included in a branch group to answer a ringing call to another station in the group by simply lifting the handset or going on speakerphone mode. This feature works well when there is a need to answer calls for people who may be away from their desk or when a common answering pool is needed. Calls can be directed to a common bell and then can be answered by anyone in the Branch Group. There are a total of 99 branch groups available, but a station can only be in one branch group.

## CALL ACTIVITY DISPLAY

The OfficeServ 7200 will record and buffer all calling activity within the system. With a Call Activity Display (CAD) key, the OfficeServ 7200 will display a "snapshot" of the following information:

- The maximum number of ports that have been used
- The maximum number of trunks that have been used
- The maximum number of stations that have been used
- The current number of ports in use
- The current number of trunks in use
- The current number of stations in use

# CALL CENTER

ACD/UCD Call Centers are required when the user expects to have more ringing calls then people (agents) to answer them. This functionality prevents callers from receiving busy signals or lengthy ring delays before answering. Callers reaching a busy group with no available agents are held in queue for the next available agent. First and second announcements reassure the caller until an agent becomes available.

The OfficeServ 7200 can have 20 simultaneous ACD/UCD groups with a maximum of 48 agents per group. Any time there are one or more calls in queue and no available agents, the longest waiting call will automatically be distributed to the next available agent. When there are no calls in queue the next new call will be routed to the next idle agent according to a specified distribution method.

There are two available reporting options to support the [system] call center functionality. The embedded basic reporting package included with the telephone system is ideal for small informal call center solutions as it provides simple ACII text reports to a customer provided LAN printer, as well as informational displays at a supervisor's display telephone. The more sophisticated call center may require the optional OfficeServ DataView CTI application that provides historical reporting, agent and call monitoring and wallboard displays.

**NOTE:** Some features require optional hardware or software. Ask your authorized Samsung Dealer for details.

## Agent Busy / Manual Wrap-Up Key

This UCD group feature allows an agent to have a programmed button that when depressed will remove the keyset from free status within the group. The agent can depress the button again to return the keyset to free status. This provides a method for agents to manually extend their wrap-up time when necessary. This also allows agents to perform other duties such as receiving or making telephone calls without having to log out of the group.

## Agent PIN (ID) Numbers

When desired this feature allows agents to be assigned a PIN number to use when logging in and out of a UCD group. This allows an agent to move from location to location and retain their productivity records. There are a total of 300 PIN numbers available in the system.

## Agent Login & Logout

At any time agents may login or out of a station call group by dialing an access code or simply pressing the IOG button for the selected group. A red LED on the IOG button indicates you are in the group.

## Automatic Logout

This feature allows the system to further limit ringing delays by automatically logging out stations that are unattended. If a call is delivered to a station that does not answer after a programmable number of rings, the station is automatically logged out of the group so that no further call attempts will be made until the agent has logged back in.

## Automatic Wrap-up Timer

The wrap-up timer prevents calls to an agent for a programmable period of time. This allows the agent to finish up paper work associated with the last call.

## Priority Call Queuing

This feature places calls to a  station queue ahead of other calls based on priority level (1-9). The system compares the DID number, Caller ID, or trunk ID to a preprogrammed table and assigns the call a corresponding priority that places it in the appropriate position in the queue. This functionality is ideal when specific customers require special treatment.

## EMBEDDED REPORTING PACKAGE

The OfficeServ 7200 system provides some basic reports and statistics available to a supervisor using a display keyset. These features can be used in conjunction with, or independently of, the OfficeServ™ DataView reporting and monitoring package.

### Agent Statistics

UCD supervisor positions using a display keyset can monitor the number of agents in a group and how many agents are currently logged in. Each station's status can be reviewed for the number of calls answered and the average call length for the day.

### Call Statistics

UCD supervisor positions using a display keyset can monitor the number of calls in queue, the longest wait time for calls currently in queue, the average wait time for the day, and the total number of calls answered for the day.

### Group Supervisors

Multiple supervisors can be assigned to each group and one station can be given supervisor status for multiple UCD groups. The group supervisor (using a display keyset) can log agents in and out of the group in real time to help manage the workload.

### Printed Reports

UCD supervisor positions using a display keyset may run printed reports to a customer-provided printer, showing the data available from the supervisor displays. These reports can be run manually or scheduled to run at specific intervals.

## OFFICESERV DATAVIEW

For users who require more power than the embedded reports can provide, the web-based OfficeServ™ DataView CTI application can be used for enhanced reporting and monitoring functionality. See separate DataView Literature for more details.

### UCD Statistics

OfficeServ™ DataView provides over a dozen different historical reports to provide detailed statistics on call volume and call times as well as agent activity. Also included is a detailed Abandoned Call list to define each lost call to the UCD group.

### UCD Monitoring

OfficeServ™ DataView provides several different monitoring interfaces that allow users to easily see live connection status and port activity for UCD groups and agents.

### Wallboard-Style Display Windows

OfficeServ™ DataView is equipped with a series of wallboard-style displays which allow quick and easy visibility of live call status information about the group, such as longest wait time, calls in queue, agents busy, and more. This information can display as a personal PC Wallboard on an agent's monitor. When used in conjunction with customer provided large screen display, such as an LCD or plasma monitor (TV), these same wallboard windows can provide this data to the entire call center from a greater distance with a level of clarity and flexibility that isn't possible with traditional LED wallboards.

# CALL COSTING

The OfficeServ 7200 software provides programmable call costing tables to calculate the cost of incoming and outgoing calls. Rates are calculated by the number dialed, and may include surcharges. Display keysets can be set to show the call duration timer or the call cost. The SMDR report will show either the call duration or the call cost depending on the station selection. One call handled by multiple callers will cost each call segment separately.

# CALLER IDENTIFICATION

The OfficeServ 7200 supports three methods of identifying an incoming caller depending on the circuit type as described below.

## Automatic Number Identification (ANI)

On a digital T1 trunk programmed as E&M trunks calling party information is called ANI. This information is the telephone number of the calling party and is sent as in-band DTMF digits during the call setup. Care should be taken to ensure the system has sufficient DTMF receiver resources to handle the expected volume of call traffic. Although ANI provides the number only, a name can be attached to the telephone number of frequent callers via the CID/ANI translation table.

## Caller ID

On an analog, loop start CO line, calling party information is called Caller ID and is available from the telephone company in two formats, Number only and Name and Number, sometimes called Deluxe. The OfficeServ 7200 is compatible with both formats. Even if the telephone company only offers the number only, a name can be attached to the telephone number of frequent callers via the CID/ANI translation table.

## Calling Line Identification (CLI)

On ISDN circuits, calling party information is called CLI and is supported on both BRI and PRI type circuits as described below.

### PRI

On 5ESS and NI2 PRI circuits both name and number support is provided on the OfficeServ 7200 system. On a DMS100 circuit only Number service is provided.

# CALLER ID FEATURES

The following features apply to all forms of Caller Identification, however, to make them easier to read caller identification is referred to as Caller ID.

## Name/Number Display

Each LCD keyset user can see the name and number in the display.

## Next Call

In the event that you have a call waiting or a camped-on call at your keyset, you can press the NEXT key to display the Caller ID information associated with this next call in queue at your station. Either the Caller ID name or number will show in the display depending on your selection.

### Save Caller ID Number

At any time during an incoming call that provides Caller ID information, you may press the SAVE key. This saves the Caller ID number in the Save Number feature. Pressing the SAVE number redial key will dial the Caller ID number. The system must be using Least Cost Routing (LCR) to dial the saved number.

### Store Caller ID Number

At any time during an incoming call that provides Caller ID information, you may press the STORE key. This saves the Caller ID number as a speed dial number in your personal speed dial list. The system must be using LCR to dial the stored number.

### Inquire Park / Hold

Having been informed that an incoming call is on hold or has been parked, you may view the Caller ID information before you retrieve the call. This will influence how you choose to handle the call.

### Caller ID Review List

This feature allows display keyset users to review Caller ID information for calls sent to their stations. This list can be from ten to fifty calls in a first in, first out basis. The list includes calls that you answered and calls that rang your station but that you did not answer. When reviewing this list, you can press one button to dial the person back. The system must be using LCR to dial the stored number. There is also an option called CID REVW ALL in the User ON/OFF options. When set to ON the feature will operate the same as described. However, when set to OFF only calls that are not answered (missed calls) at the station will be recorded in the Review list.

### Investigate

This feature allows selected stations with a special class of service to investigate any call in progress. If Caller ID information is available for an incoming call, you will know to whom this station user is speaking. On outgoing calls, you can see who was called. After investigating, you may barge-in on the conversation, disconnect the call or hang up.

### Abandon Call List

The system has a system-wide abandon call list that stores Caller ID information for calls that rang but were not answered. The list is accessed using the administrator's passcode. When reviewing this list, you are provided options to CLEAR the entry or DIAL the number. You can see the NND key to toggle between the Caller ID name, number and the date and time the call came in. The system must be using LCR to dial numbers from the abandon call list. The abandoned call list will store up to 100 unanswered calls.

### Caller ID ON SMDR

The Station Message Detail Records report can be set to include Caller ID name and Caller ID number for incoming calls. This format expands the printout to 113 characters. Use a wide carriage printer or an 80 column printer set for condensed print.

### Number to Name Translation

The system provides a translation table for 1000 entries. When the Caller ID number is received, the table is searched. When a match is found, the system will display the corresponding name.

### Caller ID to PSTN

When calling out on ISDN-PRI services, each station can be programmed to send any one of the listed directory numbers provided on the PRI circuit. Examples are: the main number, another number or an individual DID number. (PSTN=Public Switch Telephone Network)

### Caller ID to Analog Port

When equipped with the optional RCM2 card, Caller ID from the telephone company is sent to analog ports within the system.

## CALL FORWARDING

This feature allows the user to redirect (forward) incoming calls. The calls can be redirected to the attendant, a hunt group, voice mail, external number or another station user. If the destination station is in Do Not Disturb (DND), the calling party will receive DND/Reorder tone. Calls cannot be forwarded to a door phone.

### All Calls

This type of forwarding is not affected by the condition of the station. All calls are immediately redirected to the designated destination. If desired, the destination station may redirect the call back to the forwarded station by using the transfer feature. The forwarded station user can continue to originate calls as usual. If no key is programmed as Forward All, the TRSF key lights steady when a Forward All condition is set.

### Busy

This feature forwards all calls only when the station set is busy. The station user can originate calls as usual.

### No Answer

This feature forwards calls that are not answered within a preprogrammed time. The user can originate calls as usual and receive call if present. The timer is programmable on a per-station basis to allow for differences in individual work habits.

### Busy /No Answer

This feature allows the station user to use both types of forwarding simultaneously, provided the destinations have already been entered in the usual manner.

### Forward DND

This feature works with the Do Not Disturb feature. This allows calls directed to a station in Do Not Disturb or One Time Do Not Disturb to forward immediately to another destination.

### Follow Me

This feature allows the user to forward all calls from another station to the user's station or change the forward destination to the user's current location.

### External

Stations can be programmed to forward all, forward busy, forward no answer, forward DND C.O. calls to an external number via a central office trunk if allowed by class of service. Intercom calls may also be programmed to forward to an external number via a central office trunk.

### To Voice Mail

Each station may be programmed to allow or deny the ability to forward intercom calls to voice mail. When denied, valuable message time in the voice mail system can be saved.

### Preset Destination

If desired this feature provides for a permanent (preset) forward no answer destination for each extension. It can only be programmed by the system technician or system administrator. When any station does not have FWD/NO-ANSWER set, the call will ring this preset destination if one is programmed.

### Preset Forward Busy

This feature allows the Preset Forward No Answer setting to also work for Busy status. When PRESET BUSY is turned on the calls will follow the preset for both busy and no answer conditions.

## CALL HOLD

### Exclusive

Outside calls can be placed on exclusive hold at any keyset by pressing HOLD twice during a call. Calls placed on exclusive hold can only be retrieved at the keyset that placed the call on hold. Intercom calls are always placed on exclusive hold. Exclusive hold for trunk calls can be denied in class of service.

### System

Outside calls can be placed on system hold at any station. Users may dial the access code or press the HOLD button. Calls on system hold may be retrieved at any station.

### Remote

Outside calls can be placed on hold at a station other than the station placing the call on hold. This feature allows calls to be answered at one keyset and placed on hold at another station. This allows time for the user to proceed to that station or allows the party that the call was intended for to have that call placed at their station. The call or trunk button will flash at the remote hold station. NOTE: Intercom calls cannot be remote held.

## CALL PARK AND PAGE

Each C.O. line has its own park zone. This simple method eliminates confusion and ensures that a park zone is always available. Pressing the PAGE key parks the call automatically. There are no extra buttons to press and there is no lost time looking for a free zone.

## CALL PICKUP

### Directed

With directed call pickup, users can answer calls ringing at any station by dialing a code plus that station's extension number or by pressing the feature button and then dialing the extension. There is a system option to allow a DSS key to perform a pickup function rather than a transfer function when pressed.

### Groups

In addition, calls can be picked up from a station group in a similar manner. The group pickup feature allows users to answer any call ringing within any pickup group. There are 99 pickup groups available in the system. A station cannot be in more than one pickup group. To use this feature, station users either dial the access code or press the assigned feature button followed by the pickup group number.

### Established

This feature enables a keyset user to pick-up an establish call in progress at a single line extension connected to a modem on a PC. An EP key with this extension number must be programmed on the keyset. Established call pickup is useful with PC dialing programs that outdial from a large list of telephone numbers. Let the computer dial for you, then press the EP key to speak with the called party.

## CALL RECORDING

When using Samsung's proprietary SVMi in-skin voice mail system, keyset and OfficeServ Softphone users can record their telephone conversations in their personal mailbox for playback or e-mail later.

## CALL WAITING/CAMP-ON

Busy stations are notified that a call is waiting (camped-on) when they receive a tone. The tone is repeated at a programmable interval. Digital keysets receive an off-hook ring signal through the speaker while single line stations and IP keysets receive a tone in the earpiece of the handset. The volume of the camp-on tone can be set by the station user. Camped-on calls follow Forward No Answer if a Forward No Answer destination has been set.

Optionally any station can be programmed to automatically camp-on to a busy station instead of having to press the camp-on button or dial a camp-on code.

## CALLER EMERGENCY SERVICE ID (CESID)

This service is provided in the OfficeServ 7200 via an ISDN PRI circuit configured for both way DID connected to the TEPRI card.

This is a service where the telephone system sends a number, usually a call back number, to the Public Service Answering point (PSAP) when a station user dials 911. This number is associated in the PSAP with a location indicating exactly where the call originated. This allows the emergency services to respond directly to the correct building or floor of a building rather than to have to make inquiries as to the location of the emergency. This service is sometimes referred to as Enhanced 911 or E-911.

## CENTREX/PBX USE

CENTREX and PBX lines can be installed in lieu of central office trunks. CENTREX and PBX feature access codes including the command for hook-flash (FLASH) can be stored under one touch buttons. Toll restriction programming can ignore PBX or CENTREX access codes so that toll calls can be controlled when using these services.

## CHAIN DIALING

Keyset users may manually dial additional digits following a speed dial call or chain together as many speed dial numbers as are required.

## CHAIN FORWARD

The chain forward option determines whether a forwarded intercom call that subsequently forwards to voicemail will target the original stations mailbox or the second stations mailbox.

## CLASS OF SERVICE

The system allows a maximum of 30 station classes of service. Each class of service can be customized in memory to allow or deny access to features and to define a station's dialing class. Each station can be assigned different classes of service for day and night operation.

## COMMON BELL CONTROL

The MIS daughter board provides relays that may be programmed to control a customer-provided common bell or common audible device. These contacts must be programmed as members of a station group and may provide steady or interrupted closure.

## COMPUTER TELEPHONY INTEGRATION (CTI)

Computer Telephone Integration (CTI) allows integration between the OfficeServ 7200 and a personal computer (PC) on a local area network (LAN). Caller ID service is required for TAPI inbound call applications that

use the CID information to display computer records in conjunction with the presentation of the call to the station on the OfficeServ 7200.

## OfficeServ™ Link

Samsung's proprietary CTI Server Application that manages all call control functions between the OfficeServ 7200 Main Processor and all OfficeServ™ CTI Applications.

## OfficeServ™ DataView

OfficeServ DataView is a web enabled Call Center and system traffic reporting package. The DataView application provides live connection status and features usage statistics as well as a wide variety of detailed historical reports. The DataView application server runs on Microsoft IIS web server software, which is included in Windows 2000, XP Professional and 2003.

## OfficeServ™ EasySet

OfficeServ EasySet is a web enabled application that allows keyset customization from virtually any location. The EasySet application server runs on Microsoft IIS web server software, which is included with Windows 2000, XP Professional, and 2003.

## OfficeServ™ Call

OfficeServ Call is a call manager application with support for contact management, inbound screen pop, outbound dialing via the desktop, scheduling, and call logging, as well as providing access to some digital telephone facility programming. OfficeServ Call is a client server based application that supports both an end-user (GUI) interface and industry standards such as TAPI. The client application has support for a wide range of operating systems including Windows 2000 and Windows XP.

## OfficeServ™ Operator

OfficeServ Operator is a PC-based attendant console that works in conjunction with either a TDM or IP Keyset. OfficeServ Operator can support up to 20 OfficeServ Operators Consoles simultaneously.

## OfficeServ™ Softphone

Samsung OfficeServ Softphone is a software-based application that turns your computer into a full-featured Samsung IP telephone. It is installed directly onto your laptop or desktop PC running Microsoft Windows operating system. Once a USB headset or a USB handset is connected; the Softphone delivers virtually identical functionality as the ITP-5112 L and ITP-5121D desktop ITP phones. OfficeServ Softphone is ideal for telecommuter and mobile users. Remote workers can simply connect their laptop to the corporate network, snap in a USB headset, and function as if they were in their own office. They can place, receive, and handle calls on both the internal and external network, providing a truly portable and practical solution.

# CONFERENCE

The system allows six simultaneous conferences up to 5 parties each. If a SCM daughter board is installed, then the system allows a total of 6 simultaneous conferences up to 5 parties each.

## Add-On (5 Party)

Any combination of up to five parties (stations or outside lines) can be joined together in an add-on conference. Parties may be eliminated or added after a conference has been established.

## Unsupervised

A station user may set up a conference with two or more outside lines and then exit the conference leaving the outside lines connected in an unsupervised (trunk to trunk) conference.

### Split

A keyset user can "split" a conference into separate outside calls, then speak with each caller privately. Then the individual calls can be conferenced again in any combination. NOTE: This feature requires individual trunk buttons and auto-hold must be enabled.

## CONFERENCE GROUP

Users that have a 5012L-ITP large screen keyset or OfficeServ Softphone may have 1-5 conference groups programmed. Each conference group can have up to 4 parties assigned. They can be extensions in the system or telephone numbers of people outside the system. Press the Conference Group button to call all members of the group at the same time. Status indications appear in the display. Press the corresponding softkey to drop or call parties as desired (maximum 100 users).

## CUSTOMER SET RELOCATION

Customer Set Relocation allows the customer to exchange or swap similar stations in the OfficeServ 7200 without wiring changes. All individual station assignments such as trunk ring, station group, station COS, station speed dial, button appearances, call forwarding, etc. will follow the Customer Set Relocation program.

## DATA SECURITY

Single line extensions used with modems and facsimile machines can be programmed so that they will not receive any system-generated tones that would disrupt data transmissions. In addition, these devices receive DCS C.O. ringing pattern instead of intercom ring pattern. Devices connected to an SLI card receive a disconnect signal upon termination.

## DATABASE PRINTOUT

A copy of the customer database can be obtained by using OfficeServ™ Manager (OSM). This information can be directed to a printer or the PC screen and may be done either on-site or remotely. A complete database or specific data blocks may be obtained.

## DAYLIGHT SAVING TIME-AUTOMATIC

The system has a table that can be programmed with the daylight savings change dates for up to 10 years. At 2:00 am on these dates the system will automatically adjust the system clock to match daylight savings time. If no dates are programmed the clock will not change.

## DIALED NUMBER IDENTIFICATION SERVICE (DNIS)

When DNIS service is provided on an incoming E&M trunk the OfficeServ 7200 can route calls based on the numbers received. (See DID)

## DIRECT IN LINES

Outside lines may be programmed to bypass the operator(s) and ring directly at any station or group of stations.

## DIRECT INWARD DIALING (DID) (T1 or ISDN PRI Service Only)

The term Direct Inward Dialing refers to types of digit steered inbound call handling. These are DID, Both Way DID, Dialed Number Identification service (DNIS) and Direct Dial In (DDI). The OfficeServ 7200 supports the types described below.

DID is an inbound only service where multiple telephone numbers are assigned, usually in blocks of twenty,

to a single circuit or small group of circuits. The DID circuit can be a channel on a digital T1 service terminating on an OfficeServ 7200 TEPRI card.

Both way DID is a service that combines DID service with normal outbound local telephone service. This service is provided over E&M tie line circuits. These E&M tie line circuits terminate on a channel of a digital T1 circuit on the TEPRI card.

Dialed Number Identification service (DNIS) is a feature of 800 or 900 type numbers that allows the number dialed by the caller to be identified in the telephone system by means of a sequence of DTMF digits (usually four). This service terminates on E&M tie lines. These E&M tie line circuits can terminate on a channel of a digital T1 circuit on the TEPRI card.

Direct Dial In (DDI). This is the name given to the above three services when they are provided over an ISDN PRI circuit.

The OfficeServ 7200 has an option to select which MOH source is played to callers to a specific DID number.

### DID Call Limits

This option defines the maximum number of simultaneous calls that the system will accept for each DID number. Any call attempts after the Maximum Call (MC) count has been reached will be rejected and busy tone returned.

## DIRECT INWARD SYSTEM ACCESS (DISA)

Users can call in on specific DISA lines at any time, input a security code and receive system dial tone. Users can now place internal calls or if permitted, calls using C.O. lines. The caller must have a tone dial phone and know his/her DISA security code if DISA security codes/passcodes are turned on. DISA lines can be used as both way lines or incoming only and may be allowed or disallowed for any of the 6 ring plan time periods. The C.O. lines used for DISA must have disconnect supervision. The requirement to put in a DISA security code can be disabled if desired.

## DIRECT TRUNK SELECTION

Each station can be allowed access to or denied access from a trunk or trunk group by access code when LCR is activated. When restricted, the station user must use a trunk key or a route key.

## DIRECTORY NAMES

Each station, station group and C.O. line may be assigned a directory name (maximum 11 characters). In addition, each personal speed dial number, system speed dial number and entry in the DID translation table may be assigned a name (maximum 11 characters). These names are displayed during calls with these ports and in the case of station and speed dial names, can be used to originate calls. See the Dial by Name feature (Station Features).

## DISA SECURITY

Telephone fraud and long distance theft are a serious concern. The OfficeServ 7200 provides a strong DISA security system. If an incorrect DISA passcode is entered repeatedly (as is the case with "hackers"), the DISA system can be automatically disabled temporarily. Both the number of incorrect passcode attempts and the time that DISA is disabled are programmable. In addition, all failed attempts to access DISA print on SMDR (if provided) with a "DE" DISA error flag.

## DISTINCTIVE RINGING

The OfficeServ 7200 provides distinctive ringing at a station based on selected parameters.

- Outside calls have a single ring repeated, while intercom calls have a double ring repeated.
- Any trunk or station can be programmed to ring a specific digital keyset with a predefined ring tone (1-8) or an analog station with a predefined cadence (1-5) selection.
- Digital keysets and analog stations may receive distinctive ringing based on the Caller ID number received or the DID number dialed.

## DOOR LOCK RELEASE (PROGRAMMABLE)

After answering a call from the door phone, users can dial a code to activate a contact closure. This can be used to operate a customer-provided electric door lock release mechanism. The contact closure timer is programmable from 100–2500 ms.

## DOOR PHONES

The door phone interface module (DPIM) provides for connection of a door phone to a DLI port. Pressing the button on the door phone produces a distinctive ring (three short rings repeated) at the assigned station or station group. If not answered within a programmable time, the system releases the door phone and stops the ringing. Stations may call the door phone directly and monitor the surrounding areas. Door phones follow the system ring mode plan.

## E & M TIE LINES (T1 Service Only)

Your office can be connected to another office with a tie line. Use it to make calls to stations in the other system. If programming allows, you can access lines in the other system to make outside calls. Tie line calls can be put on hold, transferred and conferenced in the same way as are other outside calls. Users accessing the tie line from the other system can get a line in your system and make outgoing calls. These calls can be controlled by assigning a dialing class to the tie line. Your local telephone company may use E&M tie lines to provide DID service. In this case these tie lines can be programmed to follow the DID translation table. See DID. Translated E & M tie line calls have Ring Plan routing capabilities.

## EXECUTIVE BARGE-IN (OVERRIDE)

The feature allows specially programmed stations with a barge-in key to override the automatic privacy of another station or outside trunk. Programming allows barge-in with or without a warning tone. Stations may also be programmed as "secure" so that they cannot be barged-in on.

### With Warning Tone

When the barge-in with tone option is set, the barging-in keyset has its microphone on and the barged-in on station receives an override display. A double burst of warning tone sounds and repeats every ten seconds. This feature does not work from single line sets.

### Without Warning Tone

When the barge-in without tone option is set, the barging-in keyset has its microphone muted and the barged-in on station does not receive an override display. This feature does not work from single line sets.

### Trunk Monitor or Service Observing

This feature allows the user who barged-in to retain the trunk call after the original station has hung up.

**WARNING:** BARGE-IN WITHOUT TONE MAY VIOLATE STATE OR FEDERAL LAWS CONCERNING THE RIGHT TO PRIVACY. SAMSUNG TELECOMMUNICATIONS AMERICA IS IN NO WAY RESPONSIBLE FOR THE POSSIBLE MISUSE OF THIS FEATURE.

## EXTERNAL MUSIC INTERFACES

The OfficeServ 7200 MIS daughter card provides two inputs for connecting to customer provided external music sources. Each system can support one MIS card. These sources can be used to provide background music, or any of the varied Music On Hold (MOH) uses.

## EXTERNAL PAGE INTERFACES

The OfficeServ 7200 MIS daughter card provides one external page output and two zone control relays.

## FLASH KEY OPERATION

While a user is on an outside line, pressing the FLASH key will send a timed disconnect signal to the central office or PBX. This is used for custom calling features on C.O. lines or in conjunction with CENTREX/PBX operation. System programming allows individual flash times for C.O. and PBX lines. When C.O. or PBX flash is not required, setting the timers for two seconds releases the existing call and returns dial tone to make a new call.

## FLEXIBLE NUMBERING

System programming allows stations to have two, three or four digit extension numbers beginning with the digit 2 or 3. Three digit default extension numbers begin with 201 and four digit defaults begin with 2001. Station group numbers can be three or four digits beginning with the digit 5.

Using digits other than 2, 3 or 5 will require the technician to change other default feature access codes in the system default numbering plan. User guides will need to be modified as these are all written using the OfficeServ 7200 default numbering plan.

## GROUND START TRUNKS (T1 Service Only)

The OfficeServ 7200 can utilize these trunks to support a positive disconnect signal and prevent call collisions on heavy traffic usage. Caller ID or ANI service is not available on these trunks.

## GROUP BUSY SETTING

This feature provides a busy signal to intercom callers that ring to a station group when all logged-in stations are busy. The feature is activated in MMC 601 and when set to ON setting, allows an intercom caller to hear a busy signal when calling a station group. Upon hearing a busy the intercom caller will know that all stations are busy and can call back. When this option is set to OFF position the intercom caller will hear ring-back tone when all stations are busy and the call will queue for the next available station. Turning this option ON will override the Overflow setting when the group is busy. The default setting is OFF.

## HOT LINE

Stations can be programmed to call a pre-defined station or station group whenever that station goes off-hook. A hot line delay timer of 0–250 seconds can be programmed to allow sufficient time to make a different call. This timer is programmable on a per station basis.

## IN GROUP/OUT OF GROUP

Individuals assigned to a station hunt group may temporarily remove their telephones from the group by pressing the In/Out of Group button providing that there is someone still in the group. There is a system wide option to allow all members to log out of a station group. Stations out of a group will not receive calls to that group but will continue to receive calls to their individual extension numbers. When desired, the user may put him/herself back into the group by pressing the button again. Users who do not have this button may dial the access code and the group desired. A station user is allowed to be in several groups, providing a key and the extender of that group are assigned for each group on the user's phone.

# INCOMING CALL DISTRIBUTION

Incoming calls can be assigned to ring a distributed station hunt group. This allows all members of the group to share the call load.

# INCOMING/OUTGOING SERVICE

Outside lines are available for incoming or outgoing service. Programming allows any outside line to be used for incoming calls only, outgoing calls only or both way service.

# INDIVIDUAL LINE CONTROL

Each station in the system can be individually programmed to allow or deny dialing out as well as allow or deny answering for each outside line.

# IP KEYSETS

The OfficeServ 7200 system allows the use of Samsung proprietary keysets that use Internet Protocols (IP) for voice and data transport. They may be local to the system or installed in a remote location via a LAN/WAN. The OfficeServ 7200 can support up to 120 IP stations. An "IP station" is considered to be any of the following: ITP-5121D, ITP-5112L, ITP-5107S or Softphone. For more information on how to setup the IP keysets please refer to the VOIP Special Applications Section of the Technical Manual.

# ISDN SERVICE

### Primary Rate Interface (PRI)

The OfficeServ 7200 supports Primary Rate Interface ISDN. PRI allows simultaneous data calls, calling party and calling line identification, high speed call setup and disconnect are among the benefits of ISDN calling. The 23+D configuration of ISDN allows call information to be delivered via the data channel (the "D" of 23B+D) thus leaving the bearer channels (the "B" of 23B+D) available for single use or combined use to provide a wider bandwidth for data and video. The OfficeServ 7200 supports the most popular protocol standards in the U.S.

PRI Protocols supported:     National ISDN-2 (NI2)
                             AT&T No. 5 ESS
                             DMS 100/250

# LAN INTERFACE

The OfficeServ 7200 MCP card provides a 10/100 base T Ethernet interface for connection to a data network. This interface allows a high speed connection for PC programming across an IP network. This interface also allows the system software to be uploaded to the MMC+ card via the OfficeServ™ Manager program.

# LEAST COST ROUTING

Least Cost Routing (LCR) is the ability to automatically select the most cost effective central office route for the outside number dialed by any station. The OfficeServ 7200 LCR program includes the following features:

- Option to use or not user LCR or a tenant basis
- Programmable LCR access code
- Digit analysis table of 2000 entries each with ten digits
- Routing by time of day and day of week (4 time bands per day)
- Modify digits table of 200 entries
- Flexible trunk group advance timer
- Option to use or not use trunk group advance warning tones

## LIVE SYSTEM PROGRAMMING

The system can be programmed from any display keyset or personal computer without interrupting normal system operation. There are 3 levels of programming: technician, customer and station. The technician level has access to all programs and can allow the customer access to system programs as needed. Technician and customer access are controlled by different security passcodes. Programming from a PC requires the OfficeServ™ Manager (OSM) program. The system can also be programmed remotely over the internet via the LAN card.

## MEET ME PAGE AND ANSWER

After a user makes a Meet Me Page, the user may remain off-hook to allow the paged party to meet the user for a private conversation.

## MEMORY PROTECTION

In the event that power is lost to the system, all customer data contained in memory is retained by the use of a "super capacitor" for approximately 2 days. Additionally, the MMC+ card may be used to store the system database. The OfficeServ™ Manager (OSM) computer program may be used to produce a backup copy of the customer data.

## MESSAGE WAITING INDICATIONS

When calling a station and receiving a busy signal or the no answer condition, the caller can leave an indication that a message is waiting. The message button will flash red at the messaged keyset. A single line phone connected to a 16MWSLI will have a message light otherwise it will receive a distinctive message waiting dial tone. Five message waiting indications can be left at any station.

## MESSAGE WAITING KEY

The Message Waiting (MW) key is used in conjunction with a voicemail card. The MW key is programmed with an extender matching a station or station group number and is used to access the voice mailbox associated with the extender.

## MICROPHONE ON/OFF PER STATION

The microphone can be disabled at any keyset. When the microphone is disabled, the keyset cannot use the speakerphone, although on-hook dialing and group listening are still possible.

## MULTIPLE LANGUAGE SUPPORT

The OfficeServ 7200 can be programmed to support multiple languages in the display. This is on a per-keyset basis. When set the keyset will have its display information presented in the programmed language. The languages are defined in MMC 121. The current languages are as follows: English, Spanish, Italian, German, Portuguese, Norwegian, Danish, Dutch, Swedish, US Spanish, and Canadian French.

## MUSIC ON HOLD—FLEXIBLE

The OfficeServ 7200 allows its music sources to be used in flexible manner as follows:

Each keyset can have a designated music source for playing as Background Music (BGM) through the keyset speaker.

Each Station can have a designated music source for playing to callers placed on Exclusive hold at that station.

Each Trunk can have a designated music source for playing to callers placed on hold. This setting is overridden by some of the other settings such as station music on hold, DID MOH and UCD MOH.

Each UCD group can have a designated music source to be played while a caller is in queue.
Each entry in the DID translation table can have a designated music source to be played when a caller to that DID number is placed on hold.

## MUSIC ON HOLD – SOURCES

The OfficeServ 7200 provides for up to five different types of Music on Hold source including silence or "NONE" as listed below:

- <u>None:</u> No audio is played to the listener

- <u>Tone:</u> A tone or "beep" is repeated at a programmable interval

- <u>Chime:</u> A music chime source (Old Folks At Home) located on the MCP card is played to the listener.

- <u>External Source:</u> An external source connected to a MISC card, such as a digital announcer or radio, is played to the listener.

- <u>Voicemail Sound File:</u> If the OfficeServ 7200 system has an optional SVMi card installed, up to 100 custom recorded sound files from the Voice Mail card can be used for MOH sources. For more information on creating the sound files see SVMi System Administrator Manual-Recording Greeting by Number. If you select this option be advised that each VMMOH source requires a dedicated SVMi port.

## NETWORKING

The OfficeServ 7200 system allows up to 5 systems using QSIG over PRI or 99 systems using QSIG over IP to be networked together with a high level of feature integration. The networked systems may be any combination of OfficeServ 100, OfficeServ 500, and OfficeServ 7200 systems running V2.46 or higher software. The physical connection between systems can be an IP network or proprietary PRI connection using Samsung's proprietary version of QSIG, called SPNet. If PRI connection is used, the maximum number of nodes may be limited by the maximum number of TEPRI cards that can be installed.

When engineering the network of systems, a discrete numbering plan must be used. The size and complexity of the numbering plan as well as the number of stations and trunks may limit the actual number of nodes available to the network.

- <u>Auto Answer Across Network:</u> This setting will allow station to station calls across the network to follow the auto answer setting of the called keyset.

- <u>Call Completion, Busy Station (CCBS)</u> also known as Callback or Busy Station Callback. When a station in one system calls a station in another system across the network link and the destination station is busy the calling station can set a Callback to the busy station. When the busy station becomes idle the system will notify the callback originating station by ringing that station and when the originating station answers, the system will call the destination station. *Not available on QSIG over PRI.*

- <u>Call Completion, No Response (CCNR)</u> also known as Callback or No Answer Callback. When a station in one system calls a station in another system across the network link and the destination station does not answer the calling station can set a Callback to the called station. When that station indicates the user is present by becoming busy then idle the system will notify the callback originating station by ringing that station and when the originating station answers, the system will call the destination station.

- <u>Call Intrusion (Barge In):</u> Calls across the network link can be barged in on however the barging station will not be muted.

- **Call Offer/Call Waiting (Camp On):** This feature operates in the same manner as in a non networked switch. When a called station is busy the caller can press a camp on key and appear as a ringing call on the second call button. The Auto camp on feature will not work on calls across a network link if set to ON in MMC 110.

- **Call Pick-up Across the Network:** This feature allows ringing calls, held calls and recalls to be picked up by other stations through the network. A station user in a Branch Office can use the Directed Pick-up, Hold Pick-up or Page/Park Pick-up codes to answers calls from the Main Office.

- **Call Transfer:** Calls answered in one network node can be transferred to a station or station group in another network node.

- **Caller ID:** Caller ID in its various forms that are currently available (Analog CID Name and Number, ANI Number, PRI Name and Number) will be transported across the network link with the original call.

- **Centralized Automated Attendant:** The SVMi-20E provides the Auto Attendant Application. The SVMi-20E can transfer callers to other stations or station groups in another Node. It can be installed in any Node regardless of where the lines/trunks from the telephone company are connected. Callers to Node A can be answered by the SVMi-20E Card in Node B, then transferred to Node C. An incoming caller that dials an invalid extension number to the SVMi-20E can be routed after a programmable number of attempts to a predetermined station or station group anywhere in the network to receive assistance.

- **Centralized Operator/Attendant:** A station in any Node may dial "O" and ring a designated Centralized Operator/Attendant. When programmed, hold/transfer/camp-on/park recalls can be directed to the Centralized Operator/Attendant in a network arrangement instead of the Local Operator within that Node. Ring plan assignments will allow recalls to a Centralized Operator/Attendant during the day and to the Local Operator after hours. There can only be one Centralized Operator/Attendant designated in the network. Each Node must be set for either Local Operator or Centralized Operator/Attendant, but not both.

- **Centralized Voice Mail with Message Waiting Lights:** This feature allows one Voice mail system to be shared by all stations in a multi-node network. This feature is only available with the Samsung SVMi or SVMi-E integrated voice mail systems. Users in one Node can call forward their calls to the voice mail system in another Node. Messages left in the voice mail system will be indicated by lighting the corresponding voice message button or lamp on any station in any Node of the network. Messages are retrieved by pressing the VMSG button or calling the voice mail group number. In addition, display keyset user will receive softkey options to navigate through the voice mail system. Softkeys include: PLAY, SAVE, DELETE, PAUSE FAST FORWARD, REVIEW, REPLY, FORWARD, CALL and HELP.

- **DID with Pass Through:** Incoming DID, DNIS or DDI calls can be routed through one switch across a network link to be processed by the DID table of the destination switch.

- **Direct Station Selection and Busy Lamp Indication Across the Network:** A Network Station key (NS) can appear on extension "2101" in Node A. It is programmed as "NS2205" representing an extension in Node B. This NS key will light Red when extension 2205 is on the phone. Station 2101 can press this NS key to call extension 2205 in Node B. With this feature the CEO can see when the VP in New York is on the phone or may call him with the press of a button. Any keyset can have multiple NS keys. *This feature is only supported with QSIG over IP networking.*

- **Do Not Disturb (DND):** This feature operates in the same manner as in a non networked switch.

- **Forward External:** This feature operates in the same manner as a non networked system with the exception that, because calls across a network link are trunk calls, network calls do not follow the ICM FWD EXT ON/OFF setting in MMC 210. It is therefore suggested that this setting be set to ON in a networked switch to avoid confusion in operation between networked and non networked calls.

- **Group Overflow Across the Network:** Calls to a station group in one Node may overflow after a programmable time to another station group in another Node.

- <u>Intercom Calling/Discrete Dialing Plan:</u> Station to station and station to group calls can be made across the network link without having to dial an access code for a call within the network. LCR can also be programmed to route calls across a network link and to access local trunks in another networked system.

- <u>Message Key Across the Network:</u> This feature allows station users to set a message waiting indication to another station in another Node in the network. Upon receiving a busy or no-answer condition, press the MSG key or dial the feature code. This will light the message waiting light at the called station. To return the message press the MSG key with the flashing red LED.

- <u>Network Page Key:</u> With one or more of these keys users may make page announcements to page zones in others Nodes in the Network. The network page (NP) key is different than the Page key in a single node. For example, It is programmed as NPO24 where 02 = Node 2 and 4 = page zone 4 in Node 2.

- <u>Network Trunk Ring Destination:</u> This feature allows lines/trunks from the telephone company connected to one Node to be programmed to ring at a destination (station or station group) in another Node.

- <u>Remote Hold Across the Network:</u> Calls may be placed on hold at stations in another Node. Then page that Node and announce that there is a call on holding on extension 2xxx. Anybody in this Node may pick up the call by dialing 12 + 2xxx. This is useful when one Node does not have a dedicated answering position. The caller is on Hold listening to music rather then listening to ringback tone.

- <u>Transfer Recall:</u> Calls transferred across a network link will recall to the transferring station after the originating system transfer recall timer expires. After recalling, if not answered prior to that systems attendant recall timer expiring, the call will recall to that systems designated operator group. Attendant recalls will not recall to a 'Centralized Attendant".

- <u>Transfer Retrieve:</u> Calls on Transfer Hold during a screened transfer can be retrieved by pressing the call button for that call.

- <u>Voice Mail Transfer Key:</u> Users may transfer a caller directly to a co-workers voice mail box with out ringing their telephone by pressing the VT key and dialing their extension number. The caller will then hear that co-workers personal greeting regardless of where they are in the network.

# OPERATOR GROUP

The operator group can contain 32 stations to answer incoming calls. Calls to this group can be set for distributed, sequential or unconditional ringing. Operators can use the In/Out of Group feature to meet flexible operator requirements. Operator groups are selectable per ring plan.

# OVERFLOW

## Operator

When calls ringing a operator group go unanswered, they can overflow to another destination after a programmed period of time. The operator group has its own timer. The overflow destination can be a station or station group.

## Station Group

When calls ringing a station group go unanswered, they can overflow to another destination after a programmed period of time. Each station group has its own timer. The overflow destination can be a station or station group located in that system.

## OVERRIDE CODES

This feature allows users to make emergency outside calls from a station that has a forced code such as Account code or authorization code enabled but without requiring them to enter a forced code. The basis of this feature is an override code table containing 8 entries of up to 11 digits each. The OfficeServ 7200 will examine digits that are dialed from a station to see if they match any entry in the Override Code table. If the digits match the table, the system will process the call without requiring a forced code.

## PAGING

System software allows the use of five internal and four external paging zones. Stations can page any individual zone, all external zones or all external zones plus internal zone zero simultaneously. Using system programming, each station may be allowed or denied the abilities to make and/or receive page announcements to any zone or combination of zones.

## PARK ORBITS

The system has 10 park orbits (0–9). These orbits can be used to park calls prior to paging and allows the call to be retrieved by dialing a park code plus the orbit number. Calls parked in this manner can also be retrieved by dialing the park pickup code (10) plus the station or trunk number. This feature is in addition to Call Park and Page.

## POWER over ETHERNET (PoE)

The OfficeServ PLIM provides 16 data switch ports with PoE.

## PRIME LINE SELECTION

Any station can be programmed to select a specific line, trunk group, telephone number, station or station group when the handset is lifted or the speaker key is pressed (same as Hot Line feature).

## PRIORITY CALL QUEUING

This feature places calls to an UCD or NORMAL station queue ahead of other calls based on priority level (1-9). The system reads the DID number, Caller ID number or trunk ID number, compares it to a preprogrammed table, then assigns it the corresponding priority that places it in the appropriate position in the group queue.

## PRIVATE LINES

For private line use, stations can be prevented from dialing and/or answering any line.

## PROGRAMMABLE LINE PRIVACY

Each outside line can be programmed to ignore the automatic line privacy. This allows up to four other parties to join your conversation by pressing the line button. This is similar to 1A2 key telephone operation.

## PROGRAMMABLE TIMERS

There are over 50 programmable system timers to allow each installation to be customized to best fit the end user's application.

## RECALLS

Calls put on hold, transferred or camped-on to any station will recall to the originating station if not answered within a programmable time. A recall that goes unanswered for the duration of the attendant recall timer will recall to the system operator group. Hold, transfer, camp-on and attendant recalls have individual programmable timers. Calls recalling to buttons with tri-colored LEDs will flash amber.

## RECALL TO OPERATOR

This function will allow the call to recall the operator instead of to the transferring station after the transfer recall time expires.

## REDIAL REVIEW

The Redial Review feature allows a review of the last number before dialing or allows access to the Call Log Blocks if assigned. These Call Log Blocks record the last ten (10) numbers dialed. When the LNR key is pressed the last number dialed is displayed. The log can then be scrolled using the Volume (Up/Down) keys and a previously dialed number can be selected.

## REMOTE PROGRAMMING—PC

Remote programming allows the technician to access the system database from a remote location for the purpose of making changes to the customer data. OfficeServ Manager is the proprietary programming application used to access and manipulate the database. The OfficeServ Manager program connects to the system via LAN connection to the MCP.

## RING MODES

### Time Based Routing - Plans

Each C.O. line can be programmed to ring at any station or station group. Each line can be assigned a ring destination based on six (6) different ring plans based on time of day and the day of the week. The system operator (intercom dial "0") can also be a different station group for each ring mode.

### Automatic / Manual

Ring destinations will automatically change based on time of day and day of week.
At any time the system can be manually forced into a specific ring plan. It will remain in this ring plan until manually taken out.

### Holiday Schedule

The system has a table of 20 dates that are used to define holidays. On a date designed as a holiday the system will remain in a ring plan for that calendar day providing the system was already in that ring plan. This feature will override the ring plan time table.

### Temporary Override

At any time the system can be forced into a specific ring plan for a temporary period of time until the next scheduled ring plan automatically takes effect.

## RING OVER PAGE

Any outside line can be programmed to ring over a customer-provided paging system. Outside lines, door phones and station groups may ring over page in the day or night mode.

## SECRETARY POOLING

Each keyset may be defined as an executive (BOSS in programming) or a secretary (SECY in programming) in system programming. Each executive can have up to four secretaries and each secretary can have up to four executives. These arrangements are known as executive/secretary pools. There can be multiple pools in a system. When an executive is in DND, all calls to the executive ring the first secretary assigned to that executive; if that secretary is busy, the call will hunt to the next available secretary assigned to that executive. If the secretary must communicate with the executive while he/she is in DND, pressing the corresponding executive

button on the secretary's keyset results in an Auto Answer intercom call being made to the executive (providing the executive is free). There is also a system wide option to allow the stations to ring rather than auto announce the executive secretary calls. A station can only be the executive of one secretary pool. In addition, a station cannot be in more than one pool.

## SINGLE LINE CONNECTIONS

Single line ports allow connection of a variety of single line telephones plus facsimile machines, answering machines, loud bells, computer modems, cordless phones and credit card machines. When connecting customer-provided equipment to these extensions, compatibility should be checked out before purchase to ensure correct operation. Central office ring cadence can be selected for SLT stations. This is helpful when optional devices cannot detect OfficeServ 7200 intercom ring cadence.

## SPEED DIAL NUMBERS

The system maintains a library of speed dial numbers that can be allocated to either a shared system wide list or to an individual user list. The OfficeServ 7200 has a library of 2000 numbers.

The OfficeServ 7200 can be programmed to have either 500 or 950 numbers in the system list.

The remaining numbers in the library can be assigned in blocks of 10 each to individual stations for their personal use. A maximum of 5 blocks (50 numbers) can be assigned to a station.

## SPEED DIAL BY DIRECTORY

The OfficeServ 7200 system provides the user with the ability to look up a speed dial number and place the call. There are three speed dial selections: personal, system and station. This feature requires a display keyset.

## STATION HUNT GROUPS

System programming allows up to 40 station hunt groups. One of three ring patterns—sequential, distributed and unconditional—is available for each group. Each unconditional group may contain a maximum of 32 stations and each sequential and distributed group may contain a maximum of 48 stations. A station may be assigned to more than one group. Each station group has its own recall timer for calls transferred to that group. There is a Next Hunt timer for each group to provide circular hunting within the group.

## STATION MESSAGE DETAIL RECORDING (SMDR)

The system provides records of calls made, received and transferred. Connecting a customer-provided printer or call accounting system will allow collection of these records. Each call record provides the following details: station number, outside line number, start date, start time, duration of call, digits dialed (maximum 18) and an account code if entered. The system may print a header followed by 50 call records per page or send continuous records with no header for use with a call accounting machine. See the sample printouts.

The SMDR output can be provided through the LAN port of the system. The SMDR format contains many options that allow it to be customized for a company's individual needs. Options to print include incoming calls, outgoing calls, in and out of group status, change in DND status, authorization codes, and caller ID on incoming calls. When Caller ID is enabled a wide carriage printer is required.

## STATION PAIR

This feature allows station to be assigned as a "pair". That is to say a primary and secondary. Calling the primary station will make both stations ring. Selected features such as Message Notification, DND, Callback, and Class of Service act as one station. This is convenient when an individual has two offices or an office extension and a cordless extension. NOTE: Not all system features are applicable to station pairs. Features designed for a single user may conflict with paired stations.

## SYSTEM ALARMS

A DISA alarm will warn the customer if the DISA security system has been triggered by too many incorrect password attempts. The alarm can ring any station or group of stations and show an appropriate display at the assigned stations.

## SYSTEM MAINTENANCE ALARMS

The OfficeServ 7200 continuously performs internal system diagnostics. When either a major or minor fault is detected the system can ring stations with an ALARM KEY assigned. The keyset display shows information that includes the description, location and date and time stamp for each alarm.

A log of 100 alarms are stored in a buffer and can be reviewed at a display keyset or sent to a printer.

## SYSTEM DIRECTORY

Each station, station group and outside line can have an 11 character directory name. This name will appear on keyset displays to provide additional information about lines and stations.

## TENANT SERVICE (2)

The OfficeServ 7200 supports two forms of tenant service as detailed below.

- System Splitting: In the first form there are several programs that allow the OfficeServ 7200 to be installed in tenant applications. These features allow a technician to split the system in two with each tenant having individual control over operator groups, page zones, speed dial numbers, night service (manual or automatic), DISA and customer level programming. Each tenant is totally separate in the system and no intercom calling between tenants is permitted.

- Port Splitting: In this form of tenant services system programming is used to allow or deny access for making and receiving calls on a per station basis. These settings can be applied to Trunks, trunk groups, stations and station groups. This allows common items on the system such as the operator group and LCR to be used by everyone on the system while ensuring that each company can only access their own lines and incoming calls.

## TOLL RESTRICTION

There are 500 allow and 500 deny entries of 11 digits each. Each of these entries can apply to dialing classes B, C, D , E, F and G. Expensive 976, 1-900, 411 and operator-assisted calls, as well as specific area and office codes, can be allowed or denied on a per-class basis. Class A stations have no dialing restrictions and Class H stations cannot make outside calls. Any outside line may be programmed to follow station toll restriction or follow the toll restriction class assigned to it. Each station and trunk can have a different dialing class for each ring plan.

### Special Code Table

A Special Code Table of ten entries (four digits each) allows use of telephone company features such as CID blocking (*67) or call waiting disable (*70) without interference to toll restriction or LCR. The Special Code table allows use of these custom calling features on a per call basis.

## TOLL RESTRICTION OVERRIDE

Program options allow system speed dial numbers to follow or bypass a station's toll restriction class. In addition, users may make calls from a toll restricted station by using the walking class of service or authorization code feature.

## TONE OR PULSE DIALING

Outside lines can be programmed for either tone or pulse dialing to meet local telephone company requirements.

## TRAFFIC REPORTING

The OfficeServ 7200 system can store peg counts for various types of calls. These peg counts can be printed on-demand, daily, hourly, or up to three separate programmable shifts. The report includes statistics for each trunk, trunk group, station, station groups and page announcements. For more details and explanations see sections 4.9 and 4.10 of this document.

## TRANSFER

System operation permits station users to transfer calls to other stations in the system. Transfers can be screened, unscreened or camped-on to a busy station.

## TRUNK GROUPS

Outside lines can be grouped for easy access by dialing a code or pressing a button. There are 30 trunk groups available.

## UNIFORM CALL DISTRIBUTION (UCD)

UCD is a call distribution method by which callers in a queue are routed to the next available agent. While waiting in a queue a canned or customized announcement can be periodically played to the caller based on a programmable timer while retaining their place in the queue. Statistical and historical reports are available to assist supervisors in managing a call center. See Call Center.

## UNIVERSAL ANSWER

Station users may dial the Universal Answer code or press the UA key to answer any outside lines programmed to ring the UA device. The UA device can be a station, group of stations, common bell or ring over page.

## VIRTUAL EXTENSIONS

The OfficeServ 7200 has a number of virtual extension ports encoded in the system database. They can be assigned as keyset or single line analog ports. The system has 62 virtual extension ports. These ports have all the attributes of an actual station port including call forwarding. These virtual ports can be exchanged with real station ports using the set relocation feature to provide hot desking.

## VOICE MAIL

**Inband Signalling:** The OfficeServ 7200 system uses DTMF tones (inband signalling) to communicate with any compatible voice mail system. Stations can call forward to a voice mail system. When answered, the system will send DTMF tones routing the caller directly to the called station user's mailbox. Keyset users can press one button to retrieve messages from the voice mail system. A Voice Mail Transfer key permits keyset users to easily transfer a caller directly to an individual voicemail box without navigating through menus.

Note: Although most voice mail systems will work with the OfficeServ 7200, the system data has default values set to work with the Starmail Voice Processing System. They may need to be changed if you are using another system.

**Integrated (In-Skin):** The OfficeServ 7200 can be equipped with Samsung's proprietary SVMi-20E voice mail/auto attendant card. This card provides 4 to 12 ports of voice processing to be expandable to 20 ports. Because it is built into the system it provides such features as one touch call record, answering machine emulation, and voice mail box administration with interactive keyset displays. See separate SVMi-20E documentation.

## Voice Over Internet Protocol (VoIP)

The OfficeServ 7200 system is VoIP enabled and as such supports the following VoIP services:

1) H.323 Trunking to another H.323 Gateway.
2) SIP IP Trunking to another gateway.
3) IP Telephone Sets: OfficeServ ITP-5107S Keyset, OfficeServ ITP-5121D Keyset, OfficeServ ITP-5112L Keyset, and OfficeServ Softphone.

   These IP Keysets can be installed in the local office or in a remote office, home office with full feature operation.
4) IP Networking: Connect up to 99 systems together over a managed IP network.

The OfficeServ 7200 Media Gateway Interface (MGI-16) cards provides sixteen voice calls per card over an IP network connection. The MGI-16 cards fit into any universal OfficeServ 7200 card slot.

With VoIP certain compression standards have also been adopted to represent each second of voice with an amount of bandwidth. The OfficeServ 7200 MGI-16 utilizes G.711, G.729, G.729A or G.723 standards voice compression codec's. This allows for a selectable 64kbps (G711), 8Kbps (G729A) or 6.3Kbps (G723) bandwidth use when preparing voice compression for IP transport. Compression is used to reduce the digitized voice into a smaller bandwidth that can be carried in smaller packets. The VoIP gateway determines the compression method for each call setup. There is also a certain amount of frame/packet overhead in each compression channel. 64K of bandwidth can support 6~7 calls simultaneously. This can vary depending on efficiency features like Silence Suppression and multiframe counts. Unlike switched networks, VoIP connections consist of a sequence of numbered data packets. Since voice conversation is usually considered "real time" these packets need to be delivered in a consistent manner with minimal delay.

In any Ethernet environment, packet transfers are subject to delays and/or loss. If these delays are greater than 200ms the voice quality will deteriorate. The Ethernet data traffic and network topology should be a consideration when using VoIP. Network congestion will affect call quality in any VoIP application.

## WALKING CLASS OF SERVICE

This feature allows users to make calls or use features from a station that is restricted. The users may either use the WCOS feature code or the authorization code feature. Both methods change the class of service to correspond with the station passcode or authorization code that is dialed. After the call is completed, the station returns to its programmed class of service.

## WIRELESS LAN—See Section 2.4.5

# STATION FEATURES

Add-On Modules

Appointment Reminder

Automatic Hold

Automatic Privacy

Background Music

Busy Station Callback

Busy Station Indications (BLF)

Call Coverage Key

Call Forwarding

Call Forwarding Override

Call Logs

Call Pickup

Direct Station Selection (DSS)

Divert to Voicemail

Do Not Disturb (Override)

Do Not Disturb (Programmable)

Door Lock Release

Exclusive Hold

Group Listening

Headset Operation

Hearing Aid Compatible

Line Queuing with Callback

Line Skipping

Loud Ringing Interface

Manual Signalling

Message Waiting Light / Indication

Mute Microphone / Handset

Off-Hook Ringing

Off-Hook Voice Announce (Executive)

Off-Hook Voice Announce (Standard)

One Time Do Not Disturb

One Touch Dialing Keys

On-Hook Dialing

Privacy Release

Programmable Keys

Programmed Station Messages

Protection from Barge-In

Redial

Remote Hold

Ring Modes

Ringing Preference

Speakerphone

Station Lock

Terminal Status Indicator

Tri-Colored Lights

Volume Settings

Wall-Mountable Keysets

# 4.2 STATION FEATURES DESCRIPTIONS

## ADD-ON MODULES

### iDCS 14 BUTTON AOM

The 14B AOM attaches to the right hand side of an iDCS 18D or iDCS 28D keyset and provides 14 buttons with red LEDs. These buttons can be used for DSS keys, speed dial bins or any key that does not require a dual colored LED. Does not require a separate DLI port. It uses the same DLI port as the keyset is attached to.

### iDCS and DS 64 BUTTON MODULE

The 64-button module adds to the capability of any keyset. The 64 programmable red LED buttons can be used for feature keys, DSS/BLF keys or one touch speed dial buttons. A maximum of 4 can be assigned to a station. One DLI port is required per  64-button module. You can connect as many units to the system limited only by the number of available DLI ports.

†Requires optional hardware and/or software. Ask your dealer for details.

## APPOINTMENT REMINDER

When programmed for a specific time, a keyset will sound a distinctive ring to remind the user of meetings or appointments. Alarms can be set for "today only" or for every day at the same time. Up to three alarms may be set at each keyset. Display keysets can program a message to be displayed when the alarm rings. Non-display keyset users must have the system administrator program messages for them.

## AUTOMATIC HOLD

Station users can enable or disable automatic hold at their keysets. While a user is engaged on an outside (C.O.) call, pressing another trunk key, route key or CALL button automatically puts the call on hold when this feature is enabled. Pressing TRSF, CONFERENCE, PAGE or a DSS key will always automatically place the call on hold. This type of automatic hold is not a user-selectable option. Intercom calls can be automatically held if Intercom Auto Hold is set to ON for the entire system.

## AUTOMATIC PRIVACY

All conversations on outside lines and intercom calls are automatically private. The privacy feature can be turned off on a per-line basis.

## BACKGROUND MUSIC

Keyset users may choose to hear music through their keyset speakers when optional external sources are installed. Each user may adjust this level by the use of a volume control program at the selected keyset.

## BUSY STATION CALLBACK

When reaching a busy station, callers may request a callback by pressing one button or dialing a code. The system rings the caller back when that station becomes idle (a system-wide maximum of 100 callbacks are allowed at one time including busy station and busy trunk).

## BUSY STATION INDICATIONS (BLF)

DSS/BLF keys may be assigned to any keyset or add-on module. These buttons will be off when the station is idle, light red when that station is in use and flash distinctively when that station is in the DND mode. The system can be programmed to allow the DSS keys to be used to pickup calls at other keysets.

## CALL COVERAGE KEY

These keys (buttons) provide a convenient way to cover calls ringing at other stations. Keyset users can have one or multiple call coverage keys programmed for a station. These buttons flash when a new call or recall is ringing at the programmed station. In addition, a call coverage delay ring time can be programmed to provide an audible ring tone either immediately or delayed from 1 to 250 seconds. Call coverage keys only flash and ring when the covered station is idle. When the covered station is off hook the call coverage key lights red to indicate a busy condition.

## CALL FORWARDING

Station users can forward internal and outside calls to other destinations immediately (Forward All), when busy (Forward Busy) or if not answered in a programmable number of seconds (Forward No Answer). These forward destinations can all be different. Once a destination has been programmed, it can be turned on and off with a programmable key. Forward All takes priority over Busy and No Answer conditions.

In addition to the three usual methods of forwarding described above, a fourth option called Follow Me is available. This option allows a station user to set a Forward All condition from his/her station to another station while at the remote station. To display the Follow Me condition, the TRSF/transfer key lights steady red

at the station that is forwarded. The TRSF/transfer key also lights if Forward All is set and no key is programmed for Forward All. Keyset users can be given an external call forward button to forward their calls to an external phone number. Each outside line may be programmed to either follow or ignore station call forwarding. A per-station option controls whether internal calls forward to voice mail or not. Single line telephones must have the system administrator program this feature for them.

## CALL FORWARD OVERRIDE

When this option is set to yes for a station then intercom calls from that station will override any call forwarding settings of the called station.

## CALL LOGS

With the call log feature, a display keyset user can review up to 50 of the last incoming calls from the Caller ID review list or up to 50 of the last external telephone numbers that were dialed. The numbers can be viewed, stored and/or dialed using the associated soft keys. LCR must be enabled for dialing and storing numbers from the CID review list. Optional hardware and/or software may be needed for Caller ID.

## CALL PICKUP

With directed call pickup, a user can answer calls ringing at any station by dialing a code plus that extension number. The group pickup feature allows the user to answer any call ringing within a pickup group. Pickup keys may be customized with extenders to allow pickup from a specific station or pickup group. The OfficeServ 7200 has 99 programmable pickup groups.

## DIRECT STATION SELECTION (DSS)

Programmable keys can be assigned as DSS keys and associated with extension numbers. Users press these keys to call or transfer calls to the assigned stations.

## DIVERT TO VOICEMAIL

A keyset user can immediately divert a ringing call to their personal voice mailbox by pressing the ✶ key. This will override any call forward no answer setting.

## DO NOT DISTURB (OVERRIDE)

The DND Override feature allows a keyset with a DND Override key (DNDO) and the appropriate class of service to override the DND setting at a called keyset. This will allow a user to go into DND while waiting for an important call and have that call transferred to them via a screened transfer from a station (for example the users secretary) with a DNDO key.

## DO NOT DISTURB (PROGRAMMABLE)

The Do Not Disturb (DND) feature is used to stop all calls to a station. System programming can allow or deny use of the DND feature for each station. Parties calling a station in DND will receive reorder tone. When in DND mode, calls may be forwarded to another destination. See Forward DND option. A keyset without a DND button can activate DND via the feature access code. The ANS/RLS key will flash at 112 ipm (rapidly) when DND is set. There is a programmable option to allow a C.O. line to override DND at its ring destination if that destination is a single station.

## DOOR LOCK RELEASE

Stations programmed to receive calls from a door phone can dial a code to activate a contact closure for control of a customer-provided electronic door lock.

## EXCLUSIVE HOLD

Pressing HOLD twice will hold a call exclusively at a station so no other station can pick up that call. Intercom calls are automatically placed on exclusive hold. Exclusive hold for trunk calls can be denied in class of service.

## GROUP LISTENING

This feature allows users to turn on the speaker while using the handset. It allows a group of people to listen to the distant party over the speaker without the microphone turned on.

## HEADSET OPERATION

Every keyset can be programmed to allow the use of a headset. In the headset mode, the hookswitch is disabled and the ANS/RLS key is used to answer and release calls. Keyset users may turn headset operation ON/OFF by keyset programming or more easily by pressing the headset ON/OFF key. The headset key lights steady red when the keyset is in headset mode.

## HEARING AID COMPATIBLE

All OfficeServ 7200 keysets are hearing aid compatible as required by Part 68 of the FCC requirements.

## LINE QUEUING WITH CALLBACK

When the desired outside line is busy, the user can press the CALLBACK key or dial the access code to place his/her station in a queue. The user will be called back when the line is available (a maximum of 100 callbacks are allowed system-wide at one time including busy station and busy trunk).

## LINE SKIPPING

When the user is talking on an outside line and the automatic hold feature is turned off, he/she may press an idle line key and skip to that line without causing the previous call to go on hold.

## LOUD RINGING INTERFACE

The MIS daughter board provides an audible ring tone output. This can be connected to a paging system or single loud speaker to provide loud ring tone for a specific station only. The tone is preset and can not be changed.

## MANUAL SIGNALLING

Keysets can signal each other via a programmable key. This allows one station to alert another without establishing a voice conversation. Each press of the key results in a 500 milliseconds of ring tone being set to the intended station. An individual manual signaling key must be programmed for each station to be signaled.

## MESSAGE WAITING LIGHT/INDICATION

When calling a station and receiving a busy signal or the no answer condition, the caller can leave an indication that a message is waiting. The message button will flash red at the messaged keyset. A single line phone connected to a 16MWSLI will have a message light otherwise it will receive a distinctive message waiting dial tone. Five message waiting indications can be left at any station.

## MUTE MICROPHONE/HANDSET

Any keyset user can mute the keyset's handset transmitter by pressing the MUTE key. In addition, keyset users can also mute the keyset microphone while the keyset is in speakerphone mode.

## OFF-HOOK RINGING

When a keyset is in use, the system will provide an off-hook ring signal to indicate that another call is wait-ing. The ring signal is a single ring repeated. The interval is controlled by a system-wide timer. Single line sta-tions will receive a tone burst through the handset receiver instead of a ring.

## OFF-HOOK VOICE ANNOUNCE (EXECUTIVE)

A keyset associated with an add-on module may receive an executive off-hook voice announcement while on another call. The called keyset user may reply handsfree without interrupting the call in progress. Only keysets with an off-hook voice announce button (OHVA) can off-hook voice announce to keysets with AOMs.

## OFF-HOOK VOICE ANNOUNCE (STANDARD)

Keysets may receive a voice announcement while on another call. The calling station must have an OHVA key. When transferring a call to a busy keyset or while listening to busy signal, the station user can press the OHVA key to make an OHVA call to the busy keyset. If the called keyset is in the DND mode, it cannot receive OHVA calls. The L version of software has an user programmable option that will allow the OHVA to be heard through the speaker rather than in the handset.

## ONE TIME DO NOT DISTURB

The Do Not Disturb (One Time) feature is used to stop all calls to a station when the user is on an outside line and does not want to be disturbed for the duration of the call. Upon completion of the call, DND is canceled and the station is returned to normal service. This feature requires a programmed button.

## ONE TOUCH DIALING KEYS

Frequently used speed numbers can be assigned to one touch dialing keys for fast accurate dialing.

## ON-HOOK DIALING

Any keyset user can originate calls without lifting the handset. When the called party answers, the user may speak into the microphone or lift the handset for more privacy.

## PRIVACY RELEASE

This feature will allow another station to join in on your conversation by temporarily releasing privacy on the C.O. line from your keyset.

Requires a Privacy Release key to be programmed on your keyset. A maximum of three (3) other people can join in. This uses one of the conference circuits in the system.

## PROGRAMMABLE KEYS

Each key can be programmed for more than 25 different uses to personalize each phone. Examples of keys include individual outside line, individual station, group of lines, group of stations and one touch speed dial buttons. Using these keys eliminates dialing access codes.

The following feature keys have extenders that make them more specific: SPEED DIAL, SUPERVISOR, PAGE, DSS, DIRECTED PICKUP, GROUP PICKUP, DOOR PHONE, BOSS, PROGRAMMED MESSAGE, IN AND OUT OF GROUP, FORWARD and VOICE MAIL TRANSFER. The extender can be a station, a group or another identifying number.

## PROGRAMMED STATION MESSAGES

Any station may select one of 20 messages to be displayed at a calling party's keyset to advise others of their status. Ten messages are factory-programmed but may be reprogrammed. Five can be created by the system administrator. Each display keyset user may create five additional messages unique to them.

NOTE: The calling party must have a display keyset to view these messages.

## PROTECTION FROM BARGE-IN

Each station can be programmed as secure or not secure. Secure stations cannot be barged-in on. A station that is not secure cannot be barged-in on when talking to a secure station.

## REDIAL

There are three types of external redial available to all station users. Each type can redial up to a maximum of 18 digits.

- AUTO RETRY—When an outside number is dialed and a busy signal is received, the auto retry feature can be used to reserve the outside line and automatically redial the number for a programmable number of attempts (available to keyset users only).

- LAST NUMBER—The most recently dialed number on a C.O. line is saved and may be redialed by pressing the redial key or dialing the LNR access code.

- MANUAL RETRY with LNR—When you make an outside call and receive a busy signal you can press the LNR key to redial the same number again. This operation can be manually repeated for a limited number of attempts as defined by system programming (available to keyset users only).

- MEMO REDIAL—When you are calling directory assistance you can store the number you are given using the dial pad and SAVE number feature. There is no need for a pencil and paper (available to keyset users only).
- SAVE NUMBER—Any number dialed on a C.O. line may be saved for redial at a later time.

## REMOTE HOLD

When you wish to place a call on hold at another station, press TRSF and dial the station number (or press the appropriate DSS key). Press the HOLD key. This will place the call on system hold on an available CALL button or Line Key at the remote station.

## RING MODES

Each keyset user can select one of three distinct ways to receive intercom calls. The phone can automatically answer on the speakerphone, voice announce through the speaker or receive ringing. When the ring mode is selected, keyset users can choose one of eight distinct ring tones. Forced Auto Answer is invoked by the calling station and is controlled by the calling station's class of service.

## RINGING PREFERENCE

Lifting the handset or pressing the speaker button automatically answers a call ringing at the keyset. Using this method, users are assured of answering the oldest call first. When ringing preference is turned off, the user must press the flashing button to answer. Users may answer ringing lines in any order by pressing the flashing button.

## SPEAKERPHONE

DCS LCD 24B and DCS LCD 12B keysets have built-in speakerphone. The speakerphone enables calls to be made and received without the use of the handset. The iDCS 28D keyset and the iDCS 18D keyset can have a Full Duplex Speakerphone Module added. All ITP phones are speaker phones.

## STATION LOCK

With a programmable personal station passcode, any keyset or single line station can be locked and unlocked to control use of each telephone. There are two lock options: 1=LOCKED OUTGOING and 2=LOCKED ALL CALLS. See the following table for more details.

|  | 0<br>UNLOCKED | 1<br>LOCKED OUTGOING | 2<br>LOCKED ALL CALLS |
| --- | --- | --- | --- |
| Make Outside Calls | YES | NO | NO |
| Receive Outside Calls | YES | YES | NO |
| Make Intercom Calls | YES | YES | NO |
| Receive Intercom Calls | YES | YES | NO |

## TERMINAL STATUS INDICATOR

iDCS keysets are equipped with a terminal status indicator lamp. The terminal status indicator light is positioned on the top right corner of the keyset above the display. The terminal status indicator is a tri-colored (red, green, and amber) light that provides greater visibility of your keysets status than the individual key LEDs. The terminal status indicator provides the following indications:

– Busy/Off Hook     Steady Red
– Intercom Ring     Flashing Red
– Outside Call Ring     Flashing Green
– Recall Ring     Flashing Amber
– Message Waiting     Flashing Red
– Do Not Disturb     Fast Flash Red at 1 Second Intervals

## TRI-COLORED LIGHTS

DCS LCD 24B keysets have 16 keys equipped for tri-colored LED indications (green, red and amber). The DCS LCD 12B model has six of these keys and the DCS 7 button keysets have three. All programmable keys on the iDCS keysets have tri-colored LEDs. To avoid confusion, your calls always light green, other calls show red and recalls light amber.

## VOLUME SETTINGS

Each keyset user may separately adjust the volume of the ringer, speaker, handset receiver, background music, page announcement and off-hook ring tone.

## WALL-MOUNTABLE KEYSETS

Each keyset, add on module and 64 button module can be wall mounted by reversing the base wedge.

# DISPLAY FEATURES

| | |
|---|---|
| Account Code Display | Enhanced Station Programming |
| Call Duration Timer | Identification of Recalls |
| Call for Group Identification | Identification of Transfers |
| Call Processing Information | Message Waiting Caller Number |
| Caller ID Information | Outside Line Identification |
| Calling Party Name | Override Identification |
| Calling Party Number | Programmed Message Display |
| Conference Information | Soft Keys |
| Date and Time Display | Stopwatch Timer |
| Dial by Name | Text Messaging |
| Dialed Number | UCD Supervisor Displays |

# 4.3 DISPLAY FEATURES DESCRIPTIONS

## ACCOUNT CODE DISPLAY

Account codes are conveniently displayed for easy confirmation. If entered incorrectly, users may press the ACCOUNT key again and reenter the account code.

## CALL DURATION TIMER

The system can automatically time outside calls and show the duration in minutes and seconds. Station users may manually time calls by pressing the TIMER button.

## CALL FOR GROUP IDENTIFICATION

When a call is made to a station group, the display shows [CALL FOR GROUP] and the user's group number. These calls can be answered with a different greeting than calls to the user's extension number.

## CALL PROCESSING INFORMATION

During everyday call handling, the keyset display will provide information that is helpful and in some cases invaluable. Displays such as [CALL FROM 203], [TRANSFER TO 202], [701: RINGING], [TRANSFER FM 203], [708 busy], [Camp on to 204], [Recall from 204], [Call for 501], [message from 204] and [FWD ALL to 204] keep users informed of what is happening and where they are. In some conditions, the user is prompted to take action and in other cases the user receives directory information.

## CALLER ID INFORMATION

Caller ID information is dependent on the use of display keysets. The following list explains the displays that are used with Caller ID.

### Name / Number Display

Each display keyset user can decide if he/she wants to see the Caller ID name or Caller ID number in the display. Regardless of which one is selected to be seen first, the NND key is pressed to view the other piece of CID information.

### Next Call

In the event that there is a call waiting or a camped-on call at the user's keyset, the user can press the NEXT key to display the Caller ID information associated with the next call in queue at the station. Either the CID name or CID number will show in the display depending on the N/N (MMC 119) selection.

### Save CID/ANI Number

At any time during an incoming call that provides CID information, the user may press the SAVE key. This saves the CID number in the Save Number feature. Pressing the SAVE number redial key will dial the CID number. The system must be using LCR to dial the saved number.

### Store CID/ANI Number

At any time during an incoming call that provides CID information, the user may press the STORE key. This saves the CID number as a speed dial number in the personal speed dial list. The system must be using LCR to dial the stored number.

### Inquire Park/Hold

When a user is informed that an incoming call is on hold or has been parked, the user may view the Caller ID or ANI information before he/she retrieves the call. This will influence how the user chooses to handle the call.

### CID/ANI Review List

This feature allows display keyset users to review CID information for calls sent to their stations. This list can be from ten to fifty calls in a first in, first out basis. The list includes calls that were answered and calls that rang the user's station but that were not answered. When reviewing this list, the user can press one button to dial the person back. The system must be using LCR to dial the stored number.

### Investigate

This feature allows selected stations with a special class of service to investigate any call in progress. If CID/ANI information is available for an incoming call, the selected stations can know to whom the OfficeServ 7200 user is speaking. On outgoing calls, the selected stations can see who was called. After investigating, the selected stations may barge-in on the conversation, disconnect the call or hang up.

### Abandon Call List

The system has a system-wide abandon call list that stores CID/ANI information for calls that rang but were not answered. The list is accessed using the operator's passcode. When reviewing this list, you are provided options to CLEAR the entry or DIAL the number. You can use the NND key to toggle between the CID name, CID or ANI number and the date and time the call came in. The system must be using LCR to dial numbers from the abandon call list. The abandoned call list will store up to 100 unanswered calls.

## CALLING PARTY NAME

For intercom calls, display keysets show the calling party's name before answering. The names must be stored in the system directory list and can be up to 11 characters long.

## CALLING PARTY NUMBER

When an intercom call is received, all display stations show the calling party's extension number before the call is answered.

## CONFERENCE INFORMATION

When a conference is set up, each extension and outside line number is displayed at the controlling station when it is added. When a station is added, its display shows [Conf with xxx] alerting the user that other parties are on the line.

## DATE AND TIME DISPLAY

In the idle condition, the current date and time are conveniently displayed. Display keysets can have a 12 or 24 hour clock in either the ORIENTAL or WESTERN display format with information shown in upper case or lower case letters.

## DIAL BY NAME

Each station and speed dial number can have an associated directory name. Any station or speed dial number can be selected by scrolling alphabetically through a directory list. There are three directories:

1.   System wide speed dial list
2.   Personal speed dial list
3.   Station directory list

This online "phone book" allows display keyset users to look up and dial any speed dial number or station in seconds.

## DIALED NUMBER

When an outside call is made, digits are displayed as the user dials them. If the display indicates an incorrect number was dialed, the user can quickly hang up before billing begins.

## ENHANCED STATION PROGRAMMING

Personal programming options are easier to select and confirm with the help of the display.

## IDENTIFICATION OF RECALLS

Hold recalls and transfer recalls are identified differently than other ringing calls. Hold recalls indicate the recalling line or station number and the associated name. Transfer recalls indicate the recalling line or station and where it is coming from.

## IDENTIFICATION OF TRANSFERS

The display will identify who transferred a call to the user.

## MESSAGE WAITING CALLER NUMBER

When the message indication is on, pressing the MESSAGE button displays the station number(s) of the person(s) who have messages for the user. Display keyset users can scroll up and down to view message indications.

## OUTSIDE LINE IDENTIFICATION

Each line can be identified with an 11 character name. Incoming calls display this name before the call is answered. This feature is helpful when individual lines must be answered with different greetings.

## OVERRIDE IDENTIFICATION

If another station barges-in on a user's conversation, the display will alert the user with a [Barge from 2xx] display if the system is set for barge-in with tone.

## PROGRAMMED MESSAGE DISPLAY

Preprogrammed station messages set by other stations are displayed at the calling station's keyset.

## SOFT KEYS

Below the display, there are three soft keys and a SCROLL button. These keys allow the user to access features in his/her class of service without requiring the keyset to have designated feature keys.

## STOPWATCH TIMER

Display keyset users find this feature very convenient to time meetings, calls and other functions. Users simply press once to start the timer and press again to stop the timer.

## TEXT MESSAGING

This feature allows two display keyset users to respond to each other with preprogrammed messages. After receiving an Off Hook Voice Announcement or Station Camp-On, you may respond with a text message while continuing to talk and listen to your outside party. The other station can view this message and take the appropriate action or respond back with another text message.

Up to 100 display station users can program their own individual ten (10) text messages that can be sent to another display keyset. Only the display keysets that are allowed in the system programming (MMC 611) will receive the (TMSG) text message softkey in the display and can use this feature.

## UCD SUPERVISOR DISPLAYS

When a UCD supervisor key is pressed, supervisors can view information about the UCD group, calls or agents.

### Call Screen

This allows the supervisor to view how many calls are in queue, the longest wait time, how many calls have been received today, what the average time in queue is and how many calls were abandoned.

### Agent Screen

This allows the supervisor to monitor how many agents are logged in, check each agents status (IN GROUP, OUT OF GROUP, or DND), view each agents total number of calls, average call length or average ring time.

Note: Accessing this screen will also allow a Supervisor to change the status of each agent  (IN GROUP, OUT OF GROUP, or DND).

# SAMPLE DISPLAYS

Display model keysets have a large, easy-to-read, 32 character liquid crystal display. Helpful call processing information is provided so everyday call handling is quick and easy. Here are just some of the displays you may see.

```
209:Tim Kelly
FRI 23 Sep 02:54
```
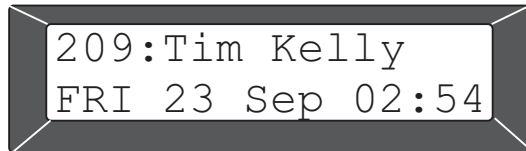
Idle display shows extension, name, day, date and time.

```
Camp on to 203
Wait for answer
```
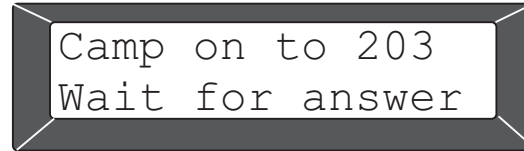
This station is camped-on to extension 203 and is waiting for 203 to answer.

```
Call for 501
202 Mr. Smith
```
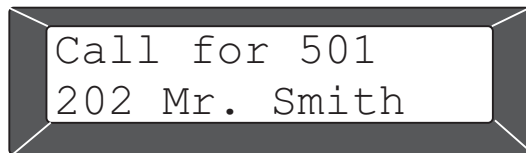
This station in the sales department is receiving a group call from Mr. Smith.

```
Call for 501
706 Local #6
```

This display tells you this is a new incoming call to the sales department.

```
203: Busy
CBK MSG CAMP →
```

This station is calling station 203 which is currently busy.

```
OHVA from 203
          REJECT
```

This station is receiving an off-hook voice announcement from station 203.

```
Conf with 203
John
```
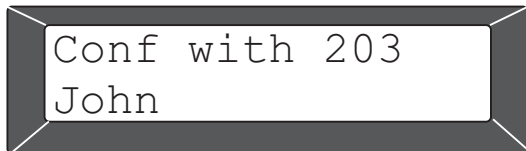
This station is on a conference call with John, extension 203. Assume other parties will hear your conversation.

```
CONF:202 702
           CONF→
```
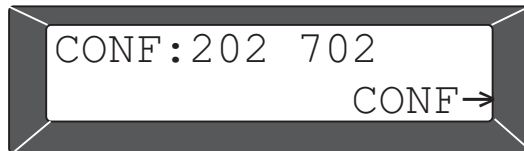
This station is on a conference call with extension 202 and trunk 702 and has the option to add two more parties.

```
Transfer to 203
John
```

This station is transferring a call to John at extension 203.

```
Call from 201
Operator
```
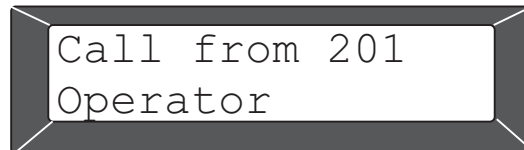
This station is receiving a call from extension 201.

```
DO NOT DISTURB
ON        OFF
```
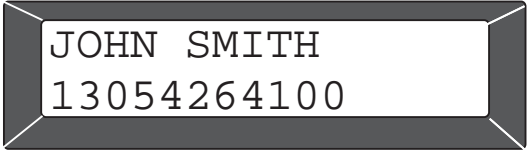
This station is setting the Do Not Disturb feature.

```
703 Local 3
CONF PAGE MUTE →
```

This station is speaking on trunk 703.

# SAMPLE CALLER ID
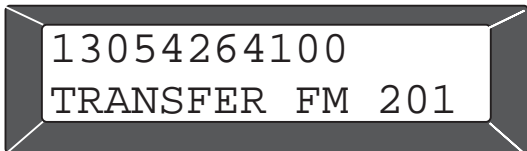
```
JOHN SMITH
13054264100
```

This display shows an incoming call from John Smith , 1-305-426-4100 ringing directly at your station.
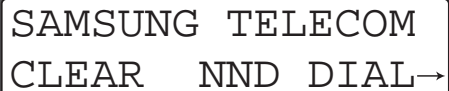
```
05/25,09:41,702
CLEAR NND   DIAL
```

This display shows the information on the abandoned call list. This call came in on May 25 at 9:41 A.M. on line 702. The user can CLEAR the entry, DIAL the caller back or examine further NND information.
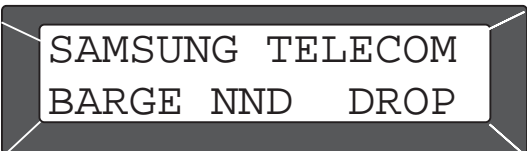
```
13054264100
TRANSFER FM 201
```

This display shows a call from 1-305-426-4100 that has been transferred to you from station 201.
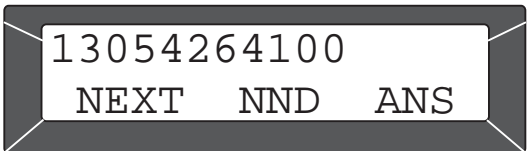
```
SAMSUNG TELECOM
CLEAR   NND DIAL→
```

This display shows an entry in a station review list showing the three initial options. The arrow indicates other options available to you by pressing the SCROLL key.

```
SAMSUNG TELECOM
BARGE NND   DROP
```

This display shows an investigation of a station that is talking to Samsung Telecom. Investigator can BARGE-in to the conversation, DROP the call from the system or examine further NND information.

```
13054264100
 NEXT   NND   ANS
```

This display is seen while examining calls in queue at your keyset.

```
SAMSUNG TELECOM
CALL FOR:500
```

This display shows an incoming call from Samsung Telecom ringing at group 500.

```
TALKING TO:203
BARGE       DROP
```

This display can be seen when investigating an intercom call. The investigator can BARGE-in or DROP the connection.

```
SAMSUNG TELECOM
 ANS   NND IGNORE
```

This display is seen while using the INQUIRE feature. It shows the three options available while you are checking on a held or parked call.

# SAMPLE UCD DISPLAYS
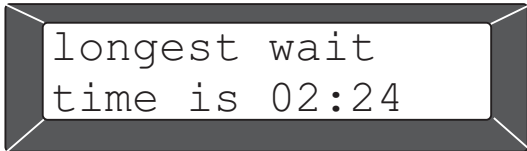
```
005 calls in
queue now
```

There are five calls currently waiting to be answered by the UCD group.
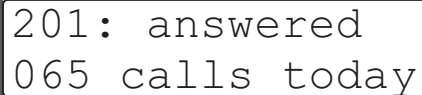
```
06 available
04 logged in
```

There are six members in the group. Four of the members are currently logged in.

```
longest wait
time is 02:24
```

The longest call on hold (waiting to be answered) was for two minutes, 24 seconds. This data applies to all calls since the supervisor data was last cleared. It does not necessarily represent calls currently in queue.
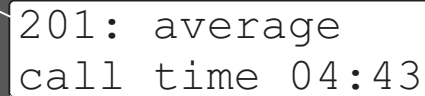
```
201: answered
065 calls today
```

The agent at station 201 has answered 65 calls today.
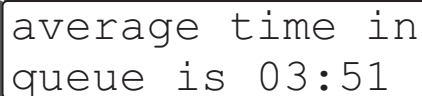
```
124 calls
received today
```

The UCD group has received 124 calls today.

```
201: average
call time 04:43
```

The average call length for station 201 is four minutes and 43 seconds.

```
average time in
queue is 03:51
```

The average time on hold (waiting to be answered) is three minutes and 51 seconds.

```
202: Sondra
STATUS: OUT
```

Station 202 is currently out of the group. (The display can also show IN GROUP and DND.)

SMDR REPORT FOR [STA Miami    ] Mar/21/1999 13:49

| T | EXT | AUTH | TRK | MM/DD | STT.TIME | DURATION | FG | DIALED DIGIT | ACCOUNT CODE |
|---|-----|------|-----|-------|----------|----------|----|--------------|--------------|
| 1 | 3951 | | 725 | 03/21 | 13:51:17 | 00:00:08 | IA | | |
| 1 | 3951 | | 725 | 03/21 | 13:51:25 | 00:00:14 | IT | | |
| 1 | 217 | | 744 | 03/21 | 13:51:29 | 00:00:14 | IA | | |
| 1 | 235 | | 725 | 03/21 | 13:51:39 | 00:00:06 | T | | |
| 1 | 219 | | 726 | 03/21 | 13:51:25 | $  10.75 | O | 3056401067 | *1234567890# |
| 1 | 217 | | 744 | 03/21 | 13:51:43 | 00:00:40 | I | | |
| 1 | 278 | | 725 | 03/21 | 13:53:40 | 00:00:07 | O | 18007864782 | |
| 1 | 3951 | | 726 | 03/21 | 13:54:45 | 00:00:07 | IA | | |
| 1 | 219 | | | 03/21 | 13:55:03 | | | GROUP OUT | |
| 1 | 3951 | | 726 | 03/21 | 13:54:52 | 00:00:30 | IT | | |
| 1 | 217 | | 726 | 03/21 | 13:55:22 | 00:00:16 | TT | | |
| 1 | 235 | | | 03/21 | 13:55:30 | | | DND ON | |
| 1 | 218 | | 726 | 03/21 | 13:55:38 | 00:00:33 | TT | DND OFF | |
| 1 | 235 | | | 03/21 | 13:57:50 | | | | |
| 1 | 279 | 6398 | 727 | 03/21 | 13:57:32 | $   13.25 | O | 3056401066 | |
| 1 | 219 | | | 03/21 | 14:00:45 | | | GROUP IN | |
| 1 | 219 | | 726 | 03/21 | 13:56:11 | 00:05:38 | T | | |
| 1 | 296 | | 725 | 03/21 | 13:54:40 | 00:07:06 | O | 305922900217 | |
| 1 | 219 | | 717 | 03/21 | 14:03:57 | 00:00:15 | O | 19544530000 | *1234567890# |

Tenant 1 Digit

Extension 2–4 Digits

Authorization Code 4 Digits

C.O. Line No. 2–4 Digits

Date Call Made or Received Month:Day

Time Call Made or Received Hrs:Mins:Secs

Call Duration Hrs:Mins:Secs or Call Cost

Call Type Flag 2 Characters

Telephone No. Dialed 1–18 Digits

Account Code 1–12 Digits

**Call Type Flag Definitions**

| O | Outgoing Call | DE | DISA call with error |
|---|---------------|----|----------------------|
| I | Incoming Call | T | Transferred call that was terminated |
| DI | DISA call in | | |
| DO | DISA call out | IT | Incoming transfer |
| FO | Outgoing record of forwarded call | FI | Incoming call forwarded to an external number |
| IA | Incoming Ring Time Before Being Answered | OT | Outgoing transfer - Outgoing call made and transferred |
| | | TT | Caller received a transferred call and transferred it again |

# 4.4 SAMPLE SMDR PRINTOUT (WITHOUT CALLER ID)

```
==============================================================================================================
T EXT   AUTH  TRK  MM/DD  STT.TIME  DURATION   FG  DIALED DIGIT   ACCOUNT CODE   CID/ANI NUMBER  CID/ANI NAME
==============================================================================================================
1 3951        725  03/21  13:51:17  00:00:08   IA
1 3951        725  03/21  13:51:25  00:00:14   IT                                13055922900     SAMSUNG TELECOM
1 217         744  03/21  13:51:29  00:00:14   IA
1 235         725  03/21  13:51:39  00:00:06   T                                 13055922900     SAMSUNG TELECOM
1 219         726  03/21  13:51:25  $  10.75   O   3056401067    *1234567890#
1 217         744  03/21  13:51:43  00:00:40   I                                 13055559748     PIZZA DELIVERY
1 278         725  03/21  13:53:40  00:00:07   O   18007864782
1 3951        726  03/21  13:54:45  00:00:07   IA
1 219              03/21  13:55:03              GROUP OUT
1 3951        726  03/21  13:54:52  00:00:30   IT                                13055922900     SAMSUNG TELECOM
1 217         726  03/21  13:55:22  00:00:16   TT                                13055922900     SAMSUNG TELECOM
1 235              03/21  13:55:30              DND ON
1 218         726  03/21  13:55:38  00:00:33   TT                                13055556420     PIZZA DELIVERY
1 235              03/21  13:57:50              DND OFF
1 279   6398  701  03/21  13:57:32  $  13.25   O   3056401066
1 219              03/21  14:00:45              GROUP IN
1 219         726  03/21  13:56:11  00:05:38   T   3055922900217
1 296         725  03/21  13:54:40  00:07:06   O                                 13055922900     SAMSUNG TELECOM
```

| Field | Description |
|---|---|
| Tenant Digit | |
| Extension | 2–4 Digits |
| Authorization Code | 4 Digits |
| C.O. Line No. | 2–4 Digits |
| Date Call Made or Received | Month:Day |
| Time Call Made or Received | Hrs:Mins:Secs |
| Call Duration Hrs:Mins:Secs or Call Cost | |
| Call Type Flag | 2 Characters |
| Telephone No. Dialed | 1–18 Digits |
| Account Code | 1–12 Digits |
| Caller ID Number | 1–15 Digits |
| Caller ID Name | 1–15 Characters |

**Call Type Flag Definitions**

| | | | |
|---|---|---|---|
| O | Outgoing Call | DE | DISA call with error |
| I | Incoming Call | T | Transferred call that was terminated |
| DI | DISA call in | | |
| DO | DISA call out | IT | Incoming transfer |
| FO | Outgoing record of forwarded call | FI | Incoming call forwarded to an external number |
| A | Abandoned call | OT | Outgoing transfer - Outgoing call made and transferred |
| IA | Incoming Ring Time Before Being Answered | TT | Caller received a transferred call and transferred it again |

# 4.5 SAMPLE SMDR PRINTOUT (WITH CALLER ID/ANI NUMBER)

# 4.6 SAMPLE OF UCD EMBEDDED REPORT

```
============================================================
UCD GROUP 529 : SALES

FROM: SUN 02 Feb 00:00
TO  : SUN 02 Feb 02:54

CALL STATISTICS
===============
AVERAGE RING TIME(TIME TO ANSWER)......00:40
NUMBER OF TIMES ALL AGENTS BUSY........00002
AVERAGE TIME IN QUEUE..................00:51
TOTAL CALLS RECEIVED...................00011
LONGEST QUEUE TIME(TODAY)..............02:14
TOTAL CALLS ABANDONED..................00004

AGENT STATISTICS
================
MEMBER   AGENT   NAME          CALLS        AVERAGE      RING
                               ANSWERED     CALL TIME    TIME

------------------------------------------------------------
01       210     JOHN          0002         01:55        00:05
02       211     SAM           0001         02:18        00:06
03       208     MIKE          0003         01:22        00:04
04       207     PETER         0001         03:16        00:05
============================================================
UCD GROUP 515 : SUPPORT

FROM: MON 03 Jan 08:30
TO  : SUN 02 Jan 02:54

CALL STATISTICS
===============
AVERAGE RING TIME(TIME TO ANSWER)......00:07
NUMBER OF TIMES ALL AGENTS BUSY........00005
AVERAGE TIME IN QUEUE..................01:06
TOTAL CALLS RECEIVED...................00023
LONGEST QUEUE TIME(TODAY)..............01:02
TOTAL CALLS ABANDONED..................00001

AGENT STATISTICS
================
MEMBER   AGENT   NAME          CALLS        AVERAGE      RING
                               ANSWERED     CALL TIME    TIME

------------------------------------------------------------
01       223     FRED          0012         02:33        00:08
02       213     JANE          0010         01:04        00:04
```

# 4.7 UCD CALL STATISTICS

## CALLS IN QUEUE NOW

How many calls are currently in queue. This statistic is a real time statistic and so will not print on a report.

## ABANDONED CALLS

This shows the number of callers that reached the UCD group, but hung up before being answered. A high number probably means that there are not enough agents available and the wait time is too long.

## AVERAGE RING TIME

This is calculated from the time an agent begins to ring until the time an agent answers the call, this does not include ringing at an agent station that does not answer or is logged out because of the ring next option.

## NUMBER OF TIMES ALL AGENTS BUSY

This is the number of times that a call is placed to an UCD group and all agents are busy or out of group. This check is made when the call is first placed to the group.

Example: If there are 5 members in a group, 3 are Out of Group one is busy and one is idle, and a call is placed to the group, because there is an idle station the all agents busy counter is not incremented.

If the idle station rings, does not answer and is logged out, although the condition of the group is now all agents busy, the check has been made and the agent busy statistic does not increment.

Also if a call comes into a group with all agents busy and then one becomes idle, the busy counter will increment because the check has been made.

## AVERAGE TIME IN QUEUE

This is calculated as an average of all the calls that were in queue.

Note that this is ONLY an average of the calls that were in queue. The caller must have overflowed to the UCD recording to be considered in queue.

A call is considered in queue until it is answered or until it goes to the final destination.

## TOTAL CALLS RECEIVED

The total number of times that calls were sent to a group. This includes calls that were answered by the group, calls that went to a group with all agents busy or out of group, calls that are abandoned and calls that go to UCD final destination. This includes intercom calls to the UCD group.

If this number is less than the total calls received by all the agents it is possible that calls were transferred from one agent to another.

If this number is more than the total calls received by all the agents it is possible that calls were unanswered by an agent and went to final destination or callers hung up while in queue.

This statistic includes:

a)   Calls answered by agent.

b)   Calls that are not answered by an agent and go to final destination.

c)   Calls that are sent to the UCD group but callers hang up before being answered.

## LONGEST QUEUE TIME TODAY

This shows the longest call in queue today. The queue time is calculated as follows:

a)   Queue time begins when a caller starts to hear the first UCD message.

b)   Queue time ends when a caller is either

   •   Answered by an agent

   •   System gets disconnected from C.O. or

   •   Caller is transferred to final destination

## LONGEST QUEUE TIME NOW

This shows the longest call currently in queue. The queue time is calculated as follows:

a)   Queue time begins when a caller starts to hear the first UCD message.

b)   Queue time ends when a caller is either

   •   Answered by an agent

   •   System gets disconnected from C.O. or

   •   Caller is transferred to final destination

# 4.8 UCD AGENT STATISTICS

## LOGGED IN

The number of stations programmed in the UCD group and the number of stations that are currently logged in. This statistic is a real time statistic and so will not print on a report.

## STATUS

This screen shows the agents name, extension number and status. The status can be In Group, Out of group or in DND. This statistic is a real time statistic and so will not print on a report.

## CALLS ANSWERED

The total number of calls answered by the agent. This does not include ring no answer to an agent station. If this total number is less than the calls received by the group it is possible that calls were unanswered by an agent and went to final destination or that callers hung up while in queue. If this total number is more than the calls received by the group it is possible that calls were transferred from one agent to another.

## AVERAGE CALL TIME

This is an average of all the call durations for the agent.

## AVERAGE RING TIME

This is an average of all the ring times for the agent. Ring times are previously explained.

# 4.9 SAMPLE TRAFFIC REPORT

```
TRAFFIC REPORT FOR [  STA Miami        ] Mar/21/1999 13:35
**************************** SYSTEM STATISTICS *****************************

BEGINNING:  Mar/15/1999  00:42                    ENDING:  Mar/21/1999 13:32

     ACTIVITY                                      SYSTEM TOTAL

     INCOMING TRUNK CALLS - ANSWERED...................    3041
     INCOMING TRUNK CALLS - NOT ANSWERED..............      26
     OUTGOING TRUNK CALLS ............................    2168
     A SELECTED TRUNK WAS BUSY........................      44

     INTERCOM CALLS - COMPLETED.......................    7178
     INTERCOM CALLS - NOT ANSWERED....................    1540

     TRUNK RECALLS TO STATION.........................     145
     TRUNK RECALLS TO OPERATOR GROUP..................      32

     INTERNAL PAGE USED...............................      35
     EXTERNAL PAGE USED...............................      79
     ALL PAGE USED....................................     231

**************************** TRUNK GROUPS *********************************

   GROUP      OUTGOING    BUSY
    9           1245       18
    800          521        3
    801           20        3
    802            0        0
************************** INDIVIDUAL TRUNKS ******************************

 TRUNK      TRUNK-NAME       ATTA      ANSD     NOT-ANSD     OUTGOING    BUSY
  701       LOCAL 1           0        737         0           19        12
  702       LOCAL 2           0        541         4           26        11
  703       LOCAL 3           0        290         1           37        21

************************ STATION HUNT GROUPS *****************************

          <———————— OUTSIDE CALL ————————>              <-INTERCOM->
 GROUP    ANSD    NOT-ANSD                                   ANSD
   500    439       19                                        61
   501    261       37                                        38
   502     40        2                                        77
   503     87        5                                       162
   504     19        1                                        44

********************** INDIVIDUAL STATIONS *******************************
          <———————— OUTSIDE CALL ——————————————————————><-INTERCOM—>
EXT STATION-NAME ATTA ANSD NOT-ANSD DIALED ICM—TRSF TRK-TRK PICKUP  ANSD DIALED
201 Operator       9  360    11       15     341      0       0      39    72
202 Barbara       12   60     2       80      20      0      12      49    66
203 Ivania         4   25     1       36       3      0      18      86    29
```

4.49

# 4.10 TRAFFIC REPORT OVERVIEW

```
A***************************** SYSTEM STATISTICS *****************************

1 BEGINNING:  04/01/99  08:00                         ENDING:   04/01/99 17:30

2  ACTIVITY                                           SYSTEM TOTAL

      3       INCOMING TRUNK CALLS - ANSWERED...................0000
      4       INCOMING TRUNK CALLS - NOT ANSWERED..............0000
      5       OUTGOING TRUNK CALLS ...........................0000
      6       A SELECTED TRUNK WAS BUSY.......................0000

      7       INTERCOM CALLS - COMPLETED......................0000
      8       INTERCOM CALLS - NOT ANSWERED...................0000

      9       TRUNK RECALLS TO STATION........................0000
     10       TRUNK RECALLS TO OPERATOR GROUP.................0000

     11       INTERNAL PAGE USED..............................0000
     12       EXTERNAL PAGE USED..............................0000
     13       ALL PAGE USED...................................0000
```

1. **BEGINNING & ENDING**
   This identifies when the statistics were collected. It includes dates and time.

2. **ACTIVITY:** Overall summary of traffic in the system for activities 3 to 13.

3. **INCOMING TRUNK CALLS-ANSWERED:** These are any incoming trunk calls to the system. These calls are pegged when answered by any device and/or station in the system whether it is a new call or a recall.

4. **INCOMING TRUNK CALLS-NOT ANSWERED:** These are any incoming trunk calls that were not answered by any station or device in the systems. These are the same calls that would be flagged as abandoned in SMDR.

5. **OUTGOING TRUNK CALLS:** These are all outgoing trunk calls that were originated by any station or through the DISA feature. Outgoing trunk calls are valid calls as defined by the SMDR START TIME in MMC 501.

6. **A SELECTED TRUNK WAS BUSY:** Pegged every time a trunk or trunk group was busy regardless of the manner in which it was selected (e.g., DTS key, LCR, "9", 7XX, TRK GROUP SELECT, SPD, External call forward, DISA).

7. **INTERCOM CALLS COMPLETED:** These are all intercom calls that were completed to any station, station group or device.

8. **INTERCOM CALLS NOT COMPLETED:** These are all intercom calls that were not answered and resulted in the calling party hanging up. A call to a station group that overflows to another station is considered not answered whether the overflow destination did or did not answer.

9. **TRUNK RECALLS TO STATION:** These are trunk calls that were placed on any kind of hold and recalled a station. These are also trunk calls that were transferred and were not answered and recalled the transferring station. This includes members of the operator group that put calls on hold and then recall the operators station.

10. **TRUNK RECALLS TO OPERATOR GROUP:** These are any trunk calls that recalled to the operator group.

11. **INTERNAL PAGE USED:** Peg count of every time internal page was accessed.

12. **EXTERNAL PAGE USED:** Peg count for every time external page was accessed.

13. **ALL PAGE USED:** Peg count of every time the all page feature was accessed. This does not include internal or external page, only 55+✻ or PAGE ✻.

```
B************************** TRUNK GROUPS **************************
```

| **1** GROUP | **2** OUTGOING | **3** BUSY |
|---|---|---|
| 9 | 0000 | 0000 |
| 800 | 0000 | 0000 |
| 801 | 0000 | 0000 |

1. **GROUP:** A listing of all trunk groups assigned in the system.

2. **OUTGOING:** These are the number of outgoing trunk calls made using each trunk group. Pegged every time a member of this trunk group was used to make a valid outgoing call. A valid outgoing call is defined by the SMDR Start Time programmed in MMC 501.

3. **BUSY:** This is the number of times each trunk group was busy when someone attempts to access it.

```
C**************************** INDIVIDUAL TRUNKS ****************************
```

| **1**TRUNK | **2**TRUNK-NAME | **3**ATTA | **4**ANSD | **5**NOT-ANSD | **6**OUTGOING | **7**BUSY |
|---|---|---|---|---|---|---|
| 701 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 702 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 703 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 704 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 705 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 706 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 707 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 708 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 709 | | 0000 | 0000 | 0000 | 0000 | 0000 |
| 710 | | 0000 | 0000 | 0000 | 0000 | 0000 |

1. **TRUNK:** A listing of each trunk in the system.

2. **TRUNK NAME:** The names of each trunk as programmed in MMC 404.

3. **ATTA:** Average Time To Answer for trunks is counted in the number of seconds that ringing voltage is detected at the trunk interface and the timer stops when trunk is answered by station or device in the system. The ATTA is the sum of all answered times divided by the answered call count.

4. **ANSD:** This is the number of times this specific trunk was answered by any station or device whether it is a new call or a recall.

5. **NOT-ANSD:** This is the number of times this specific trunk rang the system but was not answered. These are the same calls that would be flagged as abandoned in SMDR.

6. **OUTGOING:** This is the number of times this trunk was used to make an outgoing call. A valid outgoing call is defined by the SMDR START TIME programmed in MMC 501.

7. **BUSY:** This is the number of times this trunk was busy when accessed by a button or dial code.

```
D************************* STATION HUNT GROUPS *************************

             <———————— 1  OUTSIDE CALL ————————————>  5 <-INTERCOM->
 2GROUP      3ANSD    4NOT-ANSD                                6ANSD
   500       0000       0000                                   0000
   501       0000       0000                                   0000
   502       0000       0000                                   0000
   503       0000       0000                                   0000
   504       0000       0000                                   0000
```

1. **OUTSIDE CALLS:** These statistics are for outside calls that reach these station groups regardless how they arrive there.

2. **GROUP:** Listing of all station groups in the system.

3. **ANSD:** This column is a peg count of all answered trunk calls that rang to the specific group directory number regardless of how these arrived.

4. **NOT-ANSD:** The number of times any trunk call directed to the specific group number was not answered by any member of the group.

5. **INTERCOM:** An intercom call made from a station or device within the system to the specific group number.

6. **ANSD:** This is a count of how many times an intercom call was answered by any group member of that specific group.

```
E************************* INDIVIDUAL STATIONS *************************
                                      1                            11
             <————————————— OUTSIDE  CALL ——————————> <-INTERCOM->
   2      3        4    5      6       7       8         9       10   12    13
  EXT STATION-NAME ATTA ANSD NOT-ANSD DIALED ICM-TRSF TRK—TRK PICKUP ANS  DIALED
  201              0000 0000   0000    0000    0000     0000    0000 0000  0000
  202              0000 0000   0000    0000    0000     0000    0000 0000  0000
  203              0000 0000   0000    0000    0000     0000    0000 0000  0000
  204              0000 0000   0000    0000    0000     0000    0000 0000  0000
  205              0000 0000   0000    0000    0000     0000    0000 0000  0000
```

1. **OUTSIDE CALLS:** These statistics are for outside calls that in any way reach individual stations or devices.

2. **EXT:** Listing of all extension numbers in the system. This also includes AA/VM ports.

3. **STATION NAME:** The name for each particular station as programmed in MMC 104.

4. **ATTA:** Average Time To Answer for stations is counted in the number of seconds that ringing signal is applied to a station for trunk calls and recalls. The ATTA is the sum of all answered times divided by the answered call count. Use the same calculation method as used for individual trunk ATTA.

5. **ANSD:** This is a count of how many times an outside call was answered by the specific station. Outside callers recalling a station are not counted again when they are answered.

6. **NOT-ANSD:** This is a count of how many times a trunk call was directed to the station but was not answered by this station.

7. **DIALED:** Peg count of how many times the station made a valid outside call. An outside call is defined by the SMDR start time in MMC 501.

8. **ICM-TRSF:** This is the number of times a trunk call was successfully transferred to another station using the intercom. It includes both screened and unscreened transfer.

9. **TRK–TRK:** This is the number of times a trunk call was transferred to another trunk (tie line) This is called a trunk–to–trunk transfer. This field gets pegged every time the station completes a trunk to trunk transfer.

10. **PICKUP:** This is a count of the outside calls that were picked up by the specific station. Picked-up calls are calls that are not ringing at your station but were answered by you. This peg count is separate from the number of answered call in #5 of Individual Stations section E.

11. **INTERCOM:** Statistics for intercom calls. An intercom call made from a station or a station device within the system to another station.

12. **ANSD:** This is the number of times an intercom call was answered by this specific station. Screened transfers count as an answered intercom call.

13. **DIALED:** The number of times the specific station dialed another station or station group. Screened transfers count as a dialed intercom call.

# PART 5. DATA MODULE FEATURES

With the WIM and PLIM modules, the OfficeServ 7200 functions as a data router, data switch, performs security functions, and serve as a data access interface (WAN, LAN, DMZ).



**Data Services**

FIGURE 5-1
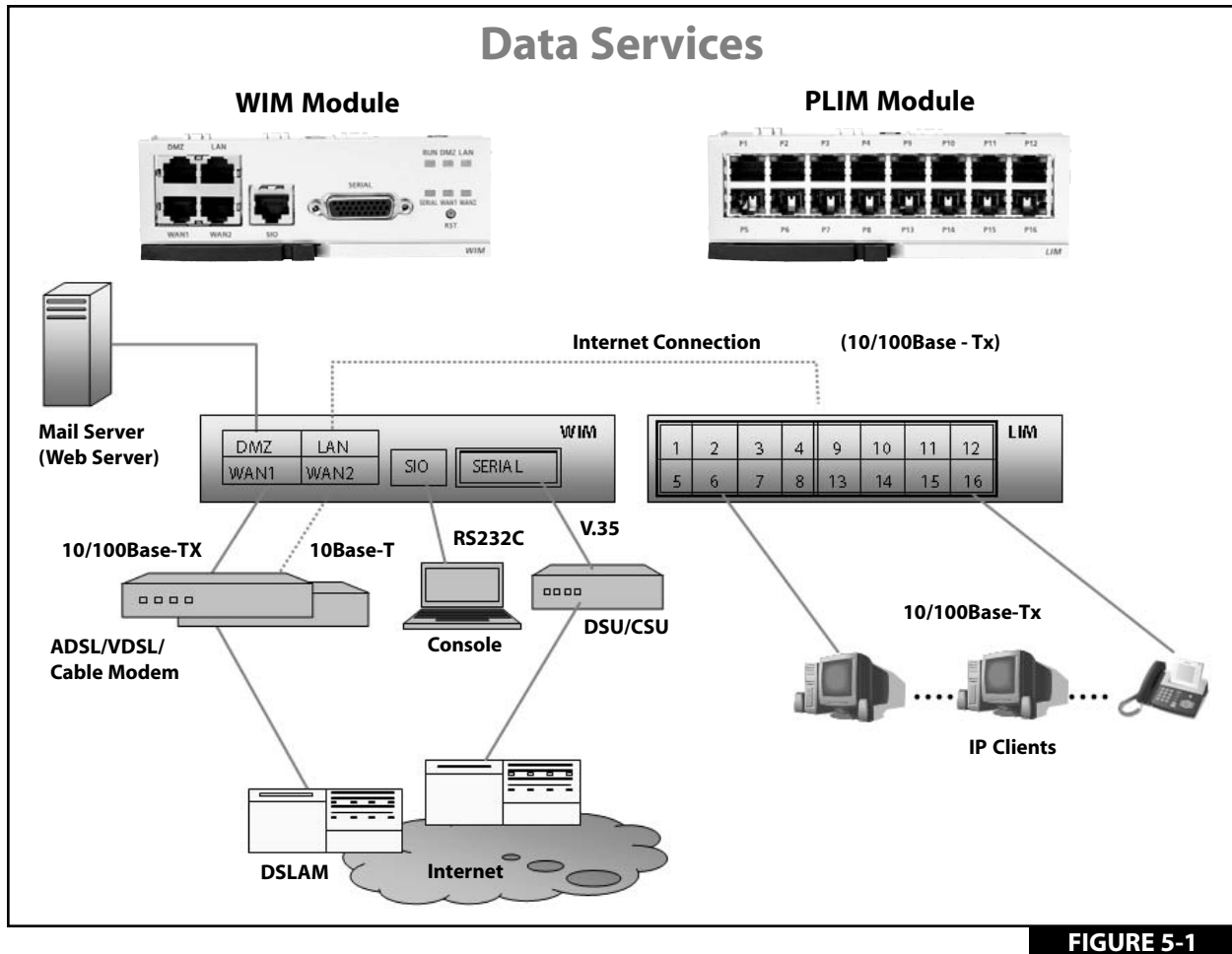
# 5.1 PLIM FEATURES

### Using the PLIM as an Unmanaged Switch

The PLIM performs the function of a layer 2 Ethernet switch as well as the Learning Bridge function based on the MAC address filtering and forwarding algorithm.

The PLIM provides 16 LAN ports per card. Each port is 10/100 Base T, auto sensing, full duplex.

### Using the PLIM as a Managed Switch

When the PLIM is installed in slot 2 with a WIM in slot 1, it can function as a "Managed" switch. A "Managed" switch offers the following features:

### 802.1d Spanning Tree

The switch configures and processes the forwarding tree based on the spanning tree algorithm to prevent a packet forwarding loop in the switch.

### 802.1p Packet Priority

The switch extracts the priority field from the Ethernet frame configured according to the 802.1p specification standard, and discriminatively processes the frame according to the priority of the specified operation standard.

The packets are categorized into emergent packets and non-emergent packets and are then processed.

### VLAN

Virtual Local Area Network(VLAN) groups can be created to separate and group the physical ports of the PLIM. Each VLAN group can be treated as if they were each a separate private LAN. The VLAN removes the effects of unnecessary broadcast packets and configures a stable switching subnet only for the corresponding group by separating and processing the group in the virtual LAN.

Accordingly, the switch can provide the differentiated QoS services. The VLAN can be configured based on the switch port and MAC address.

### IGMP Snooping

IGMP Snooping provides a method for intelligent forwarding of multicast packets within a layer 2 broadcast domain. By snooping IGMP registration information, a distribution list of work stations is formed that determines which end-stations will receive packets with a specific multicast address.

# 5.2 WIM ROUTER FEATURES

### Multiple Network Interfaces

The OfficeServ 7200 provides WAN1 and WAN2 network connections, which are connected to the WAN through an Ethernet interface. The WIM also provides a V.35 serial WAN interface along with LAN and DMZ network interfaces.

### Static Routing

The OfficeServ 7200 configures a fixed routing table between each network interface to process the static routing. In this case, the routing table cannot be dynamically changed by routing protocols. Specific routing services will be provided according to the pre-set routing policy.

### WAN Interface (Ethernet, PPPoE, DHCP Client)

The OfficeServ 7200 accesses the Internet through the WAN1 and WAN2 Ethernet WAN interface by using the PPPoE and DHCP client protocols.

### V.35 Interface (PPP, HDLC, Frame Relay)

The OfficeServ 7200 can also access the Internet through the V.35 serial interface with a transfer speed of up to 2Mbps. In this case, the OfficeServ 7200 supports various protocols such as the PPP, HDLC, and Frame Relay Encapsulation.

### Subnet Routing

The network interfaces of the WAN1, WAN2, LAN, and DMZ are configured with different sub-network interfaces, which enable them to perform the routing process with each other.

### Routing Protocol

The OfficeServ 7200 supports routing information-exchange protocols to react to the changing network environment more effectively.

- RIPv1, RIPv2: These protocols are widely used for managing the routing information in a mid-sized independent network such as a group of LANs.

- OSPFv2: This routing protocol is used in larger independent networks. A router detects and reports any change in the routing table or the network to other routers. This way, all routers share the same routing information.

### Routing Between the VLAN Groups

Communication between the VLAN groups.

### CBQ (Clss Based Queuing)/BoD (Bandwidth on Demand)

The queuing process is differentially performed according to the level table where the routing process priority for a data server is defined.

### RTP Priority

The RTP(Real-Time Transport Protocol) packet is a VoIP media packet.

Prioritizes RTP voice packets over normal data packets for improved voice quality in VoIP applications.

### IP-ToS Process

This function checks the ToS(Type of Service) field of the IP header and processes it according to priority of the corresponding routing in the data server. This function reproduces the ToS field flowing into the data server, performs the routing process first, and heightens the process priority in the next HOP.

# 5.3 SECURITY

### NAT/PT

This security function supports the conversion between private IP addresses and public IP addresses. Network Address Translation and Port Address Translation services protect devices on the private internal LAN from being exposed on the Public Network. This service also allows a single public IP address to be shared among multiple hosts on the internal LAN.

### Firewall

• Access Filtering: Access lists and policies can be implemented to control access to internal resources.

• DMZ Function: Hosts connected to the DMZ port can bypass the network firewall making it easier for external clients to access their services. Applications such as web servers and mail servers are typically connected to the DMZ ports. The private LAN is still protected behind the firewall.

• Port Forwarding: This feature allows external hosts on the public network to access hosts and services on the internal private LAN by forwarding the Public WAN address to a private LAN address based on a specific port.

### Intrusion Detection System (IDS)

This function monitors all packets on the network to provide an additional level of security. This feature will prevent various types of attacks and intrusion attempts on the data network. Detection is based on "Snort Rules" which define specific intrusion patterns (can be updated at www.snort.org).

### Virtual Private Network (VPN)

The VPN (Virtual Private Network) feature allows external hosts and networks to access the local private LAN as if they were virtually part of the local LAN. This feature is implemented using the IPSEC (authentication: RSA key, Pre-shared key, x.509 cert) or PPTP (Point to Point Tunnelling Protocol).

### DHCP

The OfficeServ 7200 can function as a DHCP server. This service dynamically can assign IP addresses to all hosts connected to the private LAN.

### SIP Aware ALG (SIP Application Gateway)

This feature takes SIP packets coming at the WAN interface and redirects them to any SIP user agents connected to the private LAN.

### DSMI

This service automatically configures the router to allow for VoIP applications such as remote IP phones and IP networking, IP Trunking, etc.

# PART 6. HOTEL / MOTEL FEATURE PACKAGE

## 6.1 GENERAL OVERVIEW

The OfficeServ 7200 Hotel / Motel application combines the OfficeServ 7200 business features with additional features created to meet the needs of the Hotel / Motel industry. This combination meets the requirements of the Hotel General Business offices as well as those of the Hotel Guest. The OfficeServ 7200 Hotel / Motel package MUST be activated in MMC 813 before it can be used.

Samsung's OfficeServ 7200 Hotel / Motel software is designed to operate in small to medium sized hotel properties, such as Bed and Breakfast Inn, Hunting and Fishing Lodges or small Hotel/Motels. Those with, up to approximately, 50 rooms. The system will support convention telephone sets with message waiting lamps or proprietary digital sets with one touch buttons to many hotel services.

The system's design makes it operational without the need for an external Property Management System (PMS). The key to utilizing the OfficeServ 7200 Hotel / Motel software without an external PMS is the front desk display keyset. The keyset can be programmed with features and functions pertinent to the hospitality industry, that make it convenient to perform day to day routine hotel/motel functions.

The OfficeServ 7200 Hotel / Motel software will maintain a record of all transactions that occur throughout the system. These records are maintained until the guest is checked out. The OfifceServ 7200 will maintain 10,000 transaction records. These transaction records represent one line of the guest room bill. These records are purged once the room is checked out.

# 6.2 HOTEL / MOTEL FEATURES

Call Costing

Check In

Check Out

Deposit Posting

DSS Key Use During Feature Activation

Enhanced User Programming

Executive DND

Express Check-In

Guest Services Billing

    100 Item Codes with Costing

Lobby Phone Service

Printed Reports

    Phone Bill

    Guest and Meeting Room Bill

    Room Status

    Wake Up Call Activity

Room Dialing Restrictions

Room Rate Discounts

Room Status Conditions

    Available

    Occupied

    Needs Cleaning

    Needs Maintenance

    Hold (Late Check Out)

    Hold and Needs Cleaning

    Hold and Needs Repair

    Cleaned

    Repaired

Room Status

    Printed Reports

    Keyset Indications

Room Status Update

    Automatic (Daily Timer)

    Manual

Staff I.D. Codes (500)

Station Types

    Business Office

    Hotel Administrator

    Meeting Room

    Guest No Smoking Room

    Guest Smoking Room

    Fax Station

Telephone Credit Limit

Transaction Record Output (To PMS)

Wake Up Calls

    Set by Attendant

    Set by Guest

    Answered

    Not Answered

    Cancelled

    With Auto Attendant Announcement

## CALL COSTING

The OfficeServ 7200 Hotel / Motel software provides call costing, for guest and meeting room phones. The call cost will appear on the guest's room bill, the SMDR report, and the transaction record output.

The system uses programmable call costing tables to calculate the cost of incoming and outgoing calls. Rates are calculated by the number dialed, duration of the call and may include surcharges.

## CHECK IN

The OfficeServ 7200 Hotel / Motel software allows an Administrator keyset to check a guest into a room by pressing the CHECK IN key and following the prompts in the display. When the CHECK IN key is pressed the clerk can credit the room account if the guest wishes to prepay for the room and/or the phone service. The clerk can also assign the guest's name to the room.

This feature offers 64-Button Module support. Meaning that the associated DSS key assigned to a 64-Button Module, can be used to enter the room number that is being checked in.

## CHECK OUT

In addition the feature allows an Administrator keyset to check a guest out of a room by pressing the CHECK OUT key. The CHECK OUT option will print out the total room charges and clear the room information from the transaction record buffer. It also changes the room to the Needs Cleaning status. Checking a guest out of a room prior to the ROOM CLEAN TIME will automatically change the room to the NEEDS CLEANING status.

This feature offers 64-Button Module support. Meaning that the associated DSS key assigned to a 64-Button Module, can be used to enter the room number that is being checked out.

## DEPOSIT POSTING

The credit feature allows any Administrator keyset to add a cash deposit to a room bill, to offset charges already incurred or to prepay either the room or phone charges or both. This feature requires a CREDIT key to be assigned to the administration phones. This feature offers 64-Button Module support. Meaning that the associated DSS key assigned to a 64-Button Module, can be used to enter the room number that the deposit is being posted to.

## DSS KEY USE DURING FEATURE ACTIVATION

When utilizing the Administrator keyset to activate system features / functions, many will request the room number to be entered. In most cases the associated DSS key can be pressed to enter the station number.

The exceptions are Wake Up Call Setting and Lobby Phone Service. These features will not respond to the DSS key press. The associated station number must be assigned via the keypad.

## ENHANCED USER PROGRAMMING

The OfficeServ 7200 allows the System Administrator access to several non-volatile MMCs. These MMCs give stations assigned as ADMINISTRATOR and NORMAL, the ability to change Station Call Forwarding, System Time and Date, etc. for any station within the system.

This Enhanced System Programming is accessible through the PROG key.

The MMCs available to Enhanced User Programming are as follows: MMC 100: Station Lock, MMC 102: Call Forward, MMC 104: Station Name, MMC 115: Set Programmed Message, MMC 116: Alarm and Message, MMC 505: Assign Date and Time, MMC 705: Assign System Speed Dial, MMC 706: System Speed Dial by Name, and MMC 722: Station Key Programming.

## EXECUTIVE DND

The Executive DND feature (SET DND key) allows Front Desk personnel to set and cancel DND to a guest's room. This means that a guest can request that their room be flagged as DND, saving the guest from having to learn system feature codes. This key will allow Front Desk personnel to change DND status, as an additional guest service.

This feature can be set and canceled from the guest room phone. This feature offers 64-button module support. Meaning that the associated DSS key assigned to a 64-button module can be used to enter the room number to set DND to.

## EXPRESS CHECK-IN

This feature is designed to expedite the Check In procedure. It is a second check in option. It is used expressly to check in a guest quickly.

The Express Check In feature (X-CHIN key) eliminates several steps from the standard Check In procedure. This feature does not request any billing type, or guest's name information.

This feature offers 64-button module support. Meaning that the associated DSS key assigned to a 64-button module, can be used to enter the room number that is being checked in.

## GUEST SERVICES BILLING

The guest service billing feature allows a staff member, to enter an item code and a dollar amount to a specific room bill using specific telephone stations. The dollar amount entered at time of sale for the item code, can be multiplied by the tax rates defined for the items or will have the tax amount added if the tax is a fixed dollar amount.

There are 100 item codes in the system. Each item code can have a name, with up to 10 characters, programmed to describe the charge.

This feature requires a staff ID code to be entered to add or delete a charge to a room. The staff ID codes are assigned in the Authorization Code table. The staff ID code will be verified from the table, and if an incorrect code is entered, an error tone will be returned and the station will return to idle.

The room number will also be verified, from the list of rooms that are checked in. If a room number is not occupied, an error tone will be returned and the station will return to idle.

This feature can be used by either a keyset or a single line telephone with DTMF dialing. The keyset requires a BILL key.

## LOBBY PHONE SERVICE

This feature allows a hotel operator to bill a call to a guest room even though it was made at a remote location, such as a lobby phone. This phone can be a dial "0" type or a Hotline to the operator.

The guest will request the operator to bill an outside call to his/her room. The operator will press the Remote Bill key (RB) and place the guest on transfer hold, then enter the guest's room number and receive confirmation tone. The operator can then dial the number for the guest and transfer the ringing call back to the guest.

## PRINTED REPORTS

The OfficeServ 7200 Hotel / Motel software package will provide various printed reports of selected activities throughout the system. These reports are initiated from any administrator's display keyset and sent to a printer connected to the network.

In order to provide a permanent record, it is advisable to use two-part paper in the printer, or do a room bill printout, prior to checking the room out.

### Phone Bill

The Phone Bill report provides only the phone bill information for a specific room. This print out is separate from the guest room bill. This allows a guest to pay for them separately, so no phone calls appear on the room bill. When using this feature you have the option of saving or deleting all telephone call information from the guest's bill.

The information in the phone bill includes the date and time the report was requested, the room number requested, date and time of call, the number dialed, call duration and the charge for the call.

## Guest and Meeting Room Bill

This printout includes all room-related charges, from time of check in. Associated taxes and/or surcharges are automatically calculated by the system based on programmable rate table entries. Any deposits made are automatically deducted from the total bill. This printout also includes daily room charges, phone calls, services charged to the room, wake up call activity, and any deposits made. This printout is made on a per room basis.

## Room Status

The system can print six different Room Status reports. There are five (5) individual reports for the following room status conditions: Available, Occupied, Needs Cleaning, Needs Maintenance, and Hold for Late Checkout. A sixth report will show all rooms and all room status conditions.

## Room Status Conditions

The system will indicate the status of each guest or meeting room when requested. See Room Status. The five possible conditions are:

- AVAILABLE – Ready to check in.

- OCCUPIED – Guest is checked in.

- NEEDS CLEANING – Condition after check out or morning update for all occupied rooms.

- NEEDS MAINTENANCE – Temporary condition for rooms requiring some repair or maintenance.

- HOLD (LATE CHECK OUT) – Indicates a guest requires a late check out so hotel staff will delay cleaning.

- CLEANED – Indicates that the room has been cleaned.

- REPAIRED – Indicates that the room has been repaired.

- HOLD AND NEED CLEANING – Indicates that the room is being held and requires cleaning.

- HOLD AND NEEDS MAINTENANCE – Indicates that the room is being held and requires maintenance.

## Wake Up Call Activity

This report will detail all wake up call information related to a specific room since check in. The printout includes the time a wake up call was set, the requested wake up time, the time the call was answered, unanswered wake up calls, canceled wake up calls and charges for the service if programmed.

## Room Dialing Restrictions

This feature is used to program station to station calling restrictions and is sometimes referred to as intercom blocking. For instance you can restrict rooms from dialing the administration offices while still being able to dial the front desk, other hotel service phones or other guest rooms.

## Room Rate Discounts

The OfficeServ 7200Hotel / Motel software offers a method of discounting room rates, on a day-by-day basis. This discount is based on a percentage of the full room rate. The percentage is programmable and variable.

# ROOM STATUS

The OfficeServ 7200 Hotel / Motel system provides three methods to review the five room status conditions.

1. An administrator's display keyset can be used to view the status of any individual room and scroll through the list of all other rooms to view their status.

2. One or more 64 Button Modules can be used to view the status of all rooms for any of the five room conditions (Example: press the Room Status View key for "AVAILABLE" and all the buttons corresponding to available rooms will light red).

3. Printed reports can be obtained to review the room status conditions for all rooms. See Printed Reports–Room Status, earlier in this document.

# ROOM STATUS UPDATE

The system operation provides two methods to update the status of each guest or meeting room.

### Automatic

The hotel manager informs the system technician of the preprogrammed time he wants all rooms to automatically change from "Occupied" to "Needs Cleaning" on a daily basis. In addition each room is automatically changed to "Needs Cleaning" upon check out.

### Manual

Hotel personnel, such as maids, maintenance men or administrators, can dial a code from the guest/meeting room telephone to manually update the room status as required.
The manual room status update codes are:

0= Room needs to be cleaned.

1= Room cleaned. This updates the room status to either AVAILABLE or OCCUPIED.

2= Room needs maintenance. This makes the room NOT AVAILABLE for check in.

3= Room repaired. This updates the room status to either AVAILABLE or OCCUPIED.

# STAFF I.D. CODES

These are simply Authorization Codes that hotel employees must enter to access various Hotel / Motel features. These codes will appear on the Room Bill printout to indicate who posted the charges to a specific room. They provide a measure of security and control for hotel management. There are 500 STAFF ID codes in the software.

# STATION TYPES

The system software enables station ports to be defined for a specific use throughout the hotel. Each telephone can be designated as being one of the five following types. A class of service has been established for each station type.

1. NORMAL STATION – This is the default setting. The station will operate in the manner associated with a normal business station.

2. ADMINISTRATOR – Only stations designated as Administrator can access special Hotel / Motel features, such as Check In, Check Out, Room Status, Print Report, etc.

3. MEETING ROOM – A meeting room is similar to a guest room in the respect that it generates a room bill but has different class of service option requirements.

4. GUEST NO SMOKING – When a station is designated as this type, it will appear in the administrator's key-set display as a no smoking room. This station type will generate a room bill and follow its associated class of service options.

5. GUEST SMOKING – When a station is designated as this type, it will appear in the administrator's keyset display as a smoking room. This station type will generate a room bill and follow its associated class of service options.

6. FAX STATION – When a station is designated as this type, the associated station number can be paired with a fax extension so that calls from the fax extension can be billed to the room..

## TELEPHONE CREDIT LIMIT

This feature is designed to control phone charges for hotel guests that do not use a credit card. These guests will need to make a cash deposit for their phone calls. When the credit warning threshold has been reached the guest will receive two beeps in their ear, (the warning threshold is determined by the COST RATE feature and occurs one billing period prior to the credit limit being reached). When the credit limit is reached, the call will be dropped, and the phone will then be restricted. An additional cash deposit is required to re-activate the phone.

## TRANSACTION RECORD OUTPUT

The OfficeServ 7200 Hotel / Motel software provides an output for all Hotel / Motel transactions. Any transactions, related to guest or meeting rooms, that take place within the hotel system, will be immediately sent –"on the fly" to a network printer.

## WAKE UP CALLS

The OfficeServ 7200 Hotel / Motel software package supports a comprehensive wake-up feature.

• SET BY ATTENDANT – The hotel administrator stations or operator/attendant can set a wake call.

• SET BY GUEST – Each hotel guest can set his/her own wake up call using the telephone in their room.

• ANSWERED – Both the guest room bill and wake up call activity report will show the date and time the guest answered the wake up call.

• NOT ANSWERED – Both the guest room bill and wake up call activity report will show each wake up call attempt that was not answered by the hotel guest. This information will print out on the printer connected to the serial port designated for the Hotel / Motel Report.

• CANCELED – Both the guest room bill and wake up call activity report will indicate each canceled wake up call. Only Hotel / Motel administrator's keysets can cancel wake up calls. The guest can reprogram a wake up request if he made a mistake. System programming provides a programmable number of wake up call attempts and a programmable time interval between attempts.

• ANNOUNCEMENTS WITH SVMi-20E PROMPT – The system can be programmed to play a prompt when a guest answers a wake up call. This prompt can be any SVMi-20E custom prompt from 5000 to 5999.

## 6.3  SAMPLE REPORTS AND PRINTOUTS

### 6.3.1  GUEST ROOM BILL PRINTOUT

### 6.3.2  ROOM STATUS PRINTOUTS

- **AVAILABLE**

- **OCCUPIED**

- **NEEDS CLEANING**

- **NEEDS MAINTENANCE**

- **HOLD**

- **ALL**

### 6.3.3  TRANSACTION RECORD OUTPUT SAMPLE

### 6.3.4  INDIVIDUAL GUEST PHONE BILL

### 6.3.5  ALL GUEST PHONE BILL (SMDR)

### 6.3.6  INDIVIDUAL WAKEUP ACTIVITY REPORT

# 6.3.1 GUEST ROOM BILL PRINTOUT

Printout includes the following information:

- Date and time the bill was printed
- Room number requested
- Daily room charge
- Phone calls and their charges
- Wake up call activity
    - Time wake up was set for
    - Each wake up call attempt, answered/not answered
    - Cancelled wake up
- Room related charges and applicable taxes
- Item codes and associated descriptions for room related charges
    - Date and time item was billed
- Details column
    - Staff code of employee performing function
    - Duration of phone calls
    - Time wake up call was set for
- Room and/or phone deposits
- Total room charges

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- Automatically increments the daily room charge
- Automatically applies room and phone deposits to the total bill
- Room bills are printed on a per room basis
- By default, printout will print a header, followed by 50 lines per page
- Printout size is adjustable through programming

## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES
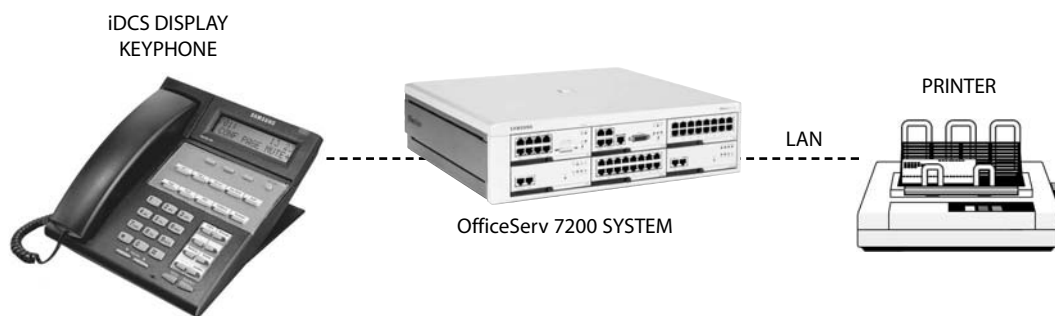
```
            GUEST BILL FROM [SUNSHINE SUITES ]  01/28/99  14:13

            CHARGES BILLED TO ROOM NUMBER : 210


ROOM    DATE     TIME     ITEM     DESCRIPTION        DETAILS      CHARGE

210     01/27    12:11    02       RM CHARGE          1234         100.00
210     01/27    12:11    02       STATE TAX                         6.00
210     01/27    12:11    02       BED TAX                           1.50
210     01/27    12:11    00       RM Deposit         5555        -100.00
210     01/27    12:30    03       RM SVC             9876          20.00
210     01/27    12:30    03       STATE TAX                         1.20
210     01/27    12:30    03       SVC CHARGE                        2.00
210     01/27    12:31    TEL      3055922900         00:00:49        .75
210     01/27    14:55    89       W/UP SET           05:30        000.00
210     01/27    14:55    05       MOVIE RNTL         5555           5.00
210     01/27    14:55    05       STATE TAX                          .30
210     01/27    14:55    TEL      18008764782        00:02:03        .25
210     01/27    14:58    01       PH Deposit         1234          -2.50
210     01/27    14:58    TEL      3055922900         00:02:18       1.25
210     01/27    15:01    92       W/UP CANCL                      000.00
210     01/27    15:01    04       DRY CLEAN          1234          22.00
210     01/27    15:01    04       SVC CHARGE                        2.00
210     01/27    19:35    89       W/UP SET           06:00        000.00
210     01/28    06:00    91       W/UP N/ANS                      000.00
210     01/28    06:01    90       W/UP ANS                        000.00
210     01/28    06:30    03       RM SVC             5555          18.50
210     01/28    06:30    03       STATE TAX                         1.11
210     01/28    06:30    03       SVC CHARGE                        2.00
210     01/28    12:00    02       RM CHARGE                       100.00
210     01/28    12:00    02       STATE TAX                         6.00
210     01/28    12:00    02       BED TAX                           1.50
210     01/28    13:32    TEL      18008764782        00:01:59        .25
210     01/28    14:06    TEL      3055922900         00:01:03        .75
                                                      TOTAL        189.86
```
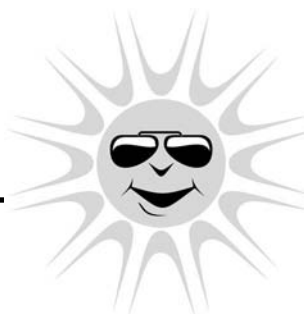
Sunshine  Suites

6.10

# 6.3.2 ROOM STATUS PRINTOUT

Printout includes the following information:

■ Date and time the report was printed

■ Status of guest and meeting rooms

   – On an individual, status type basis

         OR

   – As a complete report of all rooms and their status

■ Room Status Printout Types:

   – **AVAILABLE**

   – OCCUPIED

   – NEEDS CLEANING

   – NEEDS MAINTENANCE

   – HOLD

   – ALL

■ Room status is updated by either the administrator access, automatic room update or maid codes.

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■ By default, the printout will print a header followed by 50 lines per page

■ Printout size is adjustable through programming

NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.

## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES

```
   ROOM STATUS PRINTOUT    AVAILABLE        11:59  12/02

ROOM       STATUS        ROOM       STATUS        ROOM       STATUS

209   AVAILABLE          220   AVAILABLE          213   AVAILABLE

215   AVAILABLE          217   AVAILABLE          219   AVAILABLE

220   AVAILABLE          221   AVAILABLE          223   AVAILABLE

225   AVAILABLE          226   AVAILABLE          227   AVAILABLE

228   AVAILABLE          301   AVAILABLE          302   AVAILABLE

303   AVAILABLE          304   AVAILABLE          306   AVAILABLE

307   AVAILABLE          403   AVAILABLE          405   AVAILABLE

406   AVAILABLE          407   AVAILABLE          409   AVAILABLE
```

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# ROOM STATUS PRINTOUT
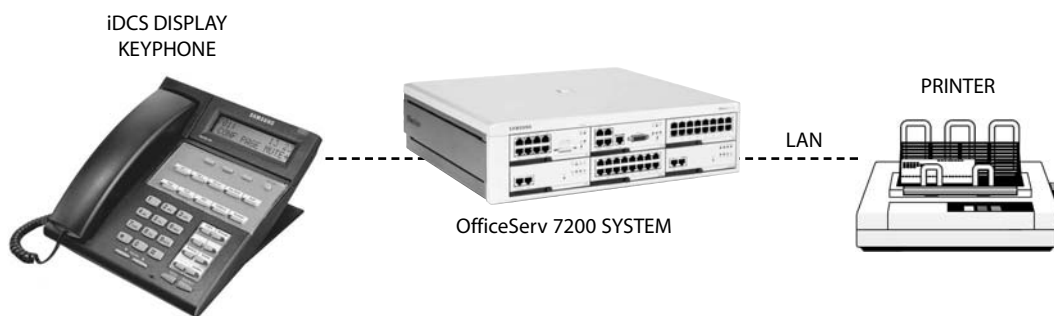
Printout includes the following information:

- Date and time the report was printed

- Status of guest and meeting rooms

  - On an individual, status type basis

      OR

  - As a complete report of all rooms and their status

- Room Status Printout Types:

  - AVAILABLE

  - **OCCUPIED**

  - NEEDS CLEANING

  - NEEDS MAINTENANCE

  - HOLD

  - ALL

- Room status is updated by either the administrator access, automatic room update or maid codes.

❄ ❄ ❄

- By default, the printout will print a header followed by 50 lines per page

- Printout size is adjustable through programming

NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.
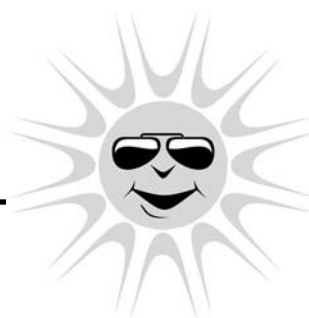
## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES

```
ROOM STATUS PRINTOUT     OCCUPIED        13:56   11/02
```

| ROOM | STATUS | ROOM | STATUS | ROOM | STATUS |
|------|--------|------|--------|------|--------|
| 211 | OCCUPIED | 212 | OCCUPIED | 214 | OCCUPIED |
| 216 | NEED MAINTENANCE | 218 | OCCUPIED | 222 | OCCUPIED |
| 224 | OCCUPIED | 305 | OCCUPIED | 308 | NEEDS CLEANING |
| 309 | HOLD | 310 | NEEDS MAINTENANCE | 401 | NEEDS CLEANING |
| 402 | NEED MAINTENANCE | 404 | NEEDS CLEANING | 408 | NEEDS CLEANING |

Sunshine    Suites

# ROOM STATUS PRINTOUT

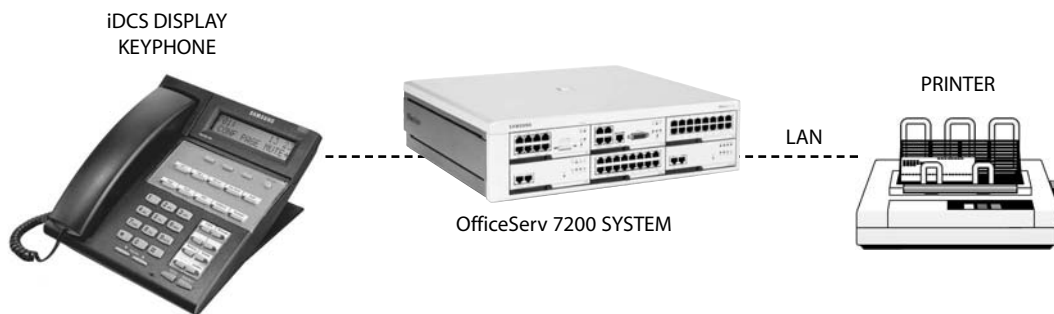Printout includes the following information:

■ Date and time the report was printed

■ Status of guest and meeting rooms

    – On an individual, status type basis

           OR

    – As a complete report of all rooms and their status

■ Room Status Printout Types:

    – AVAILABLE

    – OCCUPIED

    – **NEEDS CLEANING**

    – NEEDS MAINTENANCE

    – HOLD

    – ALL

■ Room status is updated by either the administrator access, automatic room update or maid codes.

<div align="center">❄ ❄ ❄</div>

■ By default, the printout will print a header followed by 50 lines per page

■ Printout size is adjustable through programming

NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.
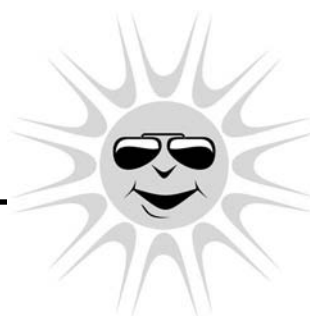
## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

<div align="right">55 LINES</div>

```
     ROOM STATUS PRINTOUT     NEEDS CLEANING      13:50  11/02

ROOM        STATUS          ROOM        STATUS          ROOM        STATUS

211   NEEDS CLEANING      212   NEEDS CLEANING      214   NEEDS CLEANING

215   NEEDS CLEANING      218   NEEDS CLEANING      220   NEEDS CLEANING

222   NEEDS CLEANING      224   NEEDS CLEANING      303   NEEDS CLEANING

305   NEEDS CLEANING      310   NEEDS CLEANING      401   NEEDS CLEANING

404   NEEDS CLEANING      408   NEEDS CLEANING
```

Sunshine Suites
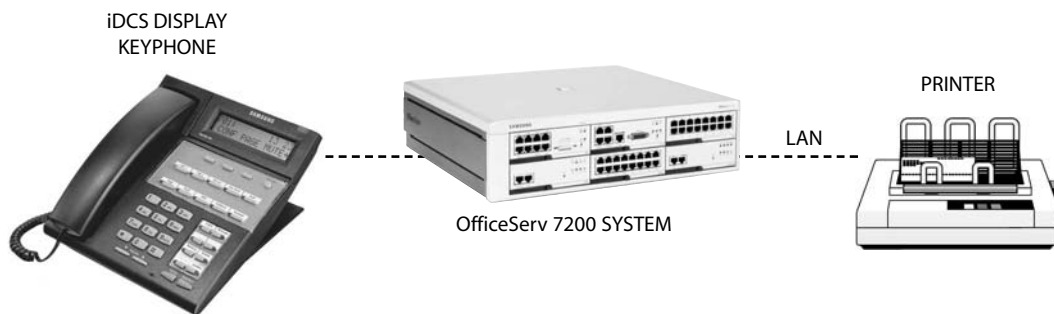
# ROOM STATUS PRINTOUT

Printout includes the following information:

- Date and time the report was printed

- Status of guest and meeting rooms

    - On an individual, status type basis

        OR

    - As a complete report of all rooms and their status

- Room Status Printout Types:

    - AVAILABLE

    - OCCUPIED

    - NEEDS CLEANING

    - **NEEDS MAINTENANCE**

    - HOLD

    - ALL

- Room status is updated by either the administrator access, automatic room update or maid codes.

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- By default, the printout will print a header followed by 50 lines per page

- Printout size is adjustable through programming

NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.
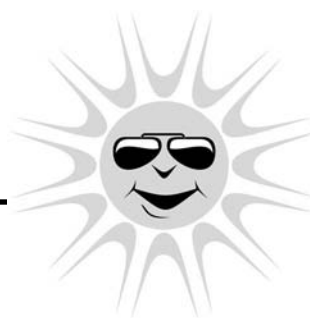
## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

```
   ROOM STATUS PRINTOUT     NEED MAINTENANCE      14:01  11/02

ROOM         STATUS        ROOM         STATUS        ROOM        STATUS

216   NEED MAINTENANCE     308  NEED MAINTENANCE 402  NEED MAINTENANCE
```

Sunshine Suites

# ROOM STATUS PRINTOUT

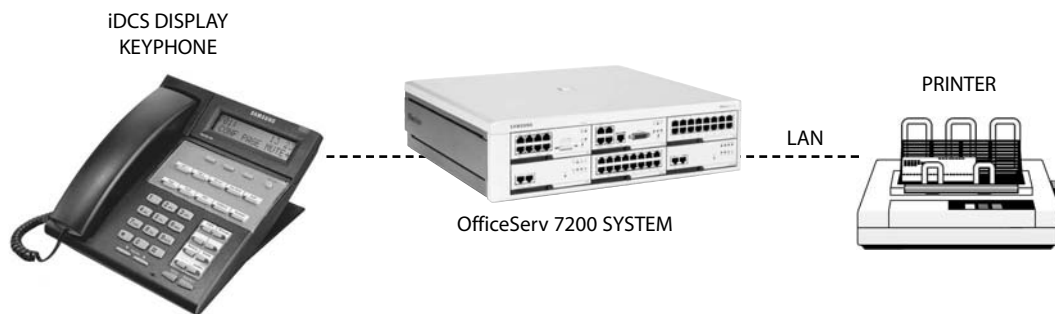Printout includes the following information:

- Date and time the report was printed

- Status of guest and meeting rooms

  - On an individual, status type basis

          OR

  - As a complete report of all rooms and their status

- Room Status Printout Types:

  - AVAILABLE

  - OCCUPIED

  - NEEDS CLEANING

  - NEEDS MAINTENANCE

  - **HOLD**

  - ALL

- Room status is updated by either the administrator access, automatic room update or maid codes.

❅  ❅  ❅

- By default, the printout will print a header followed by 50 lines per page

- Printout size is adjustable through programming

NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.

## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES

```
   ROOM STATUS PRINTOUT    HOLD       11:58   12/02

ROOM      STATUS          ROOM        STATUS       ROOM      STATUS

212   HOLD               214   HOLD               309      HOLD

401   HOLD
```

Sunshine Suites

# ROOM STATUS PRINTOUT

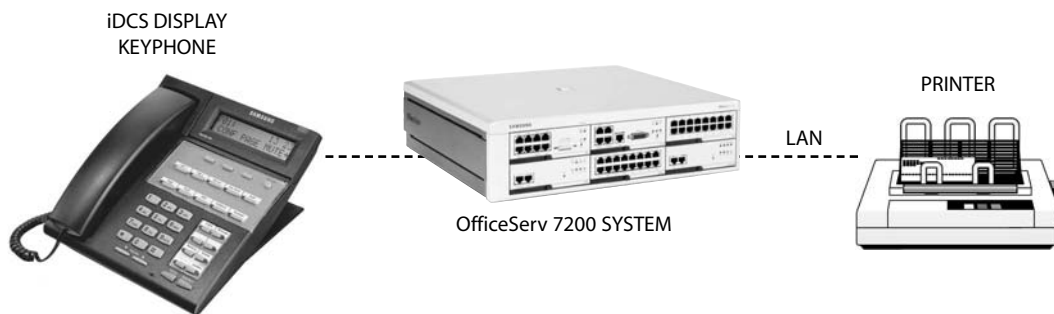Printout includes the following information:

- Date and time the report was printed

- Status of guest and meeting rooms

    – On an individual, status type basis

        OR

    – As a complete report of all rooms and their status

- Room Status Printout Types:

    – AVAILABLE

    – OCCUPIED

    – NEEDS CLEANING

    – NEEDS MAINTENANCE

    – HOLD

    – **ALL**

- Room status is updated by either the administrator access, automatic room update or maid codes.

❄ ❄ ❄

- By default, the printout will print a header followed by 50 lines per page

- Printout size is adjustable through programming

NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.
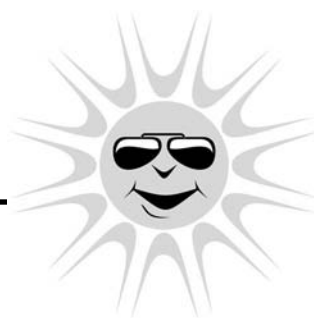
## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES

```
ROOM STATUS PRINTOUT    ALL        13:58  11/02
```

| ROOM | STATUS | ROOM | STATUS | ROOM | STATUS |
|------|--------|------|--------|------|--------|
| 209 | AVAILABLE | 210 | AVAILABLE | 211 | OCCUPIED |
| 212 | OCCUPIED | 213 | AVAILABLE | 214 | NEEDS CLEANING |
| 215 | NEEDS CLEANING | 216 | NEED MAINTENANCE | 217 | AVAILABLE |
| 218 | NEEDS CLEANING | 219 | AVAILABLE | 220 | NEEDS CLEANING |
| 221 | AVAILABLE | 222 | NEEDS CLEANING | 223 | AVAILABLE |
| 224 | NEEDS CLEANING | 225 | AVAILABLE | 226 | AVAILABLE |
| 227 | AVAILABLE | 228 | OCCUPIED | 301 | OCCUPIED |
| 302 | OCCUPIED | 303 | NEEDS CLEANING | 304 | AVAILABLE |
| 305 | NEEDS CLEANING | 306 | AVAILABLE | 307 | AVAILABLE |
| 308 | NEED MAINTENANCE | 309 | HOLD | 310 | NEEDS CLEANING |
| 401 | NEEDS CLEANING | 402 | NEED MAINTENANCE | 403 | AVAILABLE |
| 404 | HOLD | 405 | AVAILABLE | 406 | OCCUPIED |
| 407 | AVAILABLE | 408 | NEEDS CLEANING | 409 | AVAILABLE |
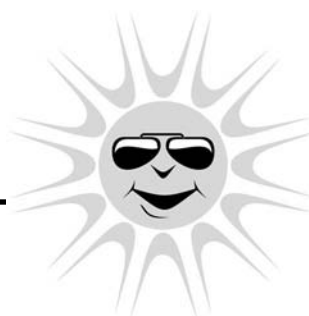
Sunshine Suites

# 6.3.3 TRANSACTION RECORD OUTPUT SAMPLE

The PMS output stream includes information from all transactions within the Hotel / Motel system. This is a one way output only, from the phone system to the PMS system.

This information includes:

■ Check In confirmation with:

– Room charges and applicable taxes

– Updated room status

■ Check Out information with:

– Updated room status

■ Room related charges and applicable taxes

■ Daily room charge updates

■ Room / phone deposits

■ Maid / maintenance room status updates

■ Phone calls and charges

■ Wake up calls time set for

■ Unanswered wake up calls

■ Cancelled wake up calls

<div align="center">❄ ❄ ❄</div>

■ The system outputs this information immediately after transaction is completed.

## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

<div align="right">55 LINES</div>

| 211 | 01/29 | 06:10 | 02 | RM CHARGE | 5555 | 69.99 |
|-----|-------|-------|-----|-----------|------|--------|
| 211 | 01/29 | 06:10 | 02 | STATE TAX | | 4.19 |
| 211 | 01/29 | 06:10 | 02 | BED TAX | | 1.50 |
| 211 | 01/29 | 06:10 | 93 | Check In | 5555 | 000.00 |
| 211 | 01/29 | 06:10 | 96 | Occupied | 5555 | 000.00 |
| 209 | 01/29 | 06:11 | 03 | RM SVC | 9876 | 25.00 |
| 209 | 01/29 | 06:11 | 03 | STATE TAX | | 1.50 |
| 209 | 01/29 | 06:11 | 03 | SVC CHARGE | | 2.00 |
| 216 | 01/29 | 06:11 | 89 | W/UP SET | 06:00 | 000.00 |
| 213 | 01/29 | 06:11 | TEL | 3055922900 | 00:00:34 | .75 |
| 214 | 01/29 | 06:12 | 00 | RM Deposit | 1234 | −20.00 |
| 211 | 01/29 | 06:13 | 94 | Check Out | | 000.00 |
| 211 | 01/29 | 06:13 | 97 | Clean Room | | 000.00 |
| 209 | 01/29 | 06:12 | TEL | 18008764782 | 00:01:29 | .25 |
| 216 | 01/29 | 06:15 | 92 | W/UP CANCL | | 000.00 |
| 217 | 01/29 | 06:16 | 07 | MISC | 5555 | 150.00 |
| 209 | 01/29 | 12:00 | 02 | RM CHARGE | | 100.00 |
| 209 | 01/29 | 12:00 | 02 | STATE TAX | | 6.00 |
| 209 | 01/29 | 12:00 | 02 | BED TAX | | 1.50 |
| 209 | 01/29 | 12:00 | 97 | Clean Room | | 000.00 |
| 210 | 01/29 | 12:00 | 02 | RM Charge | | 100.00 |
| 210 | 01/29 | 12:00 | 02 | STATE TAX | | 6.00 |
| 210 | 01/29 | 12:00 | 02 | BED TAX | | 1.50 |
| 210 | 01/29 | 12:00 | 97 | Clean Room | | 000.00 |
| 213 | 01/29 | 12:00 | 02 | RM CHARGE | | 69.00 |
| 213 | 01/29 | 12:00 | 02 | STATE TAX | | 4.14 |
| 213 | 01/29 | 12:00 | 02 | BED TAX | | 1.50 |
| 213 | 01/29 | 12:00 | 97 | Clean Room | | 000.00 |
| 215 | 01/29 | 12:00 | 02 | RM CHARGE | | 89.99 |
| 215 | 01/29 | 12:00 | 02 | STATE TAX | | 5.39 |
| 215 | 01/29 | 12:00 | 02 | BED TAX | | 1.50 |
| 215 | 01/29 | 12:00 | 97 | Clean Room | | 000.00 |
| 216 | 01/29 | 12:00 | 02 | RM CHARGE | | 79.95 |
| 216 | 01/29 | 12:00 | 02 | STATE TAX | | 4.79 |
| 216 | 01/29 | 12:00 | 02 | BED TAX | | 1.50 |
| 216 | 01/29 | 12:00 | 97 | Clean Room | | 000.00 |
| 217 | 01/29 | 12:00 | 02 | RM CHARGE | | 250.00 |
| 217 | 01/29 | 12:00 | 02 | STATE TAX | | 15.00 |
| 217 | 01/29 | 12:00 | 02 | BED TAX | | 1.50 |
| 217 | 01/29 | 12:00 | 97 | Clean Room | | 000.00 |
| 216 | 01/29 | 15:38 | 89 | W/UP SET | 06:00 | 000.00 |
| 216 | 01/30 | 06:00 | 91 | W/UP N/ANS | | 000.00 |
| 216 | 01/30 | 06:01 | 90 | W/UP ANS | | 000.00 |

# 6.3.4 INDIVIDUAL GUEST PHONE BILL

<div align="center">Printout includes the following information:</div>

- Date and time the bill was printed

- Room number requested

- Date and time phone call was initiated

- Number dialed

- Duration of call

- Charge of call

- Total charge for all calls

- Displays all call information since check in

<div align="center">❄ ❄ ❄</div>

- Automatically applies phone credits to the bill

- Phone bills are printed out on a per room basis

- Phone bill information may be:
    - Printed and saved in memory
    - Printed and cleared from memory

- By default, printout will print a header, followed by 50 lines per page

- Printout size is adjustable through programming

## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES

*HOTEL LETTERHEAD IS CUSTOMER PROVIDED. DOTTED OUTLINE INDICATES DEFAULT PRINTOUT SIZE.

6.25

CHARGES BILLED TO ROOM NUMBER: 211

| ROOM | DATE  | TIME  | ITEM | DESCRIPTION | DETAILS  | CHARGE |
|------|-------|-------|------|-------------|----------|--------|
| 211  | 02/10 | 15:30 | TEL  | 3055922900  | 01:01:00 | .35    |
| 211  | 02/10 | 20:44 | TEL  | 18008764782 | 00:01:45 | .25    |
| 211  | 02/11 | 06:34 | TEL  | 18008764782 | 00:02:00 | .25    |
| 211  | 02/11 | 13:15 | TEL  | 3055922900  | 00:02:16 | .45    |
| 211  | 02/11 | 13:40 | TEL  | 3055922900  | 00:02:31 | .55    |
|      |       |       |      |             | TOTAL    | 1.85   |
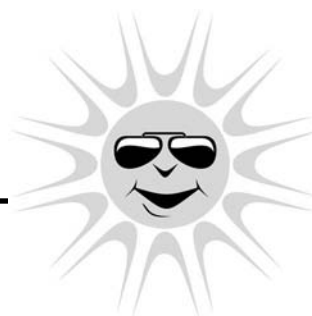
Sunshine Suites

# 6.3.5 ALL GUEST PHONE BILL (SMDR)

```
SMDR REPORT FOR [H/M Sample          ] 01/02/95 17:12
=====================================================================================================
T EXT  AUTH  TRK  MM/DD  STT.TIME  DURATION  FG  DIALED DIGIT  CALL COST  CID/ANI NUMBER  CID/ANI NAME
=====================================================================================================
1 201  701   01/02  17:15:13  00:00:28  IT                              13054264100  SAMSUNG TELECOM
1 205        701   01/02  17:15:41  00:00:02  T                         13054264100  SAMSUNG TELECOM
1 217        702   01/02  17:24:49  00:00:25  IT                        13055557890  CURTIS SMITH
1 202        702   01/02  17:25:14  00:00:03  T                         13055552354  SUSAN HOLLINS
1 202        702   01/02  17:25:56  00:00:00  O   4264100   $000.00
1 217        702   01/02  17:26:35  00:00:11  IT                        13054264385  SAMSUNG TELECOM
1 203        702   01/02  17:26:46  00:00:16  T                         13054264385  SAMSUNG TELECOM
1 203        702   01/02  17:27:13  00:00:20  O   4264385   $001.00
1 203        702   01/02  17:28:04  00:00:00  O   4264385   $000.00
1 201        701   01/02  17:28:34  00:00:04  IT                        13055559748  JOAN LEVIN
1 203        701   01/02  17:28:38  00:00:14  T                         13055558703  LENNY WILKINS
1 203        702   01/02  17:29:54  00:01:27  OT  5556420   $001.75
1 205        702   01/02  17:31:06  00:03:00  TT                        13055556420  PIZZA DELIVERY
1 209        702   01/02  17:33:24  00:02:18  T                         13055556420  PIZZA DELIVERY
1            701   01/02  17:41:45  00:00:30  A                         13055553426  TERRY PRUITT
1            701   01/02  17:42:15  00:00:02  A                         13055554676  BLANCHE MARKER
1 203        702   01/03  17:51:17  00:00:22  O   5555069   $001.00
1            701   01/03  17:56:02  00:00:05  A                         13055556733  ALEX DAULTON
=====================================================================================================
```

Field descriptions:

- Tenant — 1 Digit
- Extension — 2–4 Digits
- Authorization Code — 4 Digits
- C.O. Line No. — 2–4 Digits
- Date Call Made or Received — Month:Day
- Time Call Made or Received — Hrs:Mins:Secs
- Call Duration — Hrs:Mins:Secs
- Call Type Flag — 2 Characters
- Telephone No. Dialed — 1–18 Digits
- Call Cost — 6 Digits
- Caller ID Number — 1–15 Digits
- Caller ID Name — 1–15 Characters

**Call Type Flag Definitions**

| Flag | Definition | Flag | Definition |
|---|---|---|---|
| O | Outgoing Call | DE | DISA call with error |
| I | Incoming Call | T | Transferred call that was terminated |
| DI | DISA call in | IT | Incoming transfer |
| DO | DISA call out | FI | Incoming call forwarded to an external number |
| FO | Outgoing record of forwarded call | OT | Outgoing transfer - Outgoing call made and transferred |
| A | Abandoned call | TT | Caller received a transferred call and transferred it again |

6.27

# 6.3.6 INDIVIDUAL WAKEUP ACTIVITY REPORT

Printout includes the following information:

- Date and time the report was printed

- Room number requested

- Time wake up activity performed

- Item code for activity performed

- Description of activity performed

- Details column

  – Time wake up call is set for

- Charges for wake up related service

❄ ❄ ❄

**ACTIVITY TYPES:**

- W/UP SET        The time a wake up call is set for

- W/UP ANS        Wake up call answered

- W/UP N/ANS      Wake up call not answered

- W/U CANCEL      Wake up call cancelled

❄ ❄ ❄

- Displays all wake up call activity since room was checked in

- Wake up activity report print on a per room basis

- By default, printout will print a header, followed by 50 lines per page

- Printout size is adjustable through programming
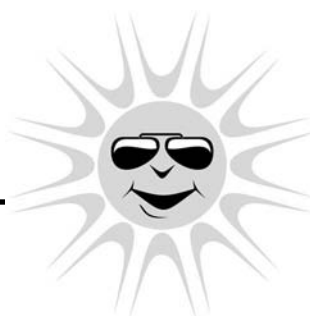
## EQUIPMENT REQUIRED

iDCS DISPLAY
KEYPHONE

PRINTER

LAN

OfficeServ 7200 SYSTEM

55 LINES

CHARGES BILLED TO ROOM NUMBER: 213

| ROOM | DATE | TIME | ITEM | DESCRIPTION | DETAILS | CHARGE |
|------|------|------|------|-------------|---------|--------|
| 213 | 01/23 | 12:22 | 89 | W/UP SET | 05:30 | 000.00 |
| 213 | 01/23 | 12:25 | 92 | W/UP CANCL | | 000.00 |
| 213 | 01/24 | 11:51 | 89 | W/UP SET | 05:30 | 000.00 |
| 213 | 01/25 | 05:30 | 91 | W/UP N/ANS | | 000.00 |
| 213 | 01/25 | 05:31 | 90 | W/UP ANS | | 000.00 |
| | | | | | TOTAL | 000.00 |

Sunshine  Suites

# PART 7. GENERAL USER INFORMATION

## 7.1 RADIO FREQUENCY INTERFERENCE

**WARNING:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## 7.2 FCC REQUIREMENTS

The OfficeServ 7200 electronic telephone system complies with Part 68 of the Federal Communications Commission Rules and Regulations.

### UNAUTHORIZED MODIFICATIONS

Any changes or modifications performed on this equipment that are not expressly approved in writing by SAMSUNG TELECOMMUNICATIONS AMERICA could cause noncompliance with the FCC rules and void the user's authority to operate the equipment.

**NOTE:** Allowing this equipment to be operated in such a manner as to not provide for proper answer supervision is a violation of Part 68 of the FCC's rules.

### TELEPHONE CONNECTION REQUIREMENTS

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

## 7.3 TELEPHONE COMPANY INTERFACES

| CIRCUIT TYPE | CARD TYPE | FACILITY INTERFACE CODE | NETWORK JACK |
|---|---|---|---|
| LOOP START LINE | 8TRK<br>TEPRI<br><br><br><br>TEPRI2 | 02LS2<br>04DU9.DN<br>04DU9.1KN<br>04DU9.1SN<br>04DU9.1SN (PRI)<br>04DU9.DN<br>04DU9.1KN<br>04.DU9.1SN<br>04DU9.1SN(PRI) | RJ45S<br>RJ48C<br><br><br><br>RJ48C |
| DID LINE | 4HTRK<br>TEPRI<br>TEPRI2 | 02RV2.T<br>04DU9.BN<br>04DU9.BN | RJ45S<br>RJ48C<br>RJ48C |
| E & M TIE LINE | 4HTRK<br>TEPRI<br>TEPRI2 | TL11M<br>04DU9.BN<br>04DU9-BN | RJ31X<br>RJ48C<br>RJ48C |

## RINGER EQUIVALENCE (REN)

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For earlier products, the REN is separately shown on the label.

## INCIDENCE OF HARM

If this equipment, the OfficeServ 7200, causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

## CHANGES TO TELEPHONE COMPANY EQUIPMENT OR FACILITIES

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

## HEARING AID COMPATIBILITY

This equipment, the OfficeServ 7200 is hearing aid compatible as specified in Part 68 of the FCC Rules.

## EQUIPMENT WITH DIRECT INWARD DIALING ("DID")

THIS EQUIPMENT SHOULD BE OPERATED WITH PROPER ANSWER SUPERSIVISION. FAILURE TO PROVIDE FOR PROPER ANSWER SUPERVISION IS A VIOLATION OF THE PART 68 OF THE FCC'S RULES.

PROPER ANSWER SUPERVISION IS DEFINED AS FOLLOWS:

A.  This equipment returns answer supervision to the public switched telephone network (PSTN) when DID calls are:

  — Answered by the called station.
  — Answered by the attendant.
  — Routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.
  — Routed to a dial prompt.

B.  This equipment returns answer supervision on all DID calls forwarded to the PSTN. Permissible exceptions are:

  — A call is answered.
  — A busy tone is received.
  — A reorder tone is received.

## EQUAL ACCESS REQUIREMENTS

This equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator consumers Act of 1990.

## ELECTRICAL SAFETY ADVISORY

Parties responsible for equipment requiring AC power should consider including an advisory notice in their customer information suggesting the customer use a surge protector. Telephone companies report that electrical surges, typically lightining transients, are very destructive to customer terminal equipment connected to AC power sources. This has been identified as a major nationwide problem.

# 7.4 MUSIC ON HOLD WARNING

**IMPORTANT NOTICE:** In accordance with US copyright laws, a license may be required from the American Society of Composers, Authors and Publishers (ASCAP) or other similar organizations if copyright music is transmitted through the Music on Hold feature.

SAMSUNG TELECOMMUNICATIONS AMERICA hereby disclaims any liability arising out of failure to obtain such a license.

# 7.5 DISA WARNING

Lines that are used for the direct Inward System Access feature must have the disconnect supervision options provided by the telephone company.

**WARNING:** As it is impossible to control who may access your DISA line it is suggested that you do not turn this feature on unless you intend to use it. If you do use this feature, it is good practice to frequently change pass codes and periodically review your telephone records for unauthorized use.

# 7.6 UNDERWRITERS LABORATORIES

The OfficeServ 7200 system has been tested to comply with safety standards in the United States as listed below. This system is listed with Underwriters Laboratories.

For earlier products, the UL Mark is separately shown on the label.

# SAMSUNG TELECOMMUNICATIONS AMERICA
# KEY SYSTEMS LIMITED WARRANTY

SAMSUNG TELECOMMUNICATIONS AMERICA ("STA"), warrants to its authorized Dealers and to the original retail purchaser ("Users") of a STA product for a period of 60 months from the date of shipment of the Product from STA's facility, that the Product (except for lamps, fuses, and other consumable items) will be free from defects in material and workmanship. Repaired or replaced materials shall be warranted for the balance of the warranty remaining on the original equipment, or 90 days from date of shipment from STA's facility, whichever is longer.

This warranty is for the benefit of and shall apply only to authorized Dealers and to Users. This warranty will not apply if the defect arises out of accident, neglect, alteration or misuse, failure of electric power, air conditioning, humidity control, causes other than ordinary use, or causes beyond STA's control. All warranty claims shall be waived unless reported, in writing, to STA or its authorized Dealer, prior to the expiration of the applicable warranty period.

The obligation of STA under this warranty is, at the sole option of STA: 1) the repair or replacement (with new or refurbished parts), of the defective or missing parts that are causing the malfunction and which are determined to be the defective by STA, and the return shipment of such parts to the Dealer (Dealer or User shall be responsible to pay for shipment of the defective parts to STA and for all the expenses connected with their removal and reinstallation); or 2) in lieu of repair or replacement, STA may refund the price charged by STA to its Dealer for such parts as are determined by STA to be defective and which are returned to STA through an authorized Dealer within the warranty period and no later than 30 days after such malfunction, whichever occurs first.

To obtain service under this warranty:

(1)    USERS must provide written notice of the malfunction to an authorized STA Dealer within the warranty period and not later than 30 days after the date of the malfunction, whichever occurs first. If the USER is unable to identify an authorized STA Dealer, USER must provide written notice of the malfunction, including proof of the date of purchase of the equipment and the serial number of the malfunctioning Product, to STA at its corporate offices. Upon receipt of such notice and determination by STA that User is eligible for Warranty service, STA will provide the USER with the name of an authorized STA Dealer to contact for warranty service DEALERS must provide written notice of malfunction to STA no later than the expiration of the warranty period 30 days after the date the Dealer becomes aware of the malfunction, whichever comes first. For purposes of this Warranty, the issuance by STA of a Material Return Authorization (MRA) number by telephone to an authorized Dealer shall be deemed to be written notice from the Dealer with respect to the material returned under that MRA.

STA MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, AND SPECIALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THESE WARRANTIES ARE DEALER'S AND USER'S SOLE REMEDIES AND IN LIEU OF ALL OBLIGATIONS OR LIABILITIES ON THE PART OF STA FOR DAMAGES, INCLUDING, BUT NOT LIMITED TO, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF THE PRODUCTS, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, ARISING OUT OF OR IN CONNECTION WITH THE PERFORMANCE OF THE PRODUCTS, WHETHER IN A CONTRACT OR TORT ACTION. INCLUDING NEGLIGENCE, EVEN IF STA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, THE TOTAL MAXIMUM LIABILITY OF STA FOR BREACH OF WARRANTY SHALL BE LIMITED TO A REFUND OF THE COST OF THE DEFECTIVE PRODUCT.

No Dealer and no person other than an officer of SAMSUNG TELECOMMUNICATIONS AMERICA may extend or modify this warranty, and no modification or extension of this warranty shall be effective unless in writing signed by the authorized officer of SAMSUNG TELECOMMUNICATIONS AMERICA.