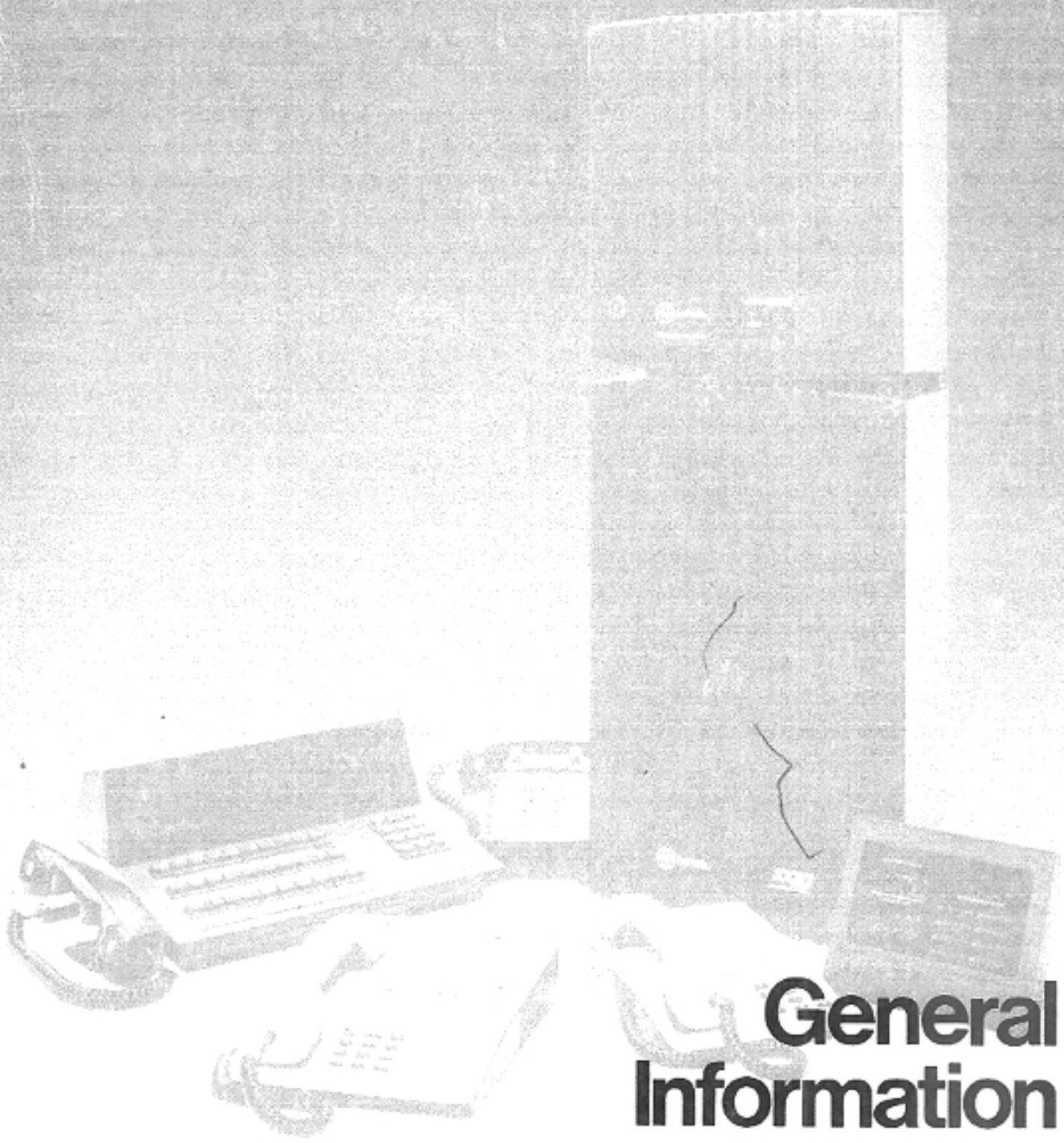
SX-10™



General Information

MITEL®

THE SX-10™
GENERAL INFORMATION BOOK

CONTENTS

CONTENTS

INTRODUCTION

The SX-10™ communications system . . .

with the new Supergeneric 103 software package, now offers advanced "large system" features to the smaller system user. Business in this size range have never had such a rich choice of powerful communications features in a compact and cost-effective package.

Some advanced features offered with the SX-10 system are SUPERSET 3 and SUPERSET 4 telephones, Enhanced Toll Control, Speed Dial, Station Message Detail Recording (SMDR), Remote Maintenance and Test System (RMATS), and Networking features.

Organization of this Book

The SX-10 system and its advanced features are discussed in more detail in this book. Chapter 1 contains a physical description of SX-10. It also describes the system's capabilities and options, and lists both the new features and the standard features offered with SX-10.

Chapter 2 contains information on the SUPERSET 3 and SUPERSET 4 special telephone sets. These electronic telephones provide full access to the system's capabilities and are a perfect complement to all the features that are available with the SX-10 system.

Chapter 3 contains a glossary of all the features and options offered with SX-10 and Chapter 4 contains ordering information.

THE SX-10™ COMMUNICATIONS SYSTEM

INTRODUCTION

The SX-10 system . . .

is an electronic telephone communications system that offers a wide range of features to its users. The system is both a Private Branch Exchange and a Key Telephone System, i.e., a Hybrid PABX/KTS. It can accommodate up to 8 trunks and 32 stations, of which 8 stations can be SUPERSET sets. Alternatively, it can be configured to accommodate up to 8 trunks and 24 SUPERSET stations.

The SX-10 communications system offers users flexibility and choice to meet their precise needs. Users can choose the number of lines and trunks needed, the system options and features and system peripherals.

For example, SX-10 can provide 4, 6, or 8 trunks and 8, 16, 24, or 32 lines. The telephones used can be any combination of DTMF, Rotary Dial, and SUPERSET™ sets, and the system can be operated with or without an Attendant Console and optional Remote Display Unit.

In addition to this flexibility, SX-10 is ideally suited for a full range of applications. It can be configured as a standard PBX, as a stand-alone key, as a key-behind-PBX, and as a full hybrid. The sections following describe these applications and the features and options of SX-10 in more detail.

SYSTEM CONFIGURATIONS

The SX-10 system . . .

is fully programmable, allowing complete flexibility in configuring the system to meet a wide range of differing applications. Users can therefore custom tailor the system for their specific requirements. For example, four different applications are described below and are illustrated on the opposite page.

SX-10 as a Standard PABX

The SX-10 system can be configured as a standard PBX. Incoming calls are directed to the Attendant Console and then transferred to the appropriate extensions. All station users have access to trunks by dialing an access code (usually "9" or "8"). In addition, Direct-In-Lines (DILs) can be added which bypass the Attendant.

SX-10 as a Stand-Alone Key

SX-10 can be configured as a stand-alone key using SUPERSET 3 and SUPERSET 4 electronic telephones. Incoming calls ring at selected or multiple stations. Station users can directly access the trunks that appear on their sets.

SX-10 as a Key-Behind-PABX

The SX-10 system can be used behind a larger PBX much as a key system is used in that it provides multiple line appearances of the PBX extensions to the SUPERSET users. But, in addition to this, the SX-10 behind a PBX allows the use of 2500 sets and provides line concentration onto the host PBX.

SX-10 as a Full Hybrid

The system can also be configured to give a perfect blend of the PABX and Key System Features described above giving the user a Hybrid PABX/KTS.

As in a standard PABX, the majority of trunks may be handled by the Attendant, and everyone in the system has access to those trunks. The SUPERSET users on the system enjoy the benefits of the Key-Behind-PABX in that they have multiple line appearances of the internal extension numbers. But most importantly, trunks can be brought in directly to the SUPERSET users. Those trunks are used

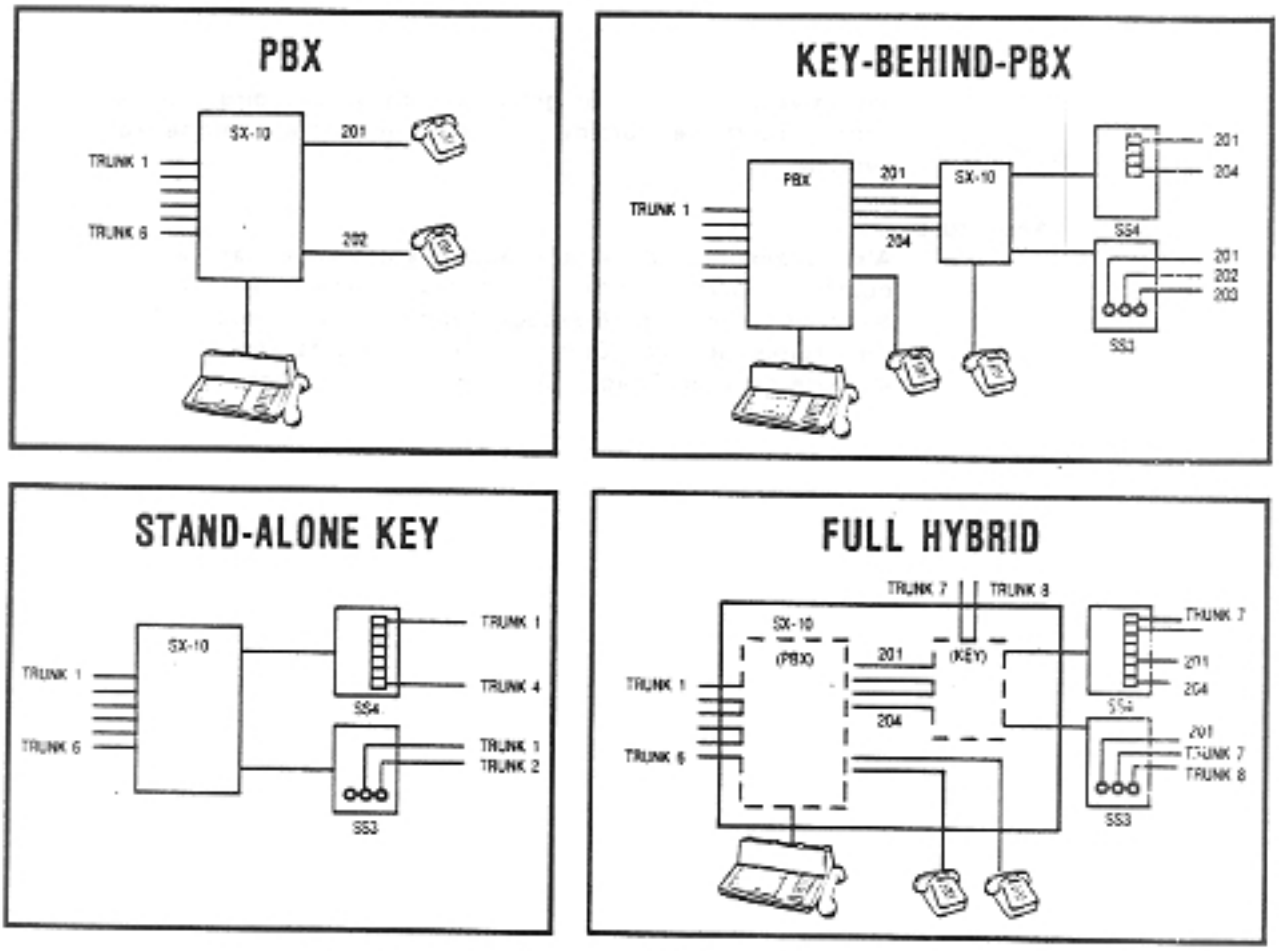


Figure 1-1 System Configurations

exclusively by that user group and they have direct select access to those outside trunks as in a stand-alone key system.

And More . . .

Also available with all the above applications are all the comprehensive standard features. Some examples are Speed Call, Paging, Message Waiting, Hunt Groups, E&M Tie Trunks, and Toll Control. These features are described in more detail in Chapter 3, Features and Services.

The SX-10 PABX . . .

consists of two cabinets with contemporary-styled plastic covers mounted as shown in Figure 1.2. The top cabinet is the power supply unit which includes the battery backup. The bottom cabinet is the SX-10 equipment chassis which contains all the system's electronics.

Power Supply

The power supply is a self-contained unit with a battery backup. The SX-10 system automatically detects a commercial power failure and the battery backup maintains system operation for an average of 45 minutes (without the console) or 25 minutes (with the console) under normal traffic.

Equipment Cabinet

The SX-10 PABX is basically a 2-card system. The first card (Master Card II) fits in the the front slot, and the System Expander Card fits in the slot behind it (see Figure 1.3).

To the right of the cards are five 25-pair cable connectors which provide all connections between the SX-10 system and external equipment (see Figure 1.4). The connectors include the Power Supply, the Console and three connectors that are linked to the cross-connect field (Lines, Trunks, and Expansion connectors). A separate RS232 printer port connector is also provided.

Master Card II

The Master Card II contains the Central Processing Unit (CPU), an array of solid-state space division crosspoints, a **Communicator Module,** and eight **Subscriber Line Interface Circuits** (SuperSLICs) (refer to Figure 1.5). In addition, it contains interface connectors for the **Firmware Module** and the two **Trunk Modules.** (Note: In the basic system, the Master Card is shipped with the Firmware and Trunk Modules in place.)

The **Communicator Module** provides the control data link to communicate between the CPU and SUPERSET telephones. Data and voice are transmitted on the same pair of wires, requiring no special wiring

PHYSICAL DESCRIPTION

The **Subcriber Line Interface Circuits** or SuperSLICs on the Master Card were designed so SUPERSET sets could be used with the SX-10 system. The SuperSLICs also support rotary and DTMF sets. Therefore, with the Master Card, eight SUPERSET sets can be used or any combination of SUPERSET sets, rotary sets and/or DTMF sets.

The **Firmware Module** contains Programmable Read Only Memories (PROMs) which contain the system operating instructions. It also contains non-volatile RAM (for System Programming and Customer Data) and a volatile RAM scratchpad for the processor.

Each **Trunk Module** on the Master Card supports two CO trunks. As a single card system, SX-10 has a maximum capacity of four trunks and eight lines; this is the basic system. To increase line and trunk size, a System Expander Card must be added.

System Expander Cards

The System Expander Card is located behind the Master Card II. Four types of System Expander Cards are available, giving the user flexibility when configuring the system. The user can choose from the four types of System Expander Cards described below.

Each System Expander Card has positions for two more Trunk Modules, increasing the system capacity to eight trunks in total (see Figure 1.6). Also, all System Expander Cards provide the printer port circuitry and the interface connector for the optional RMATS Module (see "System Options" for a description of the RMATS Module).

8-Line System Expander Card

The 8-Line System Expander Card contains eight standard SLICs (used only for DTMF and Rotary sets) and increases the system capacity to 16 stations. This card does not support the Attendant Console.

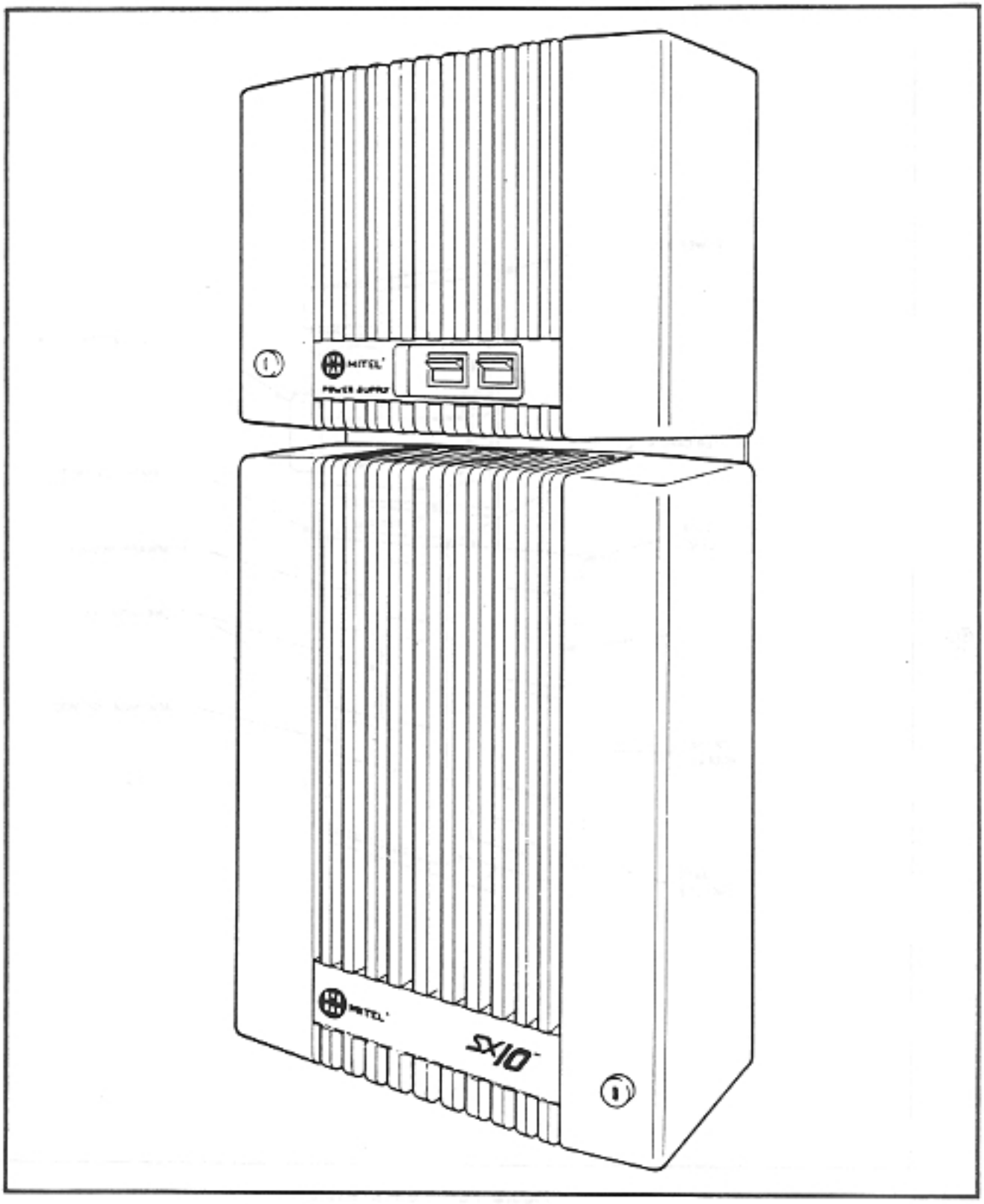


Figure 1-2 Equipment Cabinet and Power Supply

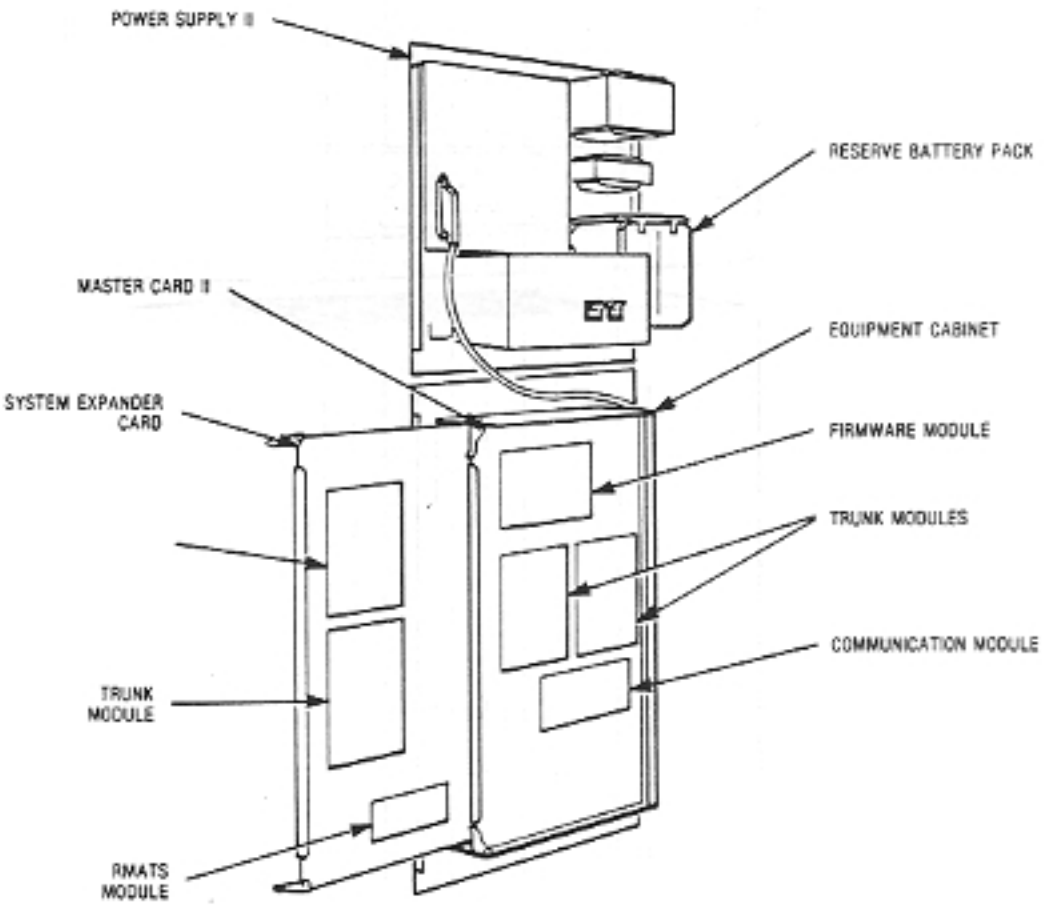


Figure 1-3 SX-10 System

16-Line System Expander Card
The 16-Line System Expander Card contains 16 standard SLICs (which are used only for DTMF and Rotary sets) and increases the system capacity to 24 stations. It provides the interface circuitry for the Attendant Console.

24-Line System Expander Card
The 24-Line System Expander Card contains 24 standard SLICs (used only for DTMF and Rotary sets) and increases the system capacity to 32 stations. It also provides the interface circuitry for the Attendant Console.

16-SUPERSET System Expander Card
The 16-SUPERSET System Expander Card contains 16 SuperSLICs, increasing the system capacity to 24 SUPERSET sets. Similar to the SuperSLICs on the Master Card II, these SuperSLICs also support DTMF, rotary or SUPERSET operation. It also provides the interface circuitry for the Attendant Console.

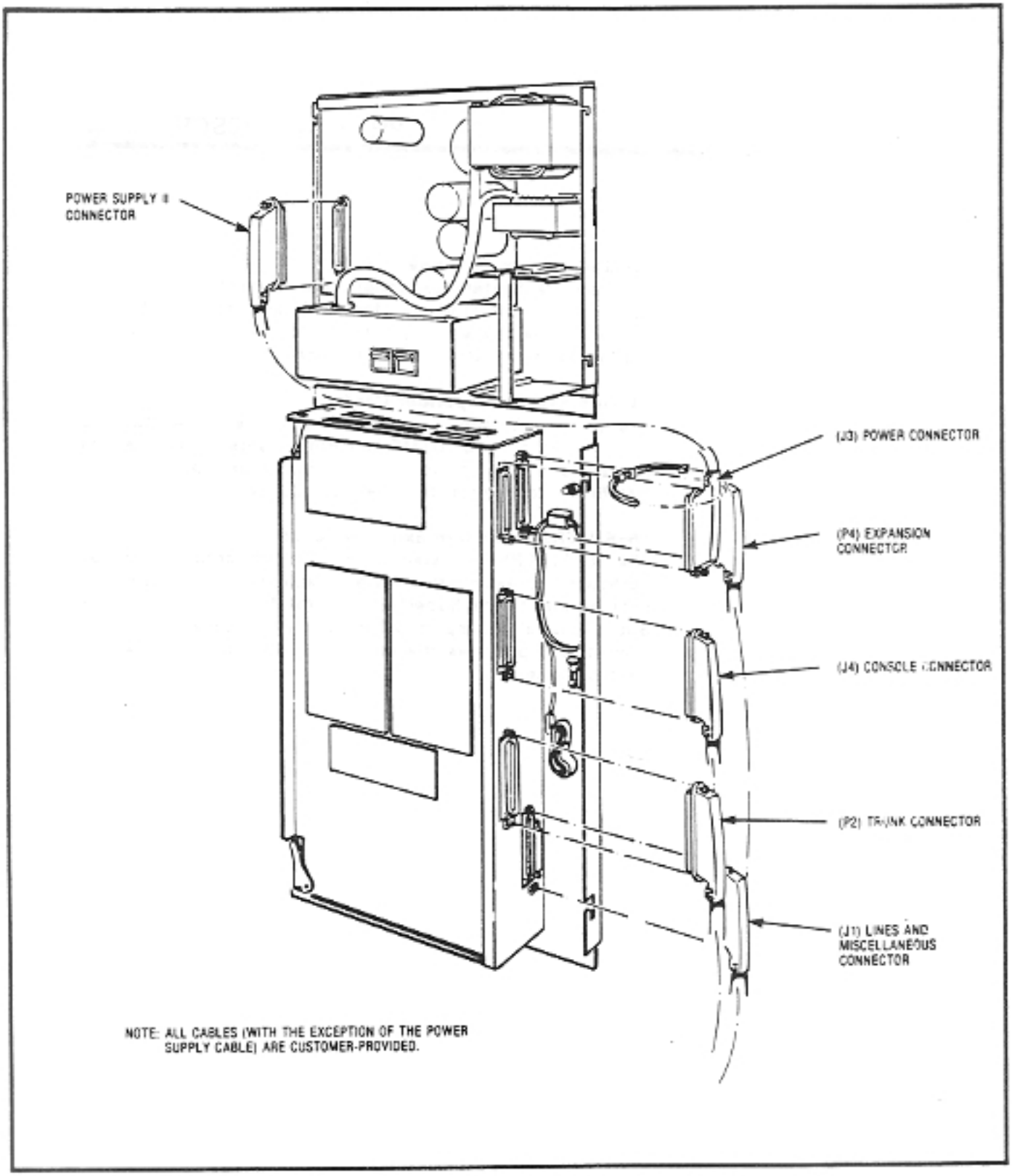


Figure 1-4 Cable Connectors

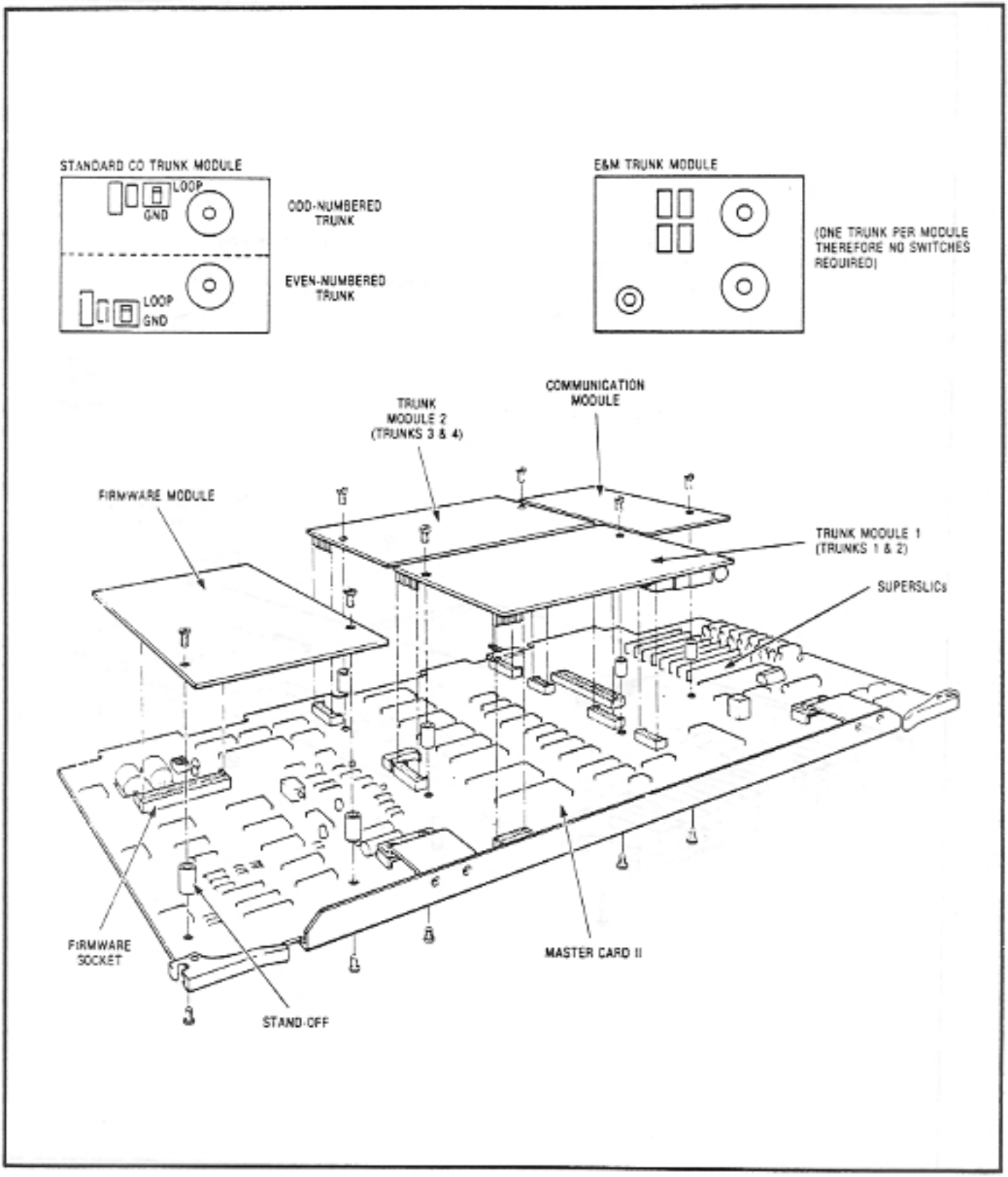


Figure 1-5 Master Card II

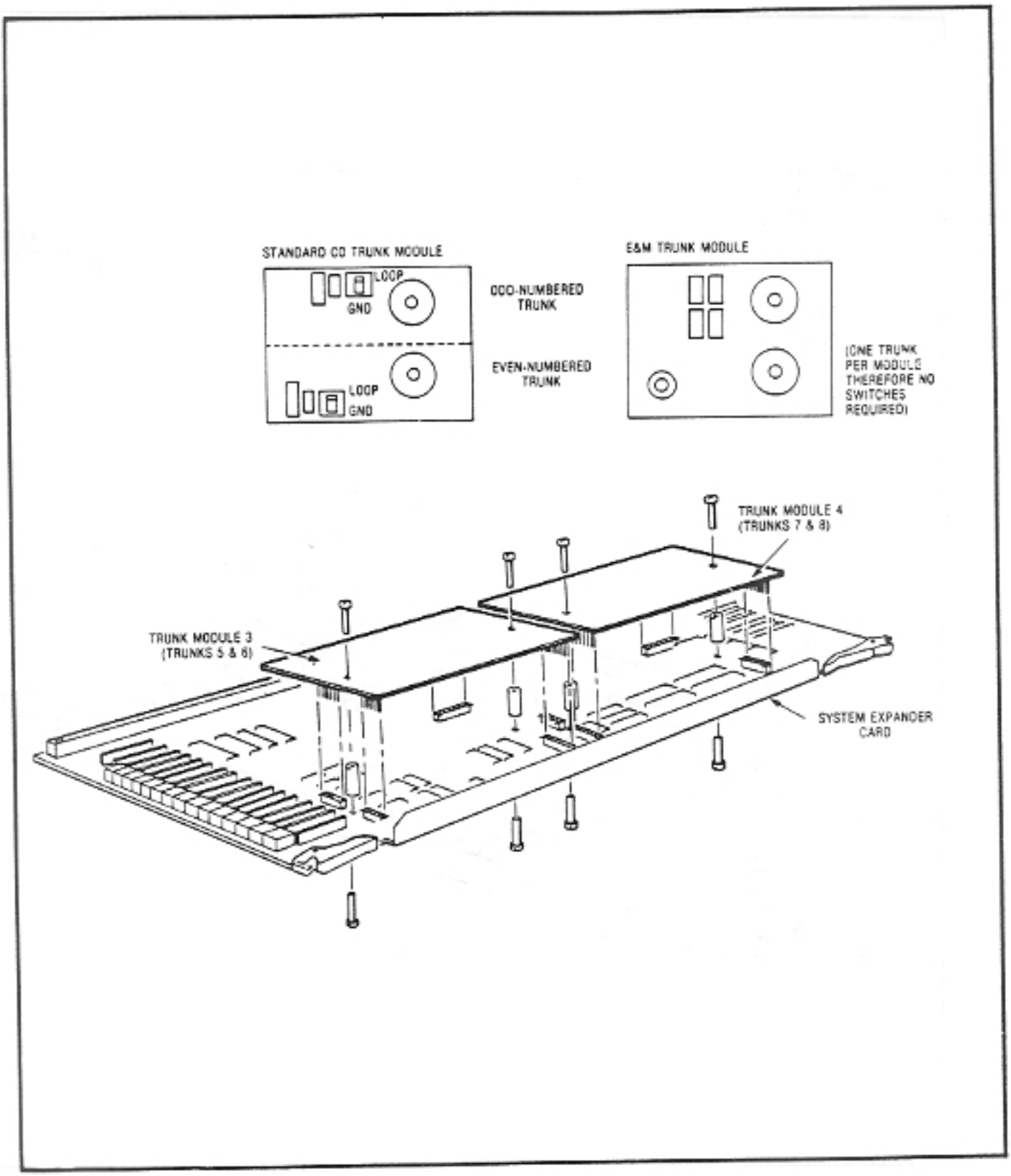


Figure 1-6 System Expander Card

The chart below . . .

lists the possible line/trunk configurations available with the SX-10 PABX. Lines are added with the System Expander Card chosen by the user; trunks are added by plugging trunk modules onto the System Expander Card.

LINE/TRUNK CONFIGURATIONS

Line Capacity	Trunk Capacity	Required Cards and/or Modules
8 Lines	4 Trunks	• Basic System
16 Lines	8 Trunks	• Basic System plus • 8-Line System Expander Card • 2 Trunk Modules
24 Lines	8 Trunks	• Basic System plus • 16-Line System Expander Card • 2 Trunk Modules
32 Lines	8 Trunks	• Basic System plus • 24-Line System Expander Card • 2 Trunk Modules
24 SUPERSET Lines	8 Trunks	• Basic System plus • 16-SUPERSET System Expander Card • 2 Trunk Modules

SYSTEM OPTIONS

In addition to the features . . .

offered with the basic SX-10 system, the user can choose from a number of options to enhance the SX-10. The basic SX-10 includes the Power Supply, Equipment Cabinet, Mounting Bracket, Battery Pack, Power Cable, Master Card II, Firmware Module, and two Trunk Modules.

The optional items the user can order with the system are:

- the 8-, 16-, or 24-Line, or 16-SUPERSET Expander Card;
- Additional CO Trunk Modules;
- E&M Trunk Modules;
- the RMATS Module;
- the Attendant Console; and
- the Remote Call Status Display.

Attendant Console

For most applications, the SX-10 system may be configured with the optional Attendant Console (see Figure 1.7). The Attendant Console has fixed-function keys for call handling (e.g., ANSWER, RELEASE, BOTH, SPLIT, RECALL, etc.), three holding orbits, nine DSS (Direct Station Select) keys, and special function keys (e.g., NIGHT SERVICE, MSG WAIT etc.).

The console display provides the Attendant with all relevant call-handling information as well as line, trunk, and system status.

Remote Call Status Display

A Remote Call Status Display Unit can be used with a Prime Station in a consoleless system or as a temporary or night attendant position in a system with a console (see Figure 1.8). It provides the status of lines and trunks and required call-processing information for the Prime Station. It is also used as an aid when performing testing and maintenance from the Test Line.

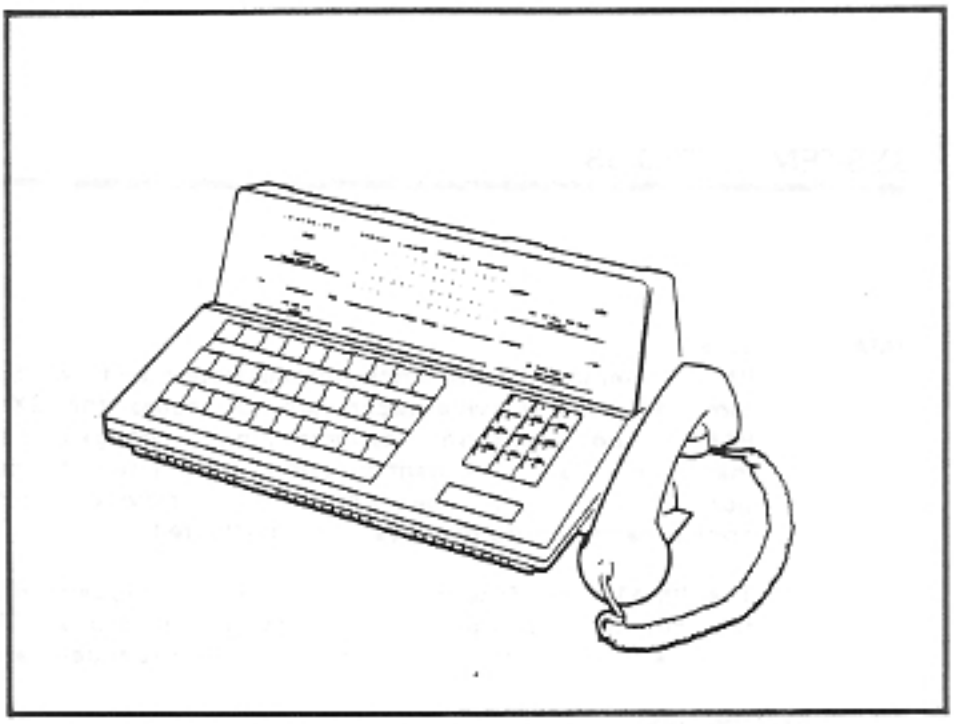


Figure 1-7 Attendant Console

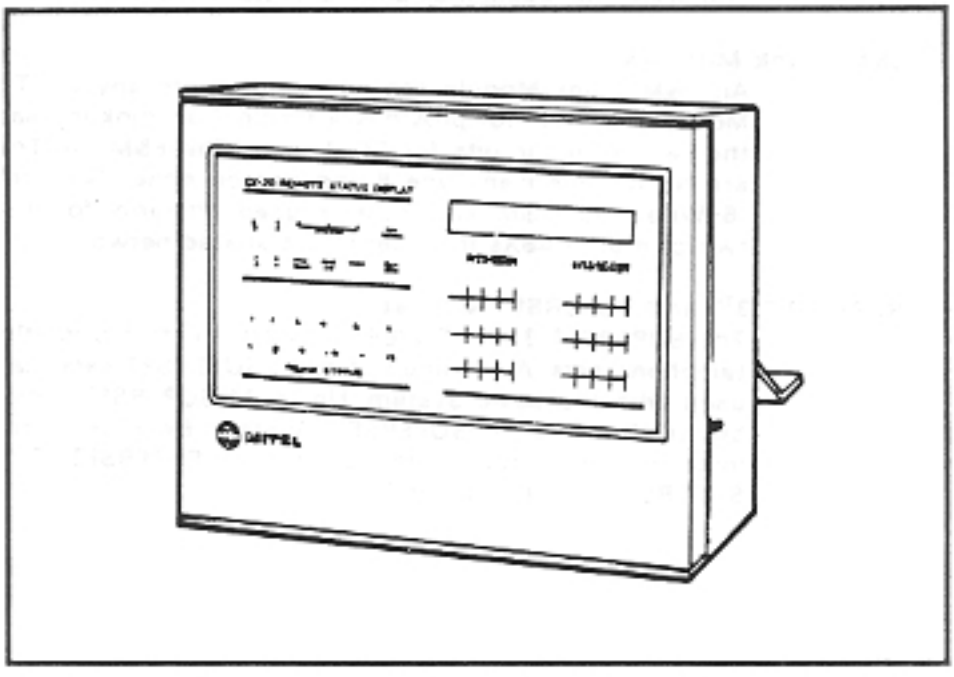


Figure 1-8 Remote Call Status Display

SYSTEM OPTIONS

RMATS Module

RMATS (Remote Maintenance Administration and Test System), allows a service technician to access the SX-10 PABX and perform programming changes, and maintenance and attendant functions from a remote location. This capability does not interrupt service and the console and remote displays are not affected.

The RMATS interface module provides the modem interface circuitry and is preset as an answer-only modem. This module plugs onto any of the four System Expander Cards.

CO Trunk Modules

Two CO Trunk Modules can be plugged onto any one of the four System Expander Cards. These Trunk Modules can be individually set to loop start or ground start. The Trunk Modules contain the necessary circuitry to provide full conferencing capabilities among system users.

E&M Trunk Modules

An E&M Trunk Module can be plugged into any CO Trunk Module position but provides a single Tie Trunk instead of the two trunk circuits for CO Trunks. The E&M Tie Trunks are North American Type II and can be either "4-Wire" or "6-Wire". (An E&M Tie Trunk is used primarily for linking two or more PABXs together into a shared network.)

SUPERSET 3™ and SUPERSET 4™ Sets

The SUPERSET 3 and SUPERSET 4 are electronic multi-line telephone sets. A maximun of eight SUPERSET sets may be used with the Basic System. Up to 24 SUPERSET sets can be used if the 16-SUPERSET System Expander Card is installed. For more information on SUPERSET 3 and SUPERSET 4, see Chapter 2.

The table below . . .
lists the new and standard features provided with the SX-10 PABX. Chapter 3 contains a glossary of these features.

NEW FEATURES	
• Attendant Console	• Remote Maintenance Administration and Test System (RMATS)
• Automatic Wake-up	• Ring Group
• Behind-PABX Operation	• Station Hunting
• Data/Dump Load	• Station Message Detail Recording (SMDR)
• DISA Trunk	• SUPERSET 3 and SUPERSET 4 Sets
• E&M Trunks	• System Speed Call
• External Call Forwarding	• Toll Control
• Identified Trunk Group	
• Last Number Redial	
• Printer Port	

SYSTEM FEATURES

STANDARD SYSTEM FEATURES

- Alarm Indicators
- Attendant and Maintenance Functions
- Attendant Night Answer Point
- Automatic Callback – Busy
- Automatic Diagnostics
- Background Music
- Block Programming
- Call Block
- Call Forwarding
- Call Hold
- Camp-on
- Class of Service (COS)
- Consoleless Operation
- Data Line Security
- Default Data
- Dial Call Pickup
- Direct-In Lines
- Direct Outward Dialing
- Direct Station Selection (DSS)
- Discriminating Ringing
- Executive Busy Override
- Flexible Night Service
- Flexible Numbering Plan
- Voice Synthesis
- Housephone (Manual Line)
- Message Register Audit
- Message Registration
- Mixed Station Dialing
- Music on Hold
- Night Bells
- Paging Access
- Power failure Transfer
- Prime Station
- Reserve Power Battery
- Restrictive Station Control
- System Security Code Programming
- Test Line
- Tone-to-Pulse Conversion
- Transfer/Add-On/Consultation Hold
- Trunk Answer From Any Station (TAFAS)
- Trunk Group Overflow
- Trunk Groups
- Trunk Hunting (Terminal
- or Circular)
- Trunk Selection (Direct or Automatic)
- Trunk-to-Trunk plus Station Conferencing

To further expand the market . . .

for the SX-10, MITEL offers compatible products for entry into the high-growth office products field. Figure 1.9 shows the SX-10 PABX and the peripherals that plug into it.

SUPERSET 3 and SUPERSET 4 SETS

An advanced feature offered with the SX-10 system is the ability to interface to MITEL SUPERSET 3 and SUPERSET 4 electronic business telephones. These new advanced telephones help improve call handling and employee time management. They offer users single button feature access, handsfree operation and many more features.

DART™

Until recently, there was very little a company could do about high phone bills, except pay them.

Today, business everywhere are recognizing the need to control their telephone costs as they would any other corporate overhead.

With charge and usage summaries for every costed call that is billed from the system, potential problem areas can be pinpointed and acted upon immediately to help reduce costs by as much as 30%.

DART (see Figure 1-10) provides accurate call costing for PABX systems in the 20- to 150-line ranges.

DART costs all types of calls - local, DDD, WATS, Foreign Exchange, Tie Lines, other common carriers, and calls on systems outside North America (Meter Pulses). It records which extension placed the call, the time of the call, the date, its duration, the trunk number, the access code, the number dialed, and how much the call cost.

DART can even be programmed to report calls to a specific account code for client chargeback.

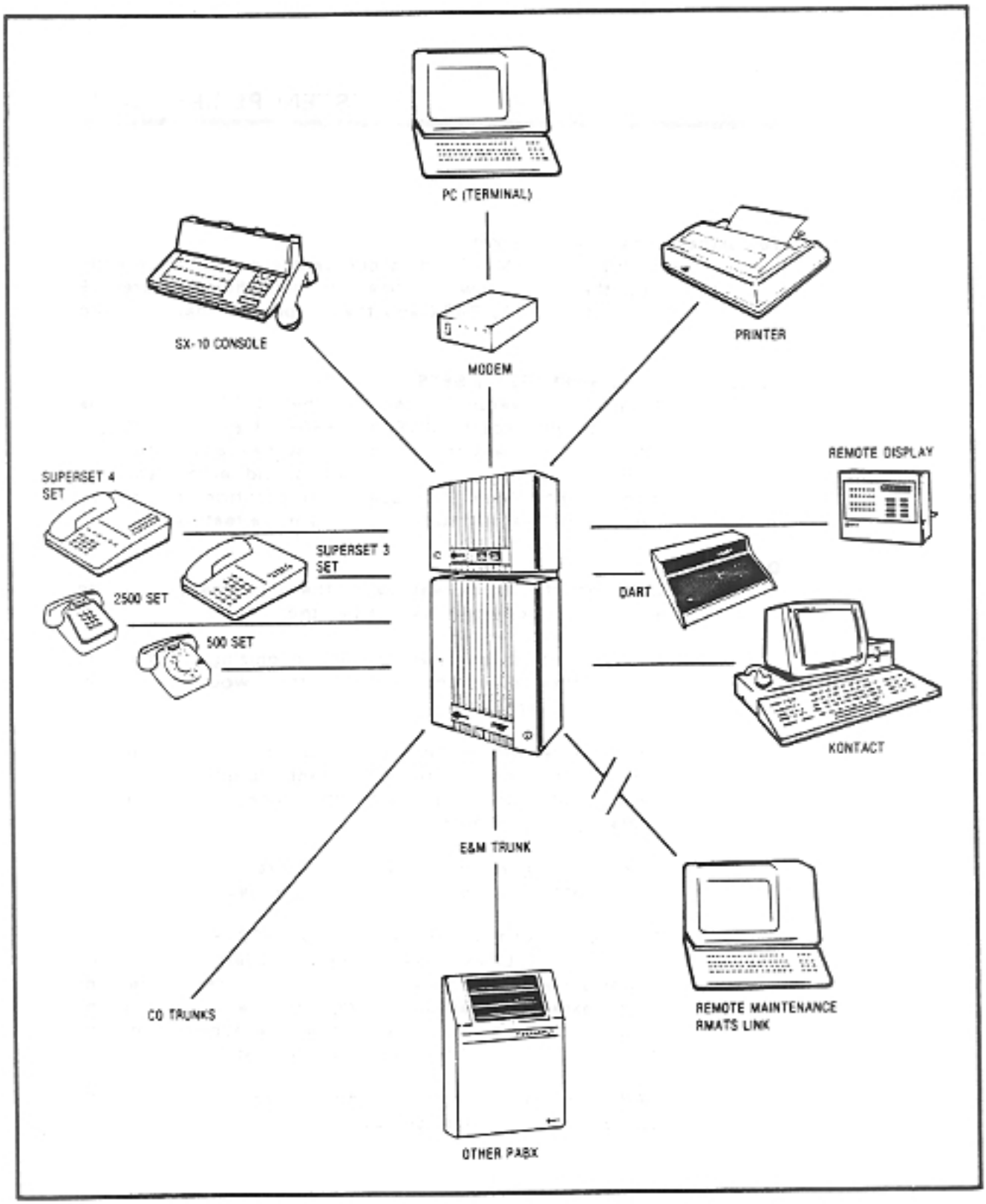


Figure 1-9 System Peripherals

KONTACT™

KONTACT is a new generation workstation for managers, professionals and secretaries (see Figure 1.11). KONTACT is multi-functional and multi-tasking. It is an electronic spreadsheet intergrated with word processing which lends speed, ease and accuracy to report generation.

Point-to-point electronic mail capabilities allow reports to be transmitted to other KONTACT workstations anywhere in the world.

Calendar, time management, timed reminders and calculator functions are some of the other features offered with KONTACT.

For more information on any of these system peripherals, please contact your regional MITEL office.

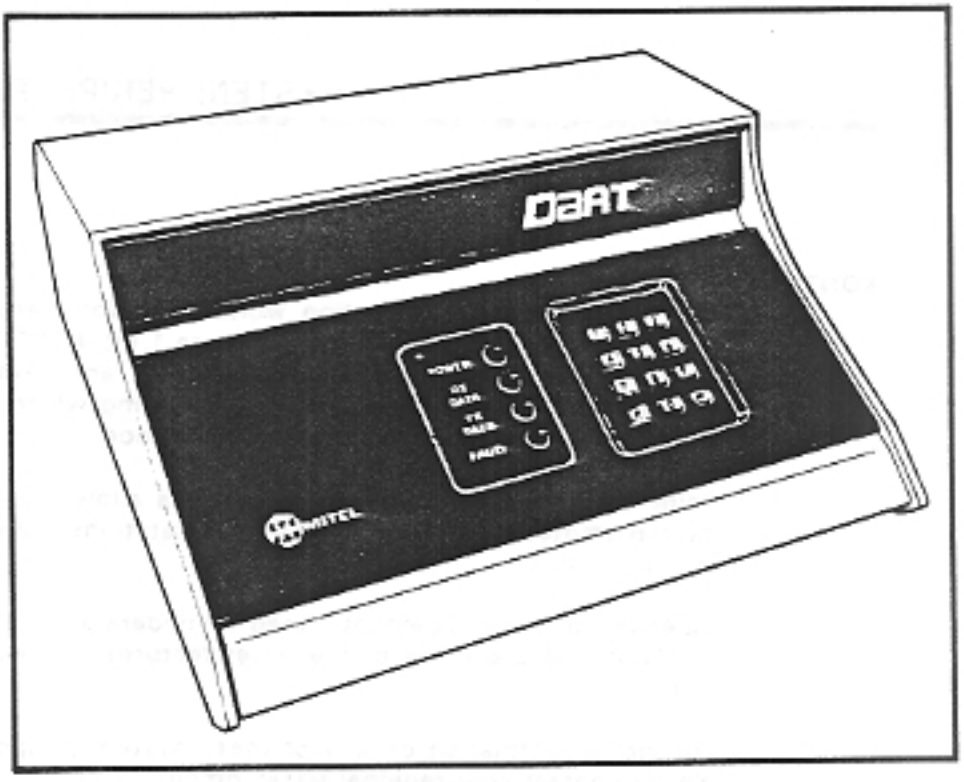


Figure 1-10 DART™

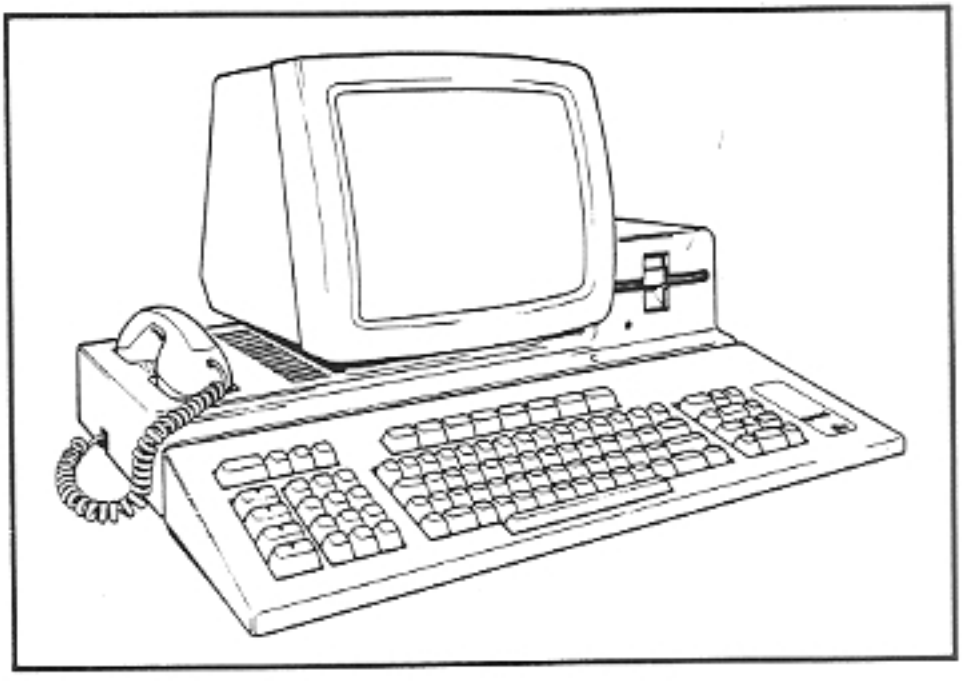


Figure 1-11 KONTACT

SUPERSET 4™ AND SUPERSET 3™

Prestige plus Performance . . .

One of the first choices a user can make with the SX-10 system is a mix of telephone sets. The SUPERSET 4 and SUPERSET 3 are now offered as the perfect complement to the SX-10 communications system.

The SUPERSET 4, among the most advanced business telephones on the market, combines performance with prestige in a sophisticated business telephone set. This simple yet elegantly styled set has a liquid crystal display that not only guides the user easily through call handling with visual prompts, but displays callback messages. The visual prompts eliminate the need to remember access codes or complicated procedures.

With SUPERSET 4 up to 15 other lines may be answered from the set, including inside extensions and a variety of outside trunks, depending on the user's needs.

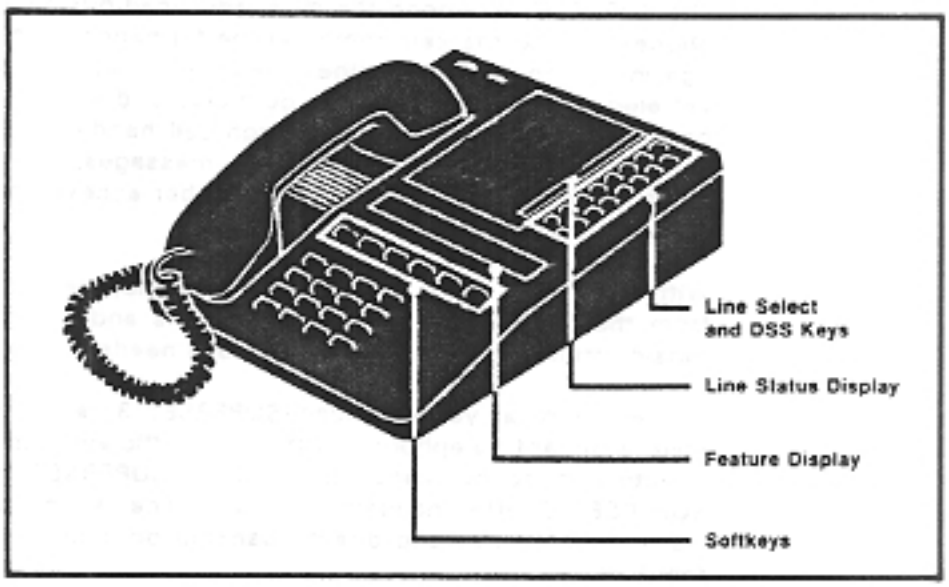
The economical yet advanced SUPERSET 3 replaces old-style standard telephones with more efficient and cost-effective handling capabilities. Both SUPERSET 4 and SUPERSET 3 offer handsfree convenience, speed dialing, last number redial, and direct push-button access of system features.

The user can mix these high-styled sets with standard telephones, rotary or push-button telephones to provide the perfect complement for the SX-10 system.

SUPERSET 4

This section describes . . .

the SUPERSET 4 special telephone set and the features offered with it in more detail.



The offset double row of keys along the right side of the SUPERSET 4 can be programmed for three different functions: as Line Select Keys, as Direct Station Selection (DSS) Keys and as Speed Dial Keys.

Line Select Keys

A Line Select Key may be assigned as an internal extension or outside trunk. Some examples of the lines types are the user's main extension number, a private line, and a Direct Trunk Select line. Seven different line types are supported, as explained in more detail at the end of this chapter.

Each Line Select Key has an indicator that displays the idle/busy/hold state of that line. These indicators are located to the left of each key in the Line Status Display of the SUPERSET 4 set. The chart below shows the symbol that corresponds to the status of a line.

When a line is...	Your set indicator shows...
Idle	☐
Called (incoming call)	○ ● ○ ● Alternating
Busy	◎
Busy at another extension	●
On Hold	◎ ☐ ◎ ☐ Flashing
On Hold at another extension	● ☐ ● ☐ Flashing

The SUPERSET 4 telephone automatically selects the user's line when the set user lifts the handset to place a call and automatically selects the ringing line when an incoming call rings at the set. This eliminates pressing any extra buttons, simplifying the use of SUPERSET 4.

Direct Station Selection (DSS) Keys

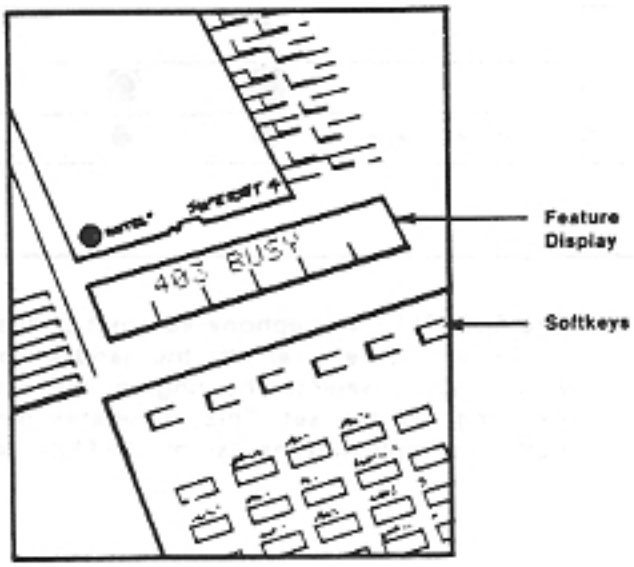
Any keys not assigned to lines may be programmed as DSS keys – these keys dial other system users directly. The most commonly dialed numbers (e.g., department numbers and co-workers' numbers) are programmed as DSS keys. These keys provide single button calling.

Speed Dial Keys

Keys not programmed as Line Select or DSS keys can be used as personal speed dial keys, providing single button dialing for external numbers of up to 26 digits.

Feature Display and Softkeys

The most prominent feature of the SUPERSET 4 set is its visual prompts and callback messages, appearing in the liquid crystal Feature Display (refer to the diagram below). These prompts and messages make the set easy and simple to use. By looking at the Feature Display, the set user knows, for example: the number of the extension he is talking to; the extension on hold; the extension calling; plus additional information that makes the SUPERSET 4 set so powerful and efficient.

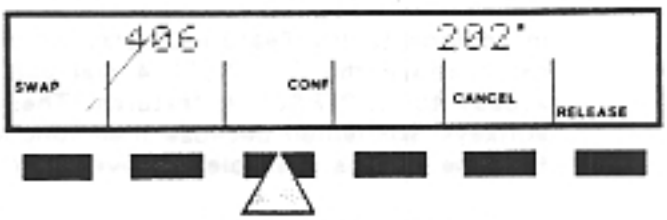


In addition to the Feature Display, six unlabeled keys, located above the SUPERSET 4 dial pad, provide the user access to SUPERSET 4 features. These keys are called softkeys, so-named because their functions change to reflect the options available at a every point during a call.

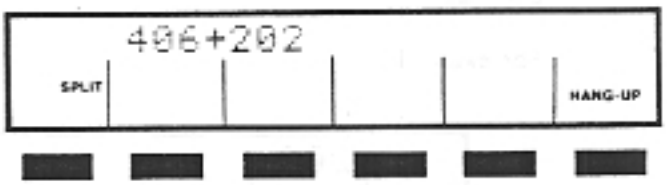
Above each key is a clearly defined area in the liquid crystal display. Prompts appear in these areas to precisely indicate the options appropriate to the calling activity of the moment (see the following illustrations). Activating an option is a matter of pressing the button immediately beneath the prompt. As calling activity changes, the prompts change indicating relevant options. The examples below illustrate how the softkey prompts change as a call progresses.

For example:

A SUPERSET 4 user is talking to Extension 202. He/she can press **TRANS/CONF** to transfer the call or form a conference, or press **HANG-UP** to hang up.

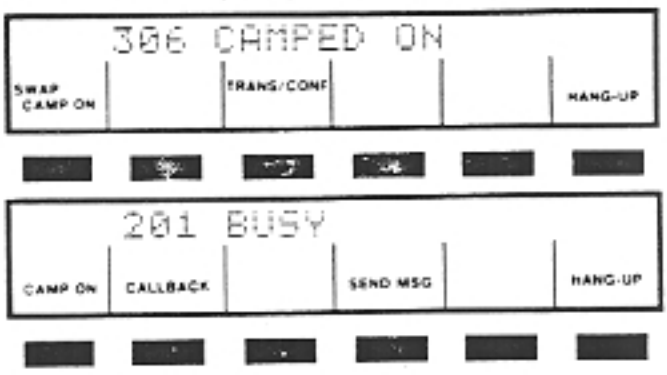


TRANS/CONF was pressed and Extension 202 was placed on hold. Extension 406 is dialed. The user can press **CONF** to form a three-way conference with Extensions 202 and 406 or press **RELEASE** to transfer Extension 202 to Extension 406. (Note that new prompts have appeared in this example.)



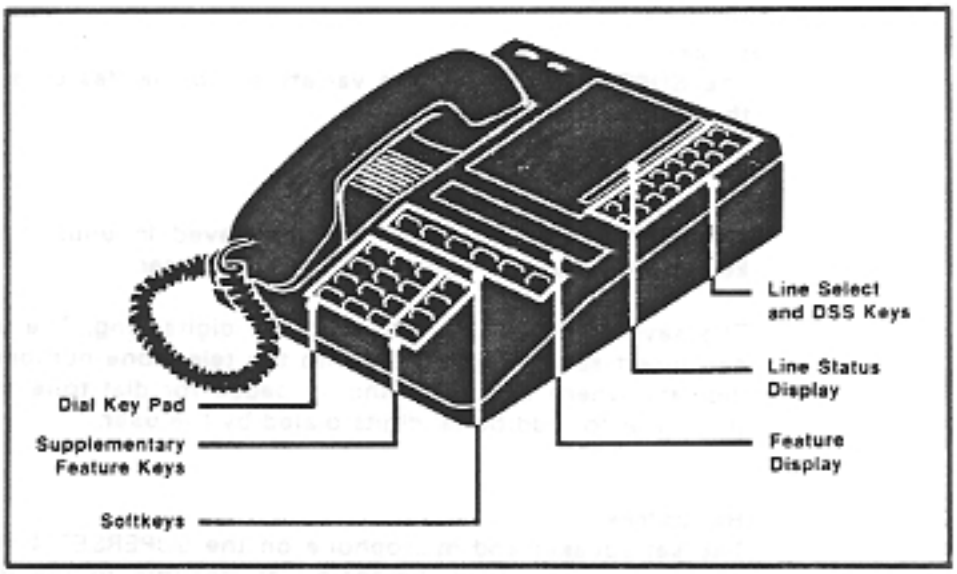
CONF was pressed to form a three-way conference. **SPLIT** may be pressed to speak with one of the parties privately or **HANG-UP** may be pressed to hang up.

As illustrated in the examples, the functions of the softkeys change as the call progresses. In addition, the Feature Display area always gives the status of a call. The two examples below show other types of call status information that is displayed. It is the Feature Display area and the softkeys that make the SUPERSET 4 set more versatile and easier to use than anything on the market.



Dial Pad and Supplementary Feature Keys

The SUPERSET 4 has a standard 12-key telephone pad and four Supplementary Feature Keys (see the diagram below). The Supplementary Feature Keys are described below.



display

The **display** key is used in conjunction with softkeys to display saved numbers, call forward settings, identities of lines and calling or camped-on parties.

select features

The **select features** key is used to select and enable or disable supplementary features such as Call Forwarding, Do Not Disturb, and Auto Answer.

speaker on/off

This key is used for handsfree SUPERSET 4 operation.

mic. on/off
This key is used to switch off the microphone during handsfree operation.

The special features used with these keys are explained on the next page.

Special Features
The SUPERSET 4 set has a variety of special features for the user's convenience.

Speed Dial
Frequently dialed numbers may be saved in unused line keys for one-button speed dialing by the user.

The saved numbers can be up to 26 digits long. The user can insert special characters into the telephone number to indicate where the PABX should pause for dial tone from the CO or for additional digits dialed by the user.

Handsfree
The set speaker and microphone on the SUPERSET 4 telephone give an added dimension of freedom to the user. The set user can speak without using the handset.

When a set is in handsfree mode, the Status Display shows a different array of prompts specifically designed for handsfree set operation.

The microphone has an independent switch allowing the microphone to be turned off for private consultations.

The ringer and speaker have separate volume controls for accurate sound adjustment.

Auto Answer
When the auto-answer feature is selected, the user can answer incoming calls without touching the set. This reduces interruption to the very minimum.

A brief tone signals an incoming call and the set user is automatically connected to the call. The user can continue working as he/she talks to the caller. The set user can make calls normally when this feature is activated.

Do Not Disturb
Incoming calls will not ring the set when this feature is active. Calls and callbacks placed by the set user are not affected.

Call Forward – Busy, No Answer, All Calls
Set users can forward their calls to a different station number, Attendant, or to a telephone number outside the PABX.

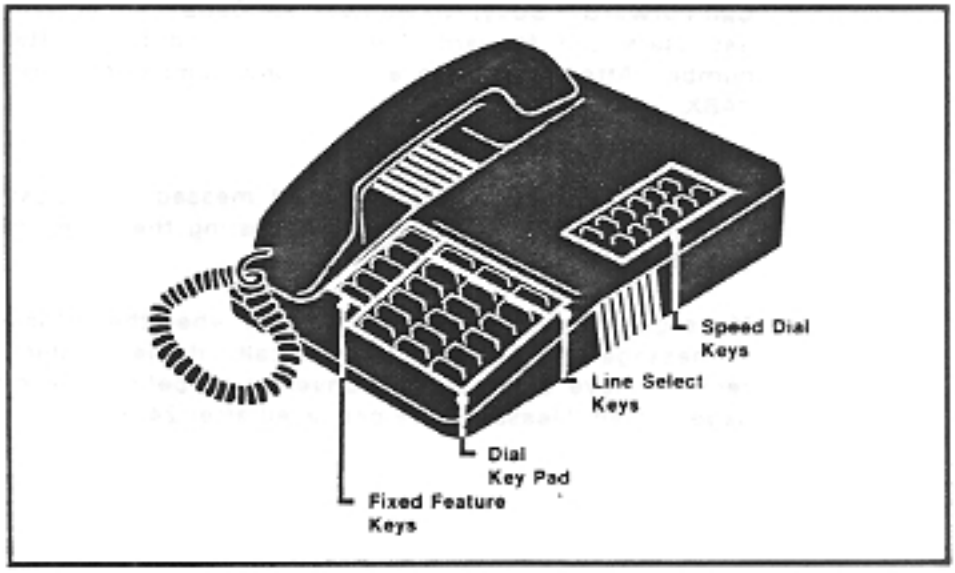
Callback Messaging
SUPERSET 4 users can send visual messages to busy or unanswered SUPERSET 4 sets, requesting the called party to call them back.

Messages can be read during a call or when the set is idle. A message is cancelled automatically if the sender and receiver have a telephone conversation before the message is read. Messages are cancelled after 24 hours.

SUPERSET 3

Performance and Economy. . .

With the SUPERSET 3, the most-wanted telephone features are built into this highly styled economical set. Full hands-free capability, auto answer, 12 speed dial keys, fixed-functions keys, special features and more, are offered with this set. The SUPERSET 3 is illustrated and described in more detail below.



Line Select Keys

The SUPERSET 3 has three line select keys. These lines can be any variety of internal or external lines, both private or shared with other extensions, for complete communications flexibility. One line is the user's main extension number and the other two lines can be assigned as any other line type. The different line types are explained in more detail at the end of this chapter.

The LED indicator above these keys show the busy/idle/held state of each line.

When a line is . . .	The line indicator is . . .
idle	unlit
busy	lit
ringing	flashing
held	flashing fast

Speed Dial Keys

Up to 12 speed dial keys give instant accurate dialing of frequently called numbers.

Fixed Features Keys

The most commonly used features on a SUPERSET 3 are accessed by a single key. These features are described below.

hold

Used to place a call on hold, freeing the user to replace the handset or place another call.

swap

1) Used to alternate between a call camped-on and the current call.
2) Used to split callers in a conference call.

trans/conf

Used to transfer a call or to set up a conference.

redial

Used to automatically redial the last outside number which was manually dialed.

cancel

1) Used to cancel an unsuccessful transfer (i.e., busy) or conference call. The caller on temporary hold is automatically retrieved.

2) Used to abort auto-dial key programming.
3) Acts as a hang-up during handsfree operation.

program/save
Used to program and save numbers for automatic dialing.

speaker on/off
Used for handsfree SUPERSET 3 operation.

microphone on/off
Used to switch the microphone on and off for private local conversation during a handsfree call.

Special Features

There are a variety of other benefits available with the SUPERSET 3 set. These are listed below.

Speed Dial
Frequently dialed numbers may be saved in speed dial keys for one-button speed dialing by the user. The saved numbers can be up to 26 digits long. The user can insert special characters into the telephone number to indicate where the PABX should pause for dial tone from the CO, or for additional digits dialed by the user.

Handsfree
The set speaker and microphone give an added dimension of freedom to the user. The set user can speak without the encumbrance of a handset.

The microphone has an independent switch which allows the microphone to be turned off for private consultations. The speaker has a volume control for accurate sound adjustment.

And More!
Many other features are provided by MITEL SUPERSWITCH systems (with SUPERGENERIC) that you can access by dialing simple codes.

The features available to regular telephone sets are also available on the SUPERSET 3 set. When implementing these features using a SUPERSET 3 set, the user presses the **trans/conf** key instead of flashing the switchhook.

LINE TYPES

The SUPERSET 4 and SUPERSET 3 sets . . .
are a dynamic advance in the evolution of the business telephone because of their multi-line capabilities.

The SUPERSET 4 and the SUPERSET 3 line keys can be individually programmed to operate as one of seven different line types. This is the technological breakthrough that gives these sets the versatility to adapt to a user's needs, instead of the user changing to fit the system.

With the different line types available, groups of lines and trunks can be customized economically for many users, thus satisfying the communications needs of departments and individuals.

Any user can access calls directly, determine whose line it is they are answering, access trunks or lines for calls and handle several calls at a time.

Individual line appearances can be programmed to ring immediately, to ring after a timed delay, or not ring at all. They can be programmed for incoming only, outgoing only, or two-way calling.

Each line key on a SUPERSET 4 or SUPERSET 3 set may be assigned one of the following features described below.

Prime Line

The Prime Line on a SUPERSET telephone is simply the set user's main extension number (that which he/she is identified with on the company's phone list, for example). Each set can only have one Prime Line "number" of its own programmed, but there can be more than one "appearance" of this line on the same or other sets (for call pickup or screening purposes).

Key Line

Key Lines are typically programmed as appearances of the Prime Lines of other extensions (e.g., co-worker, assistant, secretary, etc.). These appearances allow the SUPERSET user to access other people's extensions, either single- or multi-line sets, in the same manner as a standard key telephone. That is, calls ringing into other sets can, if the

need arises, be answered with a simple push of a button from any SUPERSET telephone having an appearance of the ringing line.

These Key Lines may be shared on any number of sets (i.e., all group members). This allows for simple and effective "back-up" answering of calls, eliminating customer delays and frustrations, and improving worker productivity.

When a Key Line is in use, all other appearances of that line become busy. Only if the busy Key Line user releases the privacy feature may another party enter the conversation.

Multi-Call Line

The Multi-Call Line is an ideal departmental line because only one number is dialed to reach a service handled by several people. Multi-Call Lines can be assigned exclusively for customer calls, while internal and personal calls are routed to a user's prime number.

All idle sets with an appearance of a Multi-Call Line ring when a new call arrives and any set user may answer the call. Only the answering set's appearance is busied; other appearances of the line on other sets remain free to answer other incoming calls. As a result of this unique multi-call attribute, set users can handle as many calls as there are appearances of this line.

In some cases, users may wish to duplicate their Prime Line at their sets. This allows as many incoming calls as appearances before the line is busy. For example, if a set has a Prime Line with two Multi-Call Line appearances of that Prime Line on it, the user can handle up to three calls simultaneously before a caller receives busy tone.

Personal Outgoing Line

This additional appearance of the user's Prime Line is reserved for outgoing calls. It allows the user to place a call while the Prime Line has a call on hold, or while keeping the Prime Line free for incoming calls.

LINE TYPES

Direct Trunk Select (DTS)

A DTS Line automatically connects the user to the designated Central Office (CO) trunk. In all other aspects, this key acts like a Key Line. When a DTS Line is in use, all other appearances of that line become busy.

Direct Line Select (DLS)

A DLS Line automatically connects the user to the designated CO line. Like a DTS Line, all other appearances become busy when the line is in use. Unlike a DTS Line, DLS Lines may not be transferred. A call held on a DLS Line may only be retrieved by sets with appearances of that line.

Private Line

This is a personal outside line which does not appear on any other set. This key automatically connects to the designated CO trunk.

FEATURES AND SERVICES

Preview

This chapter contains an alphabetically arranged description of the features and services provided by the SX-10 (Generic 103) system.

All the features described in this chapter may be selected to meet the individual requirements of a customer.

Alarm Lamps

The three types of line indicators are part of the system's built-in automatic diagnostics. The alarm lamps found on the Attendant Console ensure that the Attendant is informed as soon as a malfunction occurs in the system. The Attendant can place a repair call to the servicing company immediately for any problem that cannot be corrected (e.g., prompt service for a minor alarm).

Alarm Indicator (CON)

A console alarm indicates that a malfunction has occurred within the console. The system is automatically placed into Night Service so that call processing can continue.

Alarm Indicator (MAJ)

If the console does not receive any data from the system for 2 seconds, the MAJ lamp on the console will light, indicating that a malfunction has occurred between the PABX and the console. All other displays and indicators go dark, leaving only the MAJ LED lit.

Alarm Indicator (MIN)

The system continuously checks its own operation and lights the MIN lamp on the console if a minor malfunction is detected. Call processing is not affected.

Attendant Access

By dialing "0" an extension user dials the Attendant directly.

FEATURES AND SERVICES

Attendant Console

The Attendant Console has three types of keys: Direct Station Select Keys (DSS), fixed-function keys (for call processing), and special function keys.

The DSS keys are programmable to correspond to any frequently called extension, Hunt Group, Ring Group or Trunk Group on the system.

The fixed functions keys used for call processing are: CANCEL, BOTH, SPLIT, RELEASE, RECALL, DIAL O, LDN 1, 2, 3, HOLD 1, 2, 3, and ANSWER.

The special function keys are: NIGHT SERVICE, ALARM, STATUS, BELL OFF, MSG REG, MSG WAIT, PAGE, OVERRIDE, OVERFLOW, CALL BLOCK, AUTO WAKEUP. (Some of the special function keys are programmable.)

The console display provides the Attendant with all relevant call-processing information as well as extension, trunk and system status.

Attendant and Maintenance Functions

The Attendant can perform call handling, maintenance and special programming operations by dialing specific codes or, in some cases, by pressing a console key.

Attendant Night Answer Point

This feature assigns a specific station as the Night Answer point for all DIAL O calls when the system is in Night Service.

Attendant Overflow to TAFAS

This feature ensures that all calls coming to the Attendant Console (when the system is in Day Service) are answered when the console is busy. The calls that have not been answered within a defined time-out period are routed automatically to TAFAS, or are routed to TAFAS when the TAFAS Overflow key is pressed.

Automatic Callback - Busy

This feature allows a station user, upon encountering a busy station number or Trunk Group, to have the call completed when the busy number becomes free. It monitors

the originating station and the called number and rings the originating station when both parties become idle.

Automatic Diagnostics

The SX-10 system continuously runs automatic diagnostic checks which test the memory, speech path connections, tone receivers, tone generator, supervisory tones, dial tone detectors and speech path biasing. If the automatic diagnostics detects a malfunctioning unit, the unit is busied out and an alarm is raised (see **Alarms**).

Automatic Station Release

The system automatically releases and locks out a station if the user exceeds the dial time-out or interdigit time-out.

Automatic Wake-up

This feature allows the Attendant to set up a wake-up alarm call that rings the station at a prearranged time. After answering a wake-up call, the station user receives either a special wake-up tone or music. If the call is not answered (or if the station is busy), the call repeats two more times at 5 minute intervals. There is also an optional printout function with this feature. Every time the station is rung or the wake-up call time is set, changed or cancelled, a message is printed on the printer.

Background Music

This feature allows a music source to be connected to the PA system when the pager is not in use. The music source is connected to the system via the cross-connect field.

Behind-PBX Operation

In a Behind-PBX Operation, an SX-10 system is installed as a "slave" behind a host PBX. A trunk circuit in the SX-10 is connected to a line circuit in the host PBX. This feature allows transferring and conferencing of calls between the host and the slave and provides access to outside trunks on both systems.

Bell Off

This feature allows the Attendant to disable or enable the console bell. When the bell is disabled, calls to the console are indicated by flashing LEDs only.

Block Programming

This feature allows sequential equipment numbers to be programmed as a whole. It is possible to program station numbers, COS, Toll Restriction and Pickup Group for the sequential block of equipment numbers.

Calibrated Flash

This feature allows a system to work with telephones that have a Calibrated Flash feature. With the Calibrated Flash feature, a digit 1 may also be treated as a flash. (This feature is normally used in Europe and Mexico.)

Call Block

This feature allows the Attendant to inhibit calling between stations with Call Block enabled in their COS. An attempt to place a call between two stations with this restriction results in the caller receiving reorder tone.

Call Direction

This COS option defines an extension as Originate Only (cannot receive calls), Receive Only (cannot place calls), or Bothway Calling (can place and recive calls).

Call Forwarding – Busy

This feature allows a user (forwarder) to have all calls forwarded to the Attendant, Hunt Group, Ring Group or to a selected station number (forwardee) within the PABX WHEN THE USER'S STATION IS BUSY.

Call Forwarding – Don't Answer

This feature allows a station user to have all calls forwarded to the Attendant, Hunt Group, Ring Group or a selected station within the PABX WHEN THERE IS NO ANSWER AT THE USER'S STATION.

Call Forwarding – Follow Me

This feature allows a station user to have ALL CALLS forwarded to the Attendant, Hunt Group, Ring Group or a selected station within the PABX.

Call Hold (Console)

This feature allows the attendant to place a call on hold by pressing HOLD 1, HOLD 2 or HOLD 3. The call may be retrieved by the Attendant by pressing the flashing HOLD

key or may be picked up by any station by dialing the Call Hold Retrieve Code.

Call Hold (Prime Station)

For consoleless operation, the Prime Station can place any trunk call on hold by dialing a code. The call can be retrieved by dialing the Call Hold Retrieve Code plus "0". Any other person in the system can retrieve that call by dialing the Call Hold Retrieve Code followed by "1" through "8" for whichever trunk was placed on hold.

Call Hold (Station)

This feature allows a station user to place a trunk call on hold by dialing a code. The held call can be retrieved from the user's station or another station by dialing the required Call Hold Retrieve Code.

Call Selection

This feature allows the Attendant to answer calls, either in the order in which they arrive at the console, or by selecting a specific call type. The Attendant may answer the first call by pressing the ANSWER key or may select a call by pressing the flashing LDN, DIAL O or RECALL key.

Camp-On

This feature connects incoming trunk calls or station calls to a busy station. The busy station is warned that there is a call waiting by a single burst of camp-on tone (which indicates a station call) or a double burst of camp-on tone (which indicates a trunk call). When the busy station hangs up, the camp-on call is completed.

Class of Service (COS)

The features and services that a station can use are defined by the Class of Service which is assigned to that station. Some options in the Class of Service are Trunk Groups, Toll Control Plans, Call Forwarding, Executive Busy Override, and more.

Consoleless Operation

The SX-10 system can operate without the Attendant Console. In a consoleless system, call processing functions are made available to the Prime Station. (See **Prime Station** for more details.)

Customer Programming
This feature allows the end customer to perform certain system programming changes through the Attendant Console.

Data Dump/Load
The Data Dump/Load Feature allows a user to store the system configuration on tape for future system reconfiguration. A data dump or data load uses the printer port of the system.

Data Line Security
This feature protects data transmission. It prevents an extension from receiving camp-on tone or override which could interfere with computer data transmission.

Default Data
The SX-10 system has preset parameters known as Default Data, which allow the system to immediately be used as a PABX without extensive initial programming. The customer only needs to make those changes to the system as required to customize it for his needs.

Dial Call Pickup
This feature allows an extension user to answer any call ringing at another station within his/her Call Pickup Group by dialing the Dial Call Pickup Code.

Dictation Trunk
The system can connect centralized dictation equipment to a trunk port to allow extension users dial access to the equipment and to maintain control of all normal dictation system features.

Direct-In Line (DIL)
This feature assigns incoming trunk(s) to a specific extension number(s). Incoming calls on the trunk ring the extension number directly, bypassing the Attendant Console. DILs can also be assigned to RMATS, Ring Groups, Night Bells or Hunt Groups.

Direct Outward Dialing
This feature allows a station user to place external calls without the assistance of the Attendant.

Direct Station Selection (DSS)

The SX-10 console is equipped with nine Direct Station Selection (DSS) keys for faster call processing and easier operation. Each DSS key may be assigned to a station, Trunk Group, Hunt Group, or Ring Group. When a DSS key is pressed, the system automatically dials the number of the station to which it is assigned. Each DSS key has a LED associated with it which indicates the status of the station.

Direct Inward System Access (DISA) Trunks

The Direct Inward System Access (DISA) feature enables an outside caller to dial directly into a PABX system without attendant intervention and gain access to PABX facilities and outgoing trunk circuits (such as WATS lines and Tie lines). A DISA trunk user hears one or two bursts of ring-back tone before being automatically answered by the PABX and given PABX dial tone. A 3-digit DISA Access Security Code may be required at this point and, when entered, provides PABX dial tone; then the PABX features may be accessed.

Discriminating Ringing

With this programming option, distinctive ringing patterns can be provided, which allow extension users to distinguish between incoming internal and external calls. An internal call is identified by a single ring, while an outside or attendant call is identified by a double ring.

Distinctive Callback Ringing

This programming option is used to provide a distinctive ringing pattern for Callback calls - 3 seconds On, 1.7 seconds Off repeated four times.

Distinctive Dial Tone

This feature provides special dial tone on extensions which have the Do Not Disturb or Call Forwarding Features activated. When the extension user goes off-hook, he/she will hear distinctive dial tone, reminding the user that a feature is active.

E&M Trunks

An E&M Tie trunk is a dedicated line connection which provides two-way communications between two PABX

systems. The E&M Tie trunk hardware is provided with the system and is programmable to match different interfaces.

Executive Busy Override (Console)
This feature allows an Attendant who encounters a busy station to press the OVERRIDE key and enter the conversation. Before voice contact is established, all parties hear a warning tone. This tone is repeated every 6 seconds for the duration of the override. An override by the Attendant has priority over a station user who is performing an override.

Executive Busy Override (Station)
This feature allows a station user who encounters a busy station to dial a code and enter the conversation. Warning tones are provided as in Attendant Override.

External Call Forwarding
This feature allows system users to route their calls to an external telephone number which has been programmed as a system or personal speed dial number.

Flash Disable
This feature does not allow an extension to select a feature which requires a switchhook flash.

Flash for Attendant
This feature allows a station user, while on an established call, to flash the switchhhook and be automatically connected to the Attendant Console.

Flash Means Release
This feature assigns a disconnect to a switchhook flash.

Flexible Night Service
This feature routes incoming trunk calls to any selected station, station Hunt Group, Ring Group or RMATS when the system is placed in Night Service by the Attendant. The assignment of the station/Hunt Group to which call are routed may be made from the console at any time.

Flexible Numbering Plan

The numbering plan used within the system permits the user to select any combination of 1-, 2- or 3-digit numbers for Feature Access Codes, Trunk Group Access Codes and station directory numbers. (Trunk Group Access Codes can only be 1- or 2-digit numbers.)

Housephone (Manual Line)

A station with this option in its COS is automatically routed to the Attendant Console when the station user lifts the handset. Dial tone is not provided to these stations.

Identified Trunk Group

This feature is used in conjunction with E&M Tie trunks and allows a unified numbering plan to be used between PABXs. An extension user calling another extension user at the distant PABX need only dial the extension number.

Incoming Call Identification

All incoming calls to the Attendant Console appear on selected keys to indicate the type of incoming call or which trunk group a call is on.

Individual Trunk Access

This feature allows the Attendant or Test Line to access a specific trunk by equipment number, for maintenance or troubleshooting purposes.

Last Number Redial

This feature allows an extension user to automatically redial the last manually dialed outside telephone number.

Lockout on Station

This feature is activated immediately if one of the two parties engaged in a call goes on-hook. The party which remains off-hook automatically disconnects from the speech path, allowing that speech path to be used for another caller.

Make/Break Ratio and Pulse Rate

This feature allows the SX-10 system to operate in any country, by conforming to that particular country's outpulsing ratio. Four different outpulsing ratios (make/break) for outgoing trunks may be selected.

Message Register Audit

This feature allows the Attendant to have the information stored in the Message Registration Counter, printed on a printer and to optionally clear it. (See Message Registration.)

Message Registration (Attendant)

This feature computes the number of local call units made from a station. An initial charge can be set for each local call; additional charges can be levied for the duration of each local call.

Message Waiting (Attendant)

This feature allows the Attendant to inform a station that there is a message waiting. The station rings with a distinctive ringing pattern periodically. If the station user picks up the handset within 30 seconds after the Message Waiting rings the station, the station automatically rings the console.

Message Waiting Indication during Day Service Only (Attendant)

This feature allows Message Waiting Indications to be provided during Day Service only. When the system is put into Night Service, all Message Waiting Indications are suspended.

Mixed Station Dialing

This feature allows the simultaneous use of rotary and DTMF telephones on any or all station lines. All station features are available to both types of telephones.

Music on Hold

A music source may be connected to the system to provide Music on Hold for trunk calls held by Attendant Call Hold, Trunk Camp-On or Station Call Hold features. If music is not provided, trunk callers on hold hear nothing.

Night Bells

The SX-10 system provides a relay closure which may be used to ring Night Bells during Day or Night Service.

Paging Access (Attendant)

This feature provides the Attendant with access to customer-provided paging equipment when the **PAGE** key

is pressed. If the paging equipment is in use by a station user, the Attendant will override the station user.

Paging Access (Station)

This feature provides station users with access to the customer-provided paging equipment. This capability can be allowed or denied through extension Class-of-Service assignments.

Power Failure Transfer

Two power fail transfer circuits are provided. If a commercial power failure occurs which lasts, longer than the reserve battery capacity, these circuits transfer the two CO trunks (Trunks 01 and 02) to predetermined stations (Equipment 01 and 02).

Power Failure Protection

In the event of a commercial power failure, the reserve battery backup provides full system operation (see **Reserve Power Battery**). After the battery backup period, there is additional backup for the customer data stored in the Random Access Memory (RAM). RAM data is maintained intact for 600 hours.

Prime Station

If the system does not have a console, Equipment Number 01 may be used as the Prime Station. The Prime Station can program the system, perform attendant and maintenance functions and process incoming and outgoing calls.

Printer Port

The PABX can have an external printer connected to the system via the RS-232 Port (Printer Port). The following features use the printer facility: SMDR, Auto Wake-up, Message Register Audit, and Data Dump/Load.

Programming

Programming the PABX consists of completing the required Programming Forms, then entering the desired Command Number and data from the Test Line or console. Since the SX-10 comes with default data, programming is required only to make changes to the default data in order to customize the system to meets the user's requirements.

Remote Call Status Display

An optional Remote Call Status Display is available for use with the Prime Line or Test Line. It is used with the Prime Station for call processing when there is no console. It can be used with the Test Line for programming and maintenance. It can also be used in a system with a console for a Night Answer point.

Remote Maintenance Administration and Test System (RMATS)

RMATS enables a service technician to access the SX-10 PABX and perform programming changes, and maintenance and attendant functions from a remote location. This capability does not interrupt service, and the console and remote displays are not affected.

Reserve Power Battery

The PABX is equipped with a 12 V Reserve Power Internal Battery Pack. The battery is capable of sustaining normal and uninterrupted operation in the event of a commercial power failure for 45 minutes (without the console) and 25 minutes (with the console).

Restrictive Station Control (Attendant)

This feature allows the Attendant to temporarily restrict a station from making outgoing trunk calls. Station-to-station calls may be made in the normal manner, but attempts to access a trunk results in the station receiving reorder tone.

Reversal Meaning

This trunk programming feature is used to define the interpretation of Tip/Ring reversal.

Ring Group

This feature allows up to nine extensions to be defined as a group. These stations are rung simultaneously when an incoming call is processed to the group. Any station may answer the incoming call. Only one Ring Group can be provided by the system and it is assigned a unique access code.

Rotary Dial Pulse-to-Digit Translation

The system allows the selection of one of four different digit translation plans. This allows the PABX to be used in any country, irrespective of that country's digit translation.

Selectable Ringing Frequency

To accommodate the various ringing frequencies used throughout the world, the PABX provides three ringing frequencies.

Selectable Tone Plans

To accommodate worldwide users, the system provides four Tone Plans.

Speech Path Access

This feature allows the Attendant to access a particular speech path for test and maintenance purposes by dialing the equipment number.

Station Calls to Attendant Night Answer Point

This feature assigns a specific station as the Night Answer Point for all DIAL 0 calls when the system is in Night Service.

Station Feature Reset

This function allows a station user to disable (cancel) all features currently active on his/her station.

Station Hunting

This feature is used to link stations together into a Hunt Group with a Hunt Group Access Code. A call to a Hunt Group is routed to the first idle station in the group. Up to six Hunt Groups of eight stations are allowed. Alternatively, Hunt Groups may be linked together to form larger Hunt Groups for a maximum configuration of one group of 32 stations. Two types of hunting are provided: Circular and Terminal Hunting (refer to **Trunk Hunting**).

Station Message Detail Recording (SMDR)

With SMDR a detailed record of all incoming and outgoing calls is provided enabling a business to monitor, analyze and thus control its long-distance telephone calls. Output, such as the time, the destination, the duration, and the trunk and extension involved, is provided for each call.

This output is available through the RS232 port of the PABX and output on a local printer or magnetic tape or directed to a service bureau or to the Mitel DART™ or VOYAGEUR™ to provide detailed call costing and summaries.

Station Switchhook Flash Timing

This feature defines the minimum and maximum duration of a switchhook flash.

Station Transfer Security

This feature prevents lost trunk calls due to incorrect station handling.

SUPERSET 4 and SUPERSET 3 sets

The SX-10 PABX provides full feature capabilities for SUPERSET 3 and SUPERSET 4 electronic telephones. See Chapter 2 for more details.

System Security Code

Programming is allowed from the Attendant Console provided a System Security Code is entered. There are two levels of Security Codes: one gives access to complete system programming and the other is restricted to a given set which is programmable by the customer.

System Security Code Display

This feature allows the System Security Code to be displayed. This is done by opening the Equipment Cabinet and moving the Programming Switch; the Security Code briefly displays on the console or Remote Call Status Display.

System Speed Call

This feature provides six speed call tables which have a maximum capacity for 10 speed call numbers, each of variable length. These are subject to the restriction that the total number of digits for each speed call number does not exceed 26 per number.

Test Line

If the system is equipped with a console, Equipment Number 01 may be used as a Test Line to program the system or to perform any maintenance functions.

Through Dialing (Station)

With this feature, a station user who is restricted from making trunk calls can gain access to trunks via the Attendant or with the Attendant's assistance.

Time Display

The Attendant Console and the Remote Display show the time of day when they are not being used for for other purposes (e.g., programming, maintenance). The time is displayed as either a 12- or 24-hour clock depending on the option selected by the Attendant.

Toll Control

Toll Control denies an extension the ability to make certain long-distance calls. Denials may be specified to be active on the receipt of toll supervision, number of digits dialed, and the actual digits dialed. There are restrictions on area codes, office codes, and station codes. Two Toll Control Plans are available in the system.

Tone-to-Pulse Conversion

This feature automatically converts DTMF (tone) signals to dial pulse (rotary) signals where the CO or distant end of the outgoing trunk is not equipped to accept DTMF signals.

Transfer/Add-On/Consultation Hold

This feature allows a station user to place an established call on Consultation Hold and originate a new call. The user may then consult privately with the third party, add the third party to the call or transfer the original call to the third party.

Transfer Dial Tone

Transfer Dial Tone is a special dial tone returned to a station user who flashes the switchhook and places an existing call on hold. The user can then transfer the call to another station user or form a three-party conference.

Trunk Alarm Control

This options enables or disables trunk alarms on a per-trunk basis. Disabling trunk alarms does not correct improper trunk operation; it only prevents alarms from ringing the console.

Trunk Answer from any Station (TAFAS)

TAFAS allows incoming trunk calls normally directed to the Attendant Console to be routed to centrally located night bells. Station users with TAFAS access allowed in their Class of Service may answer incoming calls.

Trunk Busy-Out Enable (Attendant)

This function allows the Attendant or Test Line to "busy out" a selected trunk. Stations attempting to access the trunk receive busy tone.

Trunk Emergency Release (Attendant)

This feature allows the console Attendant or maintenance person to force-release occupied trunk circuits for emergency reasons.

Trunk Groups

The trunks in the PABX may be assigned into six independent groups. Each trunk group has a separate access code. Stations are individually allowed or denied access to the trunk groups.

Trunk Group Overflow

When this feature is enabled in Trunk Group Programming, calls directed to a particular trunk group are routed to another specified trunk group, when all the members in the first group are busy.

Trunk Hunting (Terminal or Circular)

When the SX-10 system is programmed for automatic trunk selection, that trunk selection can be programmed for either terminal or circular hunting.

Circular Hunting: Routes calls to each trunk in the group in sequential order. A new call to the hunt group is directed to the first idle trunk found after the trunk which received the last call. This provides equitable usage on each trunk in the group.

Terminal Hunting: Routes calls to the FIRST trunk in the group and terminates at the first idle trunk found. Hunting takes place in the order in which the trunks were programmed inot the hunt group.

Trunk Selection (Direct or Automatic)

Each trunk group has the ability to operate in either a Key System Mode (trunks are directly selected by the station user) or in PABX Mode (trunks are automatically selected for the user by the system).

Trunk-to-Trunk plus Station Conferencing

This feature allows a station user to form a three-party conference with two outside trunks. The station user can drop out of the conference allowing the two trunks to remain in conference.

Voice Synthesis

When the SX-10 system is operating in the Consoleless Mode, the station placing a trunk on hold hears the trunk number through the system's voice synthesis. When the SX-10 system is operating in the Key System Mode, the station user hears which lines are free when the station dials the Trunk Group Access Code.

Wait for Dial Tone

This option is used to select the maximum period of time the system will wait to receive dial tone from a trunk. Digits that are dialed before dial tone is received, or before the specified time-out period, are not outpulsed by the system.

ORDERING INFORMATION

ORDERING INFORMATION

This section provides . . .

ordering information for the SX-10 Supergeneric 103 software and hardware. The ordering information is divided into the following tables:

- Basic System
- System Options
- System Peripherals
- Spares/Replacement Parts
- Documentation
- Sales Aids

Warranty

The Mitel SX-10 PABX is warranted against defective material and workmanship. Equipment requiring service or repair during the warranty period must be packaged in accordance with Section MITL9100-093-200-NA, Shipping, Receiving and Installation Procedures (contained in the Mitel practice) and returned to the supplier. Repaired or replacement equipment is returned to the customer, post prepaid by Mitel.

Spare Levels

Mitel recommends a minimum spare level as follows:

- 15% on all electronic components such as Master Card II, Power Supply, System Expander Cards, Firmware and Trunk Modules.
- 5% on other components, such as console connection cables, mounting bracket, etc.

ORDERING INFORMATION

TABLE 4-1
BASIC SYSTEM

Description	Comments	Part Number
Complete System 4 X 8	This is a complete system equipped with four trunks and eight stations. It includes the following: Equipment Cabinet, Power Supply, Mounting Bracket, Reserve Battery, Power Cable, Master Card II (which includes the Firmware Module and two CO Trunk Modules).	9100-710-103-NA

TABLE 4-2
SYSTEM OPTIONS

Description	Comments	Part Number
8-Line System Expander Card	Expands system capacity to 16 lines. Provides for two additional Trunk Modules.	9100-021-002-NA
16-Line System Expander Card	Expands system capacity to 24 lines. Provides for two additional Trunk Modules and Attendant Console.	9100-021-020-NA
24-Line System Expander Card	Expands system capacity to 32 lines. Provides for two additional Trunk Modules and Attendant Console.	9100-021-030-NA
16-SUPERSET System Expander Card	Expands system capacity to 24 SUPERSET lines. Provides for two additional Trunk Modules and Attendant Console.	9100-021-010-NA
Attendant Console	Includes: keyboard, facial panel, display board, designation strips, lenses and handset.	9102-018-000-NA
Remote Display	Provides all status distant from the console. Includes the Remote Call Status Display Numbering Kit.	9100-022-010-NA
RMATS Module	Provides RMATS capability for the expanded SX-10 system. Plugs into optional System Expander Card.	9102-015-000-NA
CO Trunk Module Conference (two trunks)	Provides two loop or ground start trunks, 900 ohm nominal impedance.	9102-011-002-NA
E&M Trunk Module	Provides one 4-wire Type II E&M trunk interface.	9102-011-010-NA

ORDERING INFORMATION

TABLE 4-3
SYSTEM PERIPHERALS

Description	Comments	Part Number
SUPERSET 3 set	Multi-function feature phone. Refer to Chapter 2 for a general description of SUPERSET 3.	9173-000-001-NA
SUPERSET 4 set	Fully featured multi-line telephone. Refer to Chapter 2 for a general description of SUPERSET 4.	9174-000-005-GM
KONTACT terminal	Executive workstation providing point-to-point electronic mail, word processing and other application packages compatible with all SX-10 generics.	9200-000-401-NA
DART system	Compact, call-costing system. Connects to SMDR output with Generic 103.	9162-001-001-NA
Static Protection Unit	Protects system against static discharges at stations. Installed at main Distribution Frame. One unit handles 25 stations.	9180-067-001-NA

TABLE 4-4
SPARES/REPLACEMENT PARTS

Description	Comments	Part Number
Power Supply II	Power supply required to operate the SX-10 system.	9100-002-011-NA
Reserve Battery	An optional battery pack to extend the PABX operation in the case of a power failure.	9100-003-000-NA
Power Cable	Cabling required to install the power supply.	9100-025-005-NA
Cabinet	The SX-10 cabinet, excluding all other hardware or software.	9100-023-000-NA
Mounting Bracket	Required to mount the SX-10 system to the wall.	9100-024-000-NA
Master Card II	Provides system capacity for four trunks and eight extensions. Supports SUPERSET 4 and SUPERSET 3 and standard sets.	9100-001-010-NA
Firmware Module (Generic 103)	Provides Supergeneric 103 feature package. Installed on Master Card II only.	9100-026-103-NA

ORDERING INFORMATION

TABLE 4-5
DOCUMENTATION

Description	Comments	Part Number
Documentation Package	Includes: Technical Manual, User Guide (16), Prime Line Guide, Installation Guide, Telephone Access Code Labels (8 each, 16 black, 16 white).	9100-193-103-NA
Generic 103 Technical Manual	Complete set of MITEL Standard Practices.	9100-093-010-NA
Prime Line Guide	User-oriented booklet on system features and operation.	9100-953-002-NA
User Guide	User-oriented booklet explaining PABX telephone feature operation.	9180-953-100-NA
Repair Tags		9110-098-018-NA

TABLE 4-6
SALES AIDS

Description	Comments	Part Number
Supergeneric Folder	Embossed folio (The Choice)	9180-951-030-NB
SX-10 Supergeneric Flyer	SX-10 Product Flyer	9180-951-031-NB
SUPERSET 4 Flyer	SUPERSET 4 Product Flyer	9180-951-034-NB
SUPERSET 3 Flyer	SUPERSET 3 Product Flyer	9180-951-035-NB
Supergeneric Flyer	SUPERGENERIC Feature Package	9180-951-036-NB
Mitel Flyer	Corporate description	9180-951-037-NB
Hotel/Motel Applications Flyer	Hotel/Motel Applications	9180-951-038-NB
Retail Applications Flyer	Retail Applications	9180-951-039-NB
Professional Applications Flyer	Professional Business Applications	9180-951-040-NB
Corporate Applications Flyer	Corporate Applications	9180-951-041-NB
SUPERSET 4 Poster	Illustration of SUPERSET 4	9174-951-001-NA
Supergeneric Videotape 1/2" VHS	Contains latest promotional material for SUPERSWITCH and SUPERSET systems	9180-957-010-NA