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DCS

and HotelOperator

General Description

SAMSUNG

Wait Till You Hear What We See

DCS

and HotelOperator

CONTENTS

Digital Communications System General Description

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PRINTED IN USA 5/99

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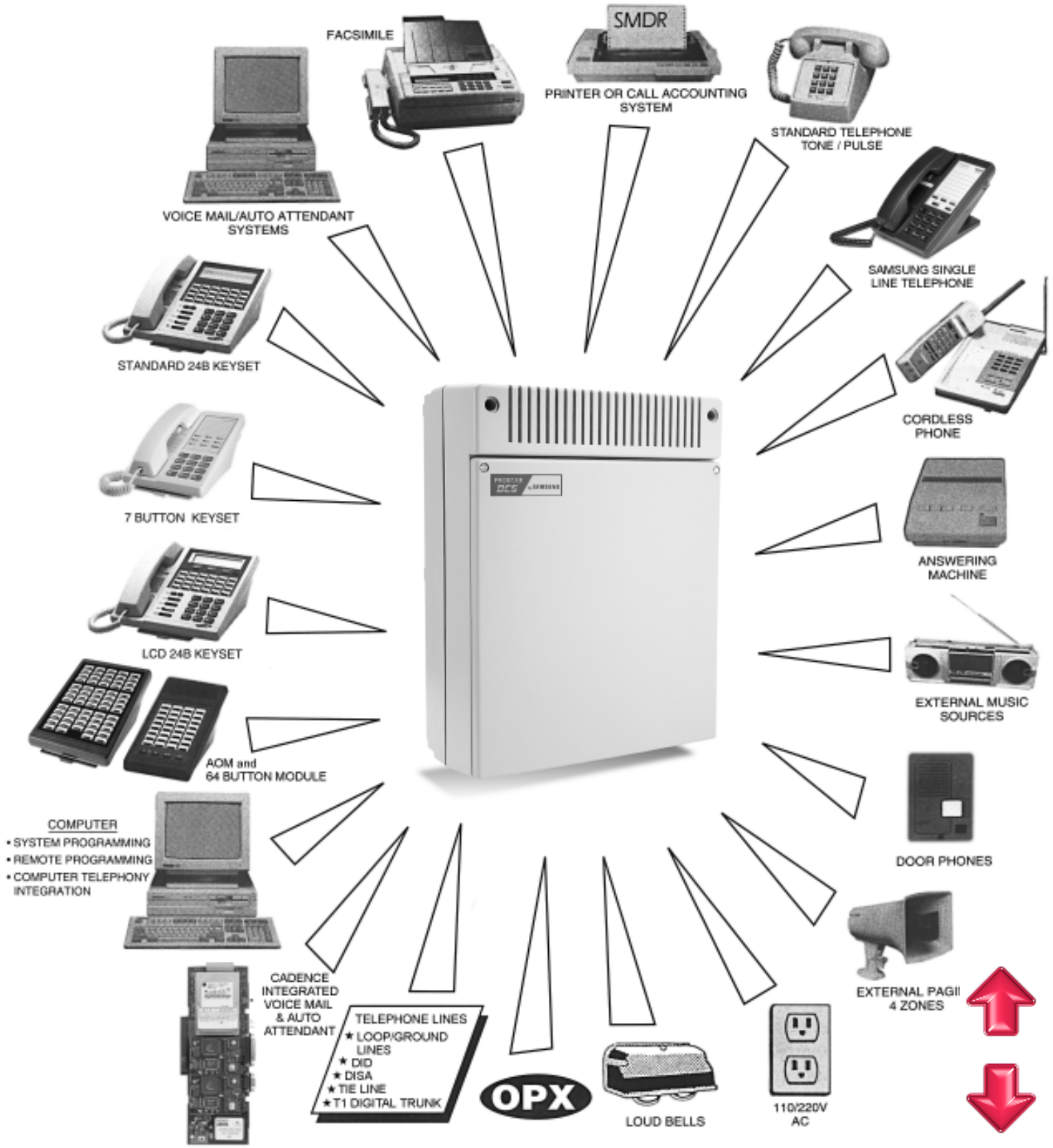

PART 1. SYSTEM OVERVIEW

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1.1 GENERAL DESCRIPTION

The SAMSUNG DCS (Digital Communications System) is a digital telephone system designed for small to medium-sized businesses. It can operate with the functionality of a square key system, PABX or a combination of both (hybrid). The DCS employs the very latest DSP (Digital Signal Processors) digital technology.

The DCS 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. Two types of telephones can be connected to the system. Proprietary digital phones called “keysets” connect to digital line interface cards (DLI). 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, serial interface devices and add-on modules. Miscellaneous circuits are provided to allow such optional features as external paging, music on hold, background music, common audible devices, alarms and emergency power failure telephones. All interface cards are encased in an anti-static plastic enclosure and can be inserted or removed with power on to eliminate unnecessary service interruptions while performing maintenance.

All DCS 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 SAMSUNG DCS system is both economical and easy. Begin with the basic Key Service Unit and then add up to two expansion cabinets as your business grows. Its low density card design allows greater flexibility when configuring a system for the right combination of lines and stations. A removable software cartridge (ROM card) makes it convenient to upgrade to future feature packages.

1.2 SIZE AND CONFIGURATION WITH PSU 40

The DCS is a fully modular system comprised of a basic Key Service Unit, two additional expansion cabinets, interface cards and electronic keysets. A fully expanded system using the T1 card can have a maximum of 168 lines or 112 stations. Without the T1 card, the maximum number of lines is 160 and the maximum number of stations is 120.

SINGLE CABINET SYSTEM

A single cabinet system has seven universal card slots (see Figure 1–1). Station or trunk (line) cards can be installed in any of these slots. The T1 card must be installed in slot 1, 3 or 5 and the even-numbered slot to the right of the T1 card must be left empty. This card requires two slots as it provides 24 lines. This allows a maximum of 40 stations of any kind

CONTENTS

or 64 lines in a single cabinet system. Without the T1 card, the maximum number of lines in the basic KSU is 56.

TWO CABINET SYSTEM

When it is required that the basic system be expanded to provide a capacity greater than that described above, the Expansion A or A1 card must be installed in slot seven of the KSU. This card provides the High-Speed Digital Link (HDL) pathways that are used to connect the expansion cabinets to the basic KSU. Adding this card therefore reduces the number of universal card slots in the basic KSU to six.

Adding one expansion cabinet makes the system a two cabinet system with 13 universal card slots (see Figure 1–2). This allows a maximum of 80 stations or 112 lines when using a T1 card. Without the T1 card, the maximum number of lines is 104 while the maximum number of stations remains at 80.

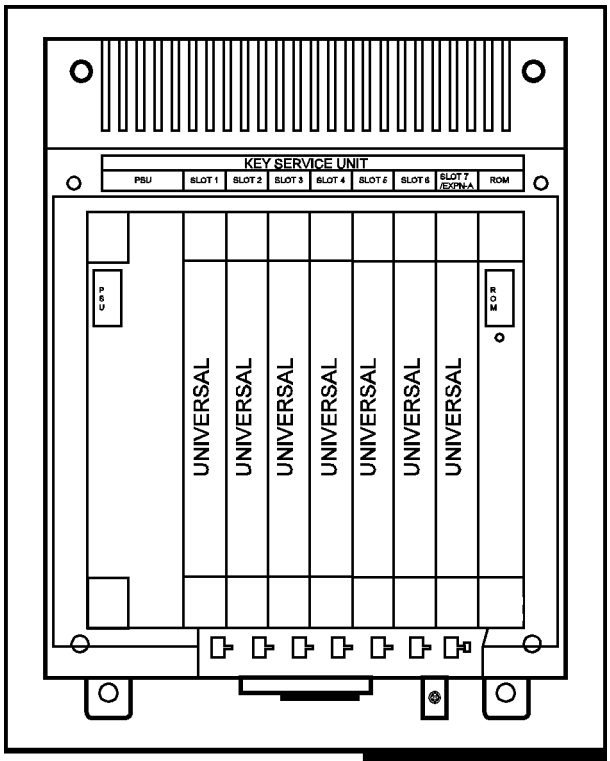

FIGURE 1–1

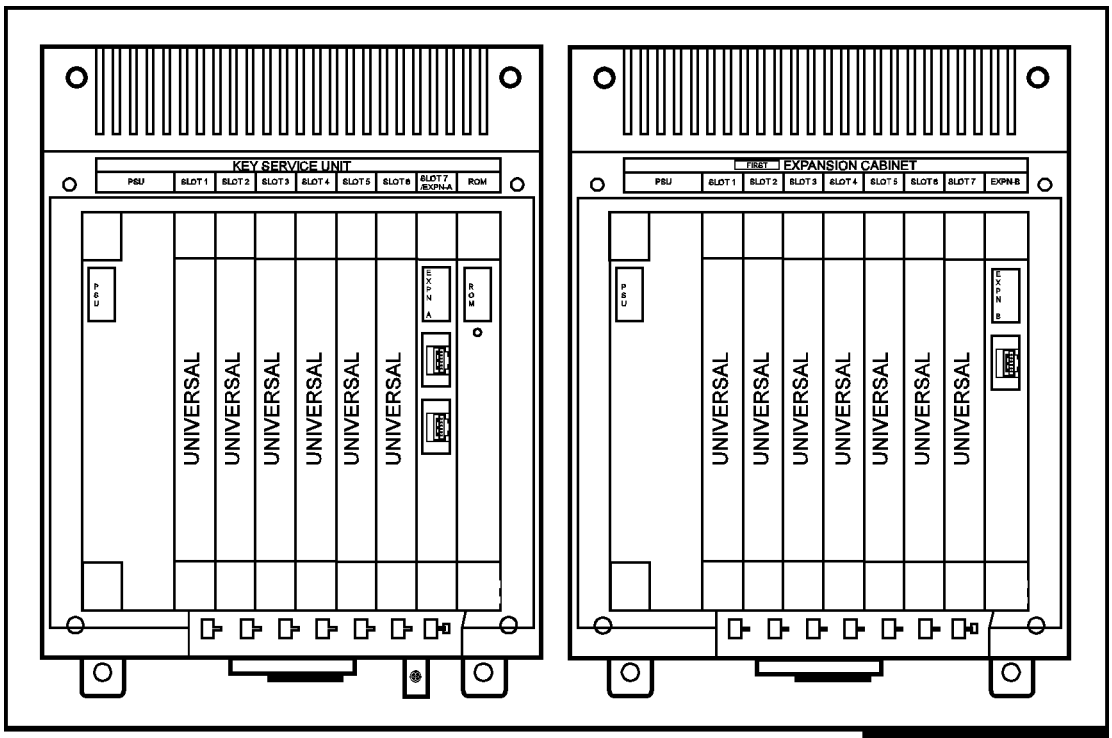

FIGURE 1–2

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THREE CABINET SYSTEM

In a fully expanded three cabinet system, there are 20 universal card slots (see Figure 1–3). This allows a maximum of 112 stations or 168 lines when using a T1 card. Without the T1 card, the maximum number of lines is 160 and the maximum number of stations is 120.

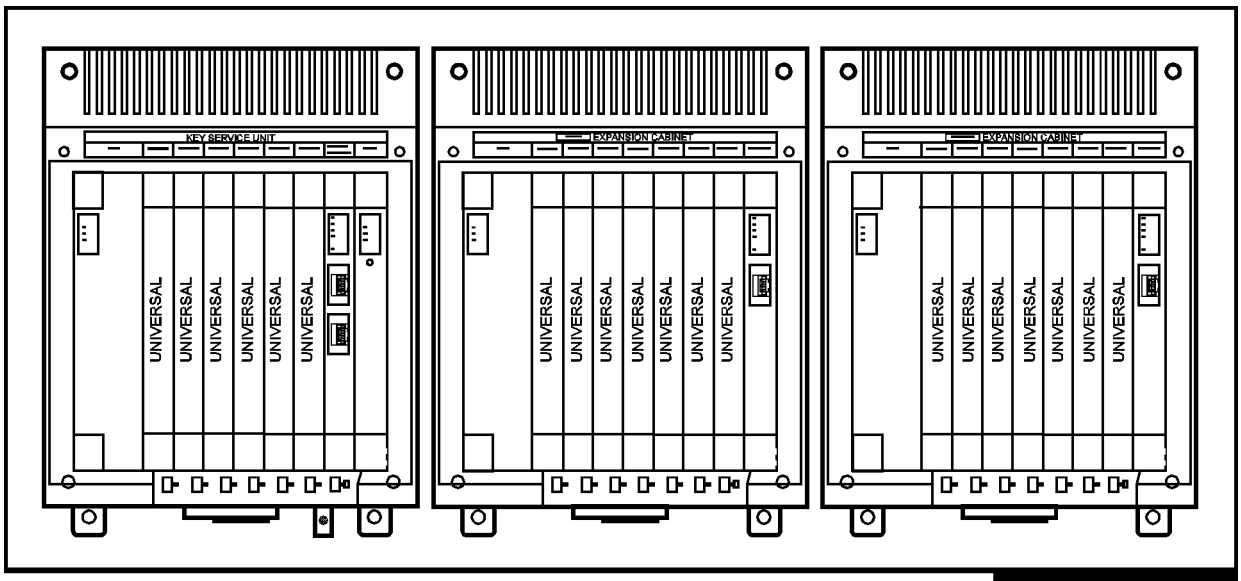


FIGURE 1–3

1.3 SIZE AND CONFIGURATION WITH PSU 60

The PROSTAR DCS is a fully modular system comprised of a basic Key Service Unit, two additional expansion cabinets, interface cards and electronic keysets. A fully expanded system using the T1 card can have a maximum of 168 lines or 172 stations. Without the T1 card, the maximum number of lines is reduced to 160.

SINGLE CABINET SYSTEM

A single cabinet system has seven universal card slots (see Figure 1–1). Station or trunk (line) cards can be installed in any of these slots. The T1 card must be in slot 1, 3 or 5 and the even-numbered slot to the right of the T1 card must be left empty. This card requires two slots as it provides 24 lines. This allows a maximum of 60 stations of any kind or 64 lines in a single cabinet system. Without the T1 card, the maximum number of lines in the basic KSU is reduced to 56.

TWO CABINET SYSTEM

When it is required that the basic system be expanded to provide a capacity greater than that described above, the Expansion A or A1 card must be installed in slot seven of the KSU. This card provides the High-Speed Digital Link (HDL) pathways that are used to connect the expansion cabinets to the basic KSU. Adding this card will therefore reduce the number of universal card slots in the basic KSU to six.

CONTENTS

Adding one expansion cabinet makes this a two cabinet system with 13 universal card slots (see Figure 1–2). This allows a maximum of 116 stations or 112 lines when using a T1 card. Without the T1 card, the maximum number of lines is reduced to 104.

THREE CABINET SYSTEM

In a fully expanded three cabinet system, there are 20 universal card slots (see Figure 1–3). This allows a maximum of 172 stations or 168 lines when using a T1 card. Without the T1 card, the maximum number of lines is reduced to 160.

1.4 TECHNOLOGY

SWITCHING

System switching is accomplished by means of a custom IC “engine” that provides 256 switchable digital channels. The engine is controlled by its own 16 bit Motorola MC 68000 microprocessor and switching control program. Each of the 256 digital channels is automatically assigned to carry voice or data as required by system operation in a PCM format.

In addition to the 256 channels, the system also utilizes Digital Signal Processors (DSPs). Each DSP may be configured by the switching control program as a DTMF sender, a DTMF receiver or as a C.O. tone detector on a per-call basis. Each engine chip contains four DSP channels. Single engine chips are located on the KSU and EKSU motherboards with a pair of engine chips located on the Expansion A and Expansion A1 cards. This means that the system contains a total of 20 DSP channels when fully expanded. The DSP channels are fully shared throughout the system as a common resource.

MEMORY

The system operates using stored program control. This program is stored in two EPROM chips (ROM) totaling 1024 kilobytes of memory. However, if the system is configured for operation with Caller ID, the program size is 2048 kilobytes contained in four EPROMs. All specific customer data is stored in 512 kilobytes of non-volatile random access memory (NV-RAM) on the main KSU motherboard. It is protected by a super capacitor providing seven days of memory protection in the event of loss of AC power to the system.

MICROPROCESSORS

The DCS uses distributed processing. Its primary processor is a 16 bit Motorola MC68000 operating at a clock speed of 8 MHz. The secondary level of processing is on the cabinet motherboard. This is another MC68000 processor and provides local control of the 256 PCM channels via the engine chip. The tertiary level of processing is done in the keysets. The digital keysets use a Hitachi H8 processor for data communication within the DCS.

1.5 PROGRAMMING

The DCS is a self-configuring system. This means that immediately after applying power, the DCS reads the types and locations of all installed cards and telephones and assigns default data to them. This data provides for system operation within a minute after apply-

CONTENTS

ing power. All trunks and stations are assigned according to 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 are controlled by different security passcodes and access procedures.

The DCS also allows the use of a proprietary computer program called PCMMC. This permits a technician to program the system using a personal computer. PCMMC 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 modems, PCMMC can access a DCS system remotely (off-site) to make database changes or perform uploads or downloads of the customer database as if the technician were on-site.

PART 2. HARDWARE DESCRIPTIONS

2.1 KEY SERVICE UNIT

The PROSTAR DCS Key Service Unit is a single plastic cabinet (see Figure 2–1) containing the following:

- Processing, switching and customer memory for all ports
- Seven universal card slots
- Four DSP channels (digital signal processors)
- Wall-mount kit
- Power supply slot

FIGURE 2–1

2.2 EXPANSION CABINETS

The expansion cabinets are plastic cabinets that mount next to the KSU (see Figure 2–2) and contain the following:

- Maximum two per system
- Seven universal card slots
- Four DSP channels
- Power extension cable to connect commercial AC power to the expansion cabinet
- Expansion interface B card (EXPN-B)
- High-Speed Data Link Cable (HDLC)
- Wall-mount kit
- Power supply slot

FIGURE 2–2

2.3 COMMON CONTROL CARDS

ROM CARDS

A PROSTAR DCS system must have a ROM card as it contains the system software. Currently there are two types of ROM cards available—ROM 1 and ROM 2. Each ROM card is encased within a static dissipative ABS plastic shell for added protection during handling (see Figure 2–3).

CONTENTS

ROM 1

- System operating program
- One data rate adapter to be used for either SMDR or PCMMC
- LED status indicator

ROM 2

- System operating program
- Two data rate adapters for simultaneous use of both SMDR and PCMMC
- LED status indicator

EXPANSION CARDS

To expand the DCS to more than a single cabinet system, expansion cards are required. These cards provide the high speed digital link pathways that enable the KSU to communicate with the expansion cabinets. There are three types available and are described below.

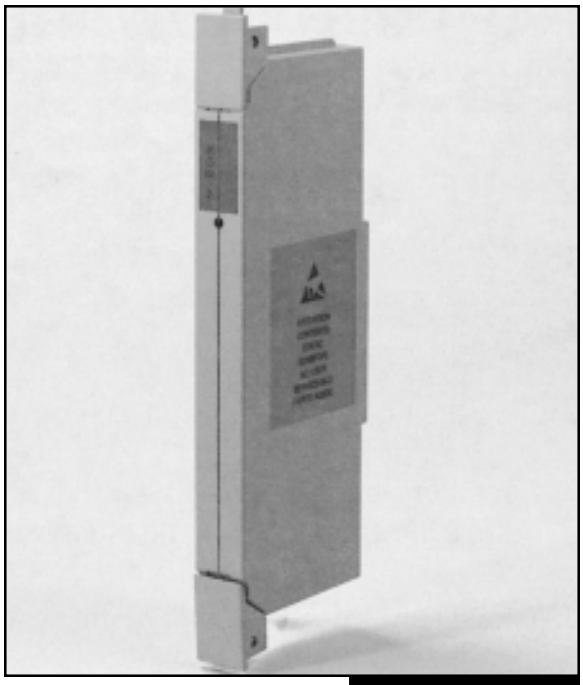


FIGURE 2–3

EXPANSION A

This card is installed in slot 7 of the KSU and reduces the available universal card slots to six. It is only needed if the system is to be expanded. See Figure 2–4.

The Expansion A card contains the following:

- HDLC connections for two expansion cabinets
- Additional eight DSPs
- LED status indicator

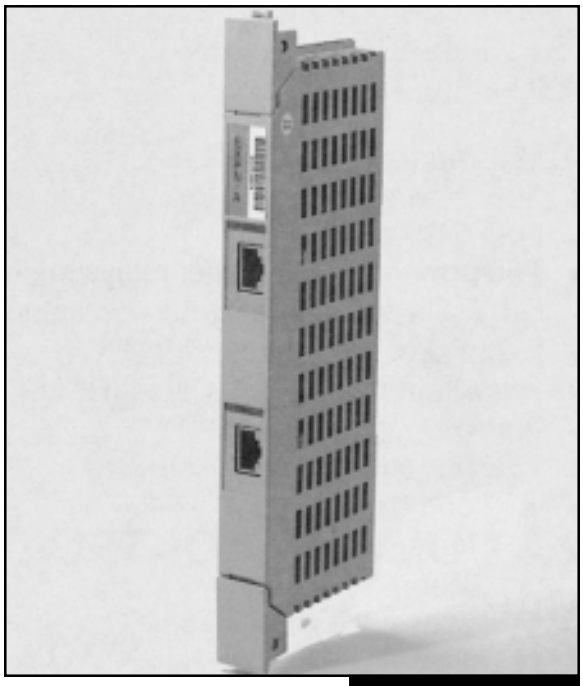


FIGURE 2–4

EXPANSION A1

This card is installed in slot 7 of the KSU and reduces the available universal card slots to six. It is needed if the system is to be expanded and is also required for Caller ID features. See Figure 2–4.

The Expansion A1 card contains the following:

- HDLC connections for two expansion cabinets
- Additional eight DSPs
- LED status indicator
- Decoding circuitry for Caller ID functions

CONTENTS

EXPANSION B

This card has its own dedicated card slot in the expansion cabinets and does not reduce the number of available universal card slots. See Figure 2–5.

The Expansion B card contains the following:

- HDLC connection for that expansion cabinet
- LED status indicator

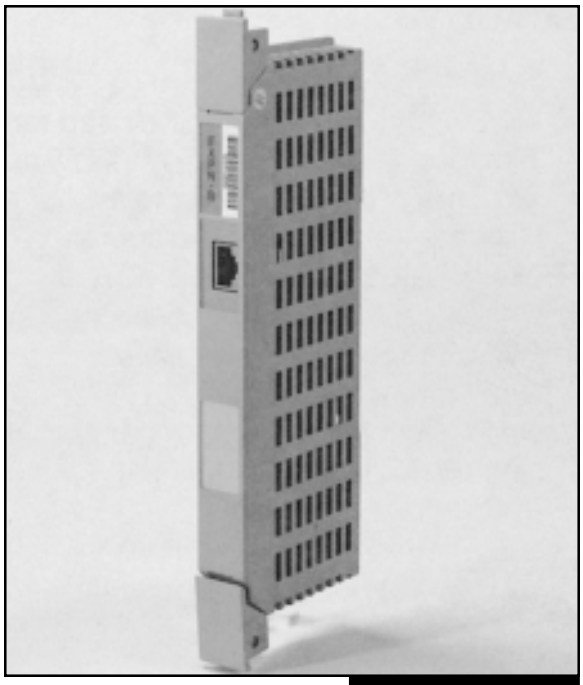


FIGURE 2–5

2.4 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. DCS interface cards are encased in a static dissipative ABS plastic shell to protect the PCB during handling (see Figure 2–6).

TRUNK A1

This card is a combination loop start line card and miscellaneous interface card that contains the following circuits:

- Two loop start C.O. lines with C.O. disconnect and Caller ID detection
- Two power failure transfer relays for the first two C.O. lines connected to this card
- One internal chime music source
- One music input for BGM/MOH
- One page output for connection to an amplifier
- Two page zone control relays
- One common bell relay
- One keyset ring output for connection to an amplifier
- One alarm detection sensor

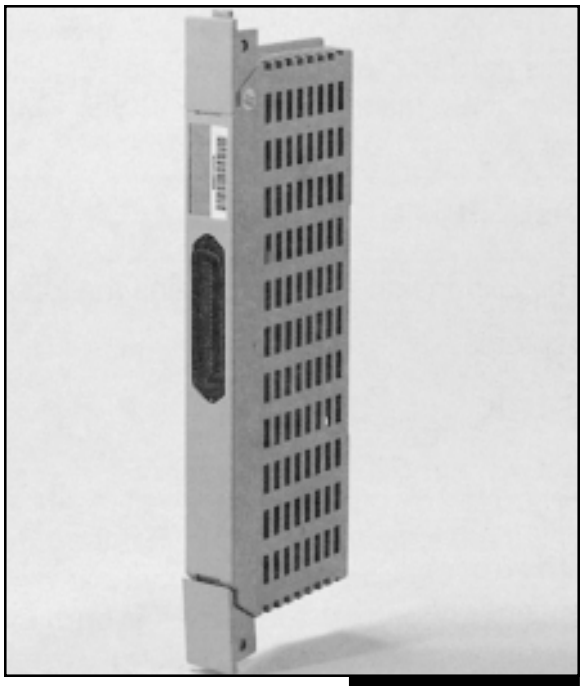


FIGURE 2–6

NOTE: The alarm sensor will only operate when the Trunk A1 card is installed in the KSU. This service is not available when the Trunk A1 card is installed in an expansion cabinet.

TRUNK B1

This card contains four loop start C.O. lines 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.

TRUNK C1

This card contains eight loop start C.O. lines 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.

GTRK

This card contains four ground start C. O. lines with disconnect detection. It can be inserted in any universal card slot in all cabinets.

DID

This card contains four Direct Inward Dialing (DID) trunks. This card can be inserted in any universal card slot 2 through 7 in any cabinet.

E & M

This card contains four 2 wire E & M tie lines, type one interface configuration (TL11M). It can be inserted in any universal card slot in all cabinets. This card can be used for two way DID calling.

T1 DIGITAL TRUNK

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

NOTE: Caller ID is not available on the T1 span. This card requires two card slots and must be installed in the Key Service Unit in either slot 1, 3 or 5. The card is shipped with a special shielded cable for connection to a customer-provided CSU.

DLI

This card is an eight circuit digital station interface card that provides 2B+D service when installed in the KSU or 1B+D service when installed in an expansion cabinet. It can be inserted in any universal card slot in all cabinets.

SLI

This card is a four circuit analog station interface for industry standard single line telephones or other analog peripheral devices (voice mail, etc.). Each circuit is equipped with a DTMF receiver and provides the over-voltage protection required for connection to telephone company off premises extension circuits (OPX). It can be inserted in any universal card slot in all cabinets.

CONTENTS

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.

KDb-DLI

This is a small daughterboard that can be installed only in the 12 or 24 button keyset. The KDb-DLI will provide one additional DLI circuit for the connection of any digital station device such as a keyset, add-on module, SIM or DPIM. This KDb-DLI will only operate when the keyset is connected to a DLI card installed in the KSU so it can use the second B channel.

KDb-SLI

This is a daughterboard that can be installed only in the 12 or 24 button keyset. The KDb-SLI will provide one additional SLI circuit for the connection of any standard telephone device. This KDb-SLI will only operate when the keyset is connected to a DLI card installed in the first cabinet so it can use the second B channel.

NOTE: The circuitry on a KDb-SLI does not provide a disconnect signal or have the over-voltage protection necessary for OPX operation.

8MWSLI

This card is an eight 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 2000 ms ON/OFF times. The 8MWSLI 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.

AUTO ATTENDANT

This optional card can be used for either the Automated Attendant, Uniform Call Distribution or a combination of both. For more information about the Automated Attendant and UCD, see section 4.1 System Features.

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

DIAL BY VOICE

The optional Dial by Voice card controls the circuitry needed to support voice recognition dialing. The circuit package can support two channels of seven users with 20 personal speed dial numbers or one channel of five users with 40 personal speed dial numbers. This feature is available to all keyset and single line telephone users.

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

CONTENTS

CADENCE (CVM8A)

The CADENCE Voice Mail system is a fully integrated Auto Attendant/Voice Mail/Fax System on a single DCS circuit card (see Figure 2–7). This optional card is designated the CVM8A and provides 4 or 8 channels of communication. Only one card is permitted per system and it can be installed in any universal card slot.

FIGURE 2–7

This fully featured self contained system is connected directly to the DCS data bus and communicates with the DCS processor. This design means that installation time is minimized, operation is streamlined and many features can be implemented that are not normally possible with older conventional stand alone Voice Mail/Auto Attendant systems.

All power to run this self contained system comes from the DCS telephone system power supply. Each of the DCS power supply is rated according to the number of stations it will support. When CADENCE is installed it counts as (8) eight stations of the PSU 40 or PSU 60 rating regardless of the number of Voice Processing Modules installed.

NOTE: Requires DCS Release 4.x or higher software.

CONTENTS

2.5 STATION EQUIPMENT

LCD 24B Keyset (See Figures 2–8)

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

FIGURE 2–8

STD 24B Keyset (See Figures 2–9)

- Built-in speakerphone
- 24 programmable keys (16 with tri-colored LEDs)
- Four fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal

FIGURE 2–9

LCD 12B Keyset (see Figures 2–10)

- 32 character display (2 x 16) with three associated soft keys and a scroll key
- Built-in speakerphone
- 12 programmable keys (six with tri-colored LEDs)
- Four fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal

FIGURE 2–10

CONTENTS

Basic 12B Model Keyset
(see Figures 2–11)

- Built-in speakerphone
- 12 programmable keys (six with tri-colored LEDs)
- Four fixed function keys
- UP/DOWN buttons for digital control of speaker, handset and ringer volumes
- Eight selectable ring tones
- Desk- or wall-mounted
- Available in almond or charcoal

FIGURE 2–11

7 Button Model Keyset (see Figures 2–12)

- 7 programmable keys
- Three fixed function keys
- UP/DOWN buttons for digital control of speaker and ringer volumes
- Eight selectable ring tones
- Desk or wall mounted
- Available in almond or charcoal

FIGURE 2–12

32 Button Add-On Module (AOM)
(see Figures 2–13)

- 32 programmable keys
- Two fixed function keys
- UP/DOWN buttons for digital control of speaker and ringer volumes
- Available in almond or charcoal
- One or two can be assigned to any DCS keyset to provide executive off-hook voice announce and additional programmable keys (see Figure 2–14)
- Can operate as a stand-alone handsfree telephone unit

FIGURE 2–13

CONTENTS

FIGURE 2–14

Door Phone Interface Module (DPIM) and **Door Phone** (see Figures 2–15 and 2–16)

- 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 2–15

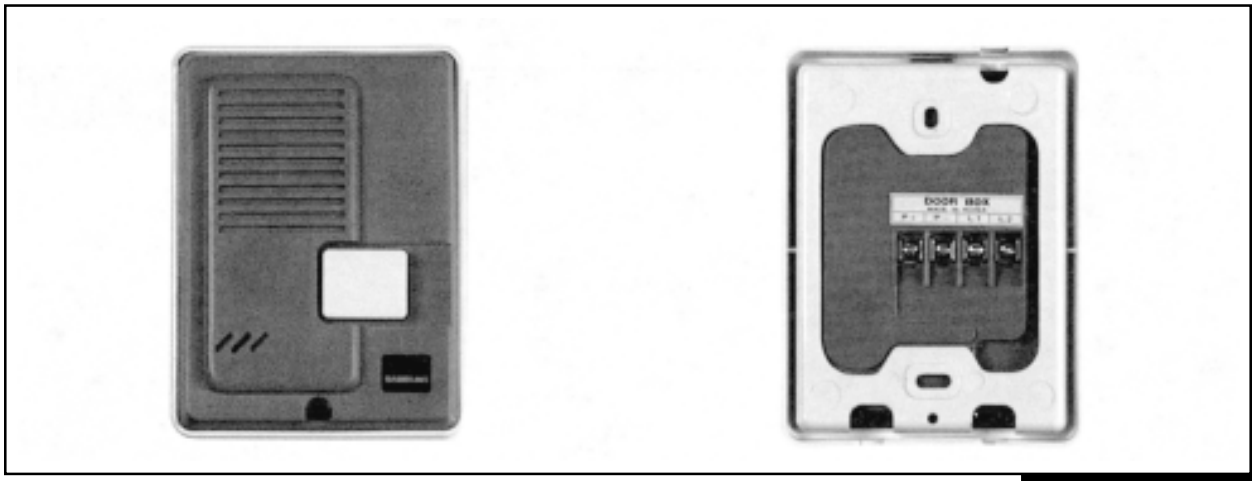


FIGURE 2–16

CONTENTS

Serial Interface Module (SIM) (See Figure 2–17)

- Provides an RS232 connection required for SMDR, PCMMC and TSAPI
- Connects to any DLI circuit

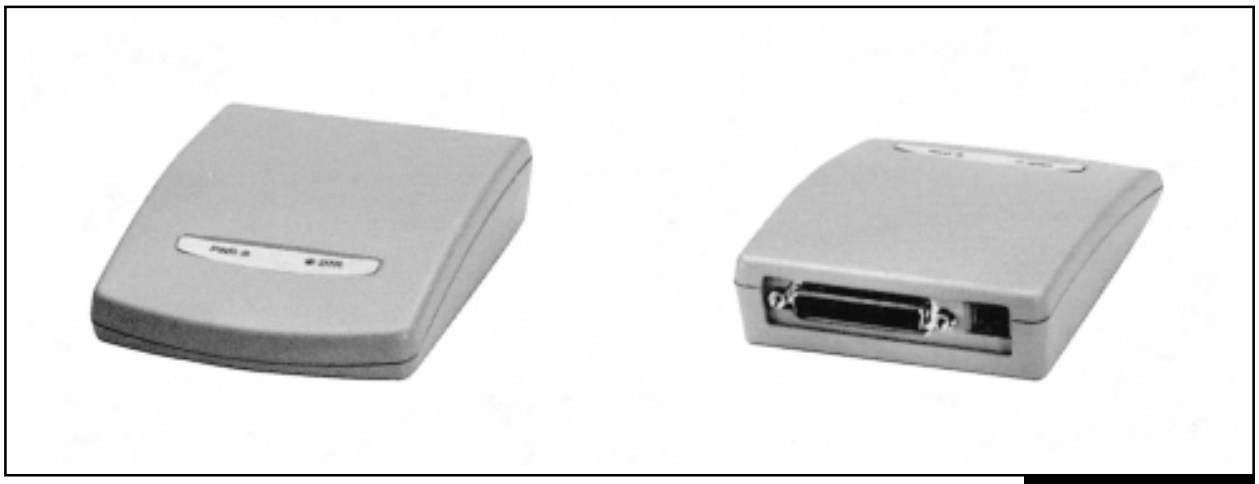


FIGURE 2–17

Computer Telephony Module (CTM) (See Figure 2–18)

- Provides RS232 connection via DB9 for TAPI applications
- Connects with any DLI port

FIGURE 2–18

CONTENTS

64 Button Module (See Figure 2–19)

- 64 programmable keys
- Available in almond and charcoal
- A maximum of 2 can be assigned to any DCS keyset to provide additional programmable keys
- A maximum of 4 per DCS System

FIGURE 2–19

Single Line Telephone (See Figure 2–20)

- Four fixed function keys: hold, flash, new call, and monitor.
- Data Port: selectable to share station extension or utilize a separate extension
- On hook dialing
- Message Waiting/Ring Indicator
- Desk or wall mounted
- Ring volume control
- Four available ring tones.
- Available in almond and black

FIGURE 2–20

Note: This single line telephone set is FCC approved for direct connection to the public telephone network.
FCC # A3LKOR-24627-TE-T REN 0.9B
UL LISTED 19X9 FILE # ETI 8093

CONTENTS

PART 3. SPECIFICATIONS

The following tables provide technical data for the DCS hybrid/key telephone system.

3.1a	ELECTRICAL SPECIFICATIONS (PSU 40)
AC INPUT	112 (88–132) VAC (48–63 Hz)
POWER CONSUMPTION (MAX)	97 WATTS MAX. PER CABINET FUSE RATING 3 AMP
BTU RATING (MAX)	5.5 BTU/MINUTE
DC OUTPUT	+5 VOLTS 4.5 AMPS MAX -5 VOLTS 0.5 AMPS MAX -48 VOLTS 1.5 AMPS MAXIMUM

3.1b	ELECTRICAL SPECIFICATIONS (PSU 60)
AC INPUT	112 (88–132) VAC (48–63 Hz)* 240 (180–270) VAC (48–63 Hz)
POWER CONSUMPTION (MAX)	120 WATTS MAX. PER CABINET FUSE RATING 3 AMP
BTU RATING (MAX)	6.8 BTU/MINUTE
DC OUTPUT	+5 VOLTS 5.0 AMPS MAX -5 VOLTS 0.5 AMPS MAX -48 VOLTS 1.8 AMPS MAXIMUM

*Normal factory setting

CONTENTS

3.2 DIMENSIONS AND WEIGHTS

	HEIGHT	WIDTH	DEPTH	WEIGHT
DCS BASIC SYSTEM: SINGLE CABINET	21"	16"	7"	20 lb.
EXPANDED SYSTEM: TWO CABINETS	21"	38"	7"	40 lb.
EXPANDED SYSTEM: THREE CABINETS	21"	60"	7"	60 lb.
DIGITAL KEYSET (ALL MODELS)	4.25"	8.50"	9"	2.563 lb.
ADD-ON MODULE	4.25"	4.25"	9"	1.188 lb.
DOOR PHONE	5"	3.88"	1.25"	6.8 oz.

3.3 ENVIRONMENTAL LIMITS

OPERATING TEMPERATURE	32–104 °F/0–40 °C
STORAGE TEMPERATURE	-13–158 °F/-25–70 °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
SIM	1 PR. TWISTED	24	1300	400

*This is 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.

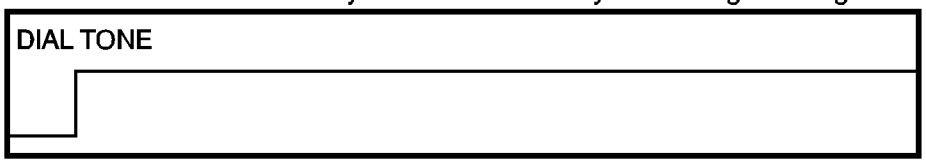
CONTENTS

3.5	SYSTEM TONES

TONE	FREQUENCIES	CADENCE
DIAL TONE	350 + 440 Hz	CONTINUOUS
RINGBACK TONE	440 + 480 Hz	1 sec on + 3 sec off
DID RINGBACK TONE	440 + 480 Hz	2 sec on + 4 sec off
BUSY TONE	480 + 620 Hz	0.5 sec on + 0.5 sec off
DND/NO MORE CALLS	480 + 620 Hz	0.25 sec on + 0.25 sec off
TRANSFER/CONF	350 + 440 Hz	0.1 sec on + 0.1 sec off
CONFIRMATION TONE	350 + 440 Hz	0.05 sec on + 0.05 sec off
ERROR TONE	480 + 620 Hz	0.05 sec of tone 1/0.05 sec of tone 2

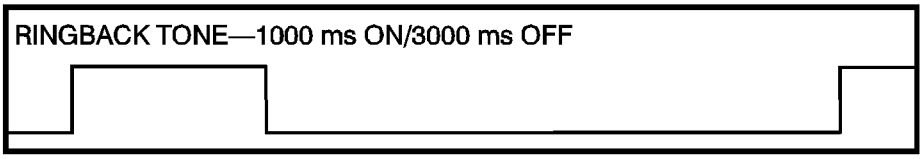
SYSTEM TONES

Intercom Dial Tone—A steady tone that indicates you can begin dialing.



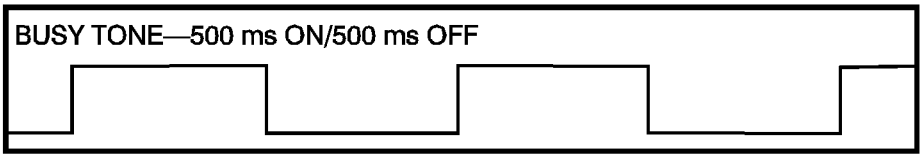
CONTINUOUS

Ringback Tone—Indicates the station you dialed is ringing.



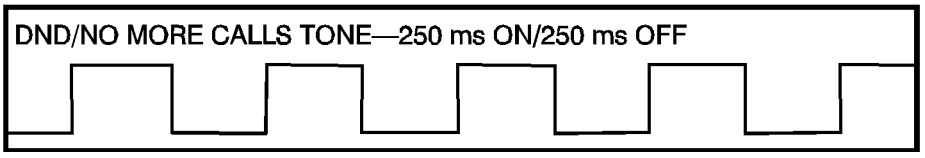
CONTINUOUS

Busy Signal—Indicates the station you dialed is busy.



CONTINUOUS

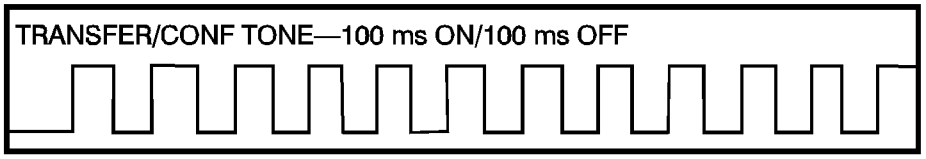
DND/No More Calls Tone—Fast busy tone advises you the station you dialed is in the Do Not Disturb mode or cannot receive any more calls.



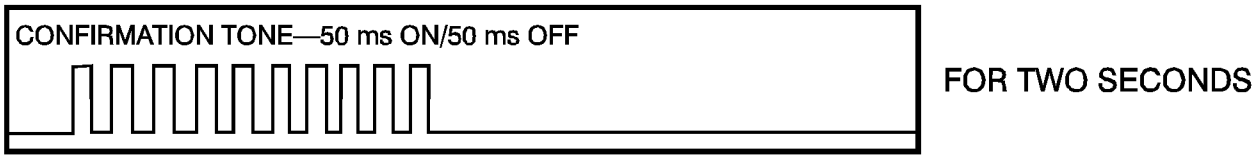
FOR TEN SECONDS

CONTENTS

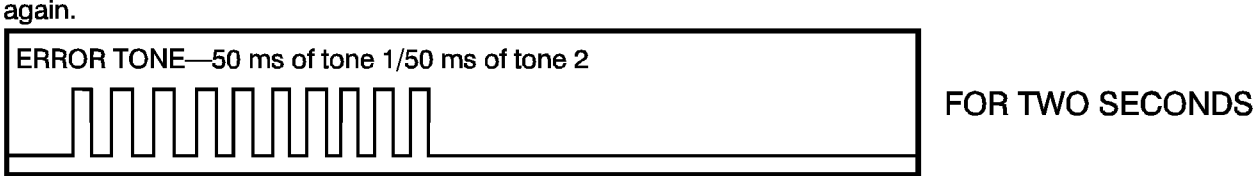
Transfer/Conference Tone—Indicates your call is being held and you can dial another party.



Confirmation Tone—Very short beeps followed by dial tone indicate you have correctly set or canceled a system feature.



ERROR TONE—A distinctive two level beeping tone indicates you have done something incorrectly. Try again.



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 (HDSET MODE)	RED	STEADY	–
TRSF (FORWARD ALL)	RED	STEADY	–

*Overrides headset mode

CONTENTS

3.7a RESERVE POWER DURATION ESTIMATES (in minutes)*

NO. OF CABINETS	UPS CAPACITY IN VOLT AMPS (VA) PSU 40						
	250	400	450	600	900	1250	2000
1	14	30	40	54	80	130	280
2	N/A	10	18	20	38	65	145
3	N/A	N/A	8	10	22	35	70

*These are approximate values. Specific UPS devices, due to their internal construction, can have greater or lesser values.

3.7b RESERVE POWER DURATION ESTIMATES (in minutes)*

NO. OF CABINETS	UPS CAPACITY IN VOLT AMPS (VA) PSU 60						
	250	400	450	600	900	1250	2000
1	12	26	38	49	77	107	258
2	N/A	8	15	18	36	57	119
3	N/A	N/A	N/A	7	20	33	55

*These are approximate values. Specific UPS devices, due to their internal construction, can have greater or lesser values.

PART 4. BUSINESS FEATURE PACKAGE

SYSTEM FEATURES

CONTENTS

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

CONTENTS

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 (ACCT) key without interrupting a conversation. Single line telephone users must temporarily interrupt the call by hook-flashing and dialing the feature access code. Account codes can be up to 12 digits long.

FORCED

When forced, they are always verified from a system list of 500 entries. Account codes are always printed on the SMDR report. They can contain digits 0–9.

VOLUNTARY

Users may **elect** to enter an account code for any call. When a user voluntarily dials an account code it is verified from a system list of 500 entries. They can include digits 0–9, star (✱) and #.

ALL CALL VOICE PAGE

Users can page all internal 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 80 keysets can be programmed to receive page announcements.

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.

AUTHORIZATION CODES

Authorization codes are used to give permission to make a call. These four 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 a system list of 250 entries.

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 250 entries.

CONTENTS

AUTO ATTENDANT

The integrated digital automated attendant feature provides eight ports per card for simultaneous answering and call processing. A maximum of five cards per system totaling 40 ports can be installed to handle high traffic applications. Sixteen professionally recorded prompts inform callers of the progress of their calls. Several examples are the following: “I’m sorry. There is no answer,” “That station is busy” and “Invalid number. Please try again.” Two minutes of battery-backed random access memory (RAM) provide up to 48 customer recordings for announcements or greetings. Twelve individual greeting boxes, each with its own dialing options, allow you to build call routing branches as needed. Callers are routed through the branches by dialing extension numbers or single digits. This system is 100% compatible with Starmail. NOTE: Requires optional hardware and/or software. Ask your dealer for details.

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.

CALLER IDENTIFICATION

AUTOMATIC NUMBER IDENTIFICATION (ANI)

ANI allows display keyset users to see the calling party’s number on an incoming call. ANI provided on digital T1 lines allow use of all the features usually associated with Caller ID lines to be used on a digital T1 line. ANI shares CID features such as Save, Store, Next Call and Review call information. ANI service providers provide only the calling number information. ANI name can be provided by using the CID/ANI translation table to associate frequent callers with a name. The ANI feature is dependent on having an LCD keyset to show number in the top line of the display.

CALLER ID

Caller ID requires that optional software and hardware be installed in the DCS KSU. In addition, Caller ID service must be provided by your local telephone company. The availability of the calling party name or number depends on the type of CID service offered by your local telephone company. The Caller ID feature is dependent on having an LCD keyset to show the name or number in the top line of the display. NOTE: Requires optional hardware and/or software. Ask your dealer for details.

CONTENTS

NAME/NUMBER DISPLAY

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

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 or ANI information associated with this next call in queue at your station. Either the CID name or CID/ANI number will show in the display depending on your N/N selection.

SAVE CID/ANI NUMBER

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

STORE CID/ANI NUMBER

At any time during an incoming call that provides CID or ANI information, you may press the STORE key. This saves the CID/ANI 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 or ANI information before you retrieve the call. This will influence how you choose to handle the call.

CID/ANI REVIEW LIST

This feature allows display keyset users to review CID/ANI 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.

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, 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.

CONTENTS

ABANDON CALL LIST (50)

The system has a system-wide abandon call list that stores CID/ANI information for the last 50 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.

CID/ANI ON SMDR

The Station Message Detail Records report can be set to include CID/ANI name and CID/ANI 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 (350)

The system provides a translation table for 350 entries. When the CID or ANI number is received, the table is searched. When a match is found, the system will display the corresponding name. This will allow users in areas that do not support deluxe Caller ID or only have ANI service to provide names for regular callers. In software version 2.x or lower, the system provides a translation table of 250 entries.

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.

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.

CONTENTS

NO ANSWER

This feature forwards calls that are not answered within a preprogrammed time. The user can originate calls as usual and receive calls 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.

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

This feature forwards C.O. calls to an external number via a central office trunk if allowed by class of service. These C.O. calls forward only after the programmable external call forward delay timer expires.

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.

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.

CALL HOLD (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.

CALL HOLD (REMOTE)

Outside calls can be placed on hold at a remote station. 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.

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

CONTENTS

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.

GROUPS (20)

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 20 pickup groups available with an unlimited number of station in any group. 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.

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. Keysets receive an off-hook ring signal through the speaker and single line stations receive a tone in 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.

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.

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

Each Trunk A and Trunk A1 card provides a dry contact pair 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.

CONTENTS

CONFERENCE

The system allows five simultaneous conferences.

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.

COMPUTER TELEPHONY INTEGRATION (CTI)

Computer Telephone Integration (CTI) allows integration between the Prostar DCS and a personal computer system (PC) or a local area network (LAN). Caller ID service is required on TAPI and TSAPI inbound call applications that use the CID information to display computer records in conjunction with the presentation of the call to the station. TAPI and TSAPI are described below. Both are supported on DCS release 3.x or higher software.

TAPI

Jointly developed by Intel and Microsoft, TAPI (Telephony Applications Programming Interface) delivers telephony features to the Windows desktop. TAPI is an open application interface (OAI) protocol that supports First Party Call Control. A DCS Computer Telephony Module (CTM) is required to connect any keyset to a personal computer running Windows 3.1 or Windows 95. The number of CTMs that can be installed on a system is only limited to the number of keyphones. The features and functionality of the DCS keyset are not changed.

TSAPI

Telephony Services Application Programming Interface (TSAPI) was developed by Novell and AT&T and is the method of integrating the DCS system to a computer. TSAPI is a LAN based solution allowing computers to communicate directly to the telephone system over the network system. This establishes a logical connection rather than a physical connection between telephone and computer. It eliminates the cost and administrative overhead of connecting every PC to a desktop phone. It emphasizes third-party call control. (Example: calls can be tracked as they are transferred, making it more suited to large office applications). TSAPI can emulate first-party type call control for the Prostar DCS system, rather than from the telephone as TAPI does. For example, to make a call the DCS rather than the telephone would dial the phone number, and the call would be then transferred to the telephone. Novell Telephony Services 2.1 or higher specifies the data communications link between the Novell Netware file server running the Netware Telephony Services NLM and the Samsung DCS. The physical connection from the Novell

CONTENTS

Telephony server to the DCS is an EIA-232 connection via a Samsung Serial Interface Module (SIM).

CUSTOMER SET RELOCATION

Customer Set Relocation allows the customer to exchange or swap similar stations in the DCS 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 PCMMC. 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.

DIALED NUMBER IDENTIFICATION SERVICE (DNIS)

When DNIS service is provided on an incoming trunk the DCS can route calls based on the numbers received.

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/COPPER

The DCS can use local telephone company-provided DID service via a T1 span, E & M or DID analog trunks. System programming provides a table of 500 entries used to route DID calls to specific ring destinations. When programmed, anyone dialing a user's personal number rings directly to that user's office. DID calls to a busy station have the option to return busy signal to the C.O. or return ringback to the C.O. When ringback is selected, the called station receives off-hook ring. Multiple DID numbers can ring the same extension or station group and display keysets show a DID directory name when ringing if a name has been programmed. DID calls can be assigned both a day and night ring destination. This allows routing of DID calls that have one destination during the system Day mode to be routed to a different destination during the system Night mode. DID calls that are directed to ring a voice mail machine can be identified by a special digit (see Voice Mail Integration). It is also possible to program E & M trunks to follow the DID translation tables, allowing the system to use both way DID type service.

CONTENTS

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. DISA lines can be used as both way lines or incoming only and may be active in day mode, night mode or both. The C.O. lines used for DISA must have disconnect supervision.

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 continue to increase; therefore, we have introduced a 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

A user knows the type of call received by the type of ring heard. Outside calls have a single ring repeated while internal calls have a double ring repeated.

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.

CONTENTS

DOOR PHONE NIGHT RING

The ring destination of door phone calls may be different at night than during the day. For example, large factories may want these calls directed to a security desk after hours.

E & M TIE LINES (T1/COPPER)

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 Day and Night 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.

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.

EXECUTIVE/SECRETARY POOLING

Each keyset may be defined as a BOSS or a SECRETARY in system programming. Each BOSS can have up to four SECRETARIES and each SECRETARY can have up to four BOSSES. These arrangements are known as executive/secretary pools. There can be multiple pools in a system. When a BOSS is in DND, all calls to the BOSS ring the first SECRETARY assigned to that BOSS; if that SEC-

CONTENTS

RETARY is busy, the call hunt to the next available SECRETARY assigned to that BOSS. If the SECRETARY must communicate with the BOSS while he/she is in DND, pressing the corresponding BOSS button on the SECRETARY's keyset results in an Auto Answer intercom call being made to the BOSS (providing the BOSS is free). A station can only be the BOSS of one SECRETARY pool. In addition, a station cannot be in more than one pool.

EXTERNAL MUSIC INTERFACES

Each Trunk A and Trunk A1 card provides an interface for connecting a customer-provided external music source. These sources can be used for background music, station music on hold, trunk music on hold and transfer music on hold.

EXTERNAL PAGE INTERFACES

Each Trunk A and Trunk A1 card provides one external page output and two zone control relays. Resources from multiple Trunk A and Trunk A1 cards can be combined to provide up to four external zones per tenant. Multiple relays may be assigned to each zone.

FLASH KEY OPERATION

While a user is on an outside line, pressing the FLASH key will flash 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. Default extension numbers begin with 201. Station hunt group access codes can be two or three digits beginning with the digit 5. These can be changed but it will affect other feature access codes. All user guides are written using the default numbering plan.

FLEXIBLE RINGING

Each C.O. line can be programmed to ring at any station or station group. Each line can be assigned a day ring destination and a night ring destination.

GROUND START TRUNKS (T1/COPPER)

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

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 1–250 seconds can be programmed to allow sufficient time to make a different call.

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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. 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.

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 DCS LCR program includes the following features:

- Option to use or not use LCR or a tenant basis
- Programmable LCR access code
- Digit analysis table 1000 entries each with ten digits
- Routing by time of day and day of week (4 time bands per day)
- Routing according to individual station class
- Modify digits table 100 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 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 are controlled by different security passcodes. Programming from a PC requires the PCMMC program.

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 seven days. In addition, the PCMMC 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 will receive a distinctive message waiting dial tone. Five message waiting indications can be left at any station.

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.

MUSIC ON HOLD—FLEXIBLE

When multiple Trunk A or Trunk A1 cards are installed in the system with external sources connected, each C.O. line may be programmed to receive one of the external sources, internally-generated tones, chime music or no music when it is placed on hold. If there are no Trunk A or Trunk A1 cards installed, each line may receive either a system-generated tone or no music. The system-generated tone is a beep every ten seconds. The Trunk A1 card provides an internally chimed music source playing Für Elise.

NIGHT SERVICE

The PROSTAR DCS provides separate ringing locations for all trunks in both the day and the night modes.

AUTOMATIC

Automatic night service allows each tenant to automatically go in and out of night service according to the system clock. There are separate time options available for each day of the week. This feature can be overridden by a manual night service key and passcode.

MANUAL

The operator presses the NIGHT key and then dials a passcode to change day mode to night mode operation.

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OFF PREMISES EXTENSIONS (OPX)

A single line (tip and ring) extension from an SLI card may be connected to telephone company-provided OPX circuits to remote locations. 8SLI cards and KDb-SLIs do not support off premises extensions.

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.

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.

PAGING

System software allows the use of four internal and four external paging zones. Stations can page any individual zone, all internal zones, all external zones or all zones 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.

POWER FAILURE TRANSFER

Each Trunk A and Trunk A1 card is equipped with two power fail relays. If power fails, these relays can be used to reroute the first two C.O. lines on the card to single line telephones. When power is restored to the system, the lines and stations return to normal operation and calls in progress will be disconnected.

PRIME LINE SELECTION

Any station can be programmed to select a specific line, line group, telephone number, station or station group.

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 simply pressing the line button. This is similar to 1A2 key telephone operation.

CONTENTS

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.

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. Customer-provided modems and a PC using an optional software package will be needed to implement this feature.

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.

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 DCS intercom ring cadence.

SPEED DIAL NUMBERS (1500)

A library of 1500 speed dial numbers may be allocated as needed. The system list can have up to 500 numbers and each station can have up to 50 numbers. Speed dial numbers are assigned in blocks of ten. Each speed dial number may contain up to 18 digits.

SPEED DIAL BY DIRECTORY

The DCS 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 can be used with the soft keys on the display keysets or as a programmable button.

STATION HUNT GROUPS (30)

System programming allows up to 30 station hunt groups. One of three ring pat-

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terns—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. The default directory numbers to call these groups are 501–529. Group 500 is reserved for the operator group and is called by dialing "0." Each station group has its own recall timer for calls transferred to that group.

STATION MESSAGE DETAIL RECORDING (SMDR)

The system provides, via an optional SIM, 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 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 and authorization codes.

SYSTEM ALARMS

When installed in the basic KSU, each Trunk A and Trunk A1 card has an alarm sensor pair. When this pair is short-circuited, the system will ring a preprogrammed destination with a customized display message. The alarm destination can be a station or station group.

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 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)

There are several programs that allow the DCS 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 separate. No intercom calling between tenants is permitted.

TOLL RESTRICTION

There are 250 allow and 250 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 day dialing class and a night dialing class.

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.

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 (11)

Outside lines can be grouped for easy access by dialing a code or pressing a button. There are 11 trunk groups available. Access codes are 9 and 80–89.

UNIFORM CALL DISTRIBUTION (UCD)

UCD is used whenever the user expects to have more ringing calls than people to answer them. It prevents callers from receiving busy signals or lengthy delays before answering. Callers reaching a busy station group are held in queue for an available agent. First and second announcements reassure the caller until an agent becomes free. Up to five separate UCD groups can be created. Programmable automatic logout removes a station from the group if a call is placed to an unattended station, thus preventing unanswered calls. A wrap-up timer prevents calls to a station for a programmable period of time to allow the agent to finish up work associated with the call.

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

CONTENTS

MAXIMUM OF FIVE GROUPS

The UCD group option allows callers in queue at a UCD group to be temporarily diverted to an announcement device and then placed back in the queue. A wrap-up timer will allow agents to complete paperwork before receiving the next UCD call.

CALL STATISTICS

UCD supervisor positions using a display keyset can monitor the number of calls in queue, the time that the oldest caller has been waiting, the total number of calls received for the current day and the average time a caller waits to be answered.

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 of the current day.

GROUP SUPERVISORS

Multiple supervisors can be assigned to each group or one station can be given supervisor status for multiple groups. The group supervisor (using a display keyset) can add and delete agents in real time from the group to handle the workload.

PRINTED REPORTS

Agent supervisors may run printed reports to a customer-provided printer, showing the data available on the supervisor displays.

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.

VOICE MAIL – INBAND INTEGRATION

The DCS system uses DTMF tones (inband signaling) 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 DCS, 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.

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VOICE MAIL – CADENCE

CADENCE is Samsung's proprietary Voice Mail/Auto Attendant/Fax System designed into a single board computer card that installs in any universal card slot (only one per system). This card, the CVM8A comes standard with (4) four channels of communication and can easily be expanded to eight (8). Simply plug on a small daughterboard to get the addition four channels.

Because this fully feature self contained system is integrated directly with the DCS processor, installation time is minimized, operation is streamlined and many features can be implemented that are not normally possible with a stand alone Voice Mail / Auto Attendant system.

The CADENCE system provides three basic functions: Auto Attendant, Voice Mail and Fax. Each of these component parts may be used individually or in combination.

NOTE: Requires DCS Release 4.x or higher software. Please ask your Sales/Service Company to provide you with additional information on the CADENCE product.

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.

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STATION FEATURES

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

4.2 STATION FEATURE DESCRIPTIONS

ADD-ON MODULE

The DCS add-on module (AOM) adds to the capability of any keyset or can be used by itself whenever a handset and dial pad are not desired. The 32 programmable buttons can be used for feature keys, DSS/BLF keys or one touch speed dial buttons.

APPOINTMENT REMINDER

Keysets with an alarm key can be used like an alarm clock. When programmed for a specific time, the 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 also show a programmed message when the alarm rings.

CONTENTS

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.

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

When customer-provided music sources are connected, each keyset user may listen to background music. The HOLD button turns background music on or off and the volume is controlled by the volume control keys. The number of music sources is dependent on the number of Trunk A and Trunk A1 cards installed in the system. Chime music is available from the Trunk A1 card.

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.

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 key lights steady red at the station that is forwarded. The TRSF key also lights if Forward All is set and no key is programmed for Forward All.

CONTENTS

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 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 DCS has 20 programmable pickup groups.

DIAL BY NAME

Each system and personal speed dial number can have an associated directory name. A speed dial number can be selected by scrolling alphabetically through the directory name list. This on-line “directory” allows the user to look up and dial numbers in seconds.

DIAL BY VOICE

The DCS can provide a station user the ability to place calls by speaking one of the names stored in his/her personal speed dialing bins. Non-display and single line stations can access this feature by dialing a feature code.

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

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.

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.

CONTENTS

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.

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. The ANS/RLS key lights if headset mode is activated by keyset programming only.

HEARING AID COMPATIBLE

All DCS 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

Each Trunk A and Trunk A1 card provides a ring output that may be connected to a customer-provided amplifying device. The output can then be assigned to ring with a specific station to provide loud ringing capability.

MESSAGE WAITING LIGHT/INDICATION

When a message indication is left at a keyset, the MESSAGE button will slowly flash red. Single line telephones will receive a distinctive dial tone to notify them that a message is waiting. If the SLT has a message waiting lamp (85~96 VDC) it can be light steady flash in addition to the distinctive dial tone. Requires the 8MWSLI card. Message waiting indications can be left for any station or group of stations.

MUTE MICROPHONE/HANDSET

Any keyset user can mute the keyset's handset transmitter by pressing the MUTE key. In addition, 24 button and 12 button keyset users can also mute the keyset microphone while the keyset is in speakerphone mode.

CONTENTS

OFF-HOOK RINGING

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

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.

OFF-HOOK VOICE ANNOUNCE (EXECUTIVE)

A keyset associated with a 32 button add-on module (AOM) 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 32 button AOMs.

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.

PROGRAMMABLE KEYS

LCD 24B and STD 24B keysets have 24 programmable keys, LCD 12B and Basic 12B keysets have 12, and 7B keysets have 7. 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.

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PROGRAMMED STATION MESSAGES

Any station may select one of twenty messages to be displayed at a calling party's keyset. Ten messages are factory-programmed and the remaining ten can be customized by the system administrator (16 characters maximum).

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.

PULLOUT DIRECTORY TRAY

A pullout directory tray is conveniently located beneath all keysets. It is used to record station directory names and speed dial numbers.

PULSE TO TONE SWITCHOVER

When dialing a number on a dial pulse network, a station user can dial # and the DCS system will begin to send DTMF.

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.
- 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.
- 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.

CONTENTS

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

LCD 24B, STD 24B, LCD 12B and Basic 12B keysets have a built-in speakerphone. The speakerphone enables calls to be made and received without the use of the handset.

STATION LOCK

With a programmable personal station passcode, any keyset can be locked and unlocked. A locked keyset cannot be used to make or receive calls.

TRI-COLORED LIGHTS

LCD 24B and STD 24B keysets have 16 keys equipped for tri-colored LED indications (green, red and amber). LCD 12B and Basic 12B models have six of these keys and 7 button keysets have three. 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. The newest base wedge may not fit all wall mounting scenarios so in these cases the original wall mount/base wedge unit should be used.

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DISPLAY FEATURES

4.3 DISPLAY FEATURE 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 N/N key is pressed to view the other piece of CID information.

CONTENTS

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 selection.

SAVE CID 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 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 information before he/she retrieves the call. This will influence how the user chooses to handle the call.

CID 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 information is available for an incoming call, the selected stations can know to whom the DCS 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 (50)

The DCS has a system-wide abandon call list that stores CID information for the last 50 calls that rang but were not answered. The list is accessed using the operator's passcode. When reviewing this list, the user is provided options to CLEAR the entry or DIAL the number. The user can use the NND key to toggle between the CID name, CID number and the date and time the call came in. The system must be using LCR to dial numbers from the abandon call list.

CONTENTS

CALLING PARTY NAME

For intercom calls, LCD 24B and LCD 12B 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.

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.

CONTENTS

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.

UCD SUPERVISOR DISPLAYS

With the optional AA card, when UCD is used, multiple supervisors can view information about the UCD groups 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).

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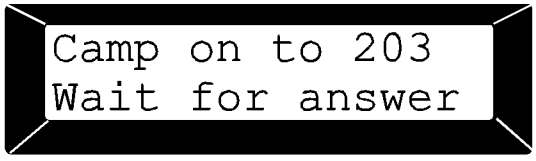
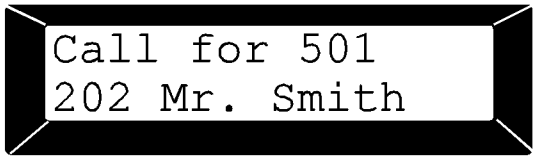
SAMPLE DISPLAYS

PROSTAR LCD 12B and LCD 24B 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.

Idle display shows extension, name, day, date and time.



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

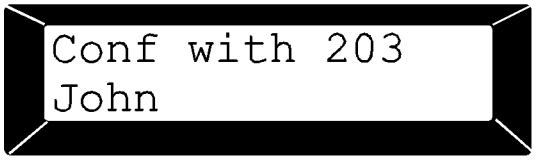


This station in the sales department is receiving a group call from Mr. Smith.

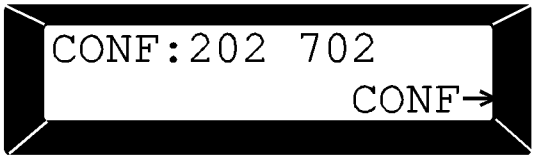
This display tells you this is a new incoming call to the sales department.

This station is calling station 203 which is currently busy.

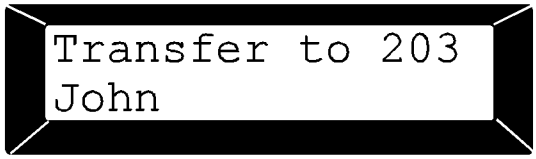
This station is receiving an off-hook voice announcement from station 203.



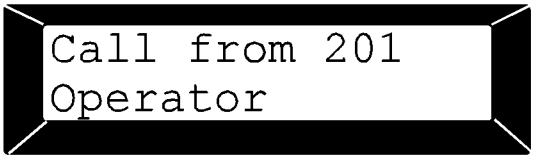
This station is on a conference call with John, extension 203. Assume other parties will hear your conversation.



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



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



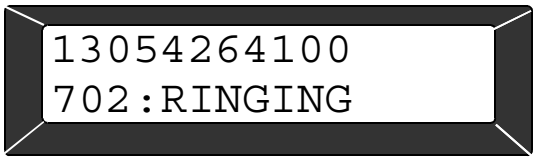
This station is receiving a call from extension 201.

This station is setting the Do Not Disturb feature.

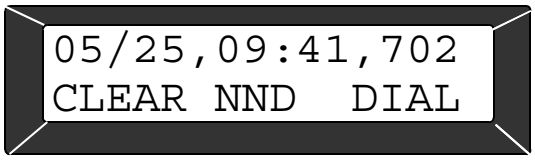
This station is speaking on trunk 703.

SAMPLE CALLER ID DISPLAYS

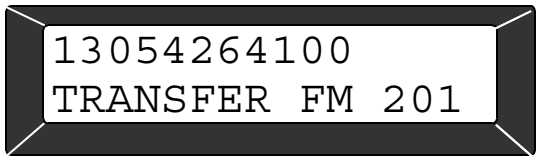
CONTENTS



This display shows an incoming call from 1-305-426-4100 on Line 702 ringing directly at your station.



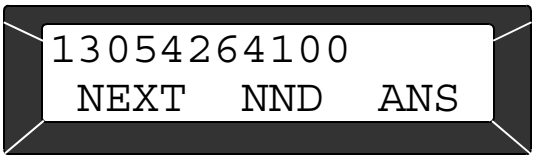
This display shows the information on the abandoned call list. This call came in on May 25 at 9:41 A.M. on line 702. The user can CLEAR the entry, DIAL the caller back or examine further NND information.



This display shows a call from 1-305-426-4100 that has been transferred to you from station 201.

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.

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.



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

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

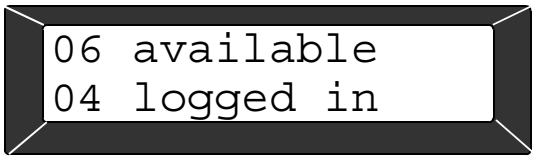
This display can be seen when investigating an intercom call. The investigator can BARGE-in or DROP the connection.

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.

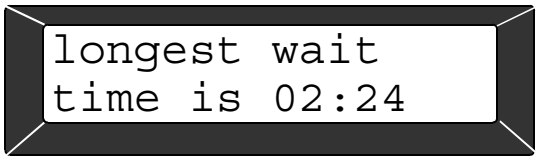
SAMPLE UCD DISPLAYS

CONTENTS

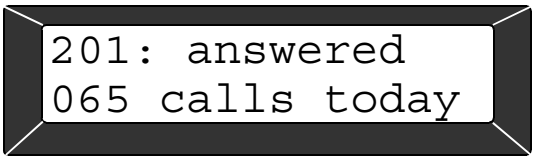
There are five calls currently waiting to be answered by the UCD group.



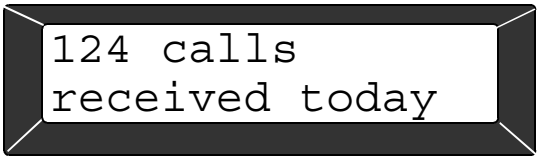
There are six members in the group. Four of the members are currently logged in.



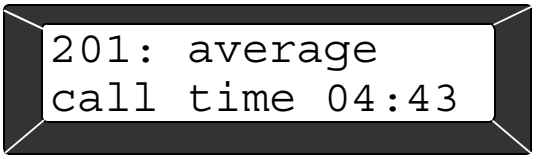
The longest call on hold (waiting to be answered) was for two minutes, 24 seconds. This data applies to all calls since the supervisor data was last cleared. It does not necessarily represent calls currently in queue.



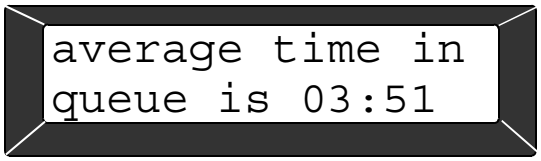
The agent at station 201 has answered 65 calls today.



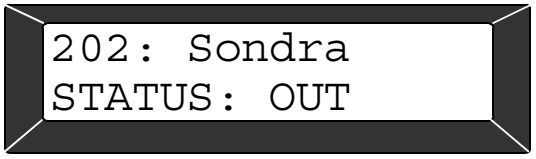
The UCD group has received 124 calls today.



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



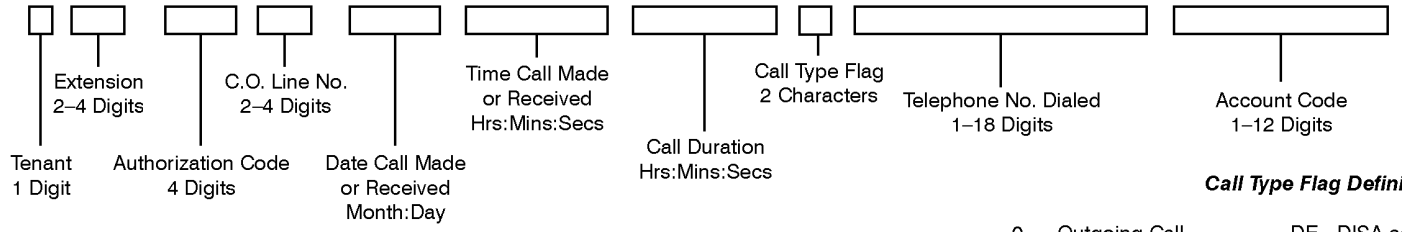
The average time on hold (waiting to be answered) is three minutes and 51 seconds.



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

SMDR REPORT FOR [Samsung R & D] 09/23/94 17:30

T	EXT	AUTH	TRK	MM/DD	STT.TIME	DURATION	FG	DIALED DIGIT	ACCOUNT CODE
1	208		705	09/23	16:12:33	00:05:12	OT	12145551234567	
1	226		703	09/23	16:13:31	00:00:29	IT		
1	202		703	09/23	16:14:00	00:00:25	TT		
1	210		704	09/23	16:15:28	00:01:52	O	4205069	1234567890*#
1	201		702	09/23	16:15:51	00:01:45	I		
1	211		703	09/23	16:19:53	00:00:25	T		987654321012
1	204	5555	703	09/23	16:18:16	00:01:57	O	4205068	
1	208		702	09/23	16:21:12	00:00:19	IT		
1	210			09/23	16:21:31	00:04:15		ALARM RINGING	
1	211		706	09/23	16:20:59	00:02:43	O	18005551234	
1	208			09/23	17:04:10			DND ON	
1	208			09/23	17:12:07			DND OFF	
1	207			09/23	17:12:05			GROUP OUT	
1	207			09/23	17:16:55			GROUP IN	
1			735	09/23	17:17:15	00:00:11	DE	3833	
1	209		735	09/23	17:17:38	00:00:30	DI		
1	735		709	09/23	17:18:08	00:12:19	DO	13055551234	
1	706		701	09/23	17:25:15	00:00:28	FI		
1	701		706	09/23	17:25:15	00:10:25	FO	4205071	
1	312	2326	705	09/23	18:00:03	00:08:12	O	13054264100	232552779600



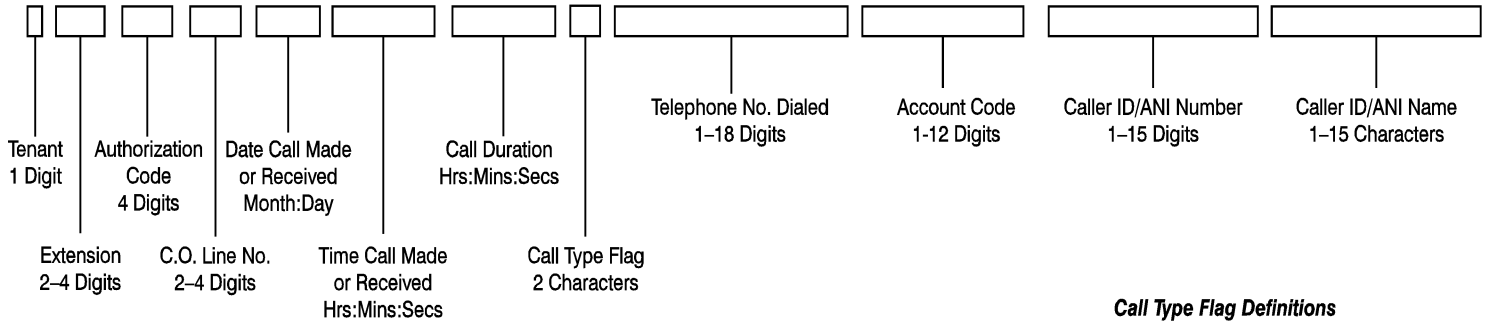
Call Type Flag Definitions

0	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
		TT	Caller received a transferred call and transferred it again

4.4 SAMPLE SMDR PRINTOUT (WITHOUT CALLER ID)

SMDR REPORT FOR [CID/ANI Sample] 01/02/98 17:12

T	EXT	AUTH	TRK	MM/DD	STT.TIME	DURATION	FG	DIALED DIGIT	ACCOUNT CODE	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			
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			
1	203		702	01/02	17:28:04	00:00:00	O	4264385			
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	00:00:00	OT	5556420			
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			
1			701	01/03	17:56:02	00:00:05	A			13055556733	ALEX DAULTON
1			701	01/03	17:56:07	00:00:54	A			13055559723	CHAZ NEWMAN



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

Call Type Flag Definitions

0	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
IA	Incoming answered call		

4.6 SAMPLE UCD REPORT

CONTENTS

```
=======================================================
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
```

CONTENTS

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.

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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

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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.

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PART 5. GENERAL USER INFORMATION

5.1 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. If not installed and operated in accordance with the instruction manual, it may cause interference with 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.

The following measures can be tried:

1. Reorient the receiving antenna.
2. Relocate the telephone with respect to the receiver.
3. Move the telephone equipment away from the receiver.
4. Plug the Key Service Unit into a different AC outlet so that the KSU and receiver are on different circuits.

5.2 FCC REQUIREMENTS

The PROSTAR DCS 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.

NOTIFICATION TO TELEPHONE COMPANY

Before connecting the DCS system to the telephone network, the telephone company may request the following information:

- Your telephone number or all numbers that will be connected to the DCS.
- FCC Registration Numbers:
  Key System—Fully Protected A3LKOR-22627-KF-E
  Multi-Function (Hybrid)—Fully Protected A3KLOR-22493-MF-E
- Ringer Equivalence Number 0.5 B for TRK-A/A1 and TRK-B/B1
- Ringer Equivalence Number 1.5 B for TRK-C1

CONTENTS

The PROSTAR DCS may be configured as a key system or a hybrid system. Depending on the method of operation, the appropriate FCC number must be given to the telephone company. Certain features such as pooled access by button or dial access, LCR, off premise extensions and tie lines may require the hybrid registration. Check with the local telephone company providing the service if you are in doubt. It is the customer's responsibility to comply with local telephone company tariffs.

TELEPHONE CONNECTION REQUIREMENTS

The Federal Communications Commission (FCC) has established rules which permit the DCS to be connected directly to the telephone network using telephone company network access jacks usually referred to as "Registered Jacks."

5.3 TELEPHONE COMPANY INTERFACES

CIRCUIT TYPE	DCS CARD TYPE	FACILITY INTERFACE CODE	NETWORK JACK
LOOP START LINE	TRK-A TRK-A1 TRK-B TRK-B1 TRK-C1 T1	O2LS2 04DU9-BN	RJ21X RJ11C RJ14C RJ48C
GROUND START LINE	T1 GTRK	04DU9-BN 02GS2	RJ48C RJ21X RJ11C RJ14C
DID LINE	T1 DID	04DU9-BN 02RV2-T	RJ48C RJ21X RJ11C RJ14C
E & M TIE LINE	T1 E & M	04DU9-BN TL11M	RJ48C RJ2EX
OFF PREMISES EXTENSION	SLI-4 circuit board only	OL13C	RJ21X RJ11C RJ14C

RINGER EQUIVALENCE (REN)

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of the RENs should


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not exceed 5.0. To be certain of the number of devices that may be connected to the line, as determined by the number of RENs, contact the telephone company to determine the maximum REN for the calling area.

INCIDENCE OF HARM

If the terminal equipment, the PROSTAR DCS, 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 the necessary modifications so that you may maintain uninterrupted service.

SERVICE CENTER

If trouble is experienced with the PROSTAR DCS, please contact your local SAMSUNG TELECOMMUNICATIONS AMERICA at (305) 592-2900 for repair or warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

FIELD REPAIRS

Only technicians certified on the PROSTAR DCS are authorized by SAMSUNG TELECOMMUNICATIONS AMERICA to perform system repairs. Certified technicians may replace modular parts of a system to repair or diagnose trouble. Defective modular parts can be returned to SAMSUNG TELECOMMUNICATIONS AMERICA for repair.

GENERAL

This equipment must not be used on coin telephone lines. Connection to party line service is subject to state tariffs.

The DCS system uses toll restriction and LCR features that are programmed to allow dialing over the public telephone network. The North American Numbering Plan (NANP) determines these network area codes and exchange codes. Failure to update the system programming or software may deny you access to new area codes and exchanges. Bell Communication Research (Bellcore) administers the NANP and publishes it. To obtain the latest information and keep your system current, contact Bellcore at (201) 829-3071.

HEARING AID COMPATIBILITY

All models of the PROSTAR DCS are hearing aid compatible as specified in Part 68 of the FCC Rules.

5.4 UNDERWRITERS LABORATORIES

The PROSTAR DCS system has been tested to comply with safety standards in the United States as listed below. This system is listed with Underwriters Laboratories.

LISTED

83X3

E118093
Project No.: 98NK12209

5.5 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 copyrighted music is transmitted through the Music on Hold feature. SAMSUNG TELECOMMUNICATIONS AMERICA hereby disclaims any liability arising out of failure to obtain such a license.

5.6 EQUAL ACCESS REQUIREMENTS

The DCS is capable of providing users access to interstate providers of operator services through the use of access codes. Modifications of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumer Act of 1990 and Part 68 of the FCC Rules.

5.7 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 passcodes and periodically review your telephone records for unauthorized use.

PART 6. HOTEL / MOTEL FEATURE PACKAGE

CONTENTS

6.1 GENERAL OVERVIEW

The DCS *Hotel Operator* software package combines the DCS business features with additional features created for the Hotel/Motel industry. This combination meets the requirements of the hotel general business offices as well as those of the hotel guest.

Samsung *"Hotel Operator"* is designed to operate in small to medium sized hotels, up to approximately 75 rooms, without the additional cost of a Property Management System (PMS). However when used in larger hotels, the owner/operator may choose to interface the Transaction Record Output to a PMS.

The key to the *Hotel Operator* is the front desk, "administrator's" display telephones. Special keys/buttons such as: Check In, Check Out, Room Bill, Room Status, and Credit key make it convinient to perform day to day routine functions. At any administrator's display telephone just a few button presses are required to print out various types of reports such as Room Bill, Wakeup Activity, Room Status and separate Room Telephone Bills, etc. (see sample reports later in this section).

Because the *Hotel Operator* software runs on the same DCS hardware as the business software it has the same amount of battery backed RAM to store customer data. By reducing the number of groups or size of tables of some non-hotel related features more of the RAM was made available to store hotel transaction records. A transaction record is one line of the guest room bill. The buffer holds 4,000 transaction records. During the Check Out process the guest's room bill is printed out then the associated transaction records are automatically purged from the buffer making space for additional guests transactions.

The following table 6.1 details the limitations applied to the general business feature package.

CONTENTS

DCS SOFTWARE MODIFICATIONS FOR HOTEL / MOTEL PACKAGE

1.	**ACCOUNT CODES** Both FORCED and VOLUNTARY account codes have been eliminated in the Hotel/Motel software package.
2.	**AUTHORIZATION CODE TABLE** The number of entries in the Authorization Code table has been reduced from 250 to 64 entries.
3.	**CID REVIEW BLOCKS** The number of CID / REVIEW blocks on the system has been reduced from 1000 to 250.
4.	**DID TRANSLATION TABLE** The number of entries in the DID translation table has been reduced from 500 to 100 entries for each of the 3 ring modes; DAY, NIGHT and WEEKEND.
5.	**PAGING GROUPS** The number of keysets that can be in any internal page group has been reduced from 80 to 32.
6.	**PICKUP GROUPS** The number of pickup groups on the system has been reduced from 20 to 5 and the number of members per group has been limited to 32.
7.	**SPEED DIAL LIBRARY** The amount of speed dial numbers available on the system has been reduced from 1500 to 500.
8.	**STATION GROUPS** The number of station groups in the system has been reduced from 30 to 10, (groups 500 to 509), and the number of members for each group has been limited to 32.
9.	**TENANT SERVICE** The tenant service partition is not necessary for the Hotel / Motel package, so this feature has been removed.
10.	**RING MODES** Since hotels have 24 hour operation, with multiple shifts, the DCS Hotel/Motel software has been modified from two to three ring modes (A, B, C). That is, the system trunks, door phones, etc. can be programmed to ring a destination for each of these three modes. These modes can be changed either manually or automatically, according to the hotel's needs.

TABLE 6.1

6.2 HOTEL / MOTEL FEATURES

CONTENTS

CALL COSTING

The DCS 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 / CHECK OUT

The DCS 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.

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.

CONTENTS

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.

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 code to be entered to add or delete a charge to a room. The staff codes are assigned in the Authorization Code table. The staff 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. An SLT must be assigned as an Administrator or Normal type station. Guest room telephones can not use this feature.

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 access a trunk (or LCR) and hang up, passing outside dial tone to the guest. Or the operator can dial the number for the guest and transfer the ringing call back to the guest.

PRINTED REPORTS

The DCS Hotel / Motel software will provide various printed reports of selected activities throughout the system. These reports are initiated from any administrator’s keyset display and sent to a printer connected to a serial interface module (SIM).

CONTENTS

The SIM port will be assigned as HM REPT. The DCS supports up to two (2) SIMS maximum. Following is a brief description of each report.

Unlike an expensive Property Management System, with virtually unlimited data storage space, the DCS cannot maintain transaction information indefinitely. For this reason, guest room and meeting room information is purged at check out. Similarly the phone bill information will also be deleted, when specified. In order to provide a permanent record, it is advisable to use NCR 2 part forms or initiate a printout of the billing information, prior to printing and deleting it.

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.

WAKE UP CALL ACTIVITY

This report will detail all wake up call information related to a specific room since check in. The information 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.

CONTENTS

ROOM STATUS CONDITIONS

The system will indicate the status of each guest or meeting room when requested. See Room Status Review. 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.

ROOM STATUS REVIEW

The DCS 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.

CONTENTS

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 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 64 STAFF ID codes available in the system.

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. BUSINESS OFFICE – This is the default setting. The station will operate in the manner associated with a normal business station.
2. HOTEL 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 keyset 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.

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 deposit is required to re-activate the phone.

CONTENTS

TRANSACTION RECORD OUTPUT

The DCS 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 this output serial interface module (SIM). The SIM port will be assigned as PMS. This transaction stream would typically be connected to a PC with a PMS software package, for system reports.

WAKE UP CALLS

The DCS 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 SIM 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.

HOTEL / MOTEL

System Administrator Guide

for the SAMSUNG DCS System

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HOTEL Operator

for the DCS System

System Administrator Guide

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ABOUT THIS BOOK

This book contains instructions for the special Hotel / Motel features contained in your telephone system software. These features will generally be used by a front desk clerk to manage check in, check out, and various other room use related functions and by other employees to bill items to a room.

A copy of this guide should be kept in close proximity to any keyset that will be using some or all of these features as it will be a useful reference and staff training tool.

CHECK IN / CHECK OUT

GUIDE CONTENTS

CHECK IN

There are two methods that can be used, by an administrator display keyset, when checking a guest into a room.It is possible to check a guest into a room, whether you know an available room number or not.

The **CHECK IN** key is utilized when an available room number is known. The **HOTEL** key is utilized when an available room number is NOT known.

When a guest is checked into a room, the guest's name may be assigned to the room (the name will automatically be erased when the room is checked out).

Pressing the **PRINT** key at the end of the check in procedure will print a room account summary (this can be used to verify proper application of credits, guest's name, room charge, taxes, etc.).

CHECK OUT

There are two methods that can be used, by an administrator display keyset, to check a guest out of a room, these are the **CHECK OUT** key and the **HOTEL** key.

At check out a room status can be changed to **HOLD**, for late check out purposes. When a room is set as **HOLD**, the room charge will not automatically increment, but other room related services can still be billed (such as room service and phone calls).

Additionally, when the **CHECK OUT** key is pressed it is possible to request a printout of current room charges without checking the guest out (for reference purposes).

NOTE: Systems utilizing multiple phones in guest/meeting rooms, must check in/out each extension for proper billing. The system does not cross reference multiple extensions in the same room.

CHECKING IN A GUEST WHEN YOU KNOW AN AVAILABLE ROOM NUMBER

GUIDE CONTENTS

ACTION	DISPLAY
1. Press **CHECK IN** key and enter the room number.	`Enter Room NUMBER:XXXX`
2. Enter your Staff ID CODE.	`Enter Staff Code XXXX`
3. Enter the item code for the room (billing code).	`Enter Item Code XX`
4. Enter the nightly room rate (Item Cost) you must enter 5 digits.	`Enter Item Cost XXX.XX`
5. Press **ACCEPT** if the information in the display is correct or press **CHANGE** if the information is incorrect.	`Rm:XXXX $XXX.XX ACCEPT CHANGE`
6. If the guest wishes to prepay for the room press the **CASH** soft key.	`Check In Room CREDIT CASH`
7. If the guest wishes to pay at check out press the **CREDIT** key.	
8. Select if the cash deposit is to be applied to the cost of the room or to phone calls. The deposit type not selected may be accessed by using the **CREDIT** key after the check in procedure is completed. See pages 10 and 11.	`Cash Deposit ROOM PHONE`
9. Enter the amount of the deposit, you must enter 5 digits.	`Credit Room $XXX.XX`
10. Press **ACCEPT** if the information shown is correct. If it is incorrect press **CHANGE** and enter the correct amount.	`Rm:XXXX $XXX.XX ACCEPT CHANGE`
11. You may enter the guest's name (up to 11 characters) into the system, if desired, using the procedure described on page 7 of this booklet.	`Name: EXIT PRINT`

12. Pressing exit will complete the check in procedure and return your telephone to idle.

13. Press **PRINT** to receive the initial room account summary.

```
Name:John Smith
EXIT       PRINT
```

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CONTENTS

CHECKING IN A GUEST WHEN YOU DON'T KNOW AN AVAILABLE ROOM NUMBER

GUIDE CONTENTS

ACTION	DISPLAY
1. Press **HOTEL** key.	`Room Check Phone` `Stat Out Bill`
2. Press **ROOM STATUS**.	`Enter Room:XXXX` `AVAIL RPT OCCUP`
3. Press **AVAIL**.	`Smoking Room?` `YES NO`
4. Select room type, first available room is displayed.	`209` `CHECK IN EXIT`
5. Scroll through the available rooms using the **VOL UP** and **DOWN** keys and select the desired room by pressing the **CHECK IN** soft key.	`215` `CHECK IN EXIT`
6. Enter your Staff ID CODE.	`Enter Staff Code` `XXXX`
7. Enter the item code for the room (billing code).	`Enter Item Code` `XX`
8. Enter the nightly room rate (Item Cost) you must enter 5 digits.	`Enter Item Cost` `XXX.XX`
9. Press **ACCEPT** if the information in the display is correct. If it is incorrect press **CHANGE** and enter correct amount.	`Rm:XXXX $XXX.XX` `ACCEPT CHANGE`
10. If the guest wishes to prepay for the room press the **CASH** soft key.	`Check In Room` `CREDIT CASH`
11. If the guest wishes to pay at check out press the **CREDIT** key.	`Check In Room` `CREDIT CASH`

12. Select if the cash deposit is to be applied to the cost of the room or to phone calls. The deposit type not selected may be accessed by using the **CREDIT** key after the check in procedure is completed.
See pages 10 and 11.

```
Cash Deposit
ROOM        PHONE
```

GUIDE CONTENTS

13. Enter the amount of the deposit, you must enter 5 digits.

```
Credit Room
$XXX.XX
```

14. Press **ACCEPT** if the information shown is correct or press **CHANGE** if it is wrong.

```
Rm:XXXX $XXX.XX
ACCEPT     CHANGE
```

15. You may now enter the guest's name (up to 11 characters) into the system, if desired using the procedure described on page 7 of this booklet.

```
Name:
EXIT         PRINT
```

16. Pressing **EXIT** will complete the check in procedure and return your telephone to idle.

```
Name:John Smith
EXIT         PRINT
```

17. Press **PRINT** to receive the initial room account summary.

```
Name:John Smith
EXIT         PRINT
```

ENTERING ROOM NAMES FROM YOUR KEYSET

GUIDE CONTENTS

You can assign an 11 character name to your guest room. This allows you to call the guests by using the directory dial feature. You can enter a guest's name during the check in procedure or use the following procedure:

To program a room name:

- Enter customer level programming.
- Press **TRSF** and then dial 104.
- Write the name of your guest using the dial pad keys. Each press of a key selects a character. Pressing the **NEXT** key moves the cursor to the next position. For example, if your guest name is "John Smith", press 5 for "J", press 6 three times to get an "O", press 4 twice to get an "H", press 6 twice to get an "N". Continue selecting characters from the following table to complete your guest's name.
- Press **TRSF** to store the name.

COUNT	1	2	3	4	5
DIAL 0	Q	Z	.	)	0
DIAL 1	space	?	,	!	1
DIAL 2	A	B	C	@	2
DIAL 3	D	E	F	#	3
DIAL 4	G	H	I	$	4
DIAL 5	J	K	L	%	5
DIAL 6	M	N	O	^	6
DIAL 7	P	R	S	&	7
DIAL 8	T	U	V	Q	8
DIAL 9	W	X	Y	(	9
DIAL *	:	=	[	]	*

CHECKING A GUEST OUT OF A ROOM USING THE CHECK OUT KEY

GUIDE CONTENTS

ACTION

1. Press the **CHECK OUT** key and dial the room number

DISPLAY

```
Enter Room
NUMBER:XXXX
```

```
Check Out Room?
YES   HOLD   PRINT
```

2. Press **YES** to check the guest out and print a room bill.
3. Press **HOLD** to hold the room for late check out.
4. Press **PRINT** to print a copy of the room bill without checking the guest out.

NOTES:

1. While a room is in **HOLD** status, room charge will not increment, while other guest room related charges can still be billed.
2. When a guest is checked out of a room, the room status is automatically changed to **NEEDS CLEANING**.

CHECKING A GUEST OUT OF A ROOM USING THE HOTEL KEY

GUIDE CONTENTS

ACTION

1. Press **HOTEL** key.

2. Press **CHECK OUT**.

3. Enter room number.

4. Press **YES** to check the guest out and print a room bill.

5. Press **HOLD** to hold the room for late check out.

6. Press **PRINT** to print a copy of the room bill but not check the guest out.

DISPLAY

```
Room Check Phone
Stat  Out  Bill
```

```
Enter Room
NUMBER:
```

```
Check Out Room?
YES  HOLD  PRINT
```

NOTES:

1. While a room is in **HOLD** status, room charge will not increment, while other guest room related charges can still be billed.
2. When a guest is checked out of a room the room status is automatically changed to **NEEDS CLEANING**.

DEPOSIT POSTING

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CONTENTS

The **CREDIT** feature allows an administrator display keyset to apply a deposit to a room bill. This deposit can be used to offset charges already incurred or to prepay for either of the room associated charges (room or phone).

This credit may be applied during check in or at any time during the guest's stay. Credits applied, will be automatically deducted from the room bill.

A credit applied to the room bill will be deducted from the total room bill.

At check in, a credit applied to the phone bill, will set a limit to the phone use (when the credit limit is reached, the system will give two beeps tones, and then disconnect the caller and restrict the phone, requiring additional deposits).

A credit applied to the phone bill, during the guest's stay, will deduct the deposit amount from the room bill, and set a limit to the phone use.

Pressing the **PRINT** key, at the end of the check in procedure will allow the administrator keyset to verify that credits were properly applied.

ADDING CREDIT TO A ROOM

GUIDE CONTENTS

ACTION	DISPLAY
1. Press the **CREDIT** key and enter the room number.	`Enter Room NUMBER:XXXX`
2. Enter the Staff ID CODE.	`Enter Staff Code XXXX`
3. Select **ROOM**.	`Add credit to ROOM PHONE`
4. Enter the amount to be credited.	`Credit Room XXXX $XXX.XX`
5. Press **ACCEPT** if the amount shown is correct.	`Rm:XXXX $XXX.XX ACCEPT CHANGE`
6. If the amount is incorrect press **CHANGE** and enter the correct amount.	

ADDING TELEPHONE CREDIT TO A ROOM

GUIDE CONTENTS

ACTION	DISPLAY
1. Press the **CREDIT** key and enter the room number.	`Enter Room NUMBER:XXXX`
2. Enter the Staff ID CODE.	`Enter Staff Code XXXX`
3. Select **PHONE**.	`Add credit to ROOM PHONE`
4. Enter the amount to be credited.	`Credit Phone XXXX $XXX.XX`
5. Press **ACCEPT** if the amount shown is correct.	`Rm:XXXX $XXX.XX ACCEPT CHANGE`
6. If the amount is incorrect press **CHANGE** and enter the correct amount.	

NOTE:

Adding a telephone credit will set a limit to the phone use. When the credit limit is reached the system will alert the system with two beeps in his/her ear as a warning tone, followed by a short grace period, then the system will disconnect the caller and the phone will be restricted, requiring additional deposits be made to reactivate the phone.

GUEST SERVICES BILLING

GUIDE CONTENTS

A billable item or service may be added to a guest's room bill by either a display keyset or a single line telephone.

A display keyset can utilize the **BILL** feature key and follow the LCD instructions. A single line telephone can add an item or service charge, by dialing the **BILL** feature access code, and following the SLT billing procedures.

Charges for items or services may also be reduced or deleted from a guest's room bill. Only an administrator display keyset can reduce or delete an item or charge from a room bill.

NOTE:

At the end of the delete procedure, the system will prompt for a passcode. This passcode is provided by your service company.

BILLING AN ITEM TO A ROOM FROM AN ADMINISTRATOR KEYSET

GUIDE CONTENTS

ACTION	DISPLAY
1. Press the **BILL** key and then select **ADD**.	`Service Charge` `ADD DELETE`
2. Enter the room number the item is to be billed to (if the room is not occupied you will hear an error tone and be returned to idle).	`Enter Room` `Number:XXXX`
3. Enter the Staff ID CODE.	`Enter Staff Code` `XXXX`
4. Enter the Item Code.	`Enter Item Code` `XX`
5. Enter the amount to be charged for the item. You must enter 5 digits.	`Enter Item Cost` `$XXX.XX`
6. If the amount shown is correct press the **ACCEPT** key.	`Rm:XXXX $XXX.XX` `ACCEPT CHANGE`
7. If the amount shown is incorrect press the **CHANGE** key and enter the correct amount.	
8. If the deposit amount is exceeded, you will hear an error tone and the display will read **DEPOSIT EXCEEDED**.	

SINGLE LINE TELEPHONE BILLING INSTRUCTIONS

GUIDE CONTENTS

To bill an item to a room from a Single Line Telephone:

- Lift the handset and receive dial tone.
- Dial the **BILL** feature access code _____.
- Dial the room number to be billed.
- Dial your staff ID CODE.
- Dial the item code.
- Enter the cost (in five digit format)
  Example: 01500 = $15.00
- Receive confirmation tone and hang up.

DELETING OR REDUCING A CHARGE ON A ROOM BILL

GUIDE CONTENTS

ACTION	DISPLAY
1. Press the **BILL** key and select **DELETE**.	`Service Charge` `ADD DELETE`
2. Enter the guest room number.	`Enter Room` `Number:XXXX`
3. Enter the Staff ID CODE.	`Enter Staff Code` `XXXX`
4. Enter the Item Code.	`Enter Item Code` `XX`
5. Enter the amount to be deleted.	`Enter Item Cost` `$XXX.XX`
6. If the amount shown is correct press the **ACCEPT** key. If it is incorrect press **CHANGE** and enter the correct amount.	`Rm:XXXX $XXX.XX` `ACCEPT CHANGE`
7. The system will then prompt for a manager passcode to allow the credit to take place. This passcode will be provided by your service company.	`Enter Passcode` `XXXX`

LOBBY PHONE SERVICE

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CONTENTS

This feature allows an administrator display keyset to bill a call from a remote location, such as a lobby phone, to a guest's room bill.

The guest calls from the lobby phone to the hotel operator and requests the operator to bill an outside call to his/her room. The operator will press the **RB** key placing the guest on transfer hold. The operator will then enter the guest's room number and receive a confirmation tone.

The operator can then access a trunk or LCR and pass the dial tone to the guest, so that he can complete the call, or the operator can complete the call for the guest and pass the ringback tone to him.

If the room number dialed is not occupied, an error tone will be returned along with an error display. At this point the operator can press the **TRSF** key and reconnect to the guest.

BILLING A TELEPHONE CALL TO A GUEST ROOM FROM ANOTHER TELEPHONE (LOBBY PHONE SERVICE)

GUIDE CONTENTS

NOTE: Your keyset must have a **REMOTE BILLING** (RB) key to implement this feature.

When a guest wishes to place an outside telephone call from a restricted telephone such as a lobby or house phone, they must first place a call to the operator who will then perform the following procedure:

When a guest calls and asks for a call to be billed to his/her room, ask the guest for his/her room number.

ACTION	DISPLAY
1. Press the REMOTE BILLING (**RB**) key and enter the room number the call is to be billed to.	`Enter Room NUMBER:XXXX`
2. If the room is occupied you will receive this display.	`Call Billed To ROOM #:XXXX`
3. You may now dial “9” and hang up to transfer outside dial tone or you may dial the telephone number for the guest and hang up when you hear ringing.	
4. If the room number given is empty (there is no guest checked in that room) you will receive an error tone along with this display. You can now press the **TRSF** key to return to the guest and find out the correct room number.	`Error:Room XXXX Is Empty`

NIGHT SERVICE OPERATION

GUIDE CONTENTS

Your system is designed to have alternate modes of operation generally designated as **NIGHT** service. **NIGHT** service permits incoming calls to ring at different locations than normal day operation.

Since it is customary, to have more than two operating modes, in the Hotel / Motel industry, the DCS HOTEL/MOTEL software allows for three different ringing modes. These ringing modes are designated as **DAY**, **NIGHT** and **WEEK-END** operation.

NIGHT service may be set automatically or manually. Class of service dialing restrictions can also be set to correspond with these modes. You may change the **NIGHT** service at any time. For Automatic Night Service each mode has an on time and off time for each day. If no automatic timer is set, you must change modes manually.

AUTOMATIC NIGHT SERVICE

Automatic Night Service is turned on and off according to the programmed on and off times. These programmed times use the system clock as a reference, so the system clock must be set correctly.

NOTE: Manually setting Night Service will override automatic settings.

MANUAL NIGHT SERVICE

There are several methods that can be used to manually set Night Service. Two of these methods require administrator or business keysets with programmed NIGHT keys. The third is the single line telephone operation.

- The first method utilizes a single **NIGHT** key on the administrator or business display keyset. When this key is pressed, the display will prompt you to enter a passcode. After entering the passcode, the display will prompt you to press the soft key that corresponds with the night service desired.

- The second method utilizes a dedicated **NIGHT SERVICE** key, for each of the three ring modes, on the administrator and business keysets. You simply press the key that corresponds with the Night Service mode desired. When this key is pressed, the display will prompt you to enter a passcode. After entering the passcode, the display will confirm that the desired mode is set.

- The third method is performed by an administrator or business single line telephone. From the single line telephone, dial the **NIGHT** feature access code, enter the passcode, and dial “0” for **DAY** mode, “1” for **NIGHT** mode, or “2” for **WEEKEND** mode. When properly set you will receive a confirmation tone.

GUIDE CONTENTS

NOTE: A keyset with no **NIGHT** key programmed, may access the feature in the same manner as a single line telephone.

WHEN USING A DISPLAY KEYSET WITH SINGLE NIGHT KEY

ACTION	DISPLAY
1. Press the **NIGHT** key.	`Enter Passcode`
2. Enter passcode	`Make a Selection` `DAY NIGHT WKEND`
3. Press **DAY**	`DAY service operation`
4. Press **NIGHT**	`NIGHT service operation`
5. Press **WKEND**	`WEEKEND service operation`

*Passcode will be provided by your service company.

WHEN USING A DISPLAY KEYSET WITH MULTIPLE NIGHT KEYS

ACTION	DISPLAY
1. Press the **NIGHT** key desired. 2. Enter passcode	`Enter Passcode`
3. If you pressed **DAY KEY**	`DAY service operation`
4. If you pressed **NIGHT KEY**	`NIGHT service operation`

5. If you pressed **WKEND KEY**

```
WEEKEND service
  operation
```

GUIDE CONTENTS

WHEN USING A SINGLE LINE TELEPHONE

To set night service from a business or administrator single line set:

- Dial **NIGHT** feature access code
- Dial passcode.
- Dial **0** for **DAY OPERATION**
  Dial **1** for **NIGHT OPERATION**
  Dial **2** for **WEEKEND OPERATION**
- Receive confirmation tone.
- Hang up.

*Passcode and feature access codes are provided by your service company.

NON DISPLAY KEYSETS

Non-display keysets can also manually change night service.

With a single NIGHT key:

- Press the **NIGHT** key and dial the passcode.
- Dial “0” for **DAY** mode, “1” for **NIGHT** mode, or “2” for **WEEKEND** mode. You will receive a confirmation tone when set.

With dedicated NIGHT keys:

- Press the NIGHT key that corresponds with the desired mode.
- Dial the passcode and you will receive a confirmation tone when set.

PRINTED REPORTS

GUIDE CONTENTS

PHONE BILL PRINTOUT

The Phone Bill option allows an administrator display keyset to print out the phone bill for a specific room.

If the guest wishes to pay for phone calls seperately from the room bill, the phone bill can be printed, and the associated call records can be deleted from the room bill.

If the guest wishes to receive a printout for reference purposes, the phone bill can be printed, without deleting the associated calls from the room bill.

GUEST AND MEETING ROOM PRINTOUT

When a guest or meeting room is checked out, the system will automatically print out the associated room bill. When a check out is completed, the room bill records are automatically deleted from the system memory.

A printout, for reference purposes, can also be printed out, without deleting the room bill records from the system memory.

There are two methods that an administrator display keyset can use to request these printouts. These are via the **CHECK OUT** feature key and **HOTEL** feature key.

ROOM STATUS PRINTOUT

Room Status Reports can be requested by the administrator display keyset. Please see the Room Status Review section.

WAKE UP CALL ACTIVITY PRINTOUT

Wake Up Call Activity Reports, for guest rooms, can be requested by the administrator's display keyset. Please see the Wake Up Call section.

PRINTING A PHONE BILL FOR A ROOM

GUIDE CONTENTS

ACTION

1. Press the **HOTEL** key.
2. Press **PHONE BILL**.

3. Enter the room number.

DISPLAY

```
Room Check Phone
Stat  Out   Bill
```

```
Enter Room
Number:XXXX
```

```
Print Phone Bill
&SAVE EXIT  &CLR
```

4. Pressing the **PRINT&SAVE** key will print out the current telephone charges for the selected room and will maintain the charges as part of the room bill.

5. Pressing the **EXIT** key will return your keyset to idle without printing anything.

6. Pressing the **BILL &CLR** key will print out the telephone charges for the selected room and delete the current charges from the room bill.

PRINTING A GUEST OR MEETING ROOM BILL

GUIDE CONTENTS

ACTION

1. Press the **CHECK OUT** key.

DISPLAY

```
Enter Room
NUMBER:
```

2. Enter the room number.

```
Check Out Room
 YES HOLD PRINT
```

3. Pressing the **YES** key will print out the room bill and set the room status to **NEEDS CLEANING**.

4. Pressing the **HOLD** key will set the room status to hold.

5. Pressing the **PRINT** key will print out the current room bill without checking out the room or changing the room status.

OR

6. Press the **HOTEL** key and then press **CHECK OUT**.

```
Room Check Phone
Stat  Out  Bill
```

7. Enter the room number and follow the above procedure.

```
Enter Room
NUMBER:
```

```
Check Out Room
 YES HOLD PRINT
```

ROOM STATUS REVIEW

GUIDE CONTENTS

An administrator keyset can view the room status condition of guest and meeting rooms. Room status can be viewed on an individual room basis, or by all rooms in any of the five possible status conditions or all rooms in all conditions at once.

The five room status conditions are: Available, Occupied, Needs Cleaning, Needs Maintenance, and Hold.

VIEWING AND CHANGING THE STATUS OF A ROOM

Administrator display keysets can view the status of individual rooms. During this procedure the administrator has the option to change the status of the individual room.

For check in purposes, Available and Occupied rooms can also be viewed during this procedure.

USING THE CONSOLE TO VIEW ROOM STATUS

An administrator phone, with a 64 button console attached, may temporarily view the status of stations.

When requesting room status view, all stations in the desired status will display on the 64 Button Console. These rooms will be displayed by their associated LEDs being lit steady red.

These LEDs will remain lit until the **ANS/RLS** button is pressed or the predetermined timer expires.

NOTE: Occupied room display includes all rooms with a guest checked in, regardless of Cleaning or Hold Status (an occupied room, in Needs Cleaning status will be displayed in both Occupied and Needs Cleaning displays).

PRINTING A ROOM STATUS REPORT

GUIDE CONTENTS

An administrator display keyset can request a printout to view the status of guest and meeting rooms. There are five different room status conditions that a room may be in. A printout of stations, in each of the five room status conditions, may be requested.

A printout of all rooms in all conditions may also be requested.

NOTE: Occupied room printout includes all rooms with a guest checked in, regardless of Cleaning or Hold Status (an occupied room, in Needs Cleaning status will printout in both the Occupied and the Needs Cleaning reports).

VIEWING AND CHANGING THE STATUS OF A ROOM

GUIDE CONTENTS

ACTION	DISPLAY
1. Press the **HOTEL** key.	`Room Check Phone` `Stat Out Bill`
2. Press the **ROOM STAT** soft key and enter the room number	`Enter Room:XXXX` `AVAIL RPT OCCUP`
3. Your display will show the current status of the selected room.	`Room Number:XXXX` `OCCUPIED`

4. You may change the status of the selected room by pressing the right soft key and then scrolling through the list by using the **VOLUME UP** and **DOWN** keys.
When you get to the desired new room status, pressing the right soft key will return confirmation tone and change room status.
	`Room Number:XXXX`
	`AVAILABLE`
	`Room Number:XXXX`
	`NEEDS CLEANING`
	`Room Number:XXXX`
	`NEED MAINTENANCE`
	`Room Number:XXXX`
	`HOLD`

ROOM STATUS DEFINITIONS

- **AVAILABLE:** This indicates that the room is ready to have a guest checked into it.
- **OCCUPIED:** This indicates that the room has a guest checked into it.
- **NEEDS CLEANING:** This indicates that the room needs to be cleaned.
- **NEEDS MAINTENANCE:** This indicates that the room needs to have maintenance performed on it.
- **HOLD:** This indicates that the room is being held pending a late check out.

USING THE CONSOLE TO VIEW ROOM STATUS

GUIDE CONTENTS

If your keyset has a room status view key and is equipped with one or two consoles programmed with **DSS/BLF** keys for each of the rooms, you can view the status of all programmed rooms on the console.

Press the **Room Status View** (**RSV**) key and dial the type of room status you want to check from the list below.

DIGIT	STATUS	DESCRIPTION
0	AVAILABLE	ROOM IS READY FOR A GUEST TO CHECK IN
1	OCCUPIED	A GUEST IS CHECKED INTO THE ROOM
2	NEEDS CLEANING	ROOM NEEDS TO BE CLEANED
3	NEEDS MAINTENANCE	ROOM REQUIRES MAINTENANCE
4	HOLD	ROOM IS BEING HELD

When the digit is dialed all stations having that status will light steady red on the console and all other LEDs will be off. In addition the LEDs will continue to show the room status until either the timer expires or another **RSV** type has been entered, or the **ANS/RLS** is pressed. Please note that the Occupied Status will show all rooms that have a guest checked into them regardless of the rooms cleaning status or hold status.

For systems with one touch room status feature access:

Press the **RSV** key associated with the room status type you wish to view. All stations having that status will light steady red on the console, and all other LEDs will be off. The LEDs will continue to show the room status until either the timer expires or **ANS/RLS** is pressed. **ANS/RLS** must be pressed before the next room status type can be displayed.

PRINTING A ROOM STATUS REPORT

GUIDE CONTENTS

ACTION

1. Press the **HOTEL** key.
2. Press **ROOM STAT**.

3. Press the **RPT** key.

4. Select the type of report you want by using the **SCROLL** key to cycle through the various reports.

5. When the status type that you wish to print out is displayed, press the associated soft key to generate the report.

6. Pressing the **AVAIL** key will print a report of all rooms that are ready to have guests checked into them.

7. Pressing **OCCUP** key will print a report of all rooms that have guests checked into them.

8. Pressing the **CLEAN** key will print a report of all the rooms that need to be cleaned.

9. Pressing the **MAINT** key will print a report of all the rooms that need to have maintenance performed on them.

10. Pressing the **HOLD** key will print a report of all the rooms that are being held for later check out.

11. Pressing the **ALL** key will print out a report showing the status of all rooms.

12. Pressing the **EXIT** key will return your keyset to idle without generating any reports.

DISPLAY

```
Room Check Phone
Stat  Out  Bill
```

```
Enter Room:XXXX
AVAIL RPT OCCUP
```

```
Print Report
CLEAN     MAINT→
```

Scroll Key

```
Print Report
AVAIL     OCCUP→
```

Scroll Key

```
Print Report
HOLD  ALL  EXIT→
```

MAID SERVICE

GUIDE CONTENTS

Housekeeping and maintenance personnel can also update the status of a room. When a room is checked out or reaches the automatic daily update timer, the room status is changed to **NEEDS CLEANING**. After cleaning the room, the housekeeper dials the **HOTEL** feature access code, followed by his/her staff ID code and the proper activity code (see table below). This will update the room status (if the room was checked out the status will be updated to **AVAILABLE**, if the room still has a guest checked into it, the status will be updated to **OCCUPIED**). Maintenance personnel would utilize this feature in a similar manner. The table below indicates the activity codes and their associated activities.

CODE	ACTIVITY
0	Room needs to be cleaned
1	Room cleaned
2	Room needs maintenance
3	Room repaired

USER INSTRUCTIONS

1. Lift handset and receive dial tone.
2. Dial the **HOTEL** feature access code _____.
3. Dial your staff ID code.
4. Dial the associated activity code from the above list.
5. Receive confirmation tone and hang up.

WAKE UP CALLS

GUIDE CONTENTS

Wake up calls can be set by either an administrator display keyset or the guest room phone.

The administrator display keyset can utilize the **WAKEUP** key and follow the LCD instructions.

A guest room or non display keyset can set a wake up call by dialing the **WAKEUP** system access code (51) and the four digit military time for the wake up call.

To change a wake up time, simply enter the new wake up call time. This will override the original setting.

NOTE: Only an administrator display keyset can cancel a wake up call.

WAKE UP ACTIVITY REPORT

An administrator display keyset can request a printout of all wake up information, since the room was checked in. The information included in this printout is: wake up calls set, answered wake up calls, unanswered wake up calls, and cancelled wake up calls (this information is also included in the room bill).

SETTING A WAKE UP CALL

GUIDE CONTENTS

If your keyset is programmed with a **WAKEUP** key you can use this key to enter a **WAKE UP** time for a guest room, clear a previously set wake up time or print out a list of wake up calls to a guest room since that guest checked in.

ACTION **DISPLAY**

1. To set a wake up call for a guest room. Press the **WAKEUP** key and select SET.

```
Wake Up Call
PRINT SET CANCEL
```

2. Enter the guest room number.

```
Enter Room
Number:XXXX
```

3. Enter the time and select AM or PM.

```
Enter Wake Time
HH:MM   AM   PM
```

```
XXXX Wake HH:MM_
YES  CLEAR  EXIT
```

4. If the time shown is correct press **YES** to set the wake up call.

5. If the time shown is incorrect press the **CLEAR** key and re-enter the time.

6. If you want to exit without setting the wake up call press the **EXIT** key and this will return you to idle.

NOTE: Wake up calls use the system clock as a reference, so the system clock must be set correctly.

SETTING A WAKE UP CALL FROM A GUEST ROOM

- Lift handset and receive dial tone.
- Dial 51 (Wake Up feature access code).
- Enter 4 digit military time for the wake up call.
- Receive confirmation tone and hang up.

CANCELLING A WAKE UP CALL

GUIDE CONTENTS

ACTION

1. Press the **WAKEUP** key and select CANCEL.

2. Enter the room number.

3. The display will confirm the room number as shown. Pressing **CANCEL** will cancel a wake up call set for this room.

4. Pressing **EXIT** will return your keyset to **IDLE** and take no action regarding the wake up calls.

DISPLAY

```
Wake Up Call
PRINT SET CANCEL
```

```
Enter Room
NUMBER:XXXX
```

```
Room:XXXX Wakeup
CANCEL      EXIT
```

NOTE: Only an administrator keyset can cancel a wakeup call.

PRINTING A WAKE UP REPORT FOR A GUEST ROOM

GUIDE CONTENTS

ACTION

1. Press the **WAKEUP** key and select PRINT.

2. Enter the guest room number.

3. The display will confirm the room number to you.

4. If the **PRINT** key is pressed a report of all wake up activity for the selected guest room, since the current guest checked in will be printed.

5. If the **EXIT** key is pressed your keyset will return to **IDLE** and no report will print.

DISPLAY

```
Wake Up Call
PRINT SET CANCEL
```

```
Enter Room
NUMBER:XXXX
```

```
Room:XXXX Wakeup
PRINT       EXIT
```

CONTENTS

6.4 SAMPLE REPORTS AND PRINTOUTS

6.4.1 GUEST ROOM BILL PRINTOUT

CONTENTS

55 LINES

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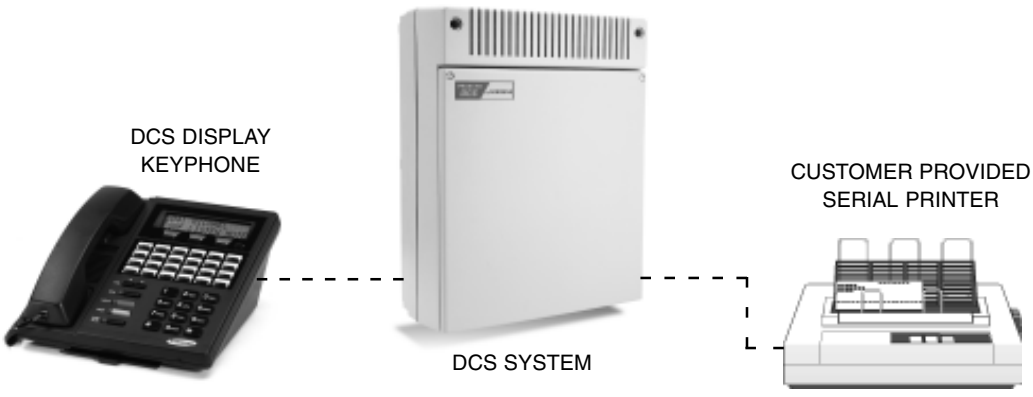
- Automatically increments the daily room charge
- Automatically applies room and phone deposits to the total bill
- Room bills are printed on a per room basis
- By default, printout will print a header, followed by 50 lines per page
- Printout size is adjustable through programming

EQUIPMENT REQUIRED



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

CONTENTS

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		006.00
210	01/27	12:11	02	BED TAX		001.50
210	01/27	12:11	00	RM Deposit	5555	100.00
210	01/27	12:30	03	RM SVC	9876	020.00
210	01/27	12:30	03	STATE TAX		001.20
210	01/27	12:30	03	SVC CHARGE		002.00
210	01/27	12:31	TEL	3055922900	00:00:49	000.75
210	01/27	14:55	89	W/UP SET	05:30	000.00
210	01/27	14:55	05	MOVIE RNTL	5555	005.00
210	01/27	14:55	05	STATE TAX		000.30
210	01/27	14:55	TEL	18008764782	00:02:03	000.25
210	01/27	14:58	01	PH Deposit	1234	002.50
210	01/27	14:58	TEL	3055922900	00:02:18	001.25
210	01/27	15:01	92	W/UP CANCL		000.00
210	01/27	15:01	04	DRY CLEAN	1234	022.00
210	01/27	15:01	04	SVC CHARGE		002.00
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	018.50
210	01/28	06:30	03	STATE TAX		001.11
210	01/28	06:30	03	SVC CHARGE		002.00
210	01/28	12:00	02	RM CHARGE		100.00
210	01/28	12:00	02	STATE TAX		006.00
210	01/28	12:00	02	BED TAX		001.50
210	01/28	13:32	TEL	18008764782	00:01:59	000.25
210	01/28	14:06	TEL	3055922900	00:01:03	000.75
					TOTAL	189.86

SUNSHINE SUITES

Sunshine Suites • 2700 NW 87th Ave Miami, FL 33172 • (800) 876-4782

6.4.2 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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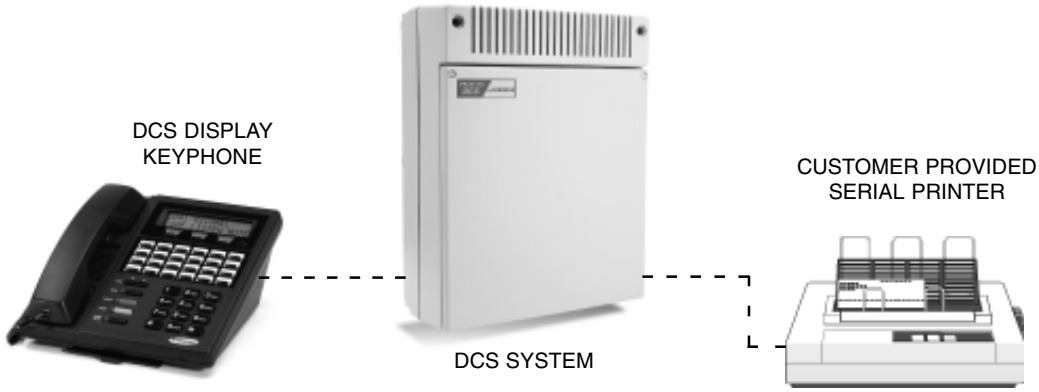
- By default, the printout will print a header followed by 50 lines per page
- Printout size is adjustable through programming

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

EQUIPMENT REQUIRED



55 LINES

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CONTENTS

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

CONTENTS

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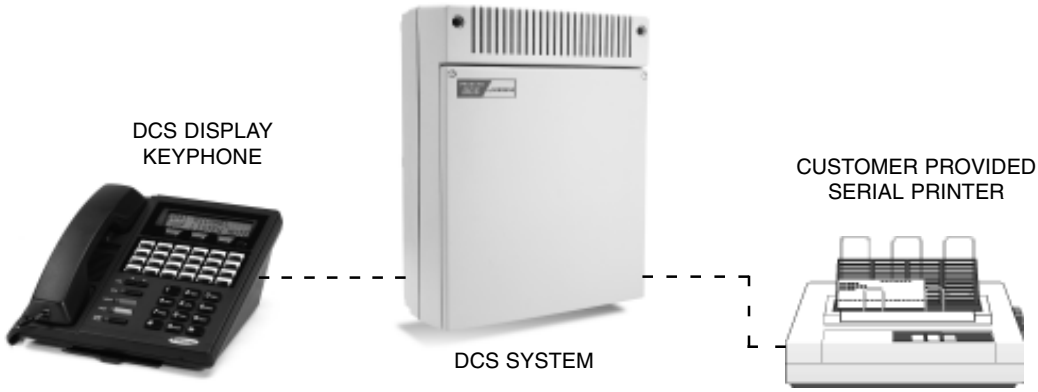
NOTE: Systems utilizing the optional 64 button module, can temporarily display room status, when a printout is not needed.

EQUIPMENT REQUIRED



55 LINES

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

CONTENTS

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

CONTENTS

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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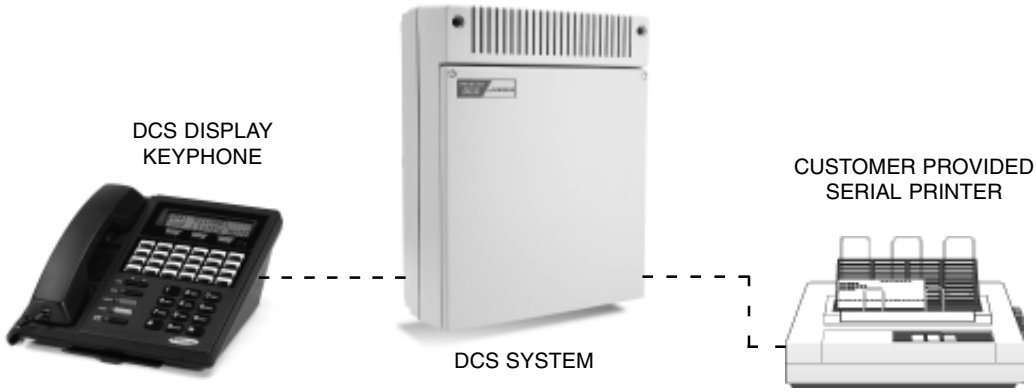
- By default, the printout will print a header followed by 50 lines per page
- Printout size is adjustable through programming

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

EQUIPMENT REQUIRED



55 LINES

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

CONTENTS

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		

CONTENTS

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

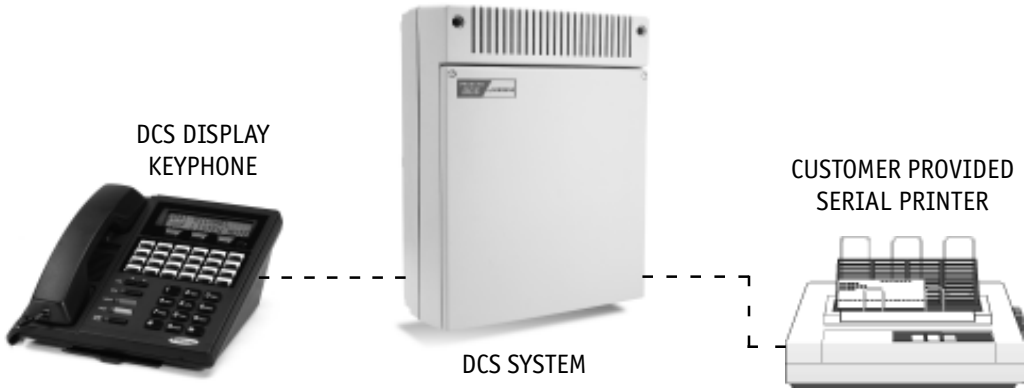
    OR
  - As a complete report of all rooms and their status
- Room Status Printout Types:
  - AVAILABLE
  - OCCUPIED
  - NEEDS CLEANING
  - **NEEDS MAINTENANCE**
  - HOLD
  - ALL
- Room status is updated by either the administrator access, automatic room update or maid codes.

❄ ❄ ❄

- 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



55 LINES

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

CONTENTS

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

ROOM      STATUS          ROOM      STATUS          ROOM      STATUS

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

CONTENTS

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

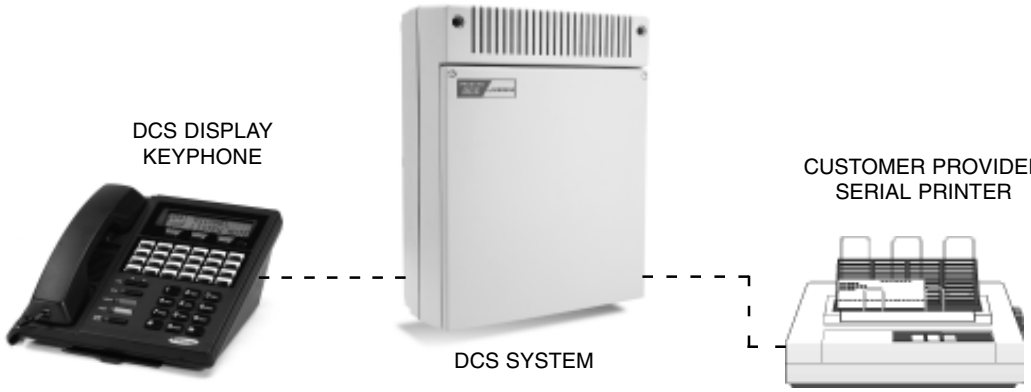
    OR
  - As a complete report of all rooms and their status
- Room Status Printout Types:
  - AVAILABLE
  - OCCUPIED
  - NEEDS CLEANING
  - NEEDS MAINTENANCE
  - **HOLD**
  - ALL
- Room status is updated by either the administrator access, automatic room update or maid codes.

❄ ❄ ❄

- 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



55 LINES

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

CONTENTS

ROOM STATUS PRINTOUT HOLD 11:58 12/02

ROOM	STATUS	ROOM	STATUS	ROOM	STATUS
212	HOLD	214	HOLD	309	HOLD
401	HOLD				

CONTENTS

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

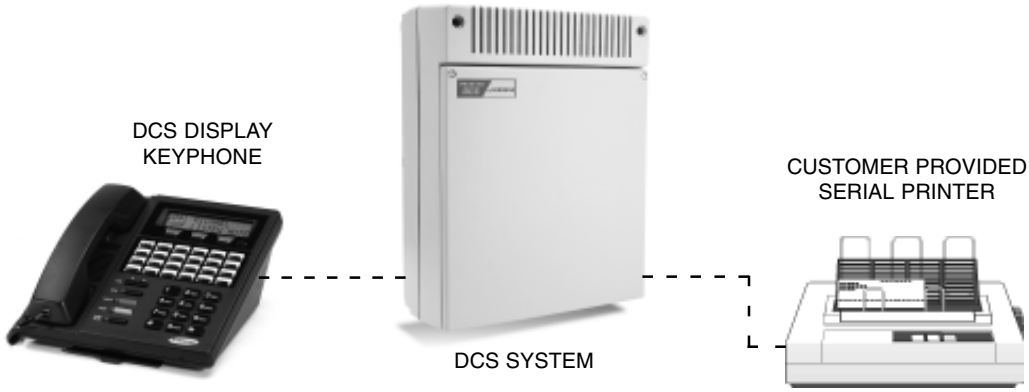
    OR
  - As a complete report of all rooms and their status
- Room Status Printout Types:
  - AVAILABLE
  - OCCUPIED
  - NEEDS CLEANING
  - NEEDS MAINTENANCE
  - HOLD
  - **ALL**
- Room status is updated by either the administrator access, automatic room update or maid codes.

❄ ❄ ❄

- 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



55 LINES

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

CONTENTS

ROOM STATUS PRINTOUT ALL 13:48 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

CONTENTS

6.4.3 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 DCS 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

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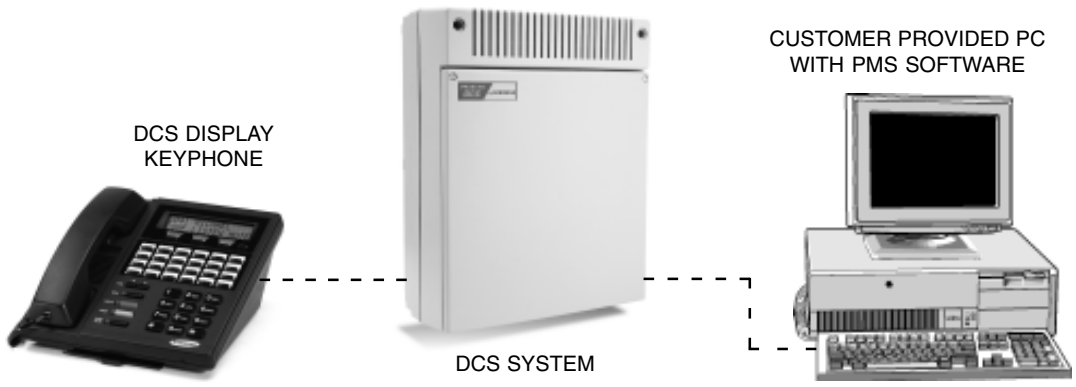
- The system outputs this information immediately after transaction is completed.

EQUIPMENT REQUIRED



CONTENTS

211	01/29	06:10	02	RM CHARGE	5555	069.99
211	01/29	06:10	02	STATE TAX		004.19
211	01/29	06:10	02	BED TAX		001.50
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	025.00
209	01/29	06:11	03	STATE TAX		001.50
209	01/29	06:11	03	SVC CHARGE		002.00
216	01/29	06:11	89	W/UP SET	06:00	000.00
213	01/29	06:11	TEL	3055922900	00:00:34	000.75
214	01/29	06:12	00	RM Deposit	1234	020.00
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	000.25
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		006.00
209	01/29	12:00	02	BED TAX		001.50
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		006.00
210	01/29	12:00	02	BED TAX		001.50
210	01/29	12:00	97	Clean Room		000.00
213	01/29	12:00	02	RM CHARGE		069.00
213	01/29	12:00	02	STATE TAX		004.14
213	01/29	12:00	02	BED TAX		001.50
213	01/29	12:00	97	Clean Room		000.00
215	01/29	12:00	02	RM CHARGE		089.99
215	01/29	12:00	02	STATE TAX		005.39
215	01/29	12:00	02	BED TAX		001.50
215	01/29	12:00	97	Clean Room		000.00
216	01/29	12:00	02	RM CHARGE		079.95
216	01/29	12:00	02	STATE TAX		004.79
216	01/29	12:00	02	BED TAX		001.50
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		015.00
217	01/29	12:00	02	BED TAX		001.50
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

CONTENTS

6.4.4 INDIVIDUAL GUEST PHONE BILL

Printout includes the following information:

- Date and time the bill was printed
- Room number requested
- Date and time phone call was initiated
- Number dialed
- Duration of call
- Charge for call
- Total charge for all calls
- Displays all call information since check in

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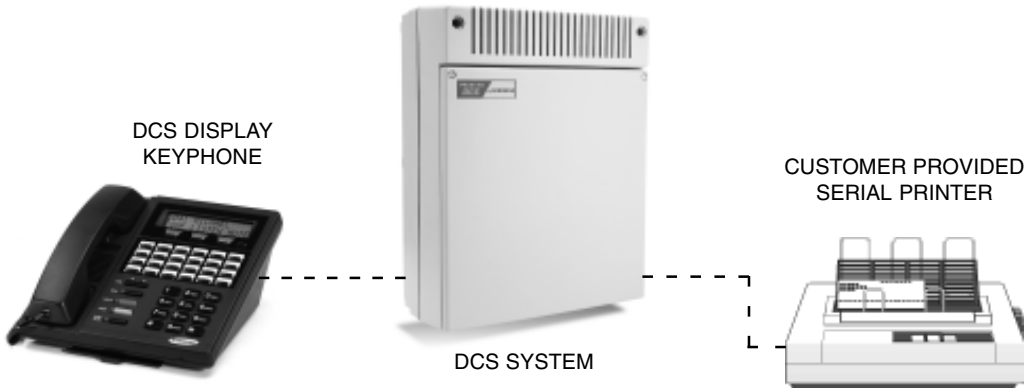
- Automatically applies phone credits to the bill
- Phone bills are printed out on a per room basis
- Phone bill information may be:
  - Printed and saved in memory
  - Printed and cleared from memory
- By default, printout will print a header, followed by 50 lines per page
- Printout size is adjustable through programming

EQUIPMENT REQUIRED



55 LINES

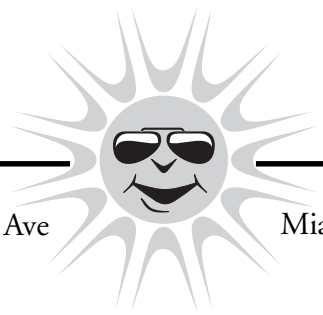
*HOTEL LETTERHEAD IS CUSTOMER PROVIDED. DOTTED OUTLINE INDICATES DEFAULT PRINTOUT SIZE.

CONTENTS

GUEST BILL FROM [SUNSHINE SUITES] 02/11/99 13:44

CHARGES BILLED TO ROOM NUMBER: 211

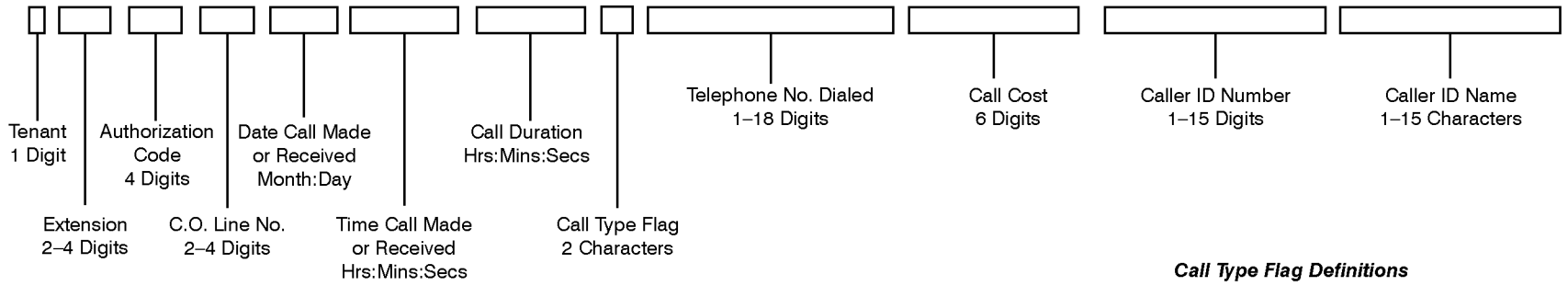
ROOM	DATE	TIME	ITEM	DESCRIPTION	DETAILS	CHARGE
211	02/10	15:30	TEL	3055922900	01:01:00	000.35
211	02/10	20:44	TEL	18008764782	00:01:45	000.25
211	02/11	06:34	TEL	18008764782	00:02:00	000.25
211	02/11	13:15	TEL	3055922900	00:02:16	000.45
211	02/11	13:40	TEL	3055922900	00:02:31	000.55
					TOTAL	001.85



6.4.5 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 NUMBER	CID 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
1			701	01/03	17:56:07	00:00:54	A			13055559723	CHAZ NEWMAN



Call Type Flag Definitions

0	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

CONTENTS

CONTENTS

6.4.6 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

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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 CANCL	Wake up call cancelled

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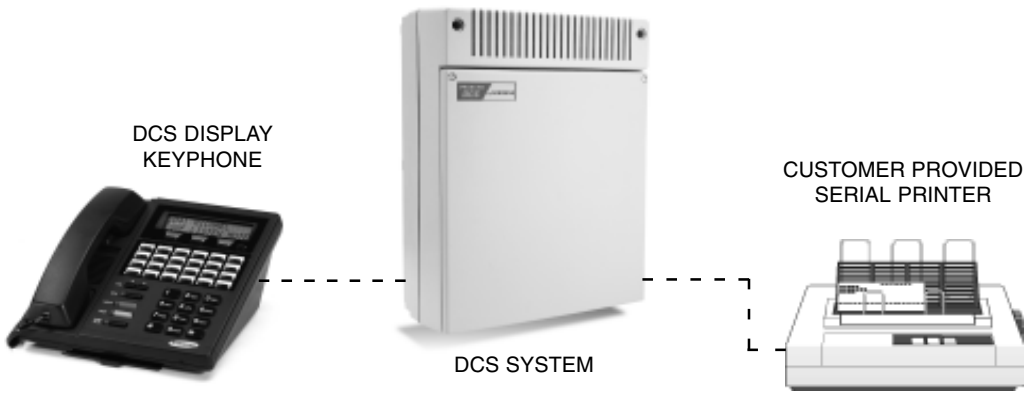
- Displays all wake up call activity since room was checked in
- Wake up activity report print on a per room basis
- By default, printout will print a header, followed by 50 lines per page
- Printout size is adjustable through programming

EQUIPMENT REQUIRED



55 LINES

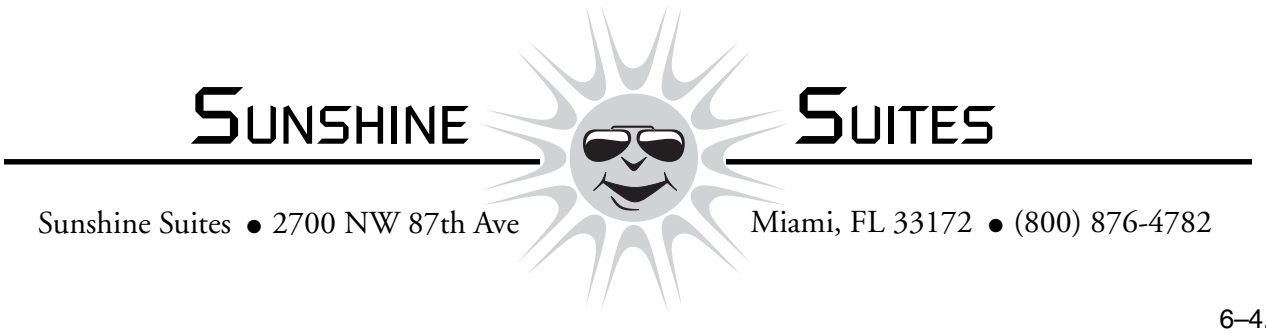
*HOTEL LETTERHEAD IS CUSTOMER PROVIDED. DOTTED OUTLINE INDICATES DEFAULT PRINTOUT SIZE.

CONTENTS

GUEST BILL FROM [SUNSHINE SUITES] 01/22/98 14:35

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



CONTENTS

6.4.7 SAMSUNG SINGLE LINE TELEPHONE SAMPLE GUEST PHONE TEMPLATE

Note: Custom templates for the Samsung family of phones, can be created using the software program *DESI for Windows* by Matrix Software Solutions.

CONTENTS

KEY SYSTEMS DEALER AGREEMENT
SAMSUNG TELECOMMUNICATIONS AMERICA, INC.
KEY SYSTEMS LIMITED WARRANTY

SAMSUNG TELECOMMUNICATIONS AMERICA, INC. ("STA"), warrants to its authorized Dealers and to the original retail purchaser ("Users") of a STA product for a period of 24 months from the date of shipment of the Product from STA's facility, that the Product (except for lamps, fuses, and other comsumable 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 at 2700 N.W. 87th Avenue, Miami, Florida, 33172. 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, INC. 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, INC.