Technical Service Manual

Panther 2064
Electronic Key Telephone System

TRILLIUM Telephone Systems

Table of Contents

Topic *Page*

Section D — Connection Procedures (continued)

Table of Contents

PREFACE

The Panther 2064 Electronic Key Telephone System is a state-of-the-art system that incorporates sophisticated electronics to meet the communications needs of today's office and business user.

It connects up to 20 outside tone or rotary telephone lines (one or two optional Door Answer Units and Door Modules may be installed reducing the number of outside lines served on a 1-for-1 basis) with up to 64 station Sets — which are all wired in a star configuration. The master key service unit (KSU) can handle 10 outside lines and 32 internal stations; with the expander KSU, the system can handle its full complement of outside lines and internal stations. Both Handsfree and Non-Handsfree Sets are available. A separate Direct Station Select/Busy Lamp Field (DSS/BLF) Unit is available for use at an attendant station; it contains station select keys and indicators that show the status of all system stations.

Attendant calling, common and private speed calling, call transferring, transfer ringing, door answering (with optional Door Answer Units and Door Modules), conferencing (up to 3 parties), message waiting, internal intercom paging (station-to-station, zone, and all page paging), external loudspeaker paging, call detail and account code recording (through an optional SMDR unit), and last number redialing are just some of the many features offered.

In addition, the Panther system is designed to allow easy interfacing with modems and answering devices through an optional OPX device.

The fully sealed Panther 2064 Electronic Key Telephone System may be installed in either a standalone mode or behind a CENTREX or PBX.

An optional external backup 24 V battery can be connected to each KSU in the system; the backup batteries are automatically brought on line in the event of a power failure, thus preventing interruptions in telephone service.

Also, in the event of a total system failure, incoming lines will be transferred to standard sets if optional Power Transfer Units have been installed in the system.

ABOUT THIS CHAPTER

This chapter has also been designed specifically to enable technicians to install, operate, and maintain the Panther 2064 Electronic Key Telephone System. Information is presented in a logical order, without undue wordiness — to help the technician find, understand, and use the relevant information, quickly and easily.

Therefore, for example, the Connection Procedures are separated into concise steps that have a logical and necessary sequence; and reference material (Technical Specifications, Feature Programming, Operating Instructions, and Troubleshooting) is presented in a variety of easy-to-follow, visible-at-a-glance tabular formats.

To acquaint yourself with this chapter, please review the Table of Contents and spend a few moments browsing through the different sections.

CAUTION

Panther equipment is sealed. Breaking the seal will void your warranty.

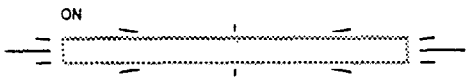
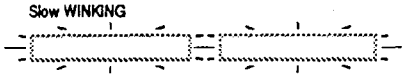
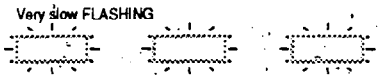
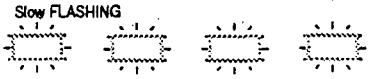
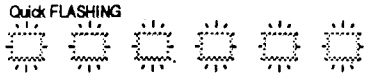
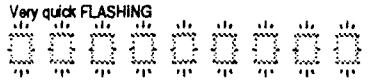
If you have an installation, operation, or troubleshooting problem that you cannot solve by using this chapter (and that your dealer cannot help solve), call TRILLIUM Customer Service at 1-800-848-2444 (inside California, call 1-800-422-7600).

NOTE

For your ready reference, a chart summarizing indicator signals appears on the back of this page.

QUICK-REFERENCE CHART

The Panther 2064 Electronic Key Telephone System lets users know what is happening with calls and lines through a series of indicator patterns. These indications are summarized in the chart on this page. Specific indications are described at the appropriate places throughout the procedural material in this chapter.

Line Indicator Action	Line Status
OFF 	Line idle
ON 	Line in use on on exclusive hold at another station
Slow WINKING 	Line in use at your Set
Very slow FLASHING 	Line on exclusive hold at your Set; line transferred-back to your Set; or callback to your Set
Slow FLASHING 	Incoming call
Quick FLASHING 	Line on hold at your Set
Very quick FLASHING 	Line on hold at another station

RADIO AND TELEVISION INTERFERENCE

WARNING

The Panther 2064 Electronic Key Telephone System generates and uses radio-frequency energy and — if not installed and used in strict accordance with these instructions — may cause interference to radio and television reception.

The Panther 2064 Electronic Key Telephone System has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of the Federal Communications Commission (FCC) Rules which are designed to provide reasonable protection from radio and television interference in a residential installation. However there is no guarantee that interference will not occur in a particular installation.

If interference is encountered, test to determine if the unit is at fault by unplugging the Key Service Unit (KSU) from the wall outlet.

If unplugging the KSU removes the interference, try the following corrective measures, singly or in combination, until the interference is eliminated:

- Change the location or position of the indoor receiving antenna of the radio or television.
- Relocate the Panther 2064 Set or KSU in relation to the radio and television receivers experiencing interference.
- Plug the KSU into an outlet that does not also serve radio or television sets.

If further help is needed, consult your TRILLIUM dealer or an experienced radio/television technician — or refer to the FCC's booklet, "How to Identify and Resolve Radio-TV Interference Problems." It is available from the US Government Printing Office, Washington, DC 20402 (stock number 004-000-00345-4).

HEARING AID COMPATIBILITY

The Panther 2064 Set is compatible for those requiring a hearing aid as defined in section 68.316, Part 68 of FCC Rules.

RESPONSIBILITIES

The FCC's rules permit the Panther 2064 Electronic Key Telephone System to be connected to the telephone network via a jack or jacks provided by the telephone company (telco). These jacks are not provided for coin or party lines.

User Responsibilities

Before connecting your Panther 2064 Electronic Key Telephone System to the telephone lines, you must contact the telephone company and provide them with the following information:

- Telephone numbers of the lines to which the Panther 2064 Electronic Key Telephone System is to be connected (lines 1 through 20)
- FCC Registration Number (found on the side of the Key Service Unit or KSU: the number for the Panther 2064 system — with or without the expander KSU — is **EBS78T-71737-KF-E**)
- Ringer Equivalence Number (also found on the side of the KSU: the number for the Panther 2064, with or without the expander KSU, is **3.3B**)*
- USOC jacks required (usually one 50-conductor RJ21 jack to *each* KSU; therefore, *two* RJ21 jacks are required if the expander KSU is installed)
- Facility Interface Code (the code for the Panther 2064 Electronic Key Telephone System is **02LS2**)
- Service Code (the code for the Panther 2064 Electronic Key Telephone System is **9.0F**)

You also have the responsibility to disconnect a malfunctioning Panther 2064 Electronic Key Telephone System from the telephone lines until the cause of the malfunctioning is identified and repaired. Otherwise, the telephone company may temporarily disconnect service.

* The Canadian Department of Communications load number for the Panther 2064 Electronic Key Telephone System is **16B**.

Telco Responsibilities

The telephone company is required to give you adequate notice of any changes it makes in its technical operations or procedures that may affect the compatibility or use of your Panther 2064 Electronic Key Telephone System.

STANDARD COMPONENTS

One Master Key Service Unit (KSU) Part Number 90-0285 (tone/rotary)

The master key service unit (KSU) for the Panther 2064 Electronic Key Telephone System can be programmed to operate with either dual-tone, multi-frequency (DTMF) or rotary (pulse) signaling. The signaling on each Central Office (CO) line can be programmed independently.

The master KSU has one 50-pin connector on its right side (labeled CO1 to CO10) to attach ten incoming telephone company (telco) CO lines (line 10 must be left vacant if one optional Door Answer Unit is installed).

The master KSU also has on its right side one recessed light-emitting diode (LED) indicator (labeled STATUS), four miniature dual in-line package (DIP) switches (labeled, from top to bottom, 1 PROGRAM [used for feature programming], 2 [not used], 3 [not used], and 4 BATTERY [used to save feature programming]), and one recessed pushbutton (labeled RESET).

Also on the right side of the master KSU are connectors labeled PAGE (used for external paging equipment), MUSIC (used for an external background and on-hold music source), SMDR (used for the optional SMDR unit),.POWER FAIL (used for the optional Power Fail Transfer Unit), and DOOR (used for the optional Door Answer Unit).

Near the bottom left of the master KSU are four 50-pin connectors, labeled STATIONS 10 TO 17.LOUD BELL, 18 TO 25, 26 TO 33, and 34 TO 41 that are used to connect the KSU to the station wiring main distribution frame (MDF) — and, through the MDF, to stations 10 through 41. The last pair of the cable that connects to the 10 TO 17 connector is also optionally available for connecting an external loud bell or other sounding device through an external dry contact interface unit.

Two connectors are available at the bottom of the master KSU that are used to connect the expander KSU to the Panther 2064 system.

The master KSU's power cord (at the top of the KSU) plugs into a 110 V ac outlet (but only at the appropriate time; see the Connection Procedures section). A grounding wire (12 AWG, solid copper) which connects to the top of the master KSU must be attached to a ground clamp, usually on a water pipe.

An input connector (labeled EXTERNAL BATTERY) for a 24 V dc backup battery is also provided at the top of the master KSU. If ac power is lost, the switchover to battery power is automatic when the optional backup battery for the master KSU is connected.

The unit comes with 4 screws for mounting the master KSU on a backboard.

One Expander KSU Part Number 90-0287 (tone/rotary)

The expander (KSU for the Panther 2064 Electronic Key Telephone System can also be programmed to operate with either DTMF or rotary (pulse) signaling. The signaling on each CO line can be programmed independently.

The expander KSU has one 50-pin connector on its right side (labeled CO11 to CO20) to attach ten more incoming telco CO lines (line 20 must be left vacant if a second optional Door Answer Unit is installed).

Also on the right side of the master KSU are connectors labeled POWER FAIL (used for the optional Power Fail Transfer Unit), and DOOR (used for the optional Door Answer Unit).

Near the bottom left of the expander KSU are four 50-pin connectors, labeled STATIONS 42 TO 49, 50 TO 57, 58 TO 65, and 66 TO 73 that are used to connect the KSU to the station wiring main distribution frame (MDF) — and, through the MDF, to stations 42 through 73.

Two connectors are available at the bottom of the expander KSU that are used to connect it to the master KSU.

The expander KSU has its own separate power cord (at the top of the KSU) that plugs into a 110 V ac outlet (but only at the appropriate time; see the Connection Procedures section). A separate grounding wire (12 AWG, solid copper) which connects to the top of the expander KSU must be attached to a ground clamp, usually on a water pipe.

An input connector (labeled EXTERNAL BATTERY) for a separate 24 V dc backup battery is also provided at the top of the expander KSU. If ac power is lost, the switchover to battery power is automatic when the optional backup battery for the expander KSU is connected.

The unit comes a mounting bracket and four screws for installing the expander KSU over (in front of) the master KSU (on the backboard).

Up to Sixty-Four Telephone Sets

Part Number 90-0288 (non-handsfree) or Part Number 90-0225 (handsfree)

Other than the handsfree operation, these two models look alike and operate identically. For example, both have an attractive black matte finish.

Each Set's base has twenty line select keys (labeled **1** through **20**), eight dedicated function keys (labeled **Hold**, **Flash/Cancel**, **Conference**, **Intercom**, **Redial**, **Speed**, **Speaker**, and **Mic.on/off**) and a tone dial keypad.

The line keys, the **Intercom** key, and the **Mic.on/off** key have accompanying status indicators.

Finally, the base has a speaker volume control (a sliding adjustment) and a ringer control switch (a 3-position switch, for low, medium, and high volume ringing).

Each Set also includes a telephone handset and two modular cords — a 4-conductor, coiled cord for connecting the handset to the Set, and a 4-conductor modular cord for connecting the Set to the station wiring jack.

Up to Twenty-Eight DSS/BLF Units Part Number 90-0226

The DSS/BLF unit has 64 keys and indicators, labeled **10** through **73** — one for each possible station in the system.

The DSS/BLF unit-Set pairs (also known as attendant station sets — but not to be confused with the master station) allow the user/attendant to select the desired station by pressing one of the 64 direct station select (DSS) keys and to observe the status of each station by observing the corresponding busy lamp field (BLF) indicator.

The DSS keys can also be programmed to select speed call numbers — keys **10** through **19** can be used to dial the first ten of the attendant's private speed call numbers; and keys **20** through **73** can be used to dial the corresponding first 54 of the system's 80 common speed call numbers (codes 20 through 73).

These units — which require an accompanying Set — are assigned a station number and, therefore, reduce the maximum number of sets possible on a 1-for-1 basis.

> For example, a system with a single DSS/BLF unit could have a maximum of 63 Sets (including the Set paired with the DSS/BLF unit).
>
> Alternatively, a system could have as many as 28 DSS/BLF units, all requiring an accompanying Set; this system would have 36 Sets, 28 of which would be part of an attendant station.

Each DSS/BLF unit includes a 4-conductor modular cord for connecting the unit to the station wiring jack.

Each DSS/BLF unit also comes equipped with a Designation Card (used to record station locations/assignments) — and with a plastic cover that protects the Designation Card.

OPTIONAL COMPONENTS

Up to Two Door Answer Units, Part Number 90-0058, With One or Two Door Modules Each, Part Number 90-0057

The Door Answer Unit (also known as the Door Answer Control) is installed next to, and connects with, the KSU. It serves as the interface between the system's stations and the one or two installed Door Modules (also know as the Door Answer Boxes) at the desired doors or entryways. The first Door Answer Unit uses line **10** and the second, if installed, uses line **20**.

Together, the Door Answer Units and their corresponding Door Modules enable signaling and conversation between Set users and visitors. Like the KSUs, all these units come equipped with mounting screws.

A visitor, by pressing the door bell button on a Door Module, generates a distinctive tone (four groups of 4 short tones for Door Module 1, four groups of 2 long tones for Door Module 2) that will sound at all Sets programmed to ring on line 10 or 20 and line **10** or line **20** indicator WINKS, depending on which line the corresponding Door Answer Unit is installed on. Also, each Set user can generate a calling tone that will sound at Door Module 1 only.

Up to Five Power Fail Transfer Units Part Number 90-0052

The Power Fail Transfer Unit automatically takes over in the event of an electrical power failure, allowing for continued telephone service during the emergency. One Power Fail Transfer Unit can handle up to 4 incoming lines.

When power fails, the Power Fail Transfer Units transfer incoming CO lines (up to all 20 of them — or the 18 or 19 lines in use, if the optional Door Answer Units with Door Modules are installed) to pre-installed *standard* telephone sets (*not* to Panther 2064 Sets).

Up to 63 Off Premises Extension/ Data Interface (OPX) units Part Number 90-0308

The OPX unit converts a 4-wire interface to a 2-wire interface, allowing a single line telephone to be connected to any spare station jack — except station 10. It also allows 2-wire devices to be connected at a distance greater than the system 2000 feet limit for Sets. The OPX unit also simulates CO line characteristics, allowing a modem or an answering machine to be connected to the system. Finally, the OPX unit allows a remote device to be connected to your system at any distance via a CO line.

When the user lifts the single-line telephone's handset, an intercom connection is made to the Panther system. Also, by dialing a special code, the off-premise user can access any of the Panther system's outside lines.

One Station Message Detail Recorder (SMDR) Unit Part Number 90-0227 only

This unit allows information on system, line, and station usage to be captured and recorded.

Set Stands/Wall-Mounts Part Number 90-0087

Each Set may be placed on a desk — or mounted on a wall using the Set Stand/Wall-Mount Bracket (available in packages of 10).

The same bracket can also be used to provide a heightened viewing angle when used with the Set on a desk- or tabletop.

Designation Cards

Part Number 90-0300 (for Panther 2064 Sets) and Part Number 90-0301 (for DSS/BLF units)

The Designation Card for Sets (the same Designation Card is used for both non-handsfree and handsfree Sets) is used to list the telephone numbers of the incoming lines.

Although each Set comes equipped with one installed and one spare Designation Card, you may order additional cards (in packages of 10) for your system.

The Designation Card for DSS/BLF units is used to identify the assignment or location of the 64 system stations (numbered **10** through **73**) and for recording speed call numbers — the first 10 private numbers in spaces **10** through **19** and the first 54 common numbers in spaces **20** through **73**.

Although each DSS/BLF unit comes equipped with one installed and one spare Designation Card, you may order additional cards (in packages of 10) for your system.

Notice that the Set and the DSS/BLF unit use *different* Designation Cards.

Panther 2064

Electronic Key Telephone System

User Guide Update

To use most of the PANTHER 2064 System features, follow the operating instructions given in the PANTHER User Guide and Quick Reference Guide. This update sheet describes all features which operate differently and outlines new features that have been added.

Private Speed Call - Dialing

TO SPEED CALL A PRIVATE NUMBER

- Lift the handset, then press the Line key of an outside line.

Handsfree - Turn the Mic. on/off indicator on.

Handsfree - Press the Line key of an outside line or press 9

Dial tone is heard.

- Press the Speed key.
- Dial the desired Speed Call Code (**00 to 10**).

The number is automatically speed dialed.

Private Speed Call - Storing

Operation 1032/2064 Set

- Press the Speed key.

Continuous tone is heard.

- Dial the desired speed call code (**00 to 10**).

- Dial the entry to be stored including any pauses, halts, flashes.

Maximum 26 digits.

Continuous tone stops.

- Write the entry on the designation card.
- Repeat the above procedure for each entry to be stored.
- Press the Speaker key to stop storing.

Operation 1032/2064 Attendant to store the first 10 numbers

- Press the Speed key.

Continuous tone is heard; intercom indicator winks.

- Press the desired Speed Call key (**10-19**).

- Dial the entry to be stored including any pauses, halts, flashes.

Maximum 26 digits.

Continuous tone stops.

- Write the entry on the designation card.
- Repeat above procedure for each entry to be stored.
- Press the Speaker key to stop storing.

Operation 1032/2064 Attendant to store the 11th number

- Press the Speed key.

Continuous tone is heard; intercom indicator winks.

- Dial **10**.

- Dial the entry to be stored including any pauses, halts, flashes.

Maximum 26 digits.

Continuous tone stops.

- Write the entry on the designation card.
- Press the Speaker key.

Common Speed Call - Dialing

TO SPEED CALL A COMMON NUMBER

ON THE 1032/2064 Set

- Lift the handset, press the Line key of an outside line.

Handsfree - Turn the Mic. on/off indicator on.

Handsfree - Press the Line key of an outside line or press 9

Dial tone is heard.

- Press the Speed key.
- Dial the desired two-digit speed call code (**20 to 99**).

The telephone number is automatically dialed.

ON THE 1032/2064 ATTENDANT

For the first 22/54 numbers

- Lift the handset; press the Line key of an outside line.

Handsfree - Turn the Mic. on/off indicator on.

Handsfree - Press the Line key of an outside line or press 9

Dial tone is heard.

- Press the desired Speed Call key (**20 - 41 on the 1032; 20 - 73 on the 2064**).

The number is automatically speed dialed.

For the last 58/26 numbers

- Lift the handset; press the Line key of an outside line.

Handsfree - Turn the Mic. on/off indicator on.

Handsfree - Press the Line key of an outside line or press 9

Dial tone is heard.

- Press the Speed key.
- Dial the desired two-digit speed call code (**42 - 99 on the 1032; 74 - 99 on the 2064**).

The telephone number is automatically dialed.

TO END THE CALL

- Hang up the handset.

Handsfree - Press the Speaker key.

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Common Speed Call - Storing

- Press the Speed key at station 10.

  Continuous tone is heard; intercom indicator winks.
- Dial the desired 2-digit speed call code (**20-99**).

  Intercom indicator flashes.

Intercom Paging - To All Stations

TO PAGE ALL SETS SIMULTANEOUSLY

- Lift the handset and press the Intercom key.

Handsfree - Turn the Mic. on/off indicator on.

- Dial 80.

  Double tone is heard; intercom indicator winks.
- Make your announcement.

Zone Paging

TO PAGE A SPECIFIC ZONE

- Lift the handset; press the Intercom key.

Handsfree - Turn the Mic. on/off indicator on; press the Intercom key.

- Dial the desired zone number (**81** to **95**).

  Triple tone is heard; intercom indicator winks.
- Make your announcement.

TO PAGE ALL ZONES SIMULTANEOUSLY

- Lift the handset and press the Intercom key.

Handsfree - Turn the Mic. on/off indicator on; press the Intercom key.

- Dial 80.

  Double tone is heard; intercom indicator winks.
- Make your announcement.

Loudspeaker Paging

TO MAKE A LOUDSPEAKER ANNOUNCEMENT

- Lift the handset; press the Intercom key.

Handsfree - Turn the Mic. on/off indicator on; press the Intercom key.

  Continuous tone is heard; intercom indicator winks.

- Dial 99.

  A double tone burst is heard.
- Make your announcement.

NEW FEATURES

Transfer Ringing

- Answer the incoming call by pressing a line key.
- Press the same line key again.
- Dial the appropriate 2-digit code (**10-73**) for the desired station, or press the appropriate DSS key if equipped with one.

  The station is dialed.

TO ANSWER A TRANSFERRED CALL

- If handsfree, press the 9 key to be automatically connected to the transferred call.

  OR
- If off-hook, press the flashing line key.

Callback

If the station does not answer after a programmable length of time, ringing returns to your set.

- To pick up the call, press the appropriate flashing line key.

Camp-On

Camp-on is an automatic feature derived from the application of Transfer Ringing, as described above.

If the station you are calling is busy, ringing is heard over the called party's speaker.

TO RESPOND TO A CAMP-ON SIGNAL

While on a call, if you hear three short bursts of tone through your set's speaker:

- Press the Hold key to place your first call on hold.
- If handsfree, press the 9 key to be automatically connected to the transferred call.

  OR
- If off-hook, press the flashing line key.

TRILLIUM
telephone systems

Specifications and features are subject to change without notice.

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CONNECTORS

Equipment	*Jacks/Connections*	*Cable Pairs*
CO or PBX lines 1 through 10	50-pin RJ21C	25 (only 10 used)
CO or PBX lines 11 through 20	50-pin RJ21C	25 (only 10 used)
Master KSU:		
CO 1 TO 10	50-pin RJ21C	25
STATIONS 10 TO 17 (to station wiring MDF)	50-pin RJ21C to 66-block	25
STATIONS 18 TO 25 (to station wiring MDF)	50-pin RJ21C to 66-block	25
STATIONS 26 TO 33 (to station wiring MDF)	50-pin RJ21C to 66-block	25
STATIONS 34 TO 41 (to station wiring MDF)	50-pin RJ21C to 66-block	25
DOOR (to Door Answer Unit jack DA)	Modular RJ25C	3
POWER FAIL	Special connector	Not used
PAGE (output — 200 mV rms into 600 Ω)	Mini-Jack 1/8-inch, phono)	1
MUSIC (music input — 50 mV rms)	Mini-Jack (1/8-inch, phono)	1
SMDR (to SMDR Unit)	Special	(See SMDR Unit)
Connectors 1 and 2 (used to connect KSUs)	Special	(See expander KSU)
EXTERNAL BATTERY	Molex connector	1
Ground	Screw terminal	Single 12 AWG wire
Expander KSU:		
CO 11 TO 20	50-pin RJ21C	25
STATIONS 42 TO 49 (to station wiring MDF)	50-pin RJ21C to 66-block	25
STATIONS 50 TO 57 (to station wiring MDF)	50-pin RJ21C to 66-block	25
STATIONS 58 TO 65 (to station wiring MDF)	50-pin RJ21C to 66-block	25
STATIONS 66 TO 73 (to station wiring MDF)	50-pin RJ21C to 66-block	25
DOOR (to Door Answer Unit jack DA)	Modular RJ25C	3
POWER FAIL (to 1st Power Fail Transfer Unit)	Special connector	(See first Power Fail Transfer Unit)
Connectors 1 and 2 (used to connect KSUs)	Special	Special (cables supplied)
EXTERNAL BATTERY	Special	1
Ground	Screw terminal	Single 12 AWG wire
Station wiring MDF:		
To station jacks	66-block to modular RJ14C	2 each*
To dry contact interface (2 A, maximum)	66-block to screw terminals	1
Panther 2064 Sets (to station jacks)	Modular RJ14C (or RJ25C**)	2 each, cord supplied (or 3**)
DSS/BLF Units (to station jacks)	Modular RJ14C	2 each, cord supplied
Door Module (to Door Answer Unit D1 and D2)	Screw terminals	1 for each module
SMDR Unit:		
To KSU connector SMDR	Special	Special (cable supplied)
To printer, terminal, or personal computer	DB-25	RS-232 cable

* Length of each station cable should not exceed 2000 feet of 24 AWG; all station runs are star (home run) configurations

** Sets may alternatively use a 6-conductor modular cord-to-RJ25C jack (to gain access to the Set's speaker terminals)

Power Fail Transfer Unit Connectors (optional)

First Power Fail Transfer Unit (optional):		
CO1.2 & CO3.4 (from incoming lines 1-4)	Modular RJ14C to adapter***	2 each
TK1.2 & TK3.4 (to master KSU lines 1-4)	Modular RJ14C to adapter***	2 each
CNJ (to expander KSU jack POWER FAIL)	Special connector	1 (cable supplied)
CNK (to 2nd Power Fail Transfer Unit jack CNJ)	Special connector	(See 2nd Power Fail Transfer Unit)
Second Power Fail Transfer Unit (optional):		
CO1.2 & CO3.4 (from incoming lines 5-8)	Modular RJ14C to adapter***	2 each
TK1.2 & TK3.4 (to master KSU lines 5-8)	Modular RJ14C to adapter***	2 each
CNJ (to 1st Power Fail Transfer Unit jack CNK)	Special connector	1 (cable supplied)
CNK (to 3rd Power Fail Transfer Unit jack CNJ)	Special connector	(See 3rd Power Fail Transfer Unit)
Third Power Fail Transfer Unit (optional):		
CO1.2 & CO3.4 (from incoming lines 9-12)	Modular RJ14C to adapter***	2 each
TK1.2 (to master KSU lines 9-10)	Modular RJ14C to adapter***	2
TK3.4 (to expander KSU lines 11-12)	Modular RJ14C to adapter***	2
CNJ (to 2nd Power Fail Transfer Unit jack CNK)	Special connector	1 (cable supplied)
CNK (to 4th Power Fail Transfer Unit jack CNJ)	Special connector	(See 4th Power Fail Transfer Unit)
Fourth Power Fail Transfer Unit (optional):		
CO1.2 & CO3.4 (from incoming lines 13-16)	Modular RJ14C to adapter***	2 each
TK1.2 & TK3.4 (to expander KSU lines 13-16)	Modular RJ14C to adapter***	2 each
CNJ (to 3rd Power Fail Transfer jack CNK)	Special connector	1 (cable supplied)
CNK (to 5th Power Fail Transfer Unit jack CNJ)	Special connector	(See 5th Power Fail Transfer Unit)
Fifth Power Fail Transfer Unit (optional):		
CO1.2 & CO3.4 (from incoming lines 9 & 10)	Modular RJ14C to adapter***	2 each
TK1.2 & TK3.4 (to expander KSU lines 17-20)	Modular RJ14C to adapter***	2 each
CNJ (to 4th Power Fail Transfer Unit jack CNK)	Special connector	1 (cable supplied)

SMDR UNIT (optional)

Data code	ASCII
Character Bits	7
Start Bits	1
Stop Bits	2
Parity	None
Data rates (SMDR switch-selectable)	300, 600, or 1200 bits per second
SMDR-Output Device Signaling	None required
Output device (user supplied)	80-character, serial printer
Time before recording starts (programmable)	1 to 61 seconds
Grace period before timer starts (programmable)	1 to 16 seconds
Account Codes (as they appear in SMDR printout)	"A" + 4 user-entered digits

ENVIRONMENTAL REQUIREMENTS

Operating Temperature	0 to 40 °C (32 to 104 °F)
Relative Humidity	Less than 90%, non-condensing

*** A 50-pin RJ21C-to-modular adapter that has 5 each RJ14C jacks

POWER REQUIREMENTS

Voltage	115 V ac (± 10%), 50/60 Hz
Current	1.8 A, maximum load per KSU

STATION NUMBERING PLAN

Panther 2064 Sets or OPX units	10 through 73 (OPX unit not allowed on station 10)
DSS/BLF Units (in relation to associated/accompanying Panther 2064 Set)	Next higher station number

SYSTEM CAPABILITIES

CO or PBX Lines (each independently programmable for DTMF or pulse signaling)	20†
Intercom Speech Paths	4 per KSU
OPX unit (optional — used with modem, answering machine, or remote *standard* set)	Up to 63
Stations (including both non-handsfree or handsfree Sets and DSS/BLF Units or OPX units)	Up to 64
Non-handsfree or handsfree Sets	Up to 64
DSS/BLF Units	Up to 28
Speed Call Numbers (up to 26 digits, pauses, or flashes each):	
Common (system-wide)	Up to 80
Private	Up to 11 at *each* Set
Door Answer Unit (optional)	2 (with 1 or 2 Door Modules each)
Power Fail Transfer Units (optional)	Up to 5††

† 18 or 19 with one or two Door Answer Units respectively

†† 1st through 5th units transfer up to 4 incoming lines each; all transferred lines are routed to pre-installed *standard* telephone sets (*not* Panther 2064 Sets)

STEP 1
INSTALLING THE KSUs

Site Preparation

Because the KSUs are at the heart of the operation of the Panther 2064 Electronic Key Telephone System, ensure that its installation site meets the following criteria:

- Clean, dry, and well ventilated (should meet the environmental requirements listed in Section C)
- Within seven feet of the incoming CO, CENTREX, or PBX line terminations

WARNING

If you are in area subject to power transients, install a surge protector on the dedicated outlet.

- Within five feet of a *dedicated* 110 V ac, 60 Hz, 3-wire grounded outlet — an outlet that is *not* on a wall switch
- Not too distant from station terminations (the maximum distance to each station is 2000 feet, using 24 AWG wiring)
- A 30" by 60" area of wall space should be reserved, allowing room for Power Fail Transfer Units, the SMDR unit, and the Door Answer Unit (whether they are being installed now or might be in the future)

Backboard Installation

If the KSU is to be mounted on a concrete or masonry wall, a 1/2-inch thick plywood backboard is recommended.

Depending on the wall's construction and your method of installing the backboard, you might need screwdrivers (various kinds and sizes), drills and bits (various sizes), # 10 masonry screws with plastic anchors (4 of each), or 1/4" screws with wall grip screw anchors (4 of each).

Mount the backboard at least 12 inches above the floor.

System Uncrating

a. Carefully unpack the System and confirm that all ordered parts are present by checking them off against the Customer's order sheet and the packing list.

b. Make sure that the customer's feature requirements have been documented on a Customer Feature Selection Form.

Master KSU Installation

a. Mark the position of the 4 screw holes needed to mount the master KSU on the backboard.

b. Drive four screws (supplied) until their heads are within 1/8-inch of the board's surface.

c. Using the four keyhole slots (narrow end up) in the side flanges of the master KSU cabinet, hang the unit on the four screws and tighten them securely.

CAUTION

Failure to properly ground the master KSU may void your Panther 2064 Electronic Key Telephone System warranty.

d. Connect the ground lug at the top of the master KSU to a cold water metal pipe or ground stake, using copper wire that is 12 AWG or heavier (not supplied).

Be sure that the cold water pipe's metal continuity is not broken by the use of plastic pipe.

A ground stake should also meet the installation requirements of your local electrical code.

e. At the electrical service panel, equip the electrical breaker for this outlet with a locking clip — or mark it with a label to serve notice that this unit should not be disconnected or shut off.

Expander KSU Installation

a. Fit the mounting bracket (supplied with the expander KSU) over the master KSU, aligning the top of the mounting bracket with the top of the master KSU.

b. Mount the expander KSU on the mounting bracket using the 4 screws supplied with the expander KSU.

CAUTION

Failure to properly ground the expander KSU may void your Panther 2064 Electronic Key Telephone System warranty.

c. Connect the ground lug at the top of the expander KSU to a cold water metal pipe or ground stake, using copper wire that is 12 AWG or heavier (not supplied).

Be sure that the cold water pipe's metal continuity is not broken by the use of plastic pipe.

A ground stake should also meet the installation requirements of your local electrical code.

f. At the electrical service panel, equip the electrical breaker for this outlet with a locking clip — or mark it with a label to serve notice that this unit should not be disconnected or shut off.

g. Install the two special cables supplied with the expander KSU between connectors 1 and 2 at the bottom of the expander KSU and connectors 1 and 2 at the bottom of the master KSU.

STEP 2
CONNECTING INCOMING TELEPHONE LINES

WARNING

Do not plug in the master and expander KSU power cords until instructed to do so in Step 4.

NOTES

1. If the incoming telephone lines are not yet installed, ask the telco that they be terminated in two 50-pin RJ21 connector, one for lines 1-10 and the other for lines 11-20.

2. If optional Power Fail Transfer Units are to be installed, follow the instructions in Step 12 to connect the incoming lines.

3. If one optional Door Answer Unit is to be installed, line 10 must be left vacant; if a second optional Door Answer Unit is to be installed line 20 must be left vacant.

4. See also the Typical System Layout Diagrams on pages E-1 and E-2.

Plug the 50-pin RJ21 connector for lines 1-10 into the 50-pin connector on the right side of the master KSU labeled CO 1 TO CO10 and the 50-pin RJ21 connector for lines 11-20 into the 50-pin connector on the right side of the expander KSU labeled CO11 TO CO20. Secure the KSU end of the cables with the screws and plastic tie-wraps provided with the units.

On the other hand, if the incoming lines are not terminated in 50-pin RJ21 connectors, wire them into two 66-blocks (with female 25-pin connectors).

Then, install two 25-pair cable — with male 50-pin connectors at both ends — between the 66-blocks's 50-pin connector and the master and expander KSU 50-pin connectors, labeled CO 1 TO 10 and CO11 TO 20, respectively. Secure the KSU end of the cables with the screws and plastic tie-wraps provided with the units.

See the incoming line wiring table that starts on the facing page for details.

Incoming Line Number	Circuit Function	66-Block Terminal	50-Pin Connector	25- Pair Cable*
1	voice (tip) voice (ring)	1 2	26 1	white/blue blue/white
2	voice (tip) voice (ring)	3 4	27 2	white/orange orange/white
3	voice (tip) voice (ring)	5 6	28 3	white/green green/white
4	voice (tip) voice (ring)	7 8	29 4	white/brown brown/white
5	voice (tip) voice (ring)	9 10	30 5	white/slate slate/white
6	voice (tip) voice (ring)	11 12	31 6	red/blue blue/red
7	voice (tip) voice (ring)	13 14	32 7	red/orange orange/red
8	voice (tip) voice (ring)	15 16	33 8	red/green green/red
9	voice (tip) voice (ring)	17 18	34 9	red/brown brown/red
10	voice (tip) voice (ring)	19 20	35 10	red/slate slate/red
	* The first color listed is the predominant color; the second color listed is the tracer or stripe color.			

Incoming Line Wiring Table (Lines 1 through 10)

Incoming Line Number	Circuit Function	66-Block Terminal	50-Pin Connector	25- Pair Cable*
11	voice (tip) voice (ring)	1 2	26 1	white/blue blue/white
12	voice (tip) voice (ring)	3 4	27 2	white/orange orange/white
13	voice (tip) voice (ring)	5 6	28 3	white/green green/white
14	voice (tip) voice (ring)	7 8	29 4	white/brown brown/white
15	voice (tip) voice (ring)	9 10	30 5	white/slate slate/white
16	voice (tip) voice (ring)	11 12	31 6	red/blue blue/red
17	voice (tip) voice (ring)	13 14	32 7	red/orange orange/red
18	voice (tip) voice (ring)	15 16	33 8	red/green green/red
19	voice (tip) voice (ring)	17 18	34 9	red/brown brown/red
20	voice (tip) voice (ring)	19 20	35 10	red/slate slate/red
	* The first color listed is the predominant color; the second color listed is the tracer or stripe color.			

Incoming Line Wiring Table (Lines 11 through 20)

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STEP 3
INSTALLING STATION WIRING

WARNING

To prevent damage to the KSUs while wiring, make sure that the KSU power cords are not plugged in. Do not apply power to the KSUs until instructed to do so in Step 4.

NOTES

1. Because much of the feature programming is performed from station 10, choose a convenient or strategic location for station 10.

2. DSS/BLF Units require their own station wiring jack — and the station number of the DSS/BLF Unit must be the next higher number when compared to the station number of the accompanying Set.

For example, if the Marketing Department's secretary was to be given a DSS/BLF unit, two consecutively numbered station wiring jacks — say station 62 and station 63 — would have to be installed at the secretary's desk.

To continue the example, the secretary's Set would be connected to station 62 — and the accompanying DSS/BLF Unit would be connected to station 63.

a. Decide on the location and station number (from 10 up through 73) for each Set.

NOTE

If an external amplifier is to be used at any of the station locations, mount a 6-conductor RJ25 jack at the station location. See Step 13.

b. Mount a 4-conductor RJ14 jack within 6 feet of the desired Set location at each station.

c. On the backboard, mount four split 66-blocks with a female 50-pin connector provided for each half (left and right).

d. Install eight 25-pair cables — with male 50-pin connectors at both ends — between the 66-block's 50-pin connectors and the master KSU 50-pin connectors labeled STATIONS 10 TO 17.LOUD BELL, 18 TO 25, 26 TO 33, and 34 TO 41 and the expander KSU 50-pin connectors labeled STATIONS 42 TO 49, 50 TO 57, 58 TO 65, and 66 TO 73.

NOTE

See the table on the following eight pages for wiring details for each group of eight stations. Also, refer to the Typical System Layout Diagrams on pages E-1 and E-2.

e. For each station, install a length (not to exceed 2000 feet) of 4-conductor, 24 AWG cable from the 66-block terminals to the station wiring jack.

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
10	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
11	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
12	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
13	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
14	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
15	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
16	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
17	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.
* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 10 through 17)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
18	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
19	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
20	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
21	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
22	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
23	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
24	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
25	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.
* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 18 through 25)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
26	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
27	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
28	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
29	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
30	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
31	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
32	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
33	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.
* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 26 through 33)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
34	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
35	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
36	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
37	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
38	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
39	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
40	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
41	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.
* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 34 through 41)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
42	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
43	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
44	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
45	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
46	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
47	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
48	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
49	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.

* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 42 through 49)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
50	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
51	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
52	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
53	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
54	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
55	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
56	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
57	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.
* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 50 through 57)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
58	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
59	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
60	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
61	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
62	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
63	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
64	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
65	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.

* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 58 through 65)

Station Number	Circuit Function	4-Conductor Station Jack†	66-Block Terminal	50-Pin Connector	25- Pair Cable*
66	voice (tip)	green (GN)	1	26	white/blue
	voice (ring)	red (RD)	2	1	blue/white
	data (tip)	black (BK)	3	27	white/orange
	data (ring)	yellow (YL)	4	2	orange/white
67	voice (tip)	green (GN)	5	28	white/green
	voice (ring)	red (RD)	6	3	green/white
	data (tip)	black (BK)	7	29	white/brown
	data (ring)	yellow (YL)	8	4	brown/white
68	voice (tip)	green (GN)	9	30	white/slate
	voice (ring)	red (RD)	10	5	slate/white
	data (tip)	black (BK)	11	31	red/blue
	data (ring)	yellow (YL)	12	6	blue/red
69	voice (tip)	green (GN)	13	32	red/orange
	voice (ring)	red (RD)	14	7	orange/red
	data (tip)	black (BK)	15	33	red/green
	data (ring)	yellow (YL)	16	8	green/red
70	voice (tip)	green (GN)	17	34	red/brown
	voice (ring)	red (RD)	18	9	brown/red
	data (tip)	black (BK)	19	35	red/slate
	data (ring)	yellow (YL)	20	10	slate/red
71	voice (tip)	green (GN)	21	36	black/blue
	voice (ring)	red (RD)	22	11	blue/black
	data (tip)	black (BK)	23	37	black/orange
	data (ring)	yellow (YL)	24	12	orange/black
72	voice (tip)	green (GN)	25	38	black/green
	voice (ring)	red (RD)	26	13	green/black
	data (tip)	black (BK)	27	39	black/brown
	data (ring)	yellow (YL)	28	14	brown/black
73	voice (tip)	green (GN)	29	40	black/slate
	voice (ring)	red (RD)	30	15	slate/black
	data (tip)	black (BK)	31	41	yellow/blue
	data (ring)	yellow (YL)	32	16	blue/yellow

† Use matching color codes for the 4-conductor station wiring cables.
* The first color listed is the predominant color; the second color listed is the tracer or stripe color.

Station Wiring Table (Stations 66 through 73)

STEP 4
CONDUCTING THE INITIAL SYSTEM AND STATION TESTS.

NOTES

1. If the indications described below do not occur, refer to the Troubleshooting section.

2.If the SMDR unit is to be installed, it should be installed *prior* to conducting these tests. See Step 11.

a. Connect the KSU power cords to the surge protector previously installed at the 110 V ac power outlet: the recessed indicator on the master KSU goes ON (with a slight flicker) indicating that the system is operative.

b. Set BATTERY to ON on the master KSU (if necessary, use a paper clip or other pointed object such as a pen or pencil to set KSU miniature DIP switches).

c. Set 1 PROGRAM to ON on the master KSU.

d. Push the recessed RESET pushbutton once on the master KSU: in about 1 second, the recessed indicator on the master KSU starts to flicker.

e. Set PROGRAM to OFF on the master KSU.

f. Push the recessed RESET pushbutton again: the system is now set the factory preprogrammed conditions (for details on what those conditions are, see the Feature Programming section).

g. At station 10, plug in the 4-conductor modular cord supplied with the Set between the Set and the station wiring jack.

h. Press the Set's **Intercom** key: the Set's speaker emits a continuous tone and the **Intercom** indicator goes ON.

i. Lift the handset and press the line **2** key: dial tone is heard; if your Set has an accompanying DSS/BLF Unit, the station indicators for *your* Set and for *your* DSS/BLF Unit go ON; the **Intercom** indicator goes OFF; and the line **2** indicator WINKS slowly.

j. Hang up the handset: dial tone is removed; and all indicators go OFF.

k. Repeat steps i and j for lines 1 and 3 through 20 — including lines 10 and 20, if not used for the Door Answer Units.

l. Repeat steps g through k for the remaining stations.

Unless you have optional items to install (the Door Answer Unit, the OPX unit, the SMDR unit, the Power Fail Transfer Unit, external paging equipment, a loud bell, or a music source), your Panther 2064 Electronic Key Telephone System is now ready for programming or operation.

STEP 5
CONNECTING THE BACKUP BATTERIES

Each KSU has a white plastic Molex connector at its top for connecting *its own* external backup battery. The backup batteries used (such as the TRI 24/2.5B from Alpha Technologies) should provide 24 V dc at 2 Amps for an extended period of time.

a. Connect the positive (+) terminal of each battery (usually the red lead) to the left side of the corresponding KSU connector.

b. Connect the negative (-) terminal of each battery (usually the black lead) to the right side of the corresponding KSU connector.

Once connected, switchover to the backup batteries occurs automatically when power fails.

STEP 6 CONNECTING DOOR ANSWER UNIT AND DOOR MODULES

NOTE

If you have chosen to install one Door Answer Unit with its one or two Door Modules, line 10 must be left vacant; If you have chosen to install a second Door Answer Unit with its one or two Door Modules, line 20 must also be left vacant.

Door Answer Unit Installation

a. Mount the first Door Answer Unit on the backboard along with the KSU, using the four screws supplied with the equipment.

b. Connect the 6-conductor modular cord (not supplied) to the connector labeled DOOR on the master KSU and the connector labeled DA on the first Door Answer Unit.

c. Mount the second Door Answer Unit on the backboard along with the KSU, using the four screws supplied with the equipment.

d. Connect the 6-conductor modular cord (not supplied) to the connector labeled DOOR on the expander KSU and the connector labeled DA on the second Door Answer Unit.

Door Module Installation

a. Disassemble each Door Module (separate the front from the back) by removing the screw securing the cover.

b. Mount the backs of all the Door Modules to be used at the desired entryway locations, using the two mounting screws furnished with each Door Module.

c. Run a length (not to exceed 2000 feet) of 2-conductor, 24 AWG wire from the first Door Answer Unit to two Door Modules — and from the second Door Answer Unit to the remaining two Door Modules.

d. Feed the wire through the hole in the base of the back of each Door Module.

e. Strip the cable end and secure it to the screw terminals found on the backside of the Door Module's front assembly.

f. Replace the Door Module's cover and tighten the screw to secure the front to the back.

g. At each Door Answering Unit, strip the cable ends and secure the cable from Door Module 1 to the screw terminals labeled D1 and the cable from Door Module 2 to the screw terminals labeled D2.

Door Answer Unit Test

NOTE

If the indications described below do not occur, refer to the Troubleshooting section.

a. Door Module 1-initiated calling:

i. At Door Module 1's entryway, have someone press the door button: four groups of 4 short tones are heard at all Sets programmed to ring on line 10 (or line 20, for the second Door Answer Unit); and the line **10** or **20** indicator FLASHES slowly.

ii. At any Set, pick up the handset and press the line **10** or **20** key: the line **10** or **20** indicator WINKS; if yours is a BLF Set, *your* station indicator goes ON; and you and the person at the entryway are connected.

iii. At the Set, hang up the handset: all indicators go OFF; and the call is terminated.

b. Set-initiated calling:

NOTE

Set-initiated door module intercom calls can only be *placed* to Door Module 1, not to Door Module 2.

i. Alternatively, at any Set, pick up the handset and press the line **10** key: the line **10** indicator WINKS; if yours is a BLF Set, *your* station indicator goes ON; and the person at Door Module 1 hears a burst of ringing.

ii. At the entry way where Door Module 1 is installed, the person responds by speaking in the direction of the Door Module: you and the person at the entryway are connected.

iii. At the Set, hang up the handset: all indicators go OFF; and the call is terminated.

c. Door Module 2-initiated calling:

i. At Door Module 2's entryway, have someone press the door button: four groups of 2 long tones are heard at all Sets programmed to ring on line 10; and the line **10** indicator FLASHES slowly.

ii. At any Set, pick up the handset and press the line **10** or **20** key: the line **10** or **20** indicator WINKS; if yours is a BLF Set, *your* station indicator goes ON; and you and the person at the entryway are connected.

iii At the Set, hang up the handset: all indicators go OFF; and the call is terminated.

STEP 7
CONNECTING THE MUSIC SOURCE

Music Connection

a. Connect one end of the cable (not supplied) into the music source's output jack.

b. Connect the other end, which terminates in a 1/8-inch mini-jack (phono, not stereo or attenuator), into the KSU connector labeled MUSIC.

Music Test

NOTE

If the indications described below do not occur, refer to the Troubleshooting section.

a. Turning background music on at a Set:

i. At any station, with the handset in its cradle, press the **Intercom** Key: the **Intercom** indicator WINKS slowly; and a continuous tone is heard over the Set's speaker.

ii. With the handset still in its cradle, dial *** 4**: the **Intercom** indicator goes OFF; and the continuous tone is replaced by background music coming from the Set's speaker.

iii. At the music source, adjust the level of the background music for the desired loudness.

b. Turning background music off at a Set:

i. At any station, with the handset in its cradle press the **Intercom** Key: the **Intercom** indicator WINKS slowly; and a continuous tone is heard over the Set's speaker.

ii. With the handset still in its cradle, dial *** 4**: the **Intercom** indicator goes OFF; and neither the continuous tone nor the background music is heard over the Set's speaker.

c. Testing the background music on hold:

i. Have someone call in on outside line 1 (alternatively, you can call line 1 from line 2): ringing is heard at all stations programmed to ring on line 1; and the line **1** indicator FLASHES slowly.

ii. At any station, pick up the handset and press the line **1** key: the line **1** indicator WINKS slowly; if yours is a BLF Set, *your* station indicator goes ON; and a connection is made with the outside caller.

iii. After informing the outside caller of your intentions, press the **Hold** key and hang up the handset: the line **1** indicator FLASHES quickly; if yours is a BLF Set, *your* station indicator goes OFF; and the outside caller hears the background music.

iv. After a few seconds, retrieve the call by picking up the handset and pressing the line **1** key: the line **1** indicator WINKS slowly; if yours is a BLF Set, *your* station indicator goes ON;the outside caller no longer hears the background music; and the connection with the outside caller is restored.

v. Confirm the success of the background music on hold test with the outside caller.

vi. Hang up the handset: all indicators go OFF; and the call is terminated.

STEP 8
CONNECTING
THE EXTERNAL
PAGING EQUIPMENT

Equipment Connection

a. Connect one end of the cable (not supplied) into the external paging equipment's input jack.

b. Connect the other end, which terminates in a 1/8-inch mini-jack (phono, not stereo or attenuator), into the KSU connector labeled PAGE.

Paging Test

NOTE

If the indications described below do not occur, refer to the Troubleshooting section.

a. At any station, pick up the handset and press the **Intercom** Key: the **Intercom** indicator WINKS slowly; if your Set has an accompanying DSS/BLF Unit, the station indicators for *your* Set and for *your* DSS/BLF Unit go ON; and a continuous tone is heard.

b. Dial **99**: a double tone burst is heard over the external paging loudspeaker.

c. Make a test announcement: the test announcement is heard over the external paging loudspeaker.

d. Hang up the handset: all indicators go OFF; and the external paging loudspeaker falls silent.

STEP 9
CONNECTING
AN EXTERNAL LOUD BELL

Equipment Connection

Connect a 2-conductor cable between terminals 49 and 50 of the 66-block (the violet/slate pair in the 25-pair cable that connects the master KSU connector labeled STATIONS 10 TO 17.LOUD BELL to the 66-block) and an external dry contact interface unit, such as the Wheeloch model 24-24 (not supplied). Connect an external loud bell or other sounding device to the dry contact interface unit.

Loud Bell Test

NOTES

1. If the indications described below do not occur, refer to the Troubleshooting section.

2. The factory preprogrammed condition for the loud bell is both day and night bell. If you are installing a new system, the loud bell should ring on all incoming calls.

3. See Feature Programming for details on how to program the loud bell.

a. Have someone call in on outside line **1**: the line **1** indicator FLASHES slowly; and the external loud bell rings.

b. At any station, pick up the handset and press the line **1** key: the line **1** indicator WINKS slowly; if your Set has an accompanying DSS/BLF Unit, the station indicators for *your* Set and for *your* DSS/BLF Unit go ON; a connection is made with the outside caller; and the loud bell stops ringing.

d. Hang up the handset: all indicators go OFF; and the loud bell remains silent.

STEP 10
CONNECTING THE OPX UNIT

OPX Unit Connection

NOTES

1. The OPX unit may be installed at any station location — except station 10.

2. See also Typical System Layout Diagram on page E-3.

a. Mount the OPX unit next to the desired station location, using the four screws supplied with the equipment.

b. Plug the small dc connector into the OPX unit's POWER connector and plug the wall connector into an unswitched, grounded 115 V ac outlet.

c. Connect the modular cord (not supplied) between the station wiring jack and the KSU jack on the OPX unit.

NOTE

If the device to be used is remotely located (not to exceed 2 miles on a direct connection), a 2-conductor, RJ11 jack can be mounted and wired to the remote device.

Alternatively, the remote device can be accessed through a CO line (with no limits on distance). FCC rules require that you tell the telco that the OPX's Facility Interface Code is 0L13B and its Service Code is 9.0F.

In either case, the 2-conductor cord in step d will then be connected between the RJ11 jack and the TEL jack on the OPX unit.

d. Connect a 2-conductor cord between the TEL jack on the OPX unit and the 2-line device to be used (such as a standard set, answering machine, or modem).

e. If access to an outside line is desired in the event of a power failure, connect a spade-to-modular, 2-conductor cord between one of the incoming lines (in parallel with the normal system connection) and the PFT jack on the OPX unit.

f. Set the A–B switch on the OPX unit to A.

OPX Unit Test

NOTE

If the indications described below do not occur, refer to the Troubleshooting section.

a. Originating internal calls:

i. At the standard set connected to the OPX unit, pick up the handset: a continuous tone is heard.

ii. Call another station by dialing its 2-digit number, such as **13**: at the called station, repeated long tones are heard.

iii. The called party picks up the handset: the tones stop; and you and the called party are connected.

iv. Hang up the handset to terminate the call.

b. Receiving internal calls:

i. Have someone place an internal call to the station at which the OPX unit is installed: your set rings.

ii. Pick up the handset: the ringing stops; and you and the calling party are connected.

iii. Hang up the handset to terminate the call.

c. Placing outside calls:

i. At the standard set connected to the OPX unit, pick up the handset: a continuous tone is heard.

ii. Request outside line 1 by dialing ***01**: an external dial tone is heard.

iii. Complete the outside call by dialing the desired number. Hang up, when finished, to terminate the call.

NOTE

The OPX can only access the outside lines.

iv. Test access to outside lines 2 through 9 and outside line 10 (unless the optional Door Answer Unit is installed) by repeating steps i through iii above for outside lines 2 through 10.

STEP 11 CONNECTING THE SMDR UNIT (part number 90-0227 only)

CAUTION

Power should not be applied to the KSU when installing the SMDR unit.

NOTES

1. At a minimum, pin 3 (Received Data) and pin 7 (Signal Ground) must be wired in the cable connecting the SMDR unit and the recording device.

2. Also, depending on the characteristics of the recording device, other pins may need to be be jumpered, grounded, or raised — consult your recording device's technical manual or your recording device manufacturer's customer service.

3. See also the specifications on page C-2 and the Typical System Layout Diagram on page E-3.

SMDR Unit Installation

a. Mount the SMDR unit below the KSU on the plywood backboard.

b. Connect the special ribbon cable (supplied with the SMDR unit) between the connector at the bottom of the KSU and the connector at the top of the SMDR unit.

c. Connect an RS-232 cable between the connector at the bottom of the SMDR unit and the recording device (terminal or printer).

d. Set the appropriate baud rate switch (300, 600, or 1200 bps) on the SMDR unit top match the requirements of your recording device.

e. Set the BATTERY switch on the SMDR unit to ON.

f. If not performed already, go to Step 4 to apply power to the system and to conduct the initial system tests. When Step 4 is completed, return and perform the SMDR unit test procedure (found below).

SMDR Unit Test

NOTE

The time of day, date, month, and year are all programmed into the SMDR from station 10. See the Operating Instructions section.

a. Place an outside call: verify that the call information is recorded, as shown below.

b. Have someone place an incoming call and —during the incoming call — enter an account number (see Operating Instructions section): verify that the call information and account number is recorded, as shown below.

Typical Outgoing Call Format (all recorded on one line)

[month]/[date]	[time of day]	[length of call]	[station]	[not used]	[telephone number]	[outside line]	[account]
07/23	02:25P	00:02:24	014	000	17145573300	T001	

Typical Incoming Call Format (all recorded on one line)

[month]/[date]	[time of day]	[length of call]	[outside line]	[seconds to answer]	[station]	[account]
07/23	03:22P	00:11:53	T003	029	011	A1234

SMDR Printout Formats

STEP 12
CONNECTING THE POWER FAIL TRANSFER UNITS

NOTE

Perform the following procedure only if you wish to install the optional Power Fail Transfer Unit. If such is the case, then this procedure should be followed *in lieu of* Step 2.

CAUTION

Power should not yet be applied to the KSUs.

Power Fail Transfer Unit Installation

NOTE

See also the Power Fail Transfer Unit diagram in the System and Set Layout section.

a. Mount five Power Fail Transfer Units in the upper right corner of the plywood backboard.

b. Connect the 2-conductor special cable supplied with the 1st Power Fail Transfer Unit, as follows:

   i. At the expander KSU, connect one end of the special cable to the connector labeled POWER FAIL.

   ii. At the 1st Power Fail Transfer Unit, connect the other end of the special cable into the connector labeled CNK.

c. Connect the 2-conductor special cable supplied with the 2nd Power Fail Transfer Unit, as follows:

   i. At the 1st Power Fail Transfer Unit, connect one end of the special cable to the connector labeled CNJ.

   ii. At the 2nd Power Fail Transfer Unit, connect the other end of the special cable into the connector labeled CNK.

d. Connect the 2-conductor special cable supplied with the 3rd Power Fail Transfer Unit, as follows:

   i. At the 2nd Power Fail Transfer Unit, connect one end of the special cable to the connector labeled CNJ.

   ii. At the 3rd Power Fail Transfer Unit, connect the other end of the special cable into the connector labeled CNK.

e. Connect the 2-conductor special cable supplied with the 4th Power Fail Transfer Unit, as follows:

   i. At the 3rd Power Fail Transfer Unit, connect one end of the special cable to the connector labeled CNJ.

   ii. At the 4th Power Fail Transfer Unit, connect the other end of the special cable into the connector labeled CNK.

f. Connect the 2-conductor special cable supplied with the 5th Power Fail Transfer Unit, as follows:

   i. At the 4th Power Fail Transfer Unit, connect one end of the special cable to the connector labeled CNJ.

   ii. At the 5th Power Fail Transfer Unit, connect the other end of the special cable into the connector labeled CNK.

g. Install four 50-pin RJ21-to-modular adapters that have 5 each RJ14 jacks and four 25-pair cables that have male 50-pin RJ21 connectors on each end:

   i. Install the 1st adapter on the 1st cable; the other end of the cable plugs into the RJ21 connector that carries incoming lines 1-10.

   ii. Install the 2nd adapter on the 2nd cable; the other end of the cable plugs into the master KSU connector labeled CO1 to CO10.

   iii. Install the 3rd adapter on the 3rd cable; the other end of the cable plugs into the RJ21 connector that carries incoming lines 11-20.

   iv. Install the 4th adapter on the 4th cable; the other end of the cable plugs into the expander KSU connector labeled CO11 to CO20.

h. Route incoming lines 1-10 to the Power Fail Transfer Units:

   i. Connect a 4-conductor modular cord between the 1st adapter's RJ14 jack at which incoming lines 1 and 2 are terminated and the 1st Power Fail Transfer Unit jack labeled CO1.2.

   ii. Connect a 4-conductor modular cord between the 1st adapter's RJ14 jack at which incoming lines 3 and 4 are terminated and the 1st Power Fail Transfer Unit jack labeled CO3.4.

   iii. Connect a 4-conductor modular cord between the 1st adapter's RJ14 jack at which incoming lines 5 and 6 are terminated and the 2nd Power Fail Transfer Unit jack labeled CO1.2.

   iv. Connect a 4-conductor modular cord between the 1st adapter's RJ14 jack at which incoming lines 7 and 8 are terminated and the 2nd Power Fail Transfer Unit jack labeled CO3.4.

   v. Connect a 4-conductor modular cord between the 1st adapter's RJ14 jack at which incoming lines 9 and 10 are terminated and the 3rd Power Fail Transfer Unit jack labeled CO1.2.

i. Route incoming lines 11-20 to the Power Fail Transfer Units:

   i. Connect a 4-conductor modular cord between the 3rd adapter's RJ14 jack at which incoming lines 11 and 12 are terminated and the 3rd Power Fail Transfer Unit jack labeled CO3.4.

   ii. Connect a 4-conductor modular cord between the 3rd adapter's RJ14 jack at which incoming lines 13 and 14 are terminated and the 4th Power Fail Transfer Unit jack labeled CO1.2.

   iii. Connect a 4-conductor modular cord between the 3rd adapter's RJ14 jack at which incoming lines 15 and 16 are terminated and the 4th Power Fail Transfer Unit jack labeled CO3.4.

   iv. Connect a 4-conductor modular cord between the 3rd adapter's RJ14 jack at which incoming lines 17 and 18 are terminated and the 5th Power Fail Transfer Unit jack labeled CO1.2.

   v. Connect a 4-conductor modular cord between the 3rd adapter's RJ14 jack at which incoming lines 9 and 10 are terminated and the 5th Power Fail Transfer Unit jack labeled CO3.4.

j. Route the lines from the Power Fail Transfer Units to the 2nd adapter:

   i. Connect a 4-conductor modular cord between the 1st Power Fail Transfer Unit jack labeled TK1.2 and the 2nd adapter's RJ14 jack for lines 1 and 2 (the first jack).

   ii. Connect a 4-conductor modular cord between the 1st Power Fail Transfer Unit jack labeled TK3.4 and the 2nd adapter's RJ14 jack for lines 3 and 4 (the second jack).

   iii. Connect a 4-conductor modular cord between the 2nd Power Fail Transfer Unit jack labeled TK1.2 and the 2nd adapter's RJ14 jack for lines 5 and 6 (the third jack).

   iv Connect a 4-conductor modular cord between the 2nd Power Fail Transfer Unit jack labeled TK3.4 and the 2nd adapter's RJ14 jack for lines 7 and 8 (the fourth jack).

   v. Connect a 4-conductor modular cord between the 3rd Power Fail Transfer Unit jack labeled TK1.2 and the 2nd adapter's RJ14 jack for lines 9 and 10 (the fifth jack).

k. Route the lines from the Power Fail Transfer Units to the 4th adapter:

   i. Connect a 4-conductor modular cord between the 3rd Power Fail Transfer Unit jack labeled TK3.4 and the 4th adapter's RJ14 jack for lines 11 and 12 (the first jack).

   ii. Connect a 4-conductor modular cord between the 4th Power Fail Transfer Unit jack labeled TK1.2 and the 4th adapter's RJ14 jack for lines 13 and 14 (the second jack).

   iii. Connect a 4-conductor modular cord between the 4th Power Fail Transfer Unit jack labeled TK3.4 and the 4th adapter's RJ14 jack for lines 15 and 16 (the third jack).

   iv Connect a 4-conductor modular cord between the 5th Power Fail Transfer Unit jack labeled TK1.2 and the 4th adapter's RJ14 jack for lines 17 and 18 (the fourth jack).

   v. Connect a 4-conductor modular cord between the 5th Power Fail Transfer Unit jack labeled TK3.4 and the 4th adapter's RJ14 jack for lines 19 and 20 (the fifth jack).

l. Install twenty *standard* telephones (2-wire sets) in convenient or strategic locations.

m. Using 2-conductor, modular cords; connect the standard sets to the jacks labeled T1T through T4T on the 1st through the 5th Power Fail Transfer Units.

Power Fail Transfer Unit Test

a. With power still removed from the KSU, the standard sets just installed should all be receiving dial tone — and be able to originate and receive outside calls. If not, refer to the Troubleshooting section.

b. Proceed to Step 3.

STEP 13
INSTALLING AN EXTERNAL AMPLIFIER/SPEAKER

If an external amplifier/speaker is to be installed at a given station, the the standard station wiring and Set installation procedures must be modified for that station as follows (see also the diagram to the right):

a. Instead of mounting a 4-conductor RJ14 jack at the station location (see Step 3 b), mount a 6-conductor RJ25 jack.

NOTE

The 4-conductor station wiring cable between the 66-block terminals and the station wiring jack still follows the details given in the station wiring table on pages D-5 through D-9 — with the 4 wires still running from the same 66-block terminals and being installed color-to-color on the jack, green-to-green, red-to-red, black-to-black, and yellow-to-yellow.

b. Connect the external amplifier to the blue and white terminals of the RJ25 station wiring jack.

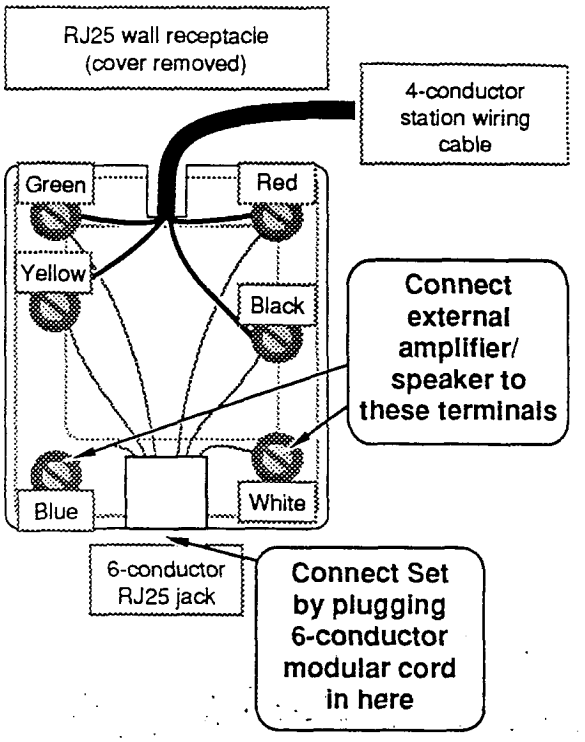
c. Instead of using the 4-conductor modular cord supplied with the Set (see Step 4 g), use a standard 6-conductor modular cord to connect the Set to the station wiring jack.

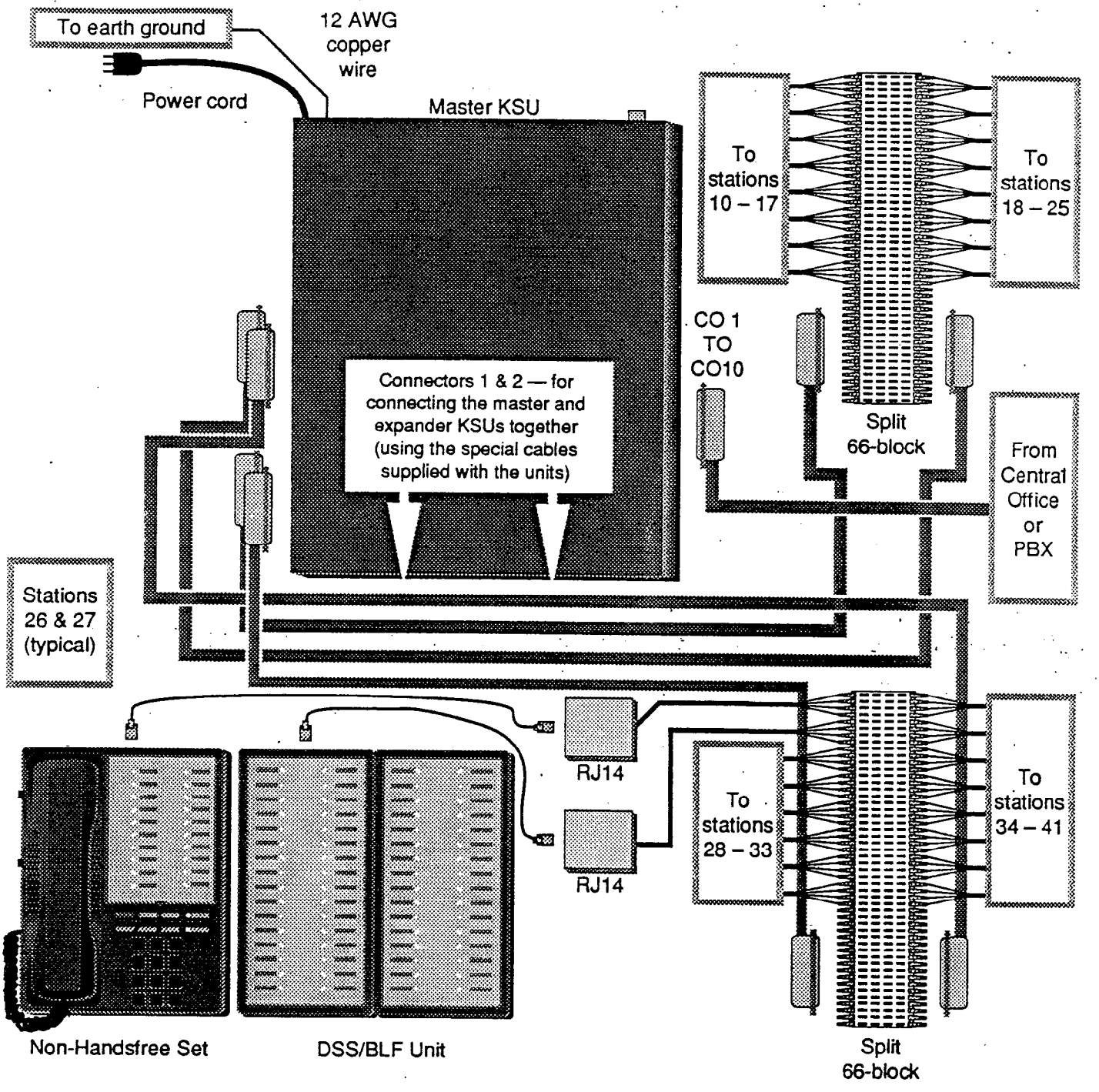
NOTE

The external amplifier/speaker is now connected to the Set's speaker terminals.

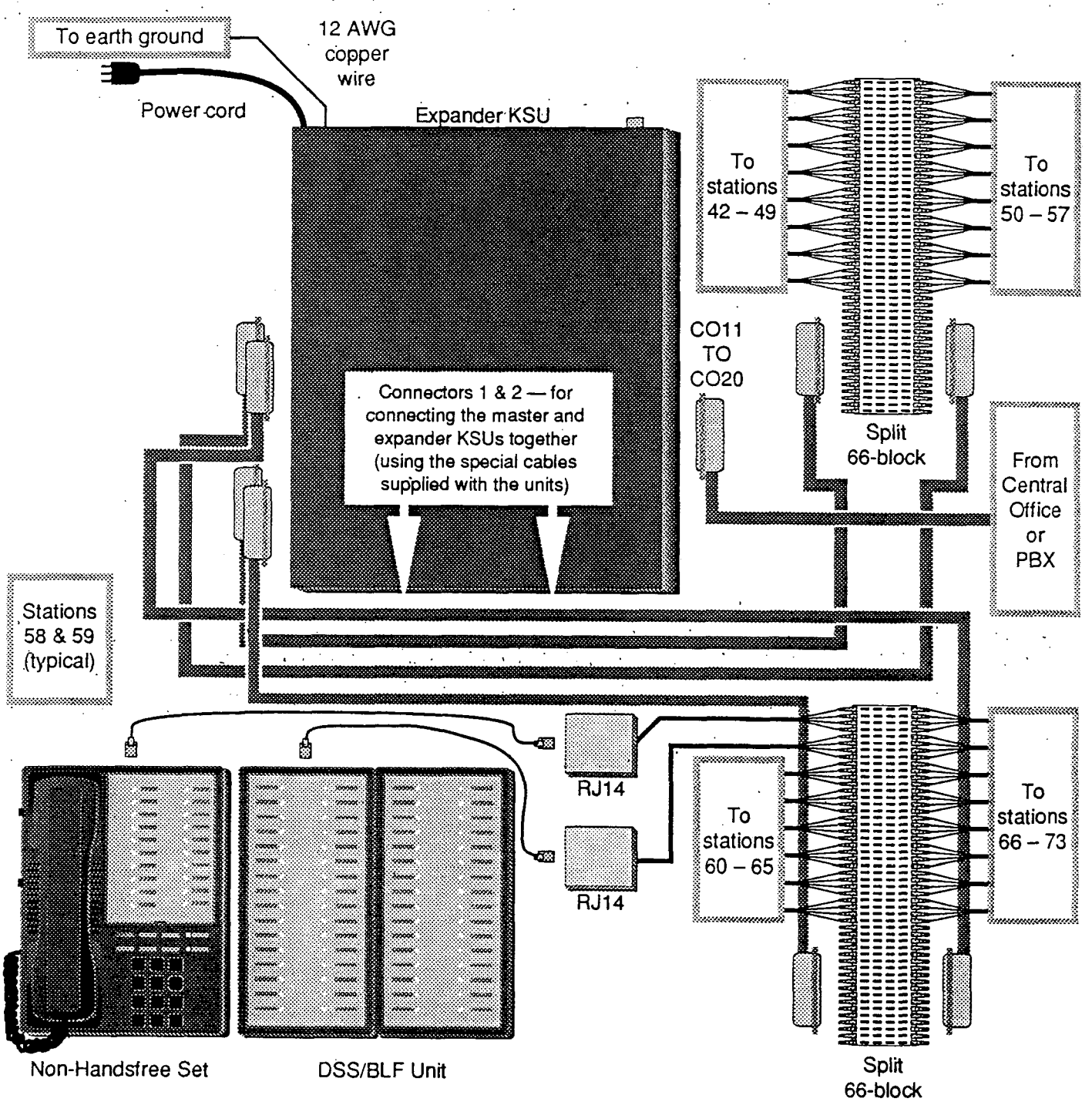
d. Check to see that signaling and voice messages normally heard over the Set's speaker will now be heard over the external amplifier/speaker.

e. To return the Set to its normal operation, simply replace the 6-conductor cord between the Set and the station wiring jack with the 4-conductor that was originally supplied with the Set.

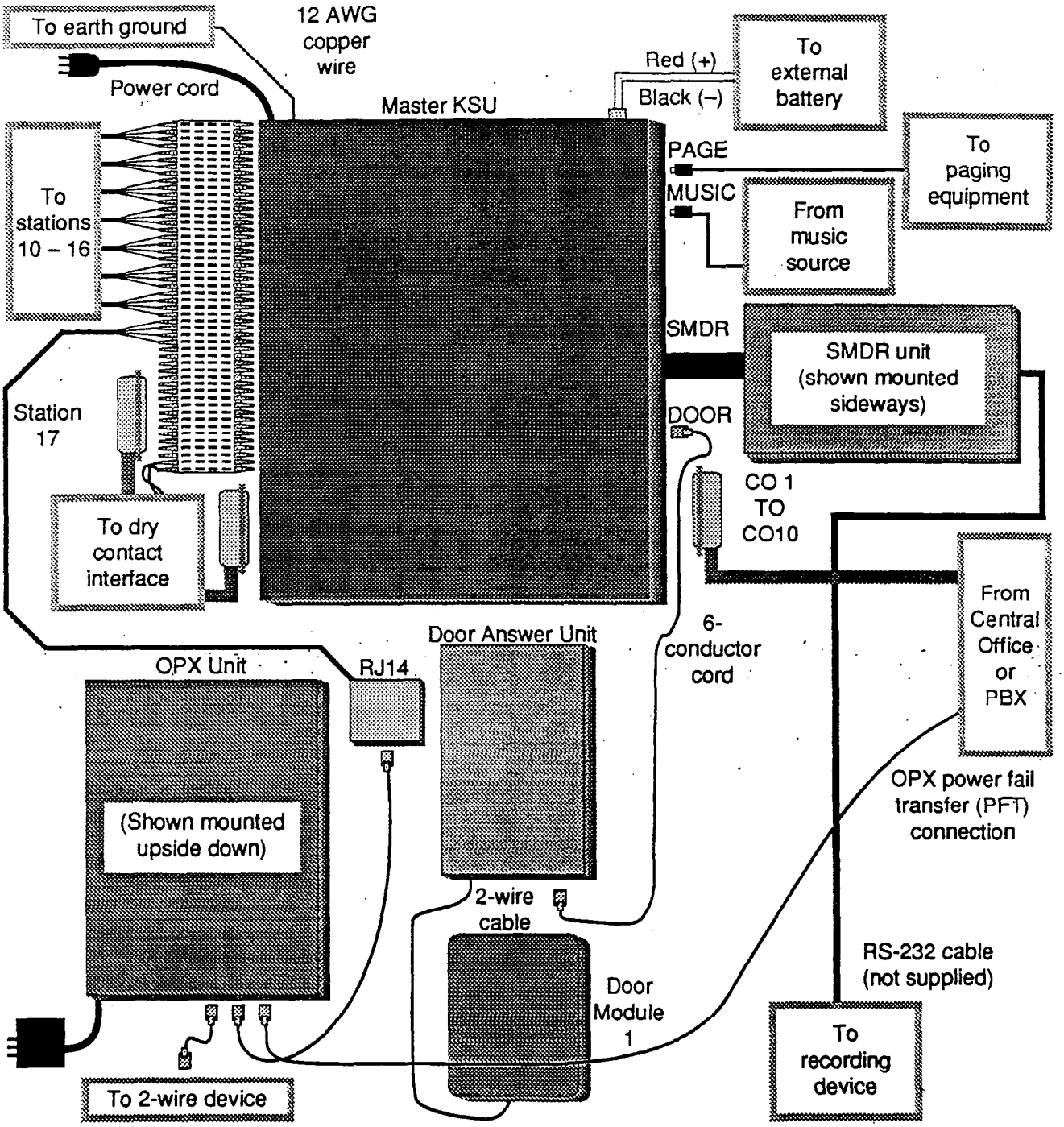




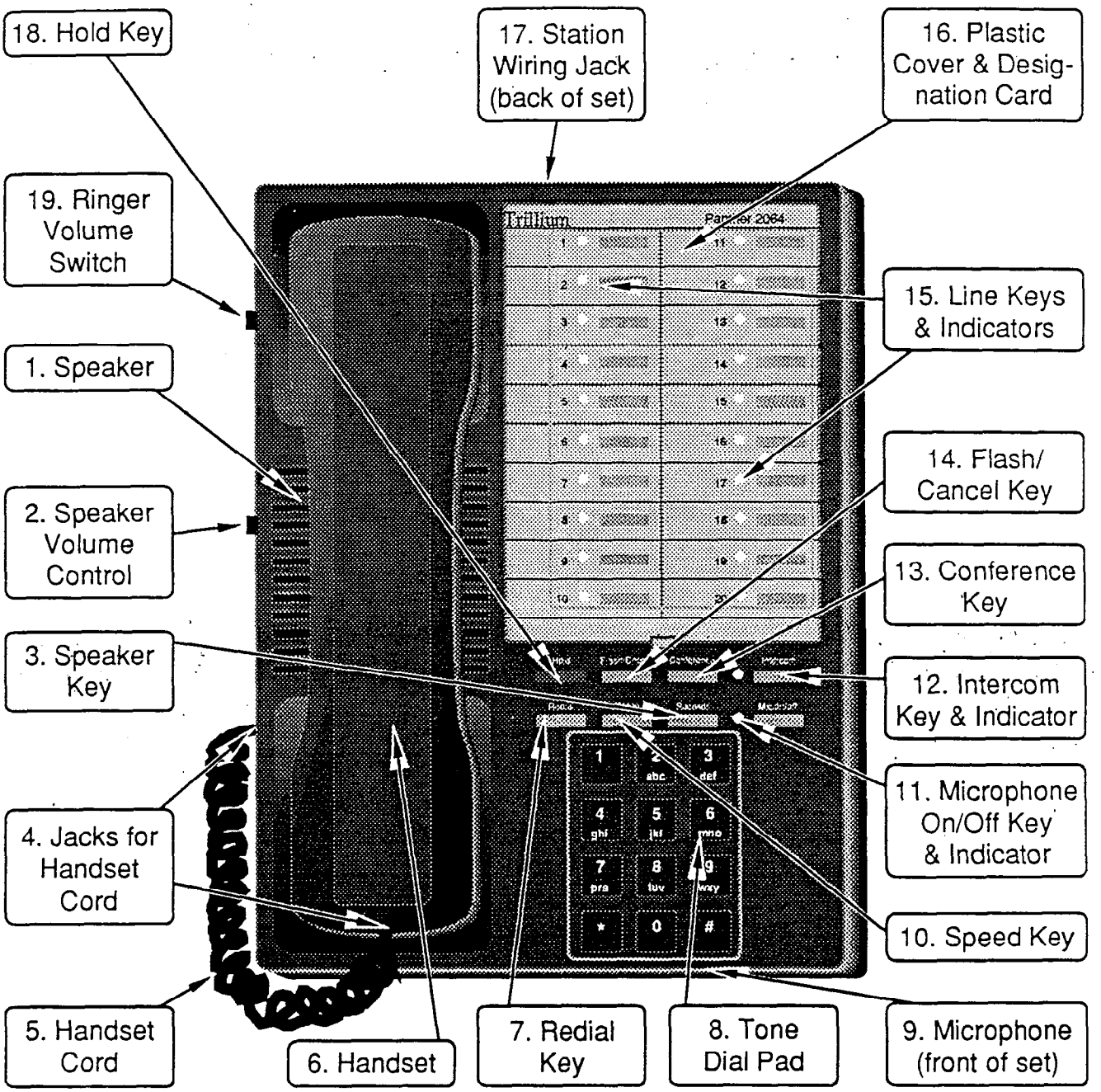
TYPICAL MASTER KSU LAYOUT DIAGRAM (Standard Components only)



TYPICAL EXPANDER KSU LAYOUT DIAGRAM (Standard Components only)



TYPICAL SYSTEM LAYOUT DIAGRAM (Optional and External Components only)



SET LAYOUT DIAGRAM

SET LAYOUT

1. The speaker allows the user to monitor the progress of outside calls — and, with the Handsfree/Busy Lamp Field (HF/BLF) Set (as illustrated), to operate in a handsfree (speakerphone) mode. The speaker may also be used to listen to background music, when available, on both non-handsfree and handsfree Sets.
2. The speaker volume control (not labeled) adjusts the loudness of sounds emitted by the speaker.
3. The **Speaker** key is used to turn the Set's speaker on and off — and, with handsfree Sets, to conclude a handsfree call.

   With handsfree Sets, in auto line, the **Speaker** key selects CO line; in auto intercom, the **Speaker** key selects intercom (see Manual/Auto Select feature).

4. Two jacks (one on the base of the handset and the other on the left side of the Set) accept the plugs on the handset cord supplied with the Set.
5. The handset cord (supplied) connects the handset with the Set.
6. The handset transmits and receives voice signals.
7. The **Redial** key redials the last number manually dialed from your Set.
8. The tone dial pad is used in making calls and feature programming.

   In addition, two of these keys — when dialed first *with the handset in its cradle* — have special operating significance:

   # automatically selects the internal intercom line.

   9 automatically selects the last outside line used at your Set.
9. The microphone detects and amplifies voice conversation to enable handsfree operation (not present on non-handsfree Sets).
10. The **Speed** key is used to dial common speed call numbers; it also used to enter both private and common speed call numbers into system memory.
11. The **Mic.on/off** key turns the Set's microphone off and on. The indicator goes ON (lights) when the microphone is turned on; the indicator is also used in feature programming.

    NOTE: The key and indicator are present even on Sets without microphones (non-handsfree Sets).
12. The **Intercom** key and indicator are used together or independently in setting the Do Not Disturb feature, making All Page, Zone Page, and other intercom calls, monitoring rooms, and activating the Barge-In feature.

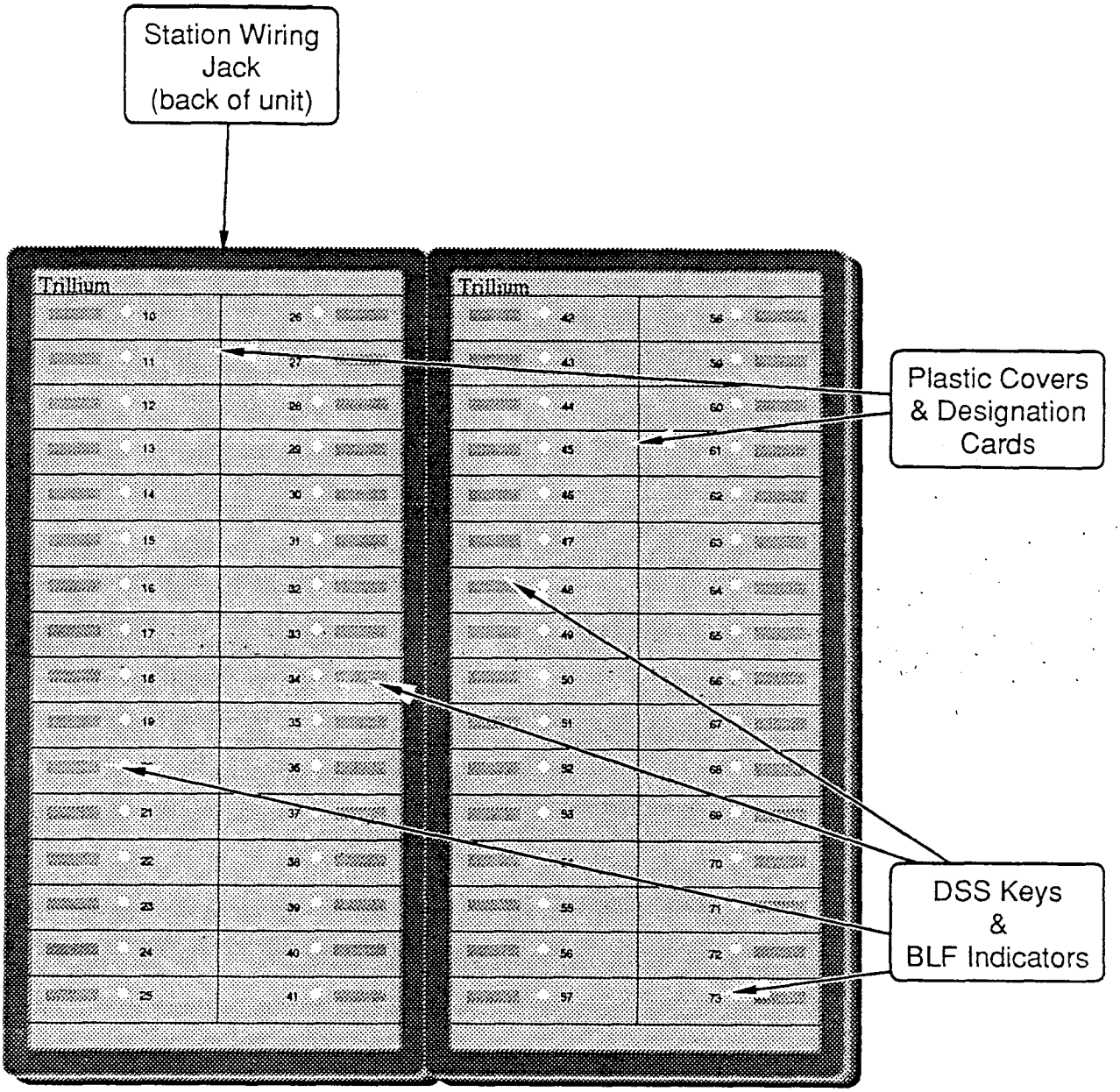
    They are also used in feature programming and setting the call detail record (CDR) clock.
13. The **Conference** key sets up 3-party calls.
14. The **Flash/Cancel** key is used as either a precise length (programmable) hookswitch flash or as cancel key— but not both:

    As a hookswitch flash, it is used for accessing PBX, CENTREX, and other network features.

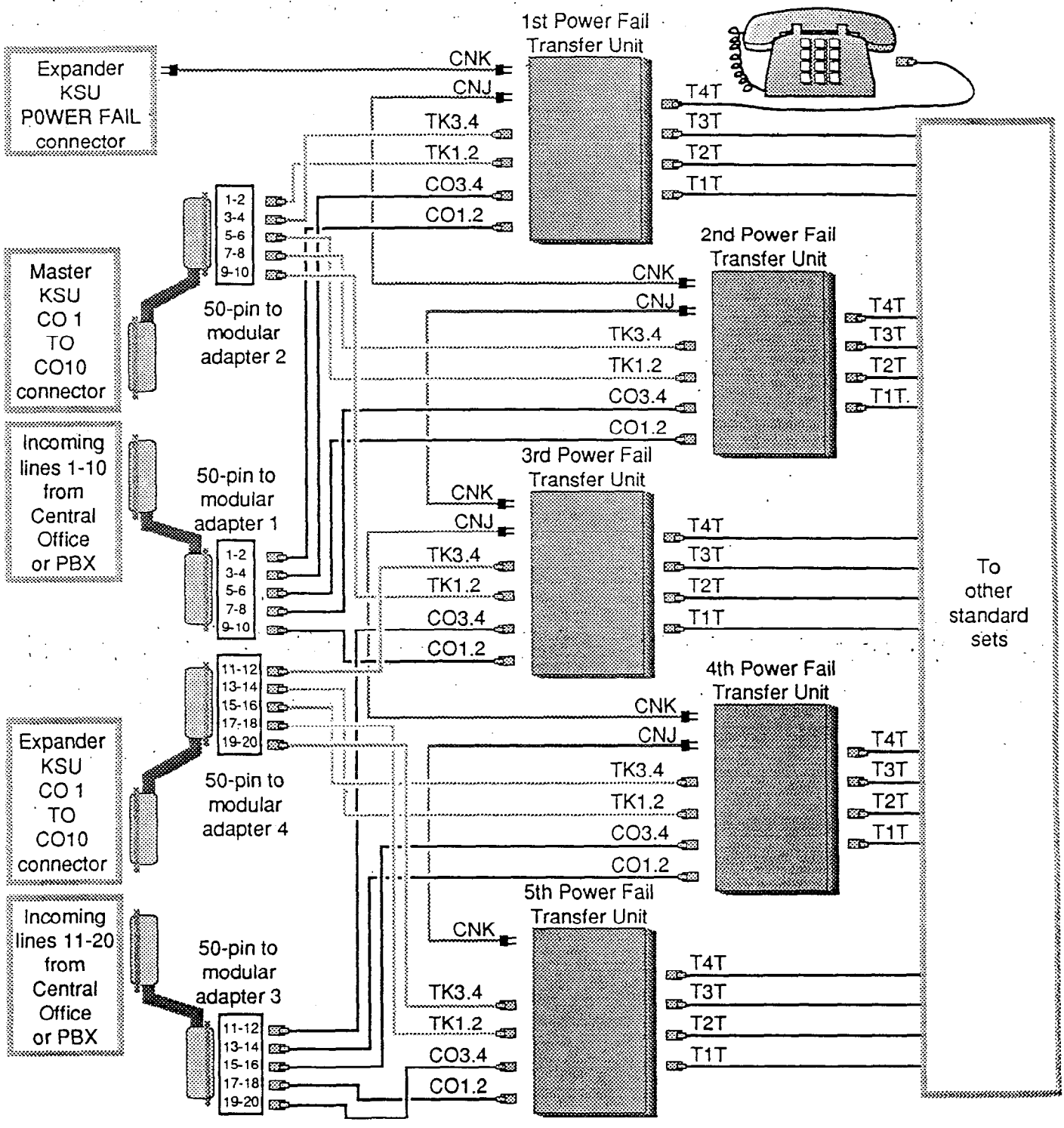
    As a cancel key, it terminates external calls in progress and returns a dial tone to the user — without having to hang up the handset.
15. The line keys (**1** through **20**) select the indicated outside lines, and the corresponding indicators show the status of the outside lines.

    The keys and indicators are also used in feature programming.

    NOTE: Line **10** is used for door answering, rather than as an outside line, when the Door Answer Unit is installed. If a second Door Answer Unit is installed, it will use line **20**.
16. The plastic cover protects the Designation Card, which is used to keep track of outside lines.
17. The station wiring jack is used to connect your Set to the station wiring; use the modular cord supplied with your Set.
18. The **Hold** key is used to place calls on temporary hold.
19. The ringer volume switch is a 3-position slide switch used to control the loudness of ringing at your Set.



DSS/BLF UNIT LAYOUT DIAGRAM



TYPICAL POWER FAIL TRANSFER UNIT LAYOUT DIAGRAM

FEATURE CATEGORIES

Your Panther 2064 Electronic Key Telephone System has six different features categories: system-wide features that apply to all sets and all lines, such as Hold Recall Time; individual Set features that apply only to selected stations, such as Flexible Ringing Assignment; individual line features that apply only to selected lines, such as Tone or Pulse dialing; individual group features that apply only to selected groups, such as Line Grouping; call restrictions (1 to 4 digits long); and speed call numbers (80 common, available at all Sets, and 11 private, unique to each individual Set).

System-wide features, individual Set features, individual Set features, individual line features, individual group features, and call restrictions can **only** be programmed from the Set assigned as station 10. Common speed numbers must be programmed from the master set (station 10, unless programmed differently); private speed call numbers are programmed by Set users from their own individual Sets.

Categories Versus Codes

Programmable features are assigned to program codes — and sometimes more than one feature is assigned to a given program code. For example, the Hold Recall Time and Loud Bell features are both assigned to program code 000.

Programming all the features that have the same program code *at the same time* is an efficient way to program the your system *when it is first installed*. However, after initial installation, programming only those features that need to be changed becomes the most straightforward approach.

The feature programming procedures and tables in this section are organized by *feature category* and, within each category, *alphabetically by feature name* — not numerically by program code. (The feature descriptions located at the end of this section are arranged simply in alphabetical order by feature name.) Thus, all these materials are designed to support system *changes*, rather than system installation.

Referencing Categories to Codes

The table on the next 2 pages — organized by program code — provides page references to feature programming procedures, feature programming tables, and feature descriptions.

Interrelated Features

Moreover (as listed below), groups of features are interrelated (features *not* listed below are judged to be relatively *independent*).

Whenever you program or reprogram one of the features below, you should consider whether a corresponding change is required to the other features found in the same group.

Behind PBX/CENTREX-Related Features
Flash or Cancel (001), Pause on Number (002), Pause Time (004), Flash or Cancel Duration (006), and Telephone or PBX Line (101)

Group-Related Features
Line Group Type (001), Tenant Group by Station (4YY), and Line Grouping (8XX)

Hold-Related Features
Auto Hold (000) and Hold Recall Time (000)

Restriction-Related Features
Digits-to Deny (005), Incoming Calls Only (102), Toll Restrictions (3YY), Executive Override (3YY), and Call Restrictions (900-909)

Ringing-Related Features
Loud Bell (000), Auto/Manual Return to OFF (009), Relay Control (009), Simultaneous/Serial Ringing (009), Transfer Ringing (009), Loud Bell/Night Transfer Ringing Assignment (103), Flexible Ringing Assignment (2YY), Night Transfer (3YY), and Transfer Ringing Return (3YY)

Set-Related Features
Sets (3YY), Master Set Assignment (003), Flexible CO Line Assignment (6YY), and Flexible DSS Key Assignment (7YY)

SMDR-Related Features
Account Code (000), SMDR Printout (002), Start Data Recording (007), and Digit Timer (008)

Tone/Pulse-Related Features
Interdigit Pause (001), Tone Duration (001), and Tone or Pulse (100)

Feature Name	Program Code	Feature Category	Preprogrammed Condition	Programming and Description Page References
Common (20-99)	None	Speed Calling	None	Programming: F-24/Description: see Section G
Private Numbers	None	Speed Calling	None	Programming: F-25/Description: see Section G
Account Code	000	System-wide	No printout	Programming: F-4 & F-5/Description: F-25
Auto Hold	000	System-wide	One touch speed dial	Programming: F-4 & F-5/Description: F-25
Hold Recall Time	000	System-wide	No hold recall	Programming: F-4 & F-6/Description: F-26
Loud Bell	000	System-wide	Day and night bell	Programming: F-4 & F-6/Description: F-27
Manual/Auto Select	000	System-wide	Auto intercom	Programming: F-4 & F-7/Description: F-27
Flash or Cancel	001	System-wide	Cancel	Programming: F-4 & F-6/Description: F-26
Interdigit Pause	001	System-wide	800 milliseconds	Programming: F-4 & F-6/Description: F-26
Line Group Type	001	System-wide	Type A	Programming: F-4 & F-6/Description: F-27
Tone Duration	001	System-wide	100 milliseconds	Programming: F-4 & F-8/Description: F-28
Pause on Number	002	System-wide	No pause	Programming: F-4 & F-7/Description: F-27
SMDR Printout	002	System-wide	Outgoing toll calls	Programming: F-4 & F-7/Description: F-28
Master Set Assignment	003	System-wide	Station 10	Programming: F-4 & F-7/Description: F-27
Pause Time	004	System-wide	3 seconds	Programming: F-4 & F-7/Description: F-27
Digits-to-Deny	005	System-wide	8th digit	Programming: F-4 & F-5/Description: F-25
Flash or Cancel Duration	006	System-wide	1 second	Programming: F-4 & F-6/Description: F-26
Start Data Recording	007	System-wide	5 seconds	Programming: F-4 & F-8/Description: F-28
Digit Timer	008	System-wide	10 seconds	Programming: F-4 & F-5/Description: F-26
Auto/Manual Return to OFF	009	System-wide	Automatic return to OFF	Programming: F-4 & F-5/Description: F-25
Relay Control	009	System-wide	Control loud bell	Programming: F-4 & F-7/Description: F-27
Simultaneous/ Serial Ringing	009	System-wide	Serial ringing	Programming: F-4 & F-7/Description: F-28
Transfer Ringing	009	System-wide	3 times	Programming: F-4 & F-8/Description: F-28

Feature Programming Cross-Reference Table (Sheet 1 of 2)

Feature Name	Program Code*	Feature Category	Preprogrammed Condition	Programming and Description Page References
Tone or Pulse	100	Individual line	**Tone**	Programming: F-14 & F-17/Description: F-28
Telephone or PBX Line	101	Individual line	**Telephone**	Programming: F-14 & F-15/Description: F-28
Incoming Calls Only	102	Individual line	**No**	Programming: F-14 & F-16/Description: F-26
Loud Bell/Night Transfer Ringing Assignment	103	Individual line	**Ring**	Programming: F-14 & F-16/Description: F-27
Flexible Ringing Assignment	2YY	Individual Set	**No ringing†**	Programming: F-10 & F-11/Description: F-26
Executive Override	3YY	Individual Set	**No override**	Programming: F-10 & F-11/Description: F-26
Night Transfer	3YY	Individual Set	**No transfer**	Programming: F-10 & F-12/Description: F-27
Sets	3YY	Individual Set	**Panther 2064**	Programming: F-10 & F-12/Description: F-28
Toll Restriction	3YY	Individual Set	**Class A**	Programming: F-10 & F-12/Description: F-28
Transfer Ringing Return	3YY	Individual Set	**1st transfer set/ then master**	Programming: F-10 & F-13/Description: F-28
Tenant Group By Station	4YY	Individual Set	**No assignment**	Programming: F-10 & F-12/Description: F-28
Zone Paging	5YY	Individual Set	**No zones**	Programming: F-10 & F-13/Description: F-28
Flexible CO Line Assignment	6YY	Individual Set	**No assignment**	Programming: F-10 & F-11/Description: F-26
Flexible DSS Key Assignment	7YY	Individual Set	**DSS 10 = station 10**	Programming: F-10 & F-11/Description: F-26
Line Grouping	8XX	Individual group	**All lines††**	Programming: F-18 & F-19/Description: F-27
Call Restriction	900-909	Call restriction	908 = **0***** 909 = **1*****	Programming: F-20 & F-21/Description: F-25

* YY stands for desired station number (10 through 41); and XX stands for desired group number (01 through 15).

† Station 10 is preprogrammed to ring on all lines; all other stations are preprogrammed not to ring on any line.

†† If the Tenant Group by Station feature (code 4YY) is programmed for any condition other than no group (its preprogrammed condition) -- that is, if any Sets have been assigned to any group — then the preprogrammed condition is for all outside lines to be assigned to each active group.

Feature Programming Cross-Reference Table (Sheet 2 of 2)

SYSTEM-WIDE FEATURES

CAUTION

Set BATTERY to ON at the masterKSU to prevent loss of entered feature programming selections.

To program system-wide features from station 10, ...

Step	*Action*	*Response*
First enter the programming mode:		
1	Press **Intercom.**	...
2	Dial ***015.**	At station 10, **Mic.on/off** indicator WINKS slowly.
Then, to program a selected feature:		
3*	Dial the selected program code.	**Mic.on/off** indicator goes OFF.
4*	Program the desired condition for the selected feature by pressing one or more of line keys **1** through **8** — or by dialing an access code — as instructed.	The indicators for lines **1** through **8** (or **1** through **4**) display the pattern shown in the table that starts on the facing page.
5	Press **Hold.**	**Mic.on/off** indicator WINKS slowly.
Then, to program another feature (if all desired features have been programmed, go to step 7):		
6	Return to step 3.	...

* See the **Program Code**, **Condition Description**, and **Indicator Status** column entries in the feature programming table that starts on the facing page.

Finally, to exit the programming mode and save all your programming selections:

7	Dial ***015.**	At station 10, **Mic.on/off** indicator goes OFF.

To return all features to their preprogrammed (factory default) conditions ...

Step	*Action*	*Response*
1	At the KSU, set 1 PROGRAM to ON.	...
2	At the KSU, press RESET.	...
3	At the KSU, set 1 PROGRAM to OFF.	...
4	At the KSU, press RESET again.	...

NOTE

System-wide features may be programmed in any order. Also, you may program as many or as few features as you desire. Therefore, in the table that starts on the facing page, features are listed in alphabetical order to help you find the features you want quickly.

Feature Name	Program Code	Feature Category	Condition Description*	Indicator Status
Account Code	000	System-wide	**No printout**	Line 8 off
			Printout	Line 8 on
Auto Hold	000	System-wide	**One Touch Speed Dial**	Line 5 off
			Auto hold	Line 5 on
Auto/Manual Return to OFF	009	System Wide	**Automatic return to OFF**	Line 5 off
			Manual return to OFF	Line 5 on
Digits-to-Deny	005	System-wide	No digits (00)**	Lines 1, 2, 3, and 4 off
			1st digit (01)**	Line 1 on; lines 2, 3, and 4 off
			2nd digit (02)**	Line 2 on; lines 1, 3, and 4 off
			3rd digit (03)**	Lines 1 and 2 on; lines 3 and 4 off
			4th digit (04)**	Line 3 on; lines 1, 2, and 4 off
			5th digit (05)**	Lines 1 and 3 on; lines 2 and 4 off
			6th digit (06)**	Lines 2 and 3 on; lines 1 and 4 off
			7th digit (07)**	Lines 1 , 2, and 3 on; Line 4 off
			8th digit (08)**	Line 4 on; lines 1, 2, and 3 off
			9th digit (09)**	Lines 1 and 4 on; lines 2 and 3 off
			10th digit (10)**	Lines 2 and 4 on; lines 1 and 3 off
			11th digit (11)**	Lines 1, 2, and 4 on; line 3 off
			12th digit (12)**	Lines 3 and 4 on; lines 1 and 2 off
			13th digit (13)**	Lines 1, 3, and 4 on; line 2 off
			14th digit (14)**	Lines 2, 3, and 4 on; line 1 off
			15th digit (15)**	Lines 1, 2, 3, and 4 on
Digit Timer	008	System-wide	1 second (00)**	Lines 1, 2, 3, and 4 off
			2 seconds (01)**	Line 1 on; lines 2, 3, and 4 off
			3 seconds (02)**	Line 2 on; lines 1, 3, and 4 off
			4 seconds (03)**	Lines 1 and 2 on; lines 3 and 4 off
			5 seconds (04)**	Line 3 on; lines 1, 2, and 4 off
			6 seconds (05)**	Lines 1 and 3 on; lines 2 and 4 off
			7 seconds (06)**	Lines 2 and 3 on; lines 1 and 4 off
			8 seconds (07)**	Lines 1 , 2, and 3 on; Line 4 off
			9 seconds (08)**	Line 4 on; lines 1, 2, and 3 off
			10 seconds (09)**	Lines 1 and 4 on; lines 2 and 3 off
			11 seconds (10)**	Lines 2 and 4 on; lines 1 and 3 off
			12 seconds (11)**	Lines 1, 2, and 4 on; line 3 off
			13 seconds (12)**	Lines 3 and 4 on; lines 1 and 2 off
			14 seconds (13)**	Lines 1, 3, and 4 on; line 2 off
			15 seconds (14)**	Lines 2, 3, and 4 on; line 1 off
			16 seconds (15)**	Lines 1, 2, 3, and 4 on

* Preprogrammed (factory default) conditions are shown in **bold type.**

** Dial the access code shown in parentheses using the key pad; observe that the desired indicator pattern appears (see **Indicator Status** column).

System-Wide Feature Programming Table (Sheet 1 of 4)

Feature Name	Program Code	Feature Category	Condition Description*	Indicator Status
Flash or Cancel	001	System-wide	**Cancel**	Line 6 off
			Flash	Line 6 on
Flash or Cancel Duration	006	System-wide	20 milliseconds (00)**	Lines 1, 2, 3, and 4 off
			40 milliseconds (01)**	Line 1 on; lines 2, 3, and 4 off
			60 milliseconds (02)**	Line 2 on; lines 1, 3, and 4 off
			80 milliseconds (03)**	Lines 1 and 2 on; lines 3 and 4 off
			100 milliseconds (04)**	Line 3 on; lines 1, 2, and 4 off
			200 milliseconds (05)**	Lines 1 and 3 on; lines 2 and 4 off
			300 milliseconds (06)**	Lines 2 and 3 on; lines 1 and 4 off
			400 milliseconds (07)**	Lines 1 , 2, and 3 on; line 4 off
			500 milliseconds (08)**	Line 4 on; lines 1, 2, and 3 off
			600 milliseconds (09)**	Lines 1 and 4 on; lines 2 and 3 off
			700 milliseconds (10)**	Lines 2 and 4 on; lines 1 and 3 off
			800 milliseconds (11)**	Lines 1, 2, and 4 on; line 3 off
			900 milliseconds (12)**	Lines 3 and 4 on; lines 1 and 2 off
			1 second (13)**	Lines 1, 3, and 4 on; line 2 off
			2 seconds (14)**	Lines 2, 3, and 4 on; line 1 off
			3 seconds (15)**	Lines 1, 2, 3, and 4 on
Hold Recall Time	000	System-wide	**No hold recall**	Lines 1 and 2 off
			1.5 minutes	Line 1 on; line 2 off
			3 minutes	Line 2 on; line 1 off
			3 minutes; release @ 5	Lines 1 and 2 on
Interdigit Pause	001	System-wide	**800 milliseconds**	Lines 3 and 4 off
			1100 milliseconds	Line 3 on; line 4 off
			700 milliseconds	Line 4 on; line 3 off
			500 milliseconds†	Lines 3 and 4 on
Line Group Type	001	System-wide	**Type A**	Lines 7 and 8 off
			Type B	Line 7 on; line 8 off
			Type C	Line 8 off; line 7 off
			Type D	Lines 7 and 8 on
Loud Bell	000	System-wide	Neither bell	Lines 3 and 4 off
			Day bell	Line 3 on; line 4 off
			Night bell	Line 4 on; line 3 off
			Both day and night bell	Lines 3 and 4 on

* Preprogrammed (factory default) conditions are shown in **bold type.**

** Dial the access code shown in parentheses using the key pad; observe that the desired indicator pattern appears (see **Indicator Status** column).

† This value is not permitted when the Panther system is to be installed in Canada or connected to the Canadian Telephone Network.

System-Wide Feature Programming Table (Sheet 2 of 4)

Feature Name	Program Code	Feature Category	Condition Description*	Indicator Status
Manual/Auto Select	000	System-wide	**Auto intercom**	Lines **6** and **7** off
			Manual select	Line **6** on; line **7** off
			Auto CO line	Line **7** on; line **6** off
Master Station Assignment	003	System-wide	**Station 10**	(Ignore indicator status)
			(User-selected††)	(Ignore indicator status)
Pause on Number	002	System-wide	**No pause**	Lines **1**, **2**, **3**, and **4** off
			Pause on 7	Line **1** on†
			Pause on 8	Line **2** on†
			Pause on 9	Line **3** on†
			Pause on 0	Line **4** on†
Pause Time	004	System-wide	1 second (00)**	Lines **1**, **2**, **3**, and **4** off
			1 second (01)**	Line **1** on; lines **2**, **3**, and **4** off
			2 seconds (02)**	Line **2** on; lines **1**, **3**, and **4** off
			3 seconds (03)**	Lines **1** and **2** on; lines **3** and **4** off
			4 seconds (04)**	Line **3** on; lines **1**, **2**, and **4** off
			5 seconds (05)**	Lines **1** and **3** on; lines **2** and **4** off
			6 seconds (06)**	Lines **2** and **3** on; lines **1** and **4** off
			7 seconds (07)**	Lines **1**, **2**, and **3** on; line **4** off
			8 seconds (08)**	Line **4** on; lines **1**, **2**, and **3** off
			9 seconds (09)**	Lines **1** and **4** on; lines **2** and **3** off
			10 seconds (10)**	Lines **2** and **4** on; lines **1** and **3** off
			11 seconds (11)**	Lines **1**, **2**, and **4** on; line **3** off
			12 seconds (12)**	Lines **3** and **4** on; lines **1** and **2** off
			13 seconds (13)**	Lines **1**, **3**, and **4** on; line **2** off
			14 seconds (14)**	Lines **2**, **3**, and **4** on; line **1** off
			15 seconds (15)**	Lines **1**, **2**, **3**, and **4** on
Relay Control	009	System-wide	**Control loud bell**	Line **4** off
			Control other equipment	Line **4** on
Simultaneous/ Serial Ringing	009	System-wide	**Serial ringing**	Line **3** off
			Simultaneous ringing	Line **3** on
SMDR Printout	002	System-wide	**Outgoing toll calls**	Lines **5** and **6** off
			All outgoing calls	Line **5** on; line **6** off
			All incoming calls	Line **6** on; line **5** off
			All calls	Lines **5** and **6** on

* Preprogrammed (factory default) conditions are shown in **bold type.**

** Dial the access code shown in parentheses using the key pad; observe that the desired indicator pattern appears (see **Indicator Status** column).

† Any combination of numbers 7 through 0 to pause on can be programmed by pressing the indicated keys; observe that the corresponding indicators go ON.

†† Dial in the station number of the Set you wish to become the master station.

System-Wide Feature Programming Table (Sheet 3 of 4)

Feature Name	Program Code	Feature Category	Condition Description*	Indicator Status
Start Data Recording	007	System-wide	1 second (00)**	Lines **1**, **2**, **3**, and **4** off
			5 seconds (01)**	Line **1** on; lines **2**, **3**, and **4** off
			9 seconds (02)**	Line **2** on; lines **1**, **3**, and **4** off
			13 seconds (03)**	Lines **1** and **2** on; lines **3** and **4** off
			17 seconds (04)**	Line **3** on; lines **1**, **2**, and **4** off
			21 seconds (05)**	Lines **1** and **3** on; lines **2** and **4** off
			25 seconds (06)**	Lines **2** and **3** on; lines **1** and **4** off
			29 seconds (07)**	Lines **1** , **2**, and **3** on; line **4** off
			33 seconds (08)**	Line **4** on; lines **1**, **2**, and **3** off
			37 seconds (09)**	Lines **1** and **4** on; lines **2** and **3** off
			41 seconds (10)**	Lines **2** and **4** on; lines **1** and **3** off
			45 seconds (11)**	Lines **1**, **2**, and **4** on; line **3** off
			49 seconds (12)**	Lines **3** and **4** on; lines **1** and **2** off
			53 seconds (13)**	Lines **1**, **3**, and **4** on; line **2** off
			57 seconds (14)**	Lines **2**, **3**, and **4** on; line **1** off
			61 seconds (15)**	Lines **1**, **2**, **3**, and **4** on
Tone Duration	001	System-wide	**100 milliseconds**	Line **5** off
			75 milliseconds	Line **5** on
Transfer Ringing	009	System-wide	**3 times**	Lines **1** and **2** off
			5 times	Line **1** on; line **2** off
			7 times	Line **2** on; line **1** off

* Preprogrammed (factory default) conditions are shown in **bold type.**

** Dial the access code shown in parentheses using the key pad; observe that the desired indicator pattern appears (see **Indicator Status** column).

System-Wide Feature Programming Table (Sheet 4 of 4)

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INDIVIDUAL SET FEATURES

CAUTION

Set BATTERY to ON at the master KSU to prevent loss of entered feature programming selections.

To program individual Set features from station 10, ...

Step	*Action*	*Response*
First enter the programming mode:		
1	Press **Intercom.**	...
2	Dial ***015.**	At station 10, **Mic.on/off** indicator WINKS slowly.
Then, to program a selected feature at a selected station:		
3*	Dial the selected program code: the 1st digit plus 2-digit station number of the selected Set (10 through 73 — represented by YY).	**Mic.on/off** indicator goes OFF.
4*	Program the desired condition for the selected feature by pressing one or more of line keys1 through **8** or by dialing an access code, as instructed.	The indicators for lines **1** through **8** (or **1** through **4**) display the pattern shown in the table that starts on the facing page.
5	Press **Hold.**	**Mic.on/off** indicator WINKS slowly.
Then, to program another Set — or another feature (if all desired features have been programmed, go to step 7):		
6	Return to step 3.	...

Finally, to exit the programming mode and save all your programming selections:

7	Dial ***015.**	At station 10, **Mic.on/off** indicator goes OFF.

To return all features to their preprogrammed (factory default) conditions ...

Step	*Action*	*Response*
1	At the KSU, set 1 PROGRAM to ON.	...
2	At the KSU, press RESET.	...
3	At the KSU, set 1 PROGRAM to OFF.	...
4	At the KSU, press RESET again.	...

NOTES

1. Although DSS/BLF Units are assigned their own separate station numbers (the next higher number than the accompanying Set), do *not* program any of the individual Set features for the station numbers assigned to DSS/BLF Units.

2. Individual Set features may be programmed in any order. Also, you may program as many or as few features or Sets as you desire. Therefore, in the table that starts on the facing page, features are listed in alphabetical order to help you find the features you want quickly.

* See the **Program Code**, **Condition Description**, and **Indicator Status** column entries in the feature programming table that starts on the facing page.

Feature Name	Program Code†	Feature Category	Condition Description*	Indicator Status
Executive Override	3YY	Individual Set	**No override** Override	Line **4** off Line **4** on
Flexible CO Line Assignment	6YY	Individual Set**	**No Assignment** (00)***	Lines **1**, **2**, **3**, and **4** off
			Line **1** key = line 2 (01)***	Line **1** on; lines **2**, **3**, and **4** off
			Line **1** key = line 3 (02)***	Line **2** on; lines **1**, **3**, and **4** off
			Line **1** key = line 4 (03)***	Lines **1** and **2** on; lines **3** and **4** off
			Line **1** key = line 5 (04)***	Line **3** on; lines **1**, **2**, and **4** off
			Line **1** key = line 6 (05)***	Lines **1** and **3** on; lines **2** and **4** off
			Line **1** key = line 7 (06)***	Lines **2** and **3** on; lines **1** and **4** off
			Line **1** key = line 8 (07)***	Lines **1** , **2**, and **3** on; line **4** off
			Line **1** key = line 9 (08)***	Line **4** on; lines **1**, **2**, and **3** off
			Line **1** key = line 10 (09)***	Lines **1** and **4** on; lines **2** and **3** off
			Line **1** key = line 11 (10)***	Lines **2** and **4** on; lines **1** and **3** off
			Line **1** key = line 12 (11)***	Lines **1** , **2**, and **4** on; line **3** off
			Line **1** key = line 13 (12)***	Lines **3** and **4** on; lines **1** and **2** off
			Line **1** key = line 14 (13)***	Lines **1** , **3**, and **4** on; line **2** off
			Line **1** key = line 15 (14)***	Lines **2** , **3**, and **4** on; line **1** off
			Line **1** key = line 16 (15)***	Lines **1**, **2**, **3**, and **4** on
Flexible DSS Key Assignment	7YY	Individual Set**.	**DSS 10 = station 10** (00)***	Lines **1**, **2**, **3**, and **4** off
			DSS 10 = station 14 (01)***	Line **1** on; lines **2**, **3**, and **4** off
			DSS 10 = station 18 (02)***	Line **2** on; lines **1**, **3**, and **4** off
			DSS 10 = station 22 (03)***	Lines **1** and **2** on; lines **3** and **4** off
			DSS 10 = station 26 (04)***	Line **3** on; lines **1**, **2**, and **4** off
			DSS 10 = station 30 (05)***	Lines **1** and **3** on; lines **2** and **4** off
			DSS 10 = station 34 (06)***	Lines **2** and **3** on; lines **1** and **4** off
			DSS 10 = station 38 (07)***	Lines **1** , **2**, and **3** on; line **4** off
			DSS 10 = station 42 (08)***	Line **4** on; lines **1**, **2**, and **3** off
			DSS 10 = station 46 (09)***	Lines **1** and **4** on; lines **2** and **3** off
			DSS 10 = station 50 (10)***	Lines **2** and **4** on; lines **1** and **3** off
			DSS 10 = station 54 (11)***	Lines **1** , **2**, and **4** on; line **3** off
			DSS 10 = station 58 (12)***	Lines **3** and **4** on; lines **1** and **2** off
			DSS 10 = station 62 (13)***	Lines **1** , **3**, and **4** on; line **2** off
			DSS 10 = station 66 (14)***	Lines **2** , **3**, and **4** on; line **1** off
			DSS 10 = station 70 (15)***	Lines **1**, **2**, **3**, and **4** on

† YY stands for desired station numbers (10 through 73) assigned to Sets; do *not* program stations assigned to DSS/BLF Units.

* Preprogrammed (factory default) conditions are shown in **bold type.**

** This feature is to be programmed for stations assigned to Panther 30, 612, or 1032 Sets.

***Dial the access code shown in parentheses using the key pad; observe that the desired indicator pattern appears (see **Indicator Status** column).

Individual Set Feature Programming Table (Sheet 1 of 3)

Feature Name	Program Code†	Feature Category	Condition Description*	Indicator Status
Flexible Ringing Assignment	2YY	Individual Set	**No ringing†††**	Lines **1** through **20** off
			Ring on line 1 calls	Line **1** on††
			Ring on line 2 calls	Line **2** on††
			Ring on line 3 calls	Line **3** on††
			Ring on line 4 calls	Line **4** on††
			Ring on line 5 calls	Line **5** on††
			Ring on line 6 calls	Line **6** on††
			Ring on line 7 calls	Line **7** on††
			Ring on line 8 calls	Line **8** on††
			Ring on line 9 calls	Line **9** on††
			Ring on line 10 calls¶	Line **10** on††
			Ring on line 11 calls	Line **11** on††
			Ring on line 12 calls	Line **12** on††
			Ring on line 13 calls	Line **13** on††
			Ring on line 14 calls	Line **14** on††
			Ring on line 15 calls	Line **15** on††
			Ring on line 16 calls	Line **16** on††
			Ring on line 17 calls	Line **17** on††
			Ring on line 18 calls	Line **18** on††
			Ring on line 19 calls	Line **19** on††
			Ring on line 20 calls¶	Line **20** on††
Night Transfer	3YY	Individual Set	**No transfer**	Line **2** off
			Transfer	Line **2** on
Sets	3YY	Individual Set	**Panther 2064**	Line **1** off
			Panther 306, 612, or 2064	Line **1** on

† YY stands for desired station numbers (10 through 73) assigned to Sets; do *not* program stations assigned to DSS/BLF Units.

†† A Set may be programmed to ring on any or all of the incoming lines by pressing the indicated line keys; observe that the corresponding line indicators go ON.

††† Station 10 is preprogrammed to ring on all lines; other stations are preprogrammed not to ring on any line.

¶ Rings when door bell is pressed on Door Module 1 or 2 (if optional Door Answer Unit is installed); line 10 = master KSU line 20 = expander KSU.

* Preprogrammed (factory default) conditions are shown in **bold type.**

Individual Set Feature Programming Table (Sheet 2 of 3)

Feature Name	Program Code†	Feature Category	Condition Description*	Indicator Status
Tenant Group By Station	4YY	Individual Set	**No assignment (00)****	Lines 1, 2, 3, and 4 off
			Group 1 (01)**	Line 1 on; lines 2, 3, and 4 off
			Group 2 (02)**	Line 2 on; lines 1, 3, and 4 off
			Group 3 (03)**	Lines 1 and 2 on; lines 3 and 4 off
			Group 4 (04)**	Line 3 on; lines 1, 2, and 4 off
			Group 5 (05)**	Lines 1 and 3 on; lines 2 and 4 off
			Group 6 (06)**	Lines 2 and 3 on; lines 1 and 4 off
			Group 7 (07)**	Lines 1 , 2, and 3 on; line 4 off
			Group 8 (08)**	Line 4 off; lines 1, 2, and 3 off
			Group 9 (09)**	Lines 1 and 4 on; lines 2 and 3 off
			Group 10 (10)**	Lines 2 and 4 on; lines 1 and 3 off
			Group 11 (11)**	Lines 1, 2, and 4 on; line 3 off
			Group 12 (12)**	Lines 3 and 4 on; lines 1 and 2 off
			Group 13 (13)**	Lines 1, 2, 3, and 4 on; line 2 off
			Group 14 (14)**	Lines 1, 2, 3, and 4 on; line 1 off
			Group 15 (15)**	Lines 1, 2, 3, and 4 on
Toll Restriction	3YY	Individual Set	**Class A**	Lines 5 and 6 off
			Class B	Line 5 on; line 6 off
			Class C	Line 6 on; line 5 off
Transfer Ringing Return	3YY	Individual Set	**1st transfer set/then master**	Lines 7 and 8 off
			Direct to master set	Line 7 on; line 8 off
			No return	Line 8 on; line 7 on
Zone Paging	5YY	Individual Set	**No zones (00)****	Lines 1, 2, 3, and 4 off
			Zone 1 (01)**	Line 1 on; lines 2, 3, and 4 off
			Zone 2 (02)**	Line 2 on; lines 1, 3, and 4 off
			Zone 3 (03)**	Lines 1 and 2 on; lines 3 and 4 off
			Zone 4 (04)**	Line 3 on; lines 1, 2, and 4 off
			Zone 5 (05)**	Lines 1 and 3 on; lines 2 and 4 off
			Zone 6 (06)**	Lines 2 and 3 on; lines 1 and 4 off
			Zone 7 (07)**	Lines 1 , 2, and 3 on; line 4 off
			Zone 8 (08)**	Line 4 off; lines 1, 2, and 3 off
			Zone 9 (09)**	Lines 1 and 4 on; lines 2 and 3 off
			Zone 10 (10)**	Lines 2 and 4 on; lines 1 and 3 off
			Zone 11 (11)**	Lines 1, 2, and 4 on; line 3 off
			Zone 12 (12)**	Lines 3 and 4 on; lines 1 and 2 off
			Zone 13 (13)**	Lines 1, 2, 3, and 4 on; line 2 off
			Zone 14 (14)**	Lines 1, 2, 3, and 4 on; line 1 off
			Zone 15 (15)**	Lines 1, 2, 3, and 4 on

† YY stands for desired station numbers (10 through 73) assigned to Sets; do *not* program stations assigned to DSS/BLF Units.

* Preprogrammed (factory default) conditions are shown in **bold type.**

** Dial the access code shown in parentheses using the key pad; observe that the desired indicator pattern appears (see **Indicator Status** column).

Individual Set Feature Programming Table (Sheet 3 of 3)

INDIVIDUAL LINE FEATURES

CAUTION

Set BATTERY to ON at the master KSU to prevent loss of entered feature programming selections.

To program individual line features from station 10, ...

Step	*Action*	*Response*
First enter the programming mode:		
1	Press **Intercom.**	...
2	Dial ***015.**	At station 10, **Mic.on/off** indicator WINKS slowly.
Then, to program a selected feature for a selected line:		
3*	Dial the selected program code.	**Mic.on/off** indicator goes OFF.
4*	Program the desired condition for the selected feature on the selected lines by pressing the corresponding line keys.	The indicators for the selected lines go ON.
5	Press **Hold.**	**Mic.on/off** indicator WINKS slowly.
Then, to program another line — or another feature (if all desired features have been programmed, go to step 7):		
6	Return to step 3.	...

* See the **Program Code**, **Condition Description**, and **Indicator Status** column entries in the feature programming table that starts on the facing page.

Finally, to exit the programming mode and save all your programming selections:		
7	Dial ***015.**	At station 10, **Mic.on/off** indicator goes OFF.

To return all features to their preprogrammed (factory default) conditions ...

Step	*Action*	*Response*
1	At the KSU, set 1 PROGRAM to ON.	...
2	At the KSU, press RESET.	...
3	At the KSU, set 1 PROGRAM to OFF.	...
4	At the KSU, press RESET again.	...

NOTE

Individual line features may be programmed in any order. Also, you may program as many or as few features or lines as you desire. Therefore, in the table that starts on the facing page, features are listed in alphabetical order to help you find the features you want quickly.

Feature Name	Program Code	Feature Category	Condition Description*	Indicator Status†
Incoming Calls Only	102	Individual line	**No**	Lines **1** through **20** off
			Yes	Line **1** on
			Yes	Line **2** on
			Yes	Line **3** on
			Yes	Line **4** on
			Yes	Line **5** on
			Yes	Line **6** on
			Yes	Line **7** on
			Yes	Line **8** on
			Yes	Line **9** on
			Yes	Line **10** on
			Yes	Line **11** on
			Yes	Line **12** on
			Yes	Line **13** on
			Yes	Line **14** on
			Yes	Line **15** on
			Yes	Line **16** on
			Yes	Line **17** on
			Yes	Line **18** on
			Yes	Line **19** on
			Yes	Line **20** on

* Preprogrammed (factory default) conditions are shown in **bold type.**

† Any or all of the incoming lines can be programmed for the indicated condition by pressing the indicated line keys; observe that the corresponding line indicators go ON.

Individual Line Feature Programming Table (Sheet 1 of 3)

Feature Name	Program Code†	Feature Category	Condition Description*	Indicator Status†
Loud Bell/ Night Transfer Ringing Assignment	103	Individual line	No ringing	Lines 1 through 20 off
			Ring**	Line 1 on
			Ring**	Line 2 on
			Ring**	Line 3 on
			Ring**	Line 4 on
			Ring**	Line 5 on
			Ring**	Line 6 on
			Ring**	Line 7 on
			Ring**	Line 8 on
			Ring**	Line 9 on
			Ring**	Line 10 on
			Ring**	Line 11 on
			Ring**	Line 12 on
			Ring**	Line 13 on
			Ring**	Line 14 on
			Ring**	Line 15 on
			Ring**	Line 16 on
			Ring**	Line 17 on
			Ring**	Line 18 on
			Ring**	Line 19 on
			Ring**	Line 20 on
Telephone or PBX Line	101	Individual line	**Telephone**	Lines 1 through 20 off
			PBX	Line 1 on
			PBX	Line 2 on
			PBX	Line 3 on
			PBX	Line 4 on
			PBX	Line 5 on
			PBX	Line 6 on
			PBX	Line 7 on
			PBX	Line 8 on
[continued on next page]			PBX	Line 9 on
			PBX	Line 10 on

* Preprogrammed (factory default) conditions are shown in **bold type.**

* All of the incoming lines are preprogrammed to ring; press each line key to set it for no ringing; observe that the corresponding line indicators go OFF.

† Any or all of the incoming lines can be programmed for the indicated condition by pressing the indicated line keys; observe that the corresponding line indicators go ON.

Individual Line Feature Programming Table (Sheet 2 of 3)

Feature Name	Program Code	Feature Category	Condition Description*	Indicator Status†
Telephone or PBX Line	101	Individual line	PBX	Line 11 on
			PBX	Line 12 on
			PBX	Line 13 on
[continued from			PBX	Line 14 on
previous page]			PBX	Line 15 on
			PBX	Line 16 on
			PBX	Line 17 on
			PBX	Line 18 on
			PBX	Line 19 on
			PBX	Line 20 on
Tone or Pulse	100	Individual line	**Tone**	Lines 1 through 20 off
			Pulse	Line 1 on
			Pulse	Line 2 on
			Pulse	Line 3 on
			Pulse	Line 4 on
			Pulse	Line 5 on
			Pulse	Line 6 on
			Pulse	Line 7 on
			Pulse	Line 8 on
			Pulse	Line 9 on
			Pulse	Line 10 on
			Pulse	Line 11 on
			Pulse	Line 12 on
			Pulse	Line 13 on
			Pulse	Line 14 on
			Pulse	Line 15 on
			Pulse	Line 16 on
			Pulse	Line 17 on
			Pulse	Line 18 on
			Pulse	Line 19 on
			Pulse	Line 20 on

* Preprogrammed (factory default) conditions are shown in **bold type.**

† Any or all of the incoming lines can be programmed for the indicated condition by pressing the indicated line keys; observe that the corresponding line indicators go ON.

Individual Line Feature Programming Table (Sheet 3 of 3)

INDIVIDUAL GROUP FEATURES

CAUTION

Set BATTERY to ON at the master KSU to prevent loss of entered feature programming selections.

To program individual group features from station 10, ...

Step	*Action*	*Response*
First enter the programming mode:		
1	Press **Intercom.**	...
2	Dial ***015.**	At station 10, **Mic.on/off** indicator WINKS slowly.
Then, to program a selected feature for a selected group:		
3*	Dial the selected program code: dial the first digit, then the 2-digit number of the desired group (01 through 15 — represented by XX).	The **Mic.on/off** indicator goes OFF.
4*	Program the desired condition for the selected feature on the selected lines by pressing the corresponding line keys.	The indicators for the selected lines go ON.
5	Press the **Hold** key.	The **Mic.on/off** indicator FLASHES.

Then, to program another group — or another feature (if all desired features have been programmed, go to step 7):

6	Return to step 3.	...

Finally, to exit the programming mode and save all your programming selections:

7	Dial ***015.**	At station 10, **Mic.on/off** indicator goes OFF.

To return all features to their preprogrammed (factory default) conditions ...

Step	*Action*	*Response*
1	At the KSU, set 1 PROGRAM to ON.	...
2	At the KSU, press RESET.	...
3	At the KSU, set 1 PROGRAM to OFF.	...
4	At the KSU, press RESET again.	...

* See the **Program Code**, **Condition Description**, and **Indicator Status** column entries in the feature programming table on the facing page.

Feature Name	Program Code†	Feature Category	Condition Description*	Indicator Status††
Line Grouping	8XX	Individual line	**All lines****	Lines **1** through **20** off
			Remove line 1	Line **1** on
			Remove line 2	Line **2** on
			Remove line 3	Line **3** on
			Remove line 4	Line **4** on
			Remove line 5	Line **5** on
			Remove line 6	Line **6** on
			Remove line 7	Line **7** on
			Remove line 8	Line **8** on
			Remove line 9	Line **9** on
			Remove line 10	Line **10** on
			Remove line 11	Line **11** on
			Remove line 12	Line **12** on
			Remove line 13	Line **13** on
			Remove line 14	Line **14** on
			Remove line 15	Line **15** on
			Remove line 16	Line **16** on
			Remove line 17	Line **17** on
			Remove line 18	Line **18** on
			Remove line 19	Line **19** on
			Remove line 20	Line **20** on

† XX stands for desired group number (01 through 15).

†† Any or all of the incoming lines can be assigned to a group by not pressing the indicated line keys; observe that the corresponding line indicators are ON.

* Preprogrammed (factory default) conditions are shown in **bold type.**

** If the Tenant Group by Station feature (code 4YY) is programmed for any condition other than no group (its preprogrammed condition) — that is, if any Sets have been assigned to any group — then the preprogrammed condition is for all outside lines to be assigned to each active group.

Individual Group Feature Programming Table

CALL RESTRICTIONS

CAUTION

Set BATTERY to ON at the master KSU to prevent loss of entered feature programming selections.

To program up to 10 call restrictions —1 to 4 digits long — from station 10, ...

Step	*Action*	*Response*
First enter the programming mode:		
1	Press **Intercom.**	...
2	Dial ***015.**	At station 10, **Mic.on/off** indicator WINKS slowly.
Then, to program an individual call restriction:		
3*	Dial the selected access code.	Line **7** on; lines **8, 9,** and **10** off — indicating that the 1st digit in the call restriction may now be dialed.
4*	Dial the digit in the desired call restriction.	The pattern of indicators for lines 1 through 4 represent the *value* of the just dialed digit; and the pattern of indicators for lines 7 through 10 indicate the *position* of the next digit to be entered.
Then, to program the next digit in the call restriction (if you have already entered the desired number of digits for this call restriction, go to step 6)		
5	Return to step 4 until all the desired digits are entered.	...
Then, to program the next call restriction:		
6	Press **Mic.on/off.**	Your call restriction is now initialized; the next call restriction is now ready for programming.
7	Return to step 3.	
Finally, to exit the programming mode and save all your programming selections:		
8	Press **Hold.**	
9	Dial ***015.**	At station 10, **Mic.on/off** indicator goes OFF.

To return all call restrictions to their preprogrammed (factory default) conditions ...

Step	*Action*	*Response*
1	At the KSU, set 1 PROGRAM to ON.	...
2	At the KSU, press RESET.	...
3	At the KSU, set 1 PROGRAM to OFF.	...
4	At the KSU, press RESET again.	...

* See the **Access Code, Preprogrammed Restriction,** and **Indicator Status** column entries in the feature programming table on the facing page.

Feature Name	Access Code	Feature Category	Preprogrammed Restriction	Indicator Status†
Call Restriction	900	Call restriction	No restriction	...
	901		No restriction	...
	902		No restriction	...
	903		No restriction	...
	904		No restriction	...
	905		No restriction	...
	906		No restriction	...
	907		No restriction	...
	908		0***	...
	909		1***	...

† The indicators for line 7 through 10 indicate the digit *position*:

1st digit	Line 7 on; lines 8, 9, and 10 off
2nd digit	Lines 7 and 8 on; lines 9 and 10 off
3rd digit	Lines 7, 8, and 9 on; line10 off
4th digit	Lines 7, 8, 9, and 10 on

And the indicators for line 1 through 4 indicate the digit *value*:

Value = 0	Lines 1, 2, 3, and 4 off
Value = 1	Line 1 on; lines 2, 3, and 4 off
Value = 2	Line 2 on; lines 1, 3, and 4 off
Value = 3	Lines 1 and 2 on; lines 3 and 4 off
Value = 4	Line 3 on; lines 1, 2, and 4 off
Value = 5	Lines 1 and 3 on; lines 2 and 4 off
Value = 6	Lines 2 and 3 on; lines 1 and 4 off
Value = 7	Lines 1, 2, and 3 on; line 4 off
Value = 8	Line 4 on; lines 1, 2, and 3 off
Value = 9	Lines 1 and 4 on; lines 2 and 3 off

Call Restriction Feature Programming Table

Verifying Call Restrictions

To verify the current call restrictions from station 10, ...

Step	*Action*	*Response*
First enter the programming mode:		
1	Press **Intercom.**	...
2	Dial ***015.**	At station 10, **Mic.on/off** indicator WINKS slowly.
Then, to verify an individual call restriction:		
3†	Dial the selected access code.	Line **7** on; lines **8**, **9**, and **10** off — indicating that the 1st digit in the call restriction is now on display; and the pattern of indicators for lines 1 through 4 represent the value of the 1st digit.
4†	To verify the next position in the selected call restriction, press **Flash/Cancel.**	The pattern of indicators for lines 1 through 4 represent the *value* of the selected digit; and the pattern of indicators for lines 7 through 10 indicate the *position* of the selected digit.
5†	To verify the previous position in the selected call restriction, press **Intercom.**	The pattern of indicators for lines 1 through 4 represent the *value* of the selected digit; and the pattern of indicators for lines 7 through 10 indicate the *position* of the selected digit.

To erase the current individual call restriction (otherwise go to step 7):

6	Press **Mic.on/off.**	The call restriction is now completely erased.
Finally, to exit the verification and programming modes:		
7	Press **Hold.**	
8	Dial ***015.**	At station 10, **Mic.on/off** indicator goes OFF.

† See the **Access Code**, **Preprogrammed Restriction**, and **Indicator Status** column entries in the feature programming table on the previous page.

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SPEED CALL NUMBERS

Speed Call Programming Notes

NOTES

1. Entries up to 26 digits long may be stored as speed call numbers.

2. Pressing the **Hold** key as part of the speed call number programming sequence inserts a halt in the dialing sequence; pressing the **Flash/Cancel** key inserts a hookswitch flash; and pressing the **Conference** key inserts a pause.

You may insert as many halts, flashes, and pauses as you wish as long as the total key entry count does *not* exceed 26.

3. Up to 80 common speed call numbers may be programmed into the system.— but only from station 10 or from the station assigned as the master set (See Master Set Assignment feature.

Additionally, up to 11 private speed call numbers may be programmed at each individual station.

Common Speed Call Numbers

NOTE

During common speed call number programming, the user at station 10 or the master set will leave the station's handset in its cradle and listen to the indicated aural responses over the speaker.

To program up to 80 common speed call numbers into the system from station 10 or from the master set ...

Step	*Action*	*Response*
1	Press the **Speed** key.	A continuous tone is heard over the Set's speaker; and the **Intercom** indicator WINKS slowly.
2	Dial the desired speed call code (from 20 to 99).	The **Intercom** indicator FLASHES.
3	Dial the number you wish to store for the selected speed call code.	The continuous tone stops; and the **Intercom** indicator continues to FLASH.

To program another speed call number:

4.	Return to step 1.	...

To stop speed call number programming:

5.	Press the **Speaker** key.	The **Intercom** indicator goes OFF; and the Set returns to normal operation.

Private Speed Call Numbers

NOTE

During private speed call number programming, the station user will leave the station's handset in its cradle and listen to the indicated aural responses over the speaker.

To program up to 11 private speed call numbers into the system ...

Step	*Action*	*Response*
1	Press the **Speed** key.	A continuous tone is heard over the Set's speaker; and the **Intercom** indicator WINKS slowly.
2	Dial the desired speed call code (00 through 10)*.	The **Intercom** indicator FLASHES.
3	Dial the number you wish to store for the selected speed call code.	The continuous tone stops; and the **Intercom** indicator continues to FLASH.

To program another speed call number:

4.	Return to step 1.	...

To stop speed call number programming:

5.	Press the **Speaker** key.	The **Intercom** indicator goes OFF; and the Set returns to normal operation.

* If your Set has an accompanying DSS/BLF unit, you may program the first 10 private speed call numbers by pressing DSS keys 10 through 19 (one per private speed call number) instead of dialing the codes 00 through 09. However, to program the 11th private speed call number, you must still dial the code 10 (no DSS key will program the 11th number).

FEATURE DESCRIPTIONS

Account Code (program code 0001, preprogrammed for no printout) — allows user-entered account codes to be part of the station message detail report (SMDR) printout when the optional SMDR Interface unit is installed.

NOTE

For Sets with accompanying DSS/BLF Units, since the same keys are used to select stations and to select the first 10 private or first 54 common speed call numbers, the SPEED key must be pressed before pressing the desired private speed call key when dialing one of your private speed call numbers *with auto hold enabled.*

Auto Hold (program code 000, preprogrammed for one touch speed dial hold) — allows, when enabled, a call to be simultaneously placed on hold and transferred by pressing the desired station select key.

Auto/Manual Return to OFF (program code 009, preprogrammed for automatic return to OFF) — determines whether the relay (used to control the external loud bell or other equipment as programmed under **Relay Control**) automatically returns to the OFF state — or must be manually returned to OFF..

Call Restrictions (access codes 900 through 909 are available for entering up to 10 user-defined 1- to 4-digit sequences: preprogrammed call restriction for access code 908 = 0***; and preprogrammed call restriction for access code 909 = 1***) — allows specific sequences, such as 411, PBX or CO access codes, exchange prefixes, or specific area codes, to be denied for Class B stations (see **Toll Restrictions**).

Digits-to-Deny (program code 005, preprogrammed for the 8th digit) — determines which digit will be denied on a dialing attempt under Class B restrictions (see **Call Restrictions**).

Digit Timer (program code 008, preprogrammed for 10 seconds) — sets the time before the Start Data Recording feature (007) starts.

Executive Override (program code 3YY, preprogrammed for no override) — allows selected stations to override the privacy feature and enter an outside call that is in progress; an intrusion tone is sounded to alert the call-in-progress parties of the override.

Flash or Cancel (program code 001, preprogrammed for cancel) — defines the function of the **Flash/Cancel** key, hookswitch flash or cancel signal for ending calls. (The length of this signal must be properly set to provide the desired function; refer to **Flash or Cancel Duration**).

NOTE

Generally, a flash signal is 500 milliseconds long, and a cancel signal is 1 second long; to make sure you choose the correct length, check the specifications for your PBX .

Flash or Cancel Duration (program code 006, preprogrammed for 1 second) — sets the length of the flash or cancel signal (see **Flash or Cancel**).

Flexible CO Line Assignment (program code 6YY, preprogrammed for no assignment — equivalent to line 1 key = line 1) — assigns the station select keys for Panther 306 and Panther 612 Sets used with your Panther 2064 KSU to 3 consecutive or 6 consecutive outside lines, respectively.

For example, if this feature were programmed for Line **1** key = line 7, then any Panther 306 Set user could access line 7 with the line **1** key, line 8 with the line **2** key, and line 9 with the line **3** key.

And, with the same programming, any Panther 612 Set user could access line 7 with the line **1** key, line 8 with the line **2** key, line 9 with the line **3** key, line 10 with the line **4** key, (circling back to) line 1 with the line **5** key, and line 2 with the line **6** key.

Flexible DSS Key Assignment (program code 7YY, preprogrammed for DSS 10 = station 10) — assigns the station select keys for Panther 306 and Panther 612 Sets used with your Panther 2064 KSU to 6 consecutive or 12 consecutive stations, respectively.

For example, if this feature were programmed for DSS10 key = station 38, then any Panther 306 Set user could access station 38 with the DSS 10 key, station 39 with the line DSS 11 key, station 40 with the DSS 12 key, station 41 with the line DSS 13 key, (circling back to) station 10 with the DSS 14 key, and station 11 with the line DSS 15 key.

And, with the same programming, any Panther 612 Set user could access station 38 with the DSS 10 key, station 39 with the line DSS 11 key, station 40 with the DSS 12 key, station 41 with the line DSS 13 key, (circling back to) station 10 with the DSS 14 key, station 11 with the line DSS 15 key, station 12 with the DSS 16 key, station 13 with the DSS 17 key, station 14 with the line DSS 18 key, station 15 with the DSS 19 key, station 16 with the line DSS 20 key, and station 17 with the DSS 21 key.

Flexible Ringing Assignment (program code 2YY, preprogrammed for no ringing, except for station 10 which is preprogrammed to ring on all lines) — chooses which line or lines ring at which station or stations. When the optional Door Answer Unit is installed, line 10 must be programmed to ring at one or more stations.

Hold Recall Time (program code 000, programmed for no recall) — enables reminders that you have a call on hold.

Incoming Calls Only (program code 102, preprogrammed no — to allow outgoing calls) — allows (no) or prevents (yes) outgoing calls on the indicated lines.

Interdigit Pause (program code 001, preprogrammed for 800 milliseconds) — sets the time between dialed *pulses* (see also **Tone or Pulse**).

Line Grouping (program code 8XX, preprogrammed for all lines) — assigns outside lines to one of 15 groups, thereby defining each group. (See also **Line Group Type** and **Tenant Group By Station.**)

Line Group Type (program code 001, preprogrammed for Type A) — assigns one of four sets of characteristics to line groups.

NOTE

The more commonly chosen line group types are Type A and Type D.

Type A = Sets assigned to a line group can only make and answer calls on lines within the group.

Type B = Sets assigned to a line group can make and answer calls on lines within the group — *plus* they can answer calls ringing in another group.

Type C = Sets assigned to a line group can make and answer calls on lines within the group — *plus* they can receive calls transferred from another group.

Type D = Sets assigned to a line group can make and answer calls on lines within the group — *plus* they can answer calls ringing in another group *and* can receive calls transferred from another group.

(See also **Line Grouping** and **Tenant Group By Station.**)

Loud Bell (program code 000, preprogrammed for day and night bell) — determines when the dry contacts will close to activate the optional external loud bell, if installed.

Day bell activates the ringer for all lines selected in **Loud Bell/Night Transfer Ringing Assignment.**

Night bell activates the ringer for all lines if at least one station has been chosen for **Night Transfer.**

Day and night bell activates the ringer in both of the above cases.

Loud Bell/Night Transfer Ringing Assignment (program code 103, preprogrammed for ringing) — determines which lines will activate the optional external loud bell ringer when day bell or day and night bell is selected under **Loud Bell.**

Manual/Auto Select (program code 000, preprogrammed for auto intercom) — determines whether an intercom or external line is selected automatically when the handset is lifted or whether the selection must be made manually when the handset is lifted.

Master Set Assignment (program code 103, preprogrammed for station 10) — allows master set functions (such as common speed call programming) to be assigned to any station.

NOTE

Night transfer should be assigned to at least one station.

Night Transfer (program code 3YY, preprogrammed for no transfer) — assigns ringing to all lines at the indicated station after business hours, and to the loud bell contacts when night bell is selected under **Loud Bell.**

Pause on Number (program code 002, preprogrammed for no pause) — sets the system for a pause after a specific number or numbers are dialed as the first digit. This feature is used behind a PBX to allow for a second dial tone.

Pause Time (program code 004, preprogrammed for 3 seconds) — sets length of pause for the **Pause on Number** feature and for a pause inserted by the **Conference** key when programming a speed call number.

Relay control (program code 009, preprogrammed for control loud bell) — reflects the type of equipment attached to the dry contacts available at the KSU.

Sets (program code 3YY, preprogrammed for Panther 2064) — reflects the type of Set connected to each line.

Simultaneous/Serial Ringing (program code 009, preprogrammed for serial ringing) — determines whether a station will hear only one incoming ring (serial) or will hear the CO/PBX ringing cadence (simultaneous).

SMDR Printout (program code 002, preprogrammed for outgoing toll calls) — selects the type of call records captured by the printer or other recording device.

NOTE

When choosing a value for the **Start Data Recording** parameter, consider the time it typically takes to dial *and* answer a call.

Start Data Recording (program code 007, preprogrammed for 5 seconds) — sets the length of time before the Station Message Detail Recorder (SMDR) starts to record information.

Telephone or PBX Line (program code 101, preprogrammed for telephone line) — tells the KSU which lines are central office (CO) lines and which are PBX/CENTREX lines.

Tenant Group By Station (program code 4YY, preprogrammed for no assignment) — assigns the line groups defined under **Line Grouping** to be assigned to the indicated station (see also **Line Group Type**).

Toll Restrictions (program code 3YY, preprogrammed for Class A) — assigns stations to one of three call restriction classes:

Class A = no restrictions

Class B = prevented from dialing 0 or 1 as the first digit, from dialing the number of digits to deny (see **Digits-to-Deny**), or from dialing any of the specific restriction entries (see **Call Restrictions**)

Class C = no outside calls can be placed (but intercom calls can be placed or received, and incoming outside calls can be received, depending on line group programming).

Tone Duration (program code 001, preprogrammed for 100 milliseconds) — sets the length of each tone digit dialed (see also **Tone or Pulse**).

Tone or Pulse (program code 100, preprogrammed for tone) — sets a tone or a pulse for each CO Line.

Transfer Ringing (program code 009, preprogrammed for 3 times) — determines how many times a a transferred call will ring before being returned to the master set or to the transferring set (see **Transfer Ringing Return**).

Transfer Ringing Return (program code 009, preprogrammed for 1st transfer set/then master) — determines where a call will be transferred after the number of rings in **Transfer Ringing** have occurred.

Zone Paging (program code 5YY, preprogrammed for no zones) — places stations into specific zones for receiving zone paging announcements. Zone paging announcements are heard only at stations assigned to a designated zone. A station can be assigned to no more than one zone.

Function	User Action	Set/System Response
Account Codes (SMDR Unit) The Account Code feature must be programmed (enabled) for account codes to show up in SMDR printout.	Anytime during a call, press **Conference.** Dial 4-digit account code. (If account code is entered incorrectly, start over by pressing **Conference** again.)	... Account code appears in SMDR printout (see page D-22). Distant party will not hear dialed digits.
Background Music The optional external music source must be connected.	To turn on background music at your Set, press **Intercom.** Dial ***4.** To cancel background music at your Set, press **Intercom.** Dial ***4.**	Continuous tone is heard, and **Intercom** indicator WINKS slowly. **Intercom** indicator goes OFF, and music is heard through your Set's speaker. Continuous tone is heard, and **Intercom** indicator WINKS slowly. **Intercom** indicator goes OFF, and music is no longer heard through your Set's speaker.
Busy Override (responder is on an internal call) Busy override has no effect on a Set that has activated Do Not Disturb. In any event, responder may ignore busy override signals.	*Initiator:* After dialing another station and encountering a broken tone (indicating that the dialed station is busy), press **#.** *Responder:* [Non-handsfree*] Hang up and then lift handset. [Handsfree*] Press **Speaker** twice.	*At the busy station:* 3 ringing bursts are heard each time **#** is pressed. *At the busy station:* Existing internal call is disconnected, and you are automatically connected to station initiating busy override signal. Existing internal call is disconnected, and you are automatically connected to station initiating busy override signal.

* Throughout this Section, where there is an operating difference, the non-handsfree step precedes the *equivalent* handsfree step — perform only one version. The handsfree step requires a Handsfree Set that is *already* in the handsfree operating mode (see **Handsfree** on page G-9).

Function	User Action	Set/System Response
Busy Override (responder is on an outside call) Busy override has no effect on a Set that has activated Do Not Disturb. In any event, responder may ignore busy override signals. If optional external music source is connected, outside party will hear background music while on hold.	*Initiator:* After dialing another station and encountering a broken tone (indicating that the dialed station is busy), press **#**. *Responder:* Press **Hold.** To retrieve outside call, press appropriate line key.	*At the busy station:* 3 ringing bursts are heard each time **#** is pressed. *At the busy station:* Outside party is placed on hold, line indicator FLASHES quickly, and you are automatically connected to station initiating busy override signal. Line indicator WINKS slowly, and connection is re-established.
Callback If the Transfer Ringing Return feature is so programmed, a transferred call (see Transfer Ringing) will return to the transferring Set after a programmed number of rings.	... [Non-handsfree] To answer call, lift handset and press appropriate line key. [Handsfree] To answer call, press appropriate line key.	Ringing occurs, and line indicator FLASHES slowly. Line indicator WINKS slowly, and connection is established. Line indicator WINKS slowly, and connection is established.
Call Hold (outside call) If optional external music source is connected, outside party will hear background music while on hold. If so programmed, Hold Recall Time feature sounds reminder signal through speaker *after* call has been on hold for program-selected period*.	While on outside call, press **Hold.** [Non-handsfree] To retrieve call, lift handset and press appropriate line key. [Handsfree] To retrieve call, press appropriate line key. [Non-handsfree] To end call, hang up handset. [Handsfree] To end call, press **Speaker.**	Outside party is placed on hold, and line indicator FLASHES quickly. Line indicator WINKS slowly, and connection is re-established. Line indicator WINKS slowly, and connection is re-established. Line indicator goes OFF, and connection is terminated. Line indicator goes OFF, and connection is terminated.

* Options include no reminder — or reminder after 1.5 minutes, 3 minutes, or 3 minutes with call release after 5 minutes.

Function	User Action	Set/System Response
Calling the Attendant This procedure will connect you with the master set (usually station 10, but programmable by the Master Set Assignment feature to any station).	Press **Intercom**. Dial **0**. When attendant answers, lift handset.	Continuous tone is heard, and **Intercom** indicator WINKS slowly. Repeated long tones are heard. You are connected to attendant at master set.
Call Transfer (outside call) — *voice announce* method This procedure requires a DSS/BLF Unit; otherwise, use the *internal dialing* method. If so programmed, Auto Hold feature eliminates need to press **Hold** since call will automatically be placed on hold when station select key is pressed. If optional external music source is connected, outside party will hear background music while on hold.	*Transferring party:* While on an outside call, press **Hold.** Press desired station select key. Announce which line call is on. Hang up. [Non-handsfree] To retrieve call (if receiving party does not respond), lift handset and press appropriate line key. [Handsfree] To retrieve call (if receiving party does not respond), press appropriate line key. *Receiving party:* [Non-handsfree] Lift handset and press appropriate line key and lift handset. [Handsfree] Press appropriate line key and lift handset.	*At transferring station:* Outside party is placed on hold, and line indicator FLASHES quickly. Desired station is dialed. (At dialed station, one tone burst is heard, **Intercom** indicator goes ON, and line indicator FLASHES very slowly.) (Receiving party acknowledges call transfer announcement.) Line indicator WINKS slowly, and connection is re-established. Line indicator WINKS slowly, and connection is re-established. *At receiving station:* Line indicator WINKS slowly, and connection is established. Line indicator WINKS slowly, and connection is established.

* Options include no reminder — or reminder after 1.5 minutes, 3 minutes, or 3 minutes with call release after 5 minutes.

Function	User Action	Set/System Response
Call Transfer (outside call) — *internal dialing* method If optional external music source is connected, outside party will hear background music while on hold. If so programmed, Hold Recall Time feature sounds reminder signal through speaker *after* call has been on hold for program-selected period*.	*Transferring party:*	*At transferring station:*
	While on an outside call, press **Hold.**	Outside party is placed on hold, and line indicator FLASHES quickly.
	Press **Intercom.**	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	Dial desired station (10-73). Hang up.	(At dialed station, repeating intercom ringing is heard, **Intercom** indicator goes ON, and line indicator FLASHES very slowly. Receiving party answers internal call and acknowledges announcement .)
	...	
	[Non-handsfree] To retrieve call (if receiving party does not respond), lift handset and press appropriate line key.	Line indicator WINKS slowly, and connection is re-established.
	[Handsfree] To retrieve call (if receiving party does not respond), press appropriate line key.	Line indicator WINKS slowly, and connection is re-established.
	Receiving party:	*At receiving station:*
	[Non-handsfree] Lift handset and press appropriate line key.	Line indicator WINKS slowly, and connection is established.
	[Handsfree] Press appropriate line key.	Line indicator WINKS slowly, and connection is established.
Camp-On If a called is transferred to you via **Transfer Ringing**, if the Transfer Ringing Return feature is programmed for no return, and if you are on a call — you will hear three short bursts indicating that the transferred call has is now camped on your station.	...	While busy on a call, you hear three short bursts, and line indicator with camped-on call FLASHES quickly.
	Press **Hold.**	Outside party is placed on hold, and line indicator FLASHES quickly.
	[Non-handsfree] Press the line key of the camped-on call.	Line indicator WINKS slowly, and connection is established with camped-on party.
	[Handsfree] Dial **9.**	Line indicator WINKS slowly, and connection is established with camped-on party.

* Options include no reminder — or reminder after 1.5 minutes, 3 minutes, or 3 minutes with call release after 5 minutes.

Function	User Action	Set/System Response
Common speed calls In handsfree operation, pressing * (as first entry in telephone number sequence) automatically selects last outside line used at station making call.	[Non-handsfree] To retrieve call placed on hold, lift handset and press appropriate line key.	Line indicator WINKS slowly, and connection is re-established.
	[Handsfree] To retrieve call placed on hold, press appropriate line key.	Line indicator WINKS slowly, and connection is re-established.
	[Non-handsfree] Lift handset and press outside line key.	Dial tone is heard, and line indicator WINKS slowly.
	[Handsfree] Press * or outside line key.	Dial tone is heard, and line indicator WINKS slowly.
	[Set without DSS/BLF Unit] Press **Speed** and dial 2-digit code (20 to 99) for all common speed calls.	Desired number is automatically dialed.
	[Set with DSS/BLF Unit] Press desired speed call key (DSS keys 20 to 73) for first 22 common speed call numbers; press **Speed** and dial 2-digit code (74 to 99) for all other common speed calls.	Desired number is automatically dialed.
Conferencing (initiator plus 2 outside parties) If optional external music source is connected, outside party will hear background music while on hold. Only one additional outside party can be added.	While on outside call, press **Hold**.	Outside party is placed on hold, and line indicator FLASHES quickly.
	Press another outside line key.	Dial tone is heard and selected line indicator WINKS slowly.
	Dial (or speed call) third party's telephone number.	Call is placed to third party.
	If third party answers, press **Conference**, and then press line key of party on hold.	Conference call is established, and both line indicators WINK slowly.
	Alternatively, to retrieve original call (if third party does not respond), press line key of party on hold.	Line indicator WINKS slowly, and connection is re-established.
	Once conference call is established, to place both outside parties on hold, press **Hold**.	Both outside parties are placed on hold, and both outside line indicators FLASH quickly.

[continued on next page]

Function	User Action	Set/System Response
Conferencing (initiator plus 2 outside parties)	To return to conference call once both parties were placed on hold:	...
[continued from previous page]	• Press line key of either outside party.	• Connection with selected outside party is re-established, and selected line indicator WINKS slowly.
	• Press **Conference** and line key of remaining outside party.	• Conference call is re-established, and both line indicators WINK slowly.
	To change to 2-party call once conference call is established, press line key of party you wish to keep.	Connection with selected outside party remains established (corresponding line indicator continues to WINK slowly), and connection with other outside party is terminated (other line indicator goes OFF).
Conferencing (initiator plus 2 internal parties)	While on internal call, press **Conference**.	**Intercom** indicator WINKS slowly, and continuous tone is heard.
Only one additional internal party can be added.	Dial the desired 2-digit station number — or, with DSS/BLF Unit, press desired station select key.	Desired station is dialed. (At dialed station, one tone burst is heard, and **Intercom** indicator goes ON.)
Any internal party can end participation in conference call by hanging up handset.	Make announcement.	Called internal party answers, and conference call is established.
Conferencing (initiator plus 1 outside and 1 internal party)	While on outside call, press **Hold**.	Outside party is placed on hold, and line indicator FLASHES quickly.
If so programmed, Auto Hold feature eliminates need to press **Hold** since call will automatically be placed on hold when station select key is pressed.	Dial the desired 2-digit station number — or, with DSS/BLF Unit, press desired station select key.	Desired station is dialed. (At dialed station, one tone burst is heard, and **Intercom** indicator goes ON.)
If optional external music source is connected, outside party will hear background music while on hold.	Make announcement.	...
Only one additional internal party can be added.	If internal party answers, press **Conference**, and then press line key of party on hold.	A 3-party mixed conference call is established.
Any party can end participation in call by hanging up handset.	To retrieve call (if internal party does not respond), press line key of party on hold.	Original 2-party call with outside party is re-established, and line indicator WINKS slowly.

Function	User Action	Set/System Response
Do Not Disturb Do Not Disturb prevents all calls and paging announcements from ringing at your station. Anyone trying to call will receive broken tone. The **Intercom** indicator continues to FLASH while Do Not Disturb is activated.	To activate Do Not Disturb, press **Intercom.** Dial ***6.** To cancel Do Not Disturb, press **Intercom.** Dial ***6.**	Continuous tone is heard, and **Intercom** indicator WINKS slowly. Tone stops, **Intercom** indicator FLASHES, and Do Not Disturb is activated. Continuous tone is heard, and **Intercom** indicator WINKS slowly. Tone stops, **Intercom** indicator FLASHES, and Do Not Disturb is canceled.
Door Answering For station to receive signals from Door Answer Unit, station must be programmed (via Ringing Assignment feature) to receive ringing signals on line 10 for the Door Answer Unit connected to the master KSU — and line 20 for the Door Answer Unit connected to the expander KSU. Do Not Disturb must also be deactivated.	(Visitor presses door button at entryway.) [Non-handsfree] To answer call from either door module, lift handset and press line **10** or **20.** [Handsfree] To answer call from either door module, press line **10** or **20.** [Non-handsfree] To end call with either door module, hang up handset. [Handsfree] To end call with either door module, press **Speaker.**	Line **10** or **20** indicator FLASHES slowly, and appropriately programmed stations will hear signals indicating which entryway visitor is calling from: four groups of 4 short bursts each, if visitor is at Door Module 1; four groups of 2 long bursts each, if visitor is at Door Module 2. Line **10** or **20** indicator WINKS slowly, and connection is made with visitor who needs only respond by talking in direction of door module. Line **10** or **20** indicator WINKS slowly, and connection is made with visitor who needs only respond by talking in direction of door module. Line **10** or **20** indicator goes OFF, and connection with visitor is terminated. Line **10** or **20** indicator goes OFF, and connection with visitor is terminated.

Function	User Action	Set/System Response
Door Calling (to Door Module 1 only) Calls *cannot* be placed to Door Module 2.	[Non-handsfree] To place call to Door Module 1, lift handset and press line **10** for master KSU's Door Answer Unit — or line **20** for expander KSU's Door Answer Unit.	Line **10** or **20** indicator WINKS slowly, and one ringing burst is heard at entry-way where Door Module 1 is installed. Person being called responds by talking in direction of Door Module 1.
	[Handsfree] To place call to Door Module 1, press line **10** or **20**.	Line **10** or **20** indicator WINKS slowly, and one ringing burst is heard at entry-way where Door Module 1 is installed. Person being called responds by talking in direction of Door Module 1.
	[Non-handsfree] To end call with Door Module 1, hang up handset.	Line **10** or **20** indicator goes OFF, and connection with visitor is terminated.
	[Handsfree] To end call with Door Module 1, press **Speaker**.	Line **10** or **20** indicator goes OFF, and connection with visitor is terminated.
Exclusive Call Hold (outside call) While line is on **Exclusive Call Hold** at your station, the corresponding line indicator at other stations is ON steadily. If optional external music source is connected, outside party will hear background music while on hold. If so programmed, Hold Recall Time feature sounds reminder signal through speaker *after* call has been on hold for program-selected period*.	While on outside call, press **Hold** twice.	Outside party is placed on hold, and line indicator FLASHES very quickly.
	[Non-handsfree] To retrieve call, lift handset and press appropriate line key.	Line indicator WINKS slowly, and connection is re-established.
	[Handsfree] To retrieve call, press appropriate line key.	Line indicator WINKS slowly, and connection is re-established.
	[Non-handsfree] To end call, hang up handset.	Line indicator goes OFF, and connection is terminated.
	[Handsfree] To end call, press **Speaker**.	Line indicator goes OFF, and connection is terminated.
Executive Override The Executive Override feature must be programmed (enabled) for your Set.	[Non-handsfree*] To enter a call already in progress at another station, lift handset and press **Intercom**. Press * and the line key of the line you wish to override.	Continuous tone is heard, and **Intercom** indicator WINKS slowly. An intrusion tone sounds on the existing call's line to alert the parties to the override, and you are connected to the call on that line.
	[Handsfree*] To enter a call already in progress at another station, press **Intercom**. Press * and the line key of the line you wish to override.	Continuous tone is heard, and **Intercom** indicator WINKS slowly. An intrusion tone sounds on the existing call's line to alert the parties to the override, and you are connected to the call on that line.

* Options include no reminder — or reminder after 1.5 minutes, 3 minutes, or 3 minutes with call release after 5 minutes.

Function	User Action	Set/System Response
Flash/Cancel **Flash/Cancel** can be programmed as flash or as cancel — but not both. See Flash or Cancel feature.	While on an outside call, to use flash, press **Flash/Cancel.** While on an outside call, to use cancel, press **Flash/Cancel.**	Call is put on hold; and dial tone is returned. Call is terminated; and dial tone is returned.
Handsfree (requires Handsfree Set) When **Mic.on/off** indicator is ON and handset is in cradle, Set is in handsfree operating mode. To end a call while in handsfree mode, press **Speaker.** To end a call on a Handsfree Set that is operating in a non-handsfree mode — or on a non-handsfree Set — hang up handset.	To enter handsfree mode from non-handsfree mode *while handset is in cradle*, press **Mic.on/off.** To enter non-handsfree mode from handsfree mode *while handset is in cradle*, lift handset. To enter handsfree mode from non-handsfree mode *when a call is in progress*, press **Speaker**, make sure that **Mic.on/off** indicator is ON (press **Mic.on/off** key if necessary), and hang up handset.	**Mic.on/off** indicator goes ON, and you converse with called parties through the speaker and microphone. You converse with called parties through the handset. **Mic.on/off** indicator stays or goes ON, and you converse with called parties through the speaker and microphone.
Incoming Call The Ringing Assignment feature determines which stations will ring in response to incoming calls — each station can be assigned to anywhere from no outside lines to all outside lines. A station with Do Not Disturb activated will not ring in any event.	(A call comes in on an outside line.) [Non-handsfree] To answer incoming call, lift the handset and press the appropriate line key. [Handsfree] To answer incoming call, press the appropriate line key.	Corresponding line indicator FLASHES slowly and ringing is heard. Ringing stops, corresponding line indicator WINKS slowly, and you are connected to the outside caller. Ringing stops, corresponding line indicator WINKS slowly, and you are connected to the outside caller.
Intercom Call Pickup Unless prevented from doing so because of your line group type (see Line Group Type feature), you can answer intercom pages and internal calls intended for *other* stations from your own Set.	[Non-handsfree] Lift handset, and press **Intercom.** [Handsfree] Press **Intercom.** Dial ***3.** Dial the station number — or, with DSS/BLF Unit, press station select key — for paged or called station.	Continuous tone is heard, and **Intercom** indicator WINKS slowly. Continuous tone is heard, and **Intercom** indicator WINKS slowly. Tone stops. You are connected to paging or calling party.

Function	User Action	Set/System Response
Intercom Paging (to a single station) Also, see **Internal Calling.**	*To issue page to individual station:*	...
	[Non-handsfree] Lift handset, press **Intercom**, and dial desired station number — or, with DSS/BLF Unit, press desired station select key.	At both stations, single tone is heard, and **Intercom** indicator WINKS slowly.
	[Handsfree] Dial desired station number — or, with DSS/BLF Unit, press desired station select key.	At both stations, single tone is heard, and **Intercom** indicator WINKS slowly.
	Make your announcement.	Announcement is heard at paged station.
	To answer individual page:	...
	[Non-handsfree] Lift handset.	You are connected to paging party.
	[Handsfree] Speak in direction of Set.	You are connected to paging party.
Intercom Paging (to all stations — also known as All Page) Also, see **Loudspeaker** (paging) and **Zone Paging.**	*To issue page to all stations:*	...
	[Non-handsfree] Lift handset, press **Intercom**, and dial **80** — or, with DSS/BLF Unit, press *your own* station select key.	At all stations, double tone is heard, and **Intercom** indicator WINKS slowly.
	[Handsfree] Dial **80** — or, with DSS/BLF Unit, press *your own* station select key.	At all stations, double tone is heard, and **Intercom** indicator WINKS slowly.
	Make your announcement.	Announcement is heard at all stations.
	To answer All Page from your station:	...
	[Non-handsfree] Lift handset, press **Intercom**, and dial ***1**.	You are connected to paging party.
	[Handsfree] Dial ***1**.	You are connected to paging party.

Function	User Action	Set/System Response
Internal Calling Also, see **Intercom Paging** (to a single station)	*To issue page to individual station:*	...
	[Non-handsfree] Lift handset, and press **Intercom**.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	[Handsfree] Press **Intercom**.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	Dial 2-digit number (10-73) of desired station.	Tones stops, and repeating ringing is heard at called station.
	To answer internal call:	...
	[Non-handsfree] Lift handset.	Ringing stops, and you are connected to calling party.
	[Handsfree] Press **Speaker**.	Ringing stops, and you are connected to calling party.
Last Number Redial If auto hold is activated (see Auto Hold feature), **Speed** must be pressed *before* **Redial** — otherwise, outside line will be placed on hold, and **Redial** will have no effect.	[Non-handsfree] Lift handset, and press desired line key.	Dial tone is heard, and line indicator WINKS slowly.
	[Handsfree] Press * or desired line key.	Dial tone is heard, and line indicator WINKS slowly.
	Press **Redial** (if auto hold is activated, press **Speed** first).	Last number dialed from your station is redialed.
Loudspeaker (background music) This procedure can only be performed from the master set (usually station 10, but programmable by the Master Set Assignment feature to any station). This procedure also requires that both optional external paging equipment (loudspeaker) and optional external music source be installed.	*To play background music over external loudspeaker:*	...
	At master set, press **Intercom**.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	At master set, dial ***7**.	Tone stops, and music is heard over external loudspeaker.
	To cancel background music over external loudspeaker:	...
	At master set, press **Intercom**.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	At master set, dial ***7**.	Tone stops, and music is no longer heard over external loudspeaker.

Function	User Action	Set/System Response
Loudspeaker (paging) This procedure requires that optional external paging equipment (loudspeaker) be installed. Also, see **Intercom Paging** (to all stations) and **Zone Paging.**	*To issue page over external loudspeaker:* [Non-handsfree] Lift handset, and press **Intercom.** [Handsfree] Press **Intercom.** Dial **99.** Make your announcement. *To respond to loudspeaker page from your station:* [Non-handsfree] Lift handset, press **Intercom.** [Handsfree] Press **Intercom.** Dial ***2.**	... Continuous tone is heard, and **Intercom** indicator WINKS slowly. Continuous tone is heard, and **Intercom** indicator WINKS slowly. Tone stops, and double tone burst is heard over external loudspeaker. Announcement is heard over external loudspeaker. ... Continuous tone is heard, and **Intercom** indicator WINKS slowly. Continuous tone is heard, and **Intercom** indicator WINKS slowly. You are connected to paging or calling party.
Message Waiting This procedure must be activated from the master set (usually station 10, but programmable by the Master Set Assignment feature to any station). [continued on next page]	*To leave message waiting signal:* If internally called station does not answer internal call, at master set, press **Flash/Cancel.** If internally called station is busy, at master set, dial *****, and press **Flash/Cancel.**	... At station where internal call went unanswered, **Intercom** indicator FLASHES slowly. At busy station, **Intercom** indicator FLASHES slowly.

Function	User Action	Set/System Response
Message Waiting	*To respond to message waiting signal:*	*At internally called station:*
[continued from previous page]	...	**Intercom** indicator FLASHES slowly, indicating message waiting.
	At internally called station, press **Intercom.**	Master set is automatically called, and repeated long tones are heard.
	[Non-handsfree] When attendant at master set answers, lift handset.	You are now connected to attendant at master set.
	[Handsfree] When attendant at master set answers, respond in direction of Set.	You are now connected to attendant at master set.
Night Transfer	*To activate night transfer ringing:*	...
This procedure must be activated from the master set (usually station 10, but programmable by the Master Set Assignment feature to any station).	At master set, press **Intercom.**	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	At master set, dial ***9.**	Tone stops, and preselected stations will ring during incoming calls.
Stations selected by the Night Transfer feature and lines selected by the Loud Bell/Night Transfer Ringing Assignment feature will — when activated as described in this procedure — ring during any incoming call, regardless of the ringing pattern determined by the Flexible Ringing Assignment feature.	*To cancel night transfer ringing:*	...
	At master set, press **Intercom.**	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	At master set, dial ***8.**	Tone stops, and stations revert to their normal ringing assignments.
If the external loud bell is programmed for night bell (or day and night bell) by the Loud Bell feature, it too will ring during any incoming call when night transfer is activated.		

Function	User Action	Set/System Response
Non-Appearing Line Transfer This procedure allows a Panther 2064 Set to transfer an outside call to any Panther 306, 612, or 1032 Set (connected to your Panther 2064 KSU) on which that line does not appear. The Flexible CO Line Assignment feature determines which lines appear on Panther 306 and 612 Sets. If the line in question appears on the Set to which you wish to transfer the call, refer to **Transfer Ringing.** Since the line does not appear on the called Panther 306, 612, or 1032 Set, when the transferred call is subsequently placed on hold, the normal indication of the call placed on hold cannot occur (namely, that corresponding line indicator FLASHES quickly).	*At the Panther 2064 Set:* Press **Hold.** Using **Intercom Paging** or **Internal Calling**, place call to desired station. When called station responds, press **Conference.** (If called station does not respond, calling station retrieves call placed on hold.) The calling station hangs, dropping out of the conference call.. *At the Panther 306, 612, or 1032 Set:* To place transferred call on non-appearing line on hold, press **Hold.** To retrieve transferred call on non-appearing line placed on hold, press **9.**	... Outside party is placed on hold, and line indicator FLASHES quickly. (See **Intercom Paging** or **Internal Calling** procedures.) 3-party conference call is established. A 2-party call is now established between the called station and the outside party. ... Outside party is placed on hold. Connection with outside party is re-established.
OPX Procedures The OPX Unit allows a 2-wire device (such as an answering machine, a modem, or a standard set) to be connected to the Panther 2064 Electronic Key Telephone Set. The OPX Unit also allows such devices to be located up to 2 miles away from the KSU over a user-installed circuit. Finally, the OPX Unit also allows such devices to be located at any distance from the KSU through an outside CO line. Although the Panther 2064 system can handle up to 20 outside lines, the OPX unit can only access 10 of them. [continued on next page]	1. To make an internal call: • Lift handset on standard 2-wire set. • Dial 2-digit (10-73) number of desired station. 2. To make an outside call: • Lift handset. • Press * and dial 2-digit (01-10) number of desired outside line. • Within 10 seconds, start dialing outside party's telephone number.	... • Continuous tone is heard. • Call is made to desired station: if invalid or unassigned number was dialed, broken tone is heard; if desired station is busy, slow broken tone is heard. ... • Continuous tone is heard. • Outside dial tone is heard. • Call is made to desired outside party.

Function	User Action	Set/System Response
OPX Procedures [continued from previous page] When redialing last number dialed or when dialing common speed call numbers, the last outside line used by your set is selected. If this line is unavailable, the next available, lowest-numbered line is used instead. If optional external music source is connected, outside party will hear background music while on hold. Many OPX procedures — such as placing calls on hold or retrieving calls you placed on hold — involve the hookswitch. Holding the hookswitch down too long will result in an undesired termination of a call; holding it down for too short a time will not produced the desired (or any other) effect. Practice using the hookswitch so that you can hold it down for the proper length of time. [continued on next page]	3. To redial last number dialed: • Lift handset. • Dial **#0**. 4. To place an outside call on hold: • Press hookswitch temporarily. You may now hang up. 5. To retrieve an outside call that *you* placed on hold if handset is in its cradle: • Lift handset; press hookswitch temporarily. 6. To retrieve an outside call that *you* placed on hold if on another call (handset is already lifted): • Press hookswitch temporarily:	... • Continuous tone is heard. • Last number dialed at your set is redialed. ... • Broken tone is heard, followed by continuous tone; outside party is placed on hold. ... • Connection with outside party placed on hold is re-established. ... • Connection with outside party placed on hold is re-established; existing outside party, if any, is placed on hold.

Function	User Action	Set/System Response
OPX Procedures [continued from previous page] As is the case with Panther Sets, outside lines ring on your OPX-connected set in accordance with Ringing Assignment feature programming. If more than one such outside line has an incoming call for your set, a call on the last used outside line will be answered first — or on the lowest-numbered outside line. To place both outside parties on an external conference call on hold, press your hookswitch temporarily. To retrieve *both* parties on hold, press your hookswitch again. (You cannot go directly back to 2-party call from a 3-party conference call.) During an attempt to form any 3-party conference call, if the third party does not answer, simply hang up, lift handset, and press hookswitch to retrieve the original party placed on hold. Although the Panther 2064 system can handle up to 20 outside lines, the OPX unit can only access 10 of them. [continued on next page]	7. To answer any call while handset is in cradle: • Lift handset. 8. To answer an incoming call while busy on another call: • Press hookswitch temporarily and hang up (alternatively, you can terminate your current call instead of placing it on hold by simply hanging up). • Lift handset in response to ringing. 9. To form an external conference call: • While on outside call, press hookswitch temporarily. • Press * and dial 2-digit (01-10) number of desired outside line. • Dial desired outside third party's telephone number. • When third party answers, press hookswitch temporarily.	... • You are connected to calling party. Double beep is heard through handset. • If hookswitch pressed, current outside party is placed on hold; your set rings. • Connection with calling party is established. ... • Current outside party is placed on hold; continuous tone is heard. • Outside dial tone is heard; if desired line is unavailable, broken tone is heard. • Call is made to desired outside third party. • 3-party external conference call is established.

Function	User Action	Set/System Response
OPX Procedures [continued from previous page] During an attempt to form any 3-party conference call, if the third party does not answer, simply hang up, lift handset, and press hookswitch to retrieve the original party placed on hold. Just like with regular Panther Sets, Do Not Disturb prevents all calls from ringing at your station. Anyone trying to call will receive broken tone. When you pick up your handset, you will hear a broken tone followed by a continuous tone while Do Not Disturb is activated at your set.	10. To form an internal conference call:	...
	• While on inside call, press hookswitch temporarily.	• Current inside party is placed on hold; continuous tone is heard.
	• Dial 2-digit (10-73) number of desired station.	• Call is made to desired station: if invalid or unassigned number is dialed, broken tone is heard; if dialed station is busy, slow broken tone is heard.
	• When third party answers, press hookswitch temporarily.	• 3-party internal conference call is established.
	11. To form a mixed conference call:	...
	• While on outside call, press hookswitch temporarily.	• Current outside party is placed on hold; continuous tone is heard.
	• Dial 2-digit (10-73) number of desired station.	• Call is made to desired station: if invalid on unassigned number is dialed, broken tone is heard; if dialed station is busy, slow broken tone is heard.
	• When third party answers, press hookswitch temporarily.	• 3-party mixed conference call is established.
	12. To activate Do Not Disturb:	...
	• Lift handset.	• Continuous tone is heard.
	• Dial **#1**.	• Tone stops, and Do Not Disturb is activated.
	13. To cancel Do Not Disturb:	...
	• Lift handset.	• Continuous tone is heard.
	• Dial **#1**.	• Tone stops, and Do Not Disturb is cancelled.

[continued on next page]

Function	User Action	Set/System Response
OPX Procedures [continued from previous page] To make page announcement over external loudspeaker, optional external paging equipment (loudspeaker) must be installed. Busy override has no effect on a Set that has activated Do Not Disturb. In any event, responder may ignore busy override signals.	14. To make a page over the external speaker: • Lift handset. • Dial **#99**. • Make your announcement. 15. To make a zone page: • Lift handset. • Dial **#** plus desired 2-digit zone number (81 to 85 — or 80 for all zones). • Make your announcement. 16. To activate busy override: • When busy station (slow broken tone) is encountered, press **#**. 17. To respond to busy override signal: • Press hookswitch temporarily. • When finished with busy override party, hang up, lift handset, and press hookswitch temporarily.	... • Continuous tone is heard. • Double tone is heard over external loudspeaker. • Announcement is heard over external loudspeaker. ... • Continuous tone is heard. • At both calling and called stations,double tone is heard (triple tone if all zones paged). • Announcement is heard by all called stations. ... • Busy station hears three ringing bursts every time you press **#**. While on a call, three beeps are heard (and repeat every 60 seconds that current party remains on line). • Current party is placed on hold, and you are connected to party activating busy override signal. • Connection with party on hold is re-established.

[continued on next page]

Function	User Action	Set/System Response
OPX Procedures [continued from previous page] Although the Panther 2064 system can handle up to 20 outside lines, the OPX unit can only access 10 of them. [end of OPX procedures]	18. To retrieve an outside call that *another station* placed on hold: • After receiving notification from other station — but without hanging up handset — press hookswitch *for at least 1 second*, then release it. • Dial ** and the indicated line number (01 to 10).	Typically, the other station calls you and lets you know which outside line the call is on. — and then hangs up. • Dial tone is heard. • Dial tone stops, and you are connected with the party on hold. (To put this party on hold again, press hookswitch only temporarily; subsequently, to retrieve this party form the second hold, press hookswitch temporarily again.)
Outgoing Call In handsfree operation, pressing * (as first entry in telephone number sequence) automatically selects last outside line used at station making call.	[Non-handsfree] Lift handset, and press desired line key. [Handsfree] Press * or desired line key. Dial desired outside number.	Dial tone is heard, and selected line indicator WINKS slowly. Dial tone is heard, and selected line indicator WINKS slowly. Call is made to desired outside party.
Private Speed Calls If auto hold is activated (see Auto Hold feature), **Speed** must be pressed *before* pressing desired speed dial key — otherwise, outside line will be placed on hold, and speed call key will have no effect.	[Non-handsfree] Lift handset, and press desired line key. [Handsfree] Press * or desired line key. [Set without DSS/BLF Unit] Press **Speed** and dial 2-digit code (00 to 10) for all private speed calls. [Set with DSS/BLF Unit] Press desired speed call key (DSS keys 10 to 19) for first 10 common speed call numbers; press **Speed** and dial 2-digit code (10) for 11th private speed call number.	Dial tone is heard, and selected line indicator WINKS slowly. Dial tone is heard, and selected line indicator WINKS slowly. Desired number is dialed automatically. Desired number is automatically dialed.

Function	User Action	Set/System Response
Room Monitoring For this procedure to work properly, the monitoring Set must be equipped with a DSS/BLF Unit and have its microphone turned off, and the monitored Set must have its microphone turned on.	At monitoring station, press station select key for station to be monitored.	At both sets, single tone is heard, and **Intercom** indicator WINKS slowly; sounds made in vicinity of monitored station are heard over monitoring station's speaker.
	To cancel room monitoring, press **Speaker** at monitoring station.	Room monitoring is cancelled, and **Intercom** indicator goes OFF at both stations.
SMDR Date and Time This procedure can only be performed from the master set (usually station 10, but programmable by the Master Set Assignment feature to any station). This procedure requires that the optional SMDR Unit be installed. See page D-22 for example of date and time as they appear on SMDR printout.	At master set, press **Intercom** key.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	At master set, dial *5. **NOTE** You may enter as many or as few of the following parameters as desired.	Tone stops, and time and date setting can proceed.
	To enter the year, at master set, dial the 2-digit number representing the desired year, and press **Flash/Cancel.**	SMDR year is set.
	To enter the month, at master set, dial the 2-digit number representing the desired month, and press **Conference.**	SMDR month is set.
	To enter the date, at master set, dial the 2-digit number representing the desired date, and press **Intercom.**	SMDR date is set.
	To enter the hour, at master set, dial the 2-digit number representing the desired hour (using 24-hour clock — 5 pm becomes 17), and press **Speed.**	SMDR hour is set.
	To enter the minute at master set, dial the 2-digit number representing the desired minute; press **Flash/Cancel.**	SMDR minute is set.
	To start timer, at master set, press **Mic.on/off.**	SMDR timer is activated.

Function	User Action	Set/System Response
Special SMDR Printouts (must be performed from station 10) This procedure requires that the optional SMDR Unit be installed — along with the optional external printer (or other recording device). When in the Data Printout Start Mode (after you initially dial ***015**), *your system is not operational* (until you dial ***015** again).	At station 10, press **Intercom**. Dial ***015**. Dial **987**. Select one of the following printouts (if you wish more than one, dial **987** again before each additional printout):	... At station 10, **Mic.on/off** indicator WINKS slowly. At station 10, **Intercom** indicator goes ON. ...
	• To print out all indicator combinations for every condition/feature found in the programming charts, dial **900**.	• Printer (or other recording device) produces desired record, and **Intercom** indicator goes ON.
	• To print out all private speed call numbers for *all* stations, dial **901**.	• Printer (or other recording device) produces desired record, and **Intercom** indicator goes ON.
	• To print out all common speed call numbers, dial **902**.	• Printer (or other recording device) produces desired record, and **Intercom** indicator goes ON.
	• To print out all private speed call numbers for one specific stations, dial **9YY** (where YY is the desired station number, 10 to 73).	• Printer (or other recording device) produces desired record, and **Intercom** indicator goes ON.
	Dial ***015**.	**Mic.on/off** indicator goes OFF and system returns to operational mode.

Function	User Action	Set/System Response
Transfer Ringing	(A call comes in on an outside line.)	Corresponding line indicator FLASHES slowly, and ringing is heard.
	Lift handset, and press the corresponding line key *twice*.	...
	Dial the desired station number (10 to 73) — or, with DSS/BLF Unit, press the desired station select key — and hang up.	The desired station is dialed, incoming ringing (three beeps) is transferred to that station, and that station's line indicator FLASHES slowly.
	To answer transferred call:	...
	[Non-handsfree] Lift handset and press the FLASHING line key.	You are connected to transferred party.
	[Handsfree] Dial **9**.	You are connected to transferred party.
Zone Paging (to a specific zone) Also, see **Intercom Paging** (to all stations), and **Loudspeaker** (paging)	Make your announcement.	...
	[Non-handsfree] Lift handset, and press **Intercom**.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	[Handsfree] Press **Intercom**	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	Dial the desired zone number (81 to 95).	Triple tone is heard at calling and at all called stations .
	Make your announcement.	Announcement is heard at all called stations.

Function	User Action	Set/System Response
Zone Paging (to all zones) Also, see **Intercom Paging** (to all stations), and **Loudspeaker** (paging)	*To issue an all zone page:*	...
	Lift handset, and press **Intercom** — or *your own* station select key.	Continuous tone is heard, and **Intercom** indicator WINKS slowly.
	Dial **80**.	Double tone is heard at calling and at all called stations .
	Make your announcement.	Announcement is heard at all called stations.
	To respond to an all zone page:	...
	[Non-handsfree] List handset, and dial ***1**.	You are connected to paging party.
	[Handsfree] Dial ***1**.	You are connected to paging party.

Problem	Probable Cause	Probable Solution
Your Set is totally dead	Reversed tip and ring on intercom (data) pair	Correct station wiring (refer to Station Wiring, pages D-6 through D-14).
When **Intercom** pressed, continuous tone not heard and **Intercom** indicator stays OFF.	a. Incorrect station wiring	a. Make sure station wiring is correct (refer to Station Wiring Table on pages D-7 through D-14); check for opens, shorts, wire reversals, and incorrect color code matches.
	b. Improperly connected modular cord	b. Make sure 4-wire modular cord is plugged securely into Set and into station wiring jack (6-wire cord is used at stations with external amplifier — see page D-28).
	c. MDF connection	c. Check wiring of 66-blocks; again, refer to Station Wiring Table on pages D-7 through D-14.
	d. Static discharge	d. Disconnect modular cord from Set and re-connect (this action resets the Set); if problem persists, remove and re-apply power to KSUs (resetting KSUs).
	e. Loss of power to KSUs	e. Verify that KSUs are connected to unswitched outlet; check that the ground wires are still connected to true earth ground; make sure breaker for outlet is not tripped; and, if using a surge protector, make sure that the surge protector is operational.
	f. Incorrect connection between master and expander KSUs	Make sure that cables are correctly installed between KSUs (see page D-2).
When line key is pressed, the indicator lights but no dial tone is heard.	Faulty Central Office line connection to the KSU.	Make sure 25-pair cables between incoming RJ-21 jacks and KSUs are properly installed; see pages D-2 through D-4. (If you are using Power Fail Transfer Units, check between incoming lines, Power Fail Transfer Units, and KSU — refer to pages D-23 through D-26 and see the diagram on page E-7.) If problem persists, notify your local telephone company.

Problem	Probable Cause	Probable Solution
System does not retain feature programming	Master KSU BATTERY switch is OFF	Set master KSU BATTERY switch to ON; reprogram system as necessary.
Outside calls cannot be made	a. Error in tone/rotary programming	a. Verify that the Tone or Pulse (program code 100) and Telephone or PBX Line features (program code 101) are properly programmed (see Section F).
	b. Incorrectly programmed call restrictions	b. Verify correct programming for the Line Group Type feature (program code 001), Digits-to-Deny feature (program code 005), Toll Restrictions feature (program code (3YY), Tenant Group By Station feature (4YY), Line Grouping feature (program code 8XX), and Call Restrictions feature (access codes 900-909), as appropriate (see Section F).
Line indicator FLASHES slowly during an incoming call, but no ringing is heard	Incorrectly programmed Flexible Ringing Assignment feature (program code 2YY)	For your Set to ring, it must be programmed to do so by the Ringing Assignment feature — for each incoming line you wish to ring at your Set (see Section F).
SMDR Unit produces no printout — or produces erratic data	a. Incorrect baud rate setting	a. Verify that the baud rate setting of the SMDR Unit matches that of the printout device.
	b. Incorrectly programmed Start Data Recording feature (program code 007), Digit Timer (program code 008), or SMDR Printout feature (program code (002)	b. Check for correctly programmed time to wait until recording starts and for correct selection of call records to be captured (see Section F).
	c. Improper printout device	c. Printout devices that send data back to the source computer (or SMDR Unit, in this case) will not work properly; replace printout device or disable return signals.

Problem	Probable Cause	Probable Solution
Background music and on-hold music not heard on any set	a. Incorrect connector on cable from music source	a. Make sure that jack is 1-8-inch phono mini-jack — not stereo or attenuator.
	b. Malfunctioning music source	b. Make sure music source is plugged in, turned on, and operating properly. Refer to manual supplied with music source equipment or call music source equipment manufacturer's customer service.
External loud speaker not operational	a. Incorrect connector on cable to paging equipment	a. Make sure that jack is 1-8-inch phono mini-jack — not stereo or attenuator.
	b. Malfunctioning paging equipment or loudspeaker	b. Make sure paging equipment is plugged in, turned on, and operating properly. Refer to manual supplied with paging equipment or call paging equipment manufacturer's customer service.
Neither Door Module is operational	a. Wiring between Door Answer Unit and KSU	a. Check continuity of 6-conductor cord between DA connector on Door Answer Unit and DOOR connector on KSU.
	b. KSU not operating properly	b. Press RESET button on KSU.
	c. Defective Door Answer Unit	c. Replace Door Answer Unit.
Individual Door Module not operating properly	a. Wiring between Door Module and Door Answer Unit	a. Check continuity of 2-wire cable between Door Module and Door Answer Unit.
	b. Defective Door Module	b. Replace Door Module.
	c. Defective Door Answer Unit	c. Replace Door Answer Unit.

Problem	Probable Cause	Probable Solution
2-wire set or other device connected to OPX unit not working properly	a. Station wiring defective or KSU working improperly	a. Temporarily install Panther 306 Set at OPX unit station jack: if installed Set doesn't work properly, check station wiring and/or reset KSU. Re-install OPX unit at station jack once trouble is cleared.
	b. Defective OPX unit	b. Replace OPX unit.
	c. Defective 2-wire device	c. Make sure 2-wire device is plugged in, turned on, and operating properly. Refer to manual supplied with 2-wire device or call 2-wire device manufacturer's customer service.
External loud bell does not ring	a. Incorrect programming	a. Make sure that Loud Bell (program code 0000), Ringing Assignment (2YY0 & 2YY1), Night Transfer Ringing (4YY0), and Loud Bell Ringing (5XX0) features are programmed correctly (see Section F).
	b. Faulty wiring	b. Make sure that dry contact interface unit is wired to pins 49 and 50 of 66-block (see Section D) — and that loudspeaker is properly wired to dry contact interface unit (see technical manual for dry contact interface unit).
	c. Malfunctioning dry contact interface unit	c. Make sure dry contact interface unit is plugged in, turned on, and operating properly. Refer to manual supplied with dry contact interface unit or call dry contact interface unit manufacturer's customer service.