TONE COMMANDER®

8810
ISDN Telephone

Installation Instructions

Changes in this revision:

- Stand mounting instructions are clarified.

This manual applies to 8810 software version 02.07.16.

Contents

Introduction

For operation instructions and user setup options, please refer to the 8810 User Guide, doc. #14-280196.

General Features ———————————————————

The Tone Commander 8810 ISDN Telephone is an easy to use multiline terminal with advanced automatic setup capabilities. S/T and U interface models are available with 10 call appearances, expandable to 40 call appearances. The phones support a wide variety of ISDN platforms listed in Appendix D.

Features of the 8810 include:

- AutoSPID and Parameter Download
- Call Log
- Call Timer
- Last Number Redial
- Speed Dial
- Hot Key Dialing
- Direct Station Select
- 100-entry Call Directory
- Flexible Ringing Options
- Message Waiting Indication
- Voice Mail Control Keys

- Automatic Switch Type Detection
- Ringing Control for Shared Lines
- Desktop or Wall Mounting
- Large Graphic LCD Display
- On-screen Electronic Key Labels
- Integrated Speakerphone
- Voice Announce
- Handset or Headset Operation
- Headset Activation Button
- Dedicated Headset Jack

Models/Options ———————————————————

Two 8810 ISDN telephone models are available, differing in the type of ISDN connection.

The S/T model, 8810T, requires an external NT1 Network Termination, such as Tone Commander's NT1U-223TC (rack mount) or NT1B-300TC (standalone). Two S/T telephones can share a single ISDN line in a multi-point arrangement.

The U model, 8810U, includes a built-in NT1, allowing direct connection to the ISDN line. An additional S/T jack allows another terminal device to be connected to the network through the built-in NT1.

Options include the 8030X Button Expansion Module, which adds 30 multifunction keys to any 8810 phone, the 8001TA RS-232 Terminal Adapter for interfacing the phone with any TAPI-compliant Windows application, the 8002TA Analog Port Terminal Adapter for interfacing with any standard analog telephone device, and the 8003TA Terminal Adapter, which combines the features of the 8001TA and 8002TA. The 8030X Button Expansion Module can be combined with any of the terminal adapter options.

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8810 with 8030X Button Expansion Module

Controls and Indicators ──────────────────────────────

1) **Display** – shows the multifunction key labels, call states, caller ID, dialed digits, network call control messages, and elapsed time during calls. When not on a call, the date, time of day, and softkey options are displayed.

   The viewing is primarily set by selecting the high or low base mounting position (page 13). Viewing angle display clarity can be altered by adjusting the display contrast.

2) **Multifunction Keys** – select call appearances, activate network features, or dial personal speed dial numbers. Red and green indicators on the keys show call appearance and feature status. The optional 8030X Button Expansion Module provides 30 additional multifunction keys.

Call Appearance State	Indication
Idle	OFF
Call Ringing	Green – flashing
In Use by You	Green – on steady
On Hold by You	Green – winking
In Use at Another Terminal	Red – on steady
On Hold at Another Terminal	Red – winking

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3) **Softkeys** – select the function displayed above the key on the bottom line of the display.

4) **Navigation (Arrow) Keys** – navigate within menus. In editing modes, the ▶ key moves the cursor one position to the right and the ◀ key moves the cursor one position to the left. The ▲ and ▼ keys are used to shift between pages on multi-page screens. The **OK** key exits the current menu, saves any changes made, and then returns to the previous menu options.

5) **Message Waiting Indicator** – a bright red indicator is lit when messages are waiting, controlled by the network.

6) *LOG* **Key** – displays Call Log options.

7) *SETUP* **Key** – enters Setup Mode.

8) *INFO* **Key** – displays version and configuration information about the 8810 and connected options. The Local Inspect function can be accessed from this key.

9) *DIR* **(Directory) Key** displays the Call Directory.

10) **Volume Keys** – adjust the receiver/speaker volume when on a call; adjust the ringer volume when on-hook.

11) *MUTE* **Key** – mutes the microphone when using the speakerphone or handset/headset. A red indicator on the key is lit when mute is active.

12) *SPKR* **(Speaker) Key** – activates the speakerphone. A green indicator on the key is lit when the speakerphone is in use.

13) **Dial Pad** – dials telephone numbers, and sends DTMF tones to external equipment such as voice mail systems. The dial pad is also used for text and number entry during setup.

14) *TRAN* **(Transfer) Key** – places the current call on hold, and selects an idle call appearance for transferring the call. A second press completes a transfer.

15) *CONF* **(Conference) Key** – adds other parties to a conference call.

16) *DROP* **Key** – removes the last party added to a conference call, or disconnects you from a call and returns new dial tone when not in conference mode.

17) *HOLD* **Key** – places a call on hold.

18) *VMAIL* **(Voice Mail) Key** – accesses network voice mail services.

19) *HEADSET* **Key** – activates the headset. A green indicator is lit when the headset is in use.

20) **Headset Jack** – a jack on the underside of the telephone connects to an optional standard headset.

21) **Handset Jack** – a jack on the underside of the telephone connects to the included handset.

22) **Microphone** – used for hands-free (speakerphone) calling; located under the lower right corner of the telephone.

23) **Telephone Identification Label Area** – indented area for a directory number label. Use ½″ x 1¾″ adhesive labels (Avery 8167/5267 or equivalent).

Installation

Ordering ISDN Service ————————————————————————

ISDN ordering forms may be supplied by your service provider. You can also print forms using the PC-based Configuration Wizard. Please refer to Appendix A in this manual.

Consult your service provider to plan your service installation. Allow adequate time after cutover for testing of all call appearances and programmed features. Ask your service provider for your SPID numbers, and confirm the installation date.

8810T Installation ————————————————————————

This model requires an external NT1, such as the Tone Commander NT1U-223TC or NT1B-300TC.

Set the Termination Switches on the Telephone and NT1

Set the termination switches on the bottom of the telephone and on the NT1 to match the termination impedance to your premises wiring configuration. Several typical wiring configurations are shown below, with the appropriate switch setting.
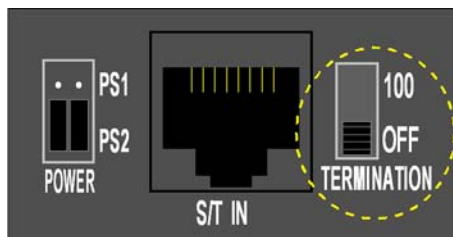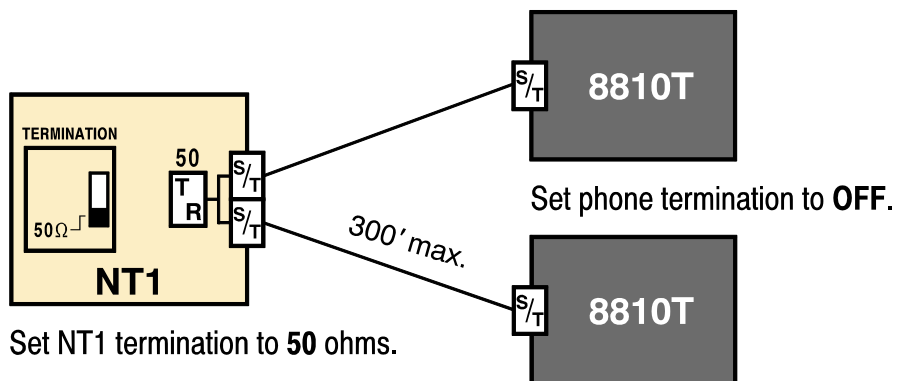

Available switch settings are *OFF* and *100* ohms.

We recommend the use of Category 3 or better unshielded twisted pair cable with T568A or T568B connector wiring. Distances shown are the maximums for 24-gauge cable, and may vary for other cable types.

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Basic Multipoint:
(recommended for most applications)

Set phone termination to **OFF**.

Set NT1 termination to **50** ohms.

300' max.

Short Multipoint:

Set phone termination to **100** ohms.

Set NT1 termination to **OFF**.

400' max.

Extended Point-to-Point:

1900' max.

Set phone termination to **100** ohms.

Set NT1 termination to **100** ohms.
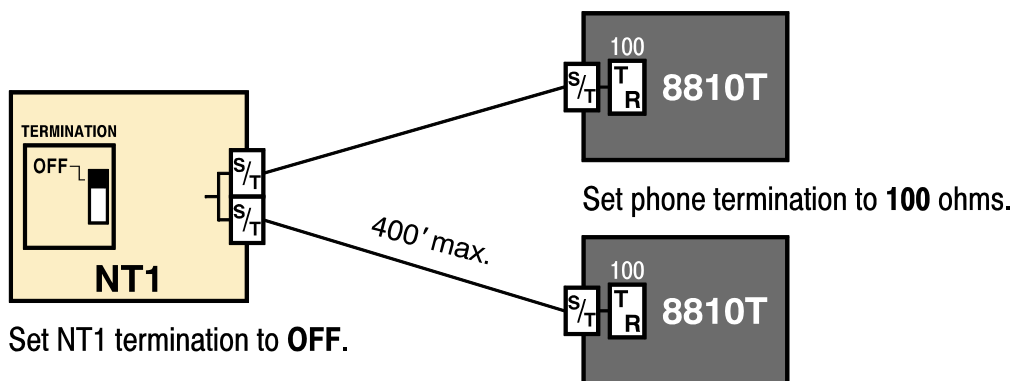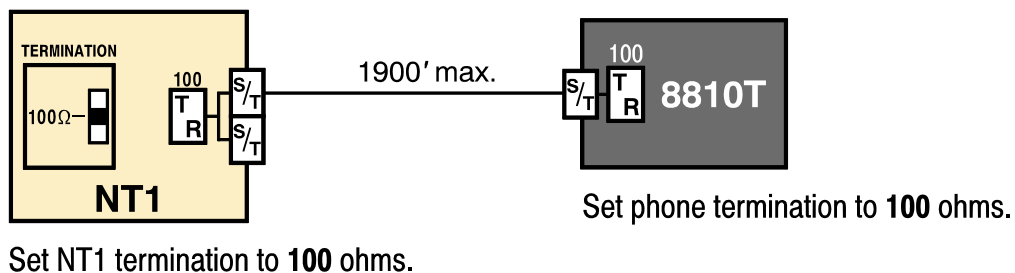
Line and Power Connections

Power for the telephone may be provided on PS1 (phantom power on the transmit and receive pairs from the NT1) or PS2 (power on pins 7 and 8). Tone Commander manufactures NT1 products that supply power on both PS1 and PS2. Contact Tone Commander or visit **www.tonecommander.com** for more information.

> *WARNING*: If a separate power supply is used to provide PS2 power to the telephone, make sure that the output ground of the NT1 power supply and the PS2 pow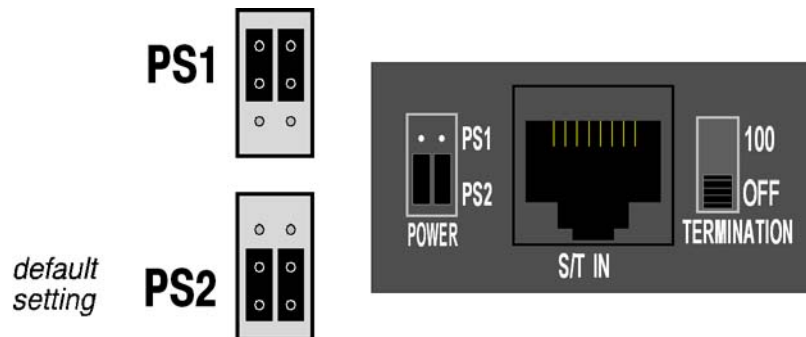er supply are connected (with the correct polarity) to a common ground reference point or electrical damage to the telephone may occur.

- Set <u>both</u> power jumpers to PS1 or PS2 as required. PS2 powering is used in most applications.

- Using an 8-conductor line cord, connect the **S/T IN** jack on the telephone to the **TERMINAL** jack on the NT1. Route the cord under the guide tabs in the phone base.

Pin #	Signal	Wire Color	
		T568 A	**T568 B *** (AT&T 258A)
5	Tx-	WHT-BLU	WHT-BLU
4	Tx+	BLU	BLU
1	*unused*	WHT-GRN	WHT-ORN
2	*unused*	GRN	ORN
3	Rx+	WHT-ORN	WHT-GRN
6	Rx-	ORN	GRN
7	-48V	WHT-BRN	WHT-BRN
8	GRD	BRN	BRN

1 (*unused*)
2 (*unused*)
3 (Rx+)
4 (Tx+)
5 (Tx -)
6 (Rx -)
7 (-48V)
8 (GRD)
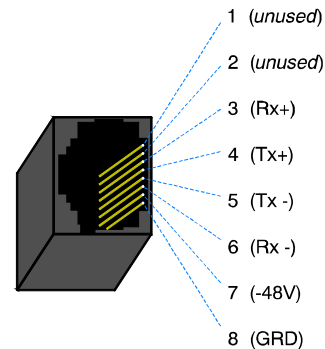
Modular Jack Pinout

* **T568 B jacks are recommended**; they allow conventional station pair ordering when connecting to S/T punchdown blocks on NT1 racks.

Handset/Headset

- Plug the supplied handset into the jack on the left side of the telephone.
- Plug an optional compatible headset into the jack under the upper left side of the telephone.

8810U Installation ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━

This model includes a built-in NT1. Optional external ISDN S/T Terminal Equipment may share the telephone's ISDN line by connecting to the S/T jack on the telephone.

If you are not using external Terminal Equipment, no termination switch setting is required.

Set the Termination Switch on the Telephone

If external Terminal Equipment (TE) is connected, set the termination switch on the bottom of the telephone to match the termination impedance to your premises wiring configuration. Two typical wiring configurations for connecting external TE are shown below, with the appropriate switch settings.
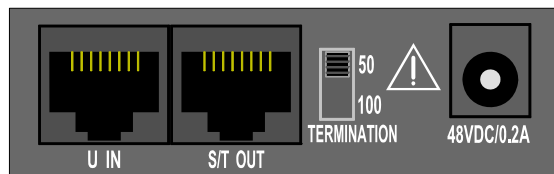
Available switch settings are *50* and *100* ohms.

We recommend the use of Category 3 or better unshielded twisted pair cable with T568A or T568B connector wiring. Distances shown are the maximums for 24-gauge cable, and may vary for other cable types.

Basic Multipoint:
(recommended for most applications)

300' max.

Set phone termination to 50 ohms.

Set TE termination (internal or external) to **OFF**.

Extended Point-to-Point:

1900' max.

Set phone termination to **100** ohms.

Set TE termination (internal or external) to **100** ohms.
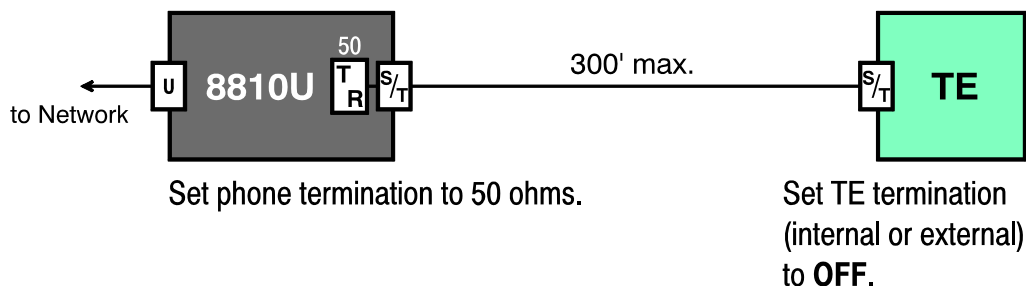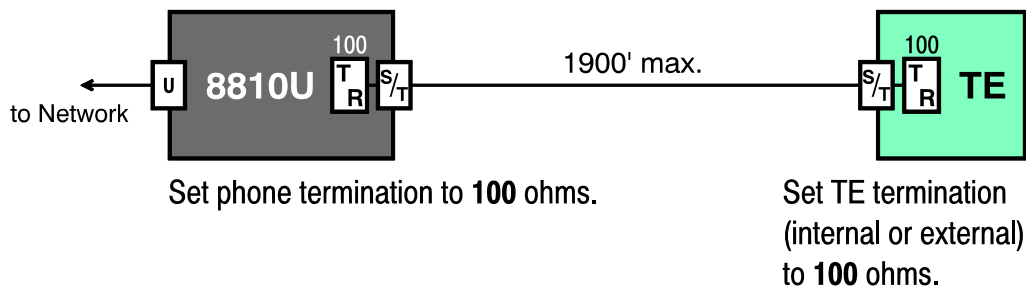
Line and Power Connections

- Using an 8-conductor line cord, connect the **U IN** jack on the telephone to the line jack.

The 8810U can be locally powered by a Tone Commander 901034 Desktop Power Supply. This may be ordered with a phone as the –PWR1 Option.

- Plug the power supply barrel connector into the round jack on the back of the phone.
- When all other connections are completed, connect the power supply to a standard 120 VAC, 60 Hz grounded power outlet.

Power can also be provided by an external -48 VDC source, such as a Tone Commander PS-50 ISDN Power Supply, on pin 7 (-) and pin 8 (+) of the **U IN** jack.

> *Select only one powering method; DO NOT connect the local power supply and power over the line cord simultaneously!*

An additional terminal may be connected to the **S/T OUT** jack, which supplies PS1 and PS2 output power.

Handset/Headset

- Plug the supplied handset into the jack on the left side of the telephone.
- Plug an optional compatible headset into the jack under the upper left side of the telephone.

Desktop Installation ───────────────────────────────────

The stand can be installed in two positions for desktop use. Select the position that provides the best screen readability and easy control operation for the phone's location.

- If you need to remove the stand, press it down to disengage the snap tabs, and then lift off the stand.

  The low desktop stand position is shown; the removal procedure is the same for high desktop and wall mount positions.

Stand Removal

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- Rotate the stand as needed; refer to the pictures below.
- To install the stand, insert the tabs on the telephone into the large openings in the stand's upper slots, and then press the stand toward the top of the telephone until it locks into place.

  If you are installing an 8030X Button Expansion Module on the phone, use the double-width stand included with the 8030X.

Low Desktop Position

High Desktop Position

Handset Retainer Clip, Low Desktop Applications

For low desktop position use, the handset retainer clip should be installed in the default position, without the tab protruding into the hookswitch area. Rotate the clip for high desktop applications – see page 16.

Wall Mounting ──────────────────────────

The phone stand and handset retainer clip must be rotated for wall mounting.

- Remove the stand from the phone base – see page 13.
- Rotate the stand as shown below.
- To install the stand, insert the tabs on the telephone into the large openings in the stand's upper slots, and then press the stand toward the top of the telephone until it locks into place.

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Attaching to a wall mount jack

- Plug an 8", 8-pin line cord into the **S/T IN** jack (8810T) or the **U IN** jack (8810U) on the telephone. If you do not have one, you can obtain an 8" line cord by calling Tone Commander Technical Support at **(800) 524-0024**.

- Hold the telephone next to the wall mount jack. Plug the line cord into the jack.

- Hang the telephone on the wall plate mounting studs. The top mounting stud fits into the keyhole slot in the phone expansion cover or optional Terminal Adapter, and the bottom stud slides into the 'U'-shaped slot in the wedge base. Press down firmly to lock into place.

Handset Retainer Clip, Wall Mount or High Desktop Position Applications

Pull out the handset retainer clip as shown. Rotate the clip 180°, and then re-insert the clip. The tab should protrude into the hookswitch area for wall mount or high desktop position use.

Configure the Set ——————————————————————————

ISDN configuration is performed automatically in many cases. The telephone set will detect the switch type, set the SPID number, and download other setup parameters when these features are available from the Telco central office.

You will be prompted for any required setup information that cannot be set automatically.

Initialization

A self-test is performed upon power up. Press any key to begin initialization with the network. Unattended initialization begins automatically after a short random time interval. This delay prevents multiple terminals at a site from initializing simultaneously after a power outage.

The display will show progress while establishing the communication layers. When all three communication layers are established, the TEI (Terminal Endpoint Identifier) and switch type will be shown for two seconds.

```
L1:OK        L2:OK TEI:123
L3:OK    SWITCH=5ESS NI-X
```

SPID Entry

The SPID number will be assigned automatically if the network supports AutoSPID. If there is more than one SPID available for your terminal, you will be prompted to select your primary telephone number.

If AutoSPID is not supported, you will be prompted to enter the phone's primary telephone number, which is used by the phone to generate a SPID number. Enter the number with the dial pad, and then press the *OK* key. ◄BKSP (backspace) deletes the previous digit.

National ISDN – enter your full <u>10-digit</u> telephone number
(including area code)
5ESS Custom ISDN – enter your <u>7-digit</u> telephone number

```
ENTER PRIMARY PHONE #
999-555-1243        ◄BKSP
```

Parameter Download *(National ISDN only)*

Parameter Download is a network feature that Identifies Call Appearance and Feature Activator keys that are assigned to your line so that your phone may be configured automatically.

> *Note*: Speed Dial, DSS keys, and other user preference settings are <u>not</u> configured by Parameter Download.

If Parameter Download is not supported, the following screen may appear momentarily, prompting you to manually configure the telephone at a later time (see page 20).

```
NO PARAMETER DOWNLOAD
PRESS SETUP TO CONFIGURE
```

Automatic Button Detection *(5ESS Custom ISDN only)*

Press each multifunction key. The phone will discover the key's network assignment. Keys that have no network assignment may be used for speed dialing – please refer to page 26.

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Firmware Updates

Call Tone Commander technical support at **(800) 524-0024** to get information on firmware updates.

Using Local Inspect to Verify Keys

Local Inspect allows you to identify the call appearance or feature assignment of each configured key, directory number bearer capabilities, and the feature indicator assignment for the Message Waiting Indicator. Please refer to page 37.

Label the Set ———————————————————————————

Multifunction keys on the 8810 are labeled on the display screen – see page 23.

8030X label templates for Microsoft Word can be downloaded from **www.tonecommander.com**. If your telephone is equipped with an 8001TA or 8003TA Terminal Adapter, you can use the **8610/8620/8810 User Setup Program** to set up key labels, Speed Dial keys, Voice Mail Menu keys, and the Call Directory using a Windows PC interface.

A space is provided beneath the handset for a directory number label. Use ½″ x 1¾″ adhesive labels (Avery 8167/5267 or equivalent).

Installation Options

Options in this section are typically set at the time of installation. Many options can be set automatically by the AutoSPID, Automatic Switch Detect, and Parameter Download features, if supported on the network.

The following options can be changed from the Installation Options menu:

- SPID
- Parameter Download
- Terminal Mode
- Keys and Indicators
- Installation Password
- Reset to Default Settings
- Voice Announce

Installation Options Menu

You can enter the Installation Options menu when the phone is idle.

[SETUP]   Press the **SETUP** key.

```
          SETUP MENU
  INSTL ADMIN   USER   POTS
```

⬤   Select INSTL.

```
  INSTALLATION OPTIONS    ▶
   SPID PARAM   KEYS   MSG
```

◀▶   When ▶ appears in the upper line of the display, you can press the Left or Right Arrow key to see additional menu selections.

```
  INSTALLATION OPTIONS    ▶
   MODE PASSWD RESET   VA
```

The arrow keys also move the cursor position when entering text or numbers.

Notes: The POTS option is only available when the 8002TA or 8003TA Analog Port Terminal Adapter is installed.

The PARAM and MODE options are only available with National ISDN.

A password may be set to prevent unauthorized entry into the Installation Options menu.

When prompted for a password, enter your password with the dial pad. Press the **OK** key after entering the password.

To change or remove the password, please refer to page 32.

SPID Entry ───

A unique SPID (Service Profile IDentifier) is required for operation of the 8810. If the network supports AutoSPID, a SPID that is assigned to your ISDN line can be automatically selected. If National ISDN generic SPID assignments are used by your service provider, your SPID will consist of your primary telephone number followed by "0101" (e.g., 42534910000101). Contact your network service provider for your telephone's SPID.

○ From the Installation Options menu, select SPID.
(***SETUP*** → INSTL → SPID)

```
ID=99955512340101
        ◄BKSP   CLEAR
```

⑤ Using the dial pad, enter the SPID number supplied by your network service provider.
If you need to make corrections, select ←BKSP (backspace) to delete the previous digit.
CLEAR *removes all digits, allowing you to start over.*

OK When digits have been entered, press the *OK* key to return to the Installation Options menu or press the *SETUP* key to exit Setup Mode.

Parameter Download *(National ISDN only)* ─────────────────────

ISDN Parameter Download is an automated feature for configuring Call Appearance and Feature Activator keys. If configured for auto download, a Parameter Download is executed when the phone initializes with a new SPID, or when requested by the network, due to a line configuration change.

Note: Speed Dial and DSS keys are <u>not</u> configured by Parameter Download.

○ From the Installation Options menu, select PARAM.
(***SETUP*** → INSTL → PARAM)

```
PARAMETER DOWNLOAD
START   AUTO
```

Starting a Download

○ Select START to manually initiate a Parameter Download.

Note: Customized key labels will not be overwritten unless the network configuration for that key is changed. To revert a key label to the network default, clear the label before initiating a Parameter Download – see page 23.

Enabling/Disabling Automatic Download

○ Select AUTO.

```
AUTO DOWNLOAD=ENABLED
ENABLE DISABLE
```

○ Select ENABLE or DISABLE.

Configuring Keys and Indicators ──────────────────────

If the network does not support Parameter Download, you can assign call appearances, directory numbers and feature activators using this option.

⬤ From the Installation Options menu, select KEYS.
(*SETUP* → INSTL → KEYS)
The status indicator for each key will indicate the current setting:
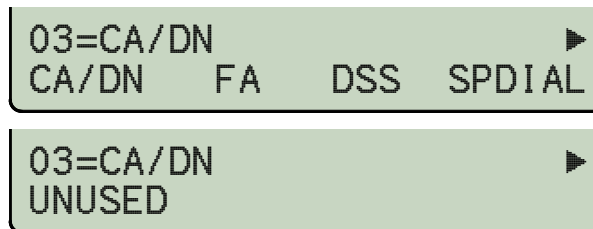
Green – Call Appearance or DSS
Red – Feature Activator
Off – Unused or Speed Dial

▬▭ On the phone or Button Expansion Module, press the multifunction key to be programmed.
The selected key's indicator will alternately flash red and green.

```
03=CA/DN                    ▶
CA/DN    FA    DSS   SPDIAL
```

```
03=CA/DN                    ▶
UNUSED
```

⬤ Select CA/DN (Call Appearance /Directory Number), FA (Feature Activator), DSS (Direct Station Select), SPDIAL (Speed Dial), or UNUSED from the menu.
Programming procedures for each key type are described below.

Call Appearance / Directory Number Keys

These "line" keys are used to place and answer calls. If you have BASIC service or are connected to a Nortel Meridian 1 Option Series PBX, each **directory number** key is assigned a unique directory number. If you have CACH EKTS service, one directory number may be assigned to multiple **Call Appearance** keys; multiple calls can be handled on one directory number.

🔘 Enter the assigned directory number with the dial pad.

For the Nortel Meridian 1 Option Series PBX, enter the same number of digits used in the PBX dialing plan (2 to 7 digits).

If you need to make corrections while entering numbers, select ◀BKSP (backspace) to delete the previous digit.
You can press the OK key to return to key selection.

```
03=CA/DN# 5559876
◀BKSP  ORIG RESERV LABEL
```
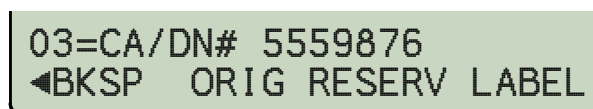
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Automatic Call Appearance Selection

A call appearance is automatically selected when originating a new call, answering an incoming call, or conferencing or transferring a call. Three configuration options determine how call appearances are selected:

Call Preference (User option) – determines whether a new call is originated when you lift the handset or press the *Spkr* key. If set to NONE, you must manually press a Call Appearance key to originate a call.

Originating DN – only call appearances with this option set to YES will be automatically selected for call origination.

CA Reservation – within the group of originating DNs, call appearances set for NOT RESERVED are selected first, followed by OUTGOING ONLY, followed by OUT/PRIORITY call appearances (OUTGOING ONLY call appearances are selected first for conferencing and transferring). Within each subgroup, call appearances are selected in ascending order. INCOMING ONLY call appearances are never selected for an outgoing call. If an idle CA is not found, "SELECT AN IDLE LINE" is displayed.

To change the Originating DN assignment:

	Select ORIG.
○	Select ORIG.
○	Select YES or NO from the Originating DN menu.
OK	Press the *OK* key to return to the CA/DN menu.

To change call appearance reservation:

○	Select RESERV.
○	Select the call appearance reservation for this CA/DN.

       OUT – Originate (outgoing calls) only.
       IN – Terminate (incoming calls) only.
       PRI – Outgoing or priority incoming calls only.
       NOT – Not Reserved - *default value for all keys.*

OK	Press the *OK* key to return to the CA/DN menu.

Key Labels

Call Appearance keys are automatically labeled on the display with the directory number after a Parameter Download, and after manually changing an unused key to a Call Appearance key. If a directory number has not been entered for a key, the key will be labeled with the Call Appearance number, for example, "CA 1". You can customize the labels by entering user names or other identifiers with the dial pad.

Select LABEL.

```
LBL=Sales Dept.
◄BKSP CLEAR  123   NUMBER
```

Using the dial pad, enter a label (20 characters max.) to identify the key.

The label entry mode default for Call Appearance keys is numeric, as indicated by '123' in the display above the 3rd softkey. To enter uppercase (ABC) or lowercase (abc) characters, press the softkey, and then select the desired label entry mode.

```
KEYPAD=NUMERIC (123)
  123    ABC    abc
```

When entering uppercase or lowercase characters, spaces and punctuation can be entered with the **#** and **∗** keys – press the key repeatedly until the desired character is displayed. In numeric mode, use **∗** to enter hyphens, and **#** to enter spaces. You can also enter a space by pressing the Right Arrow key to move to the next character position.

After entering a character or number, the flashing cursor will advance to the next character. Press the Left or Right Arrow key if you want to manually move to another character position.

If you need to make corrections while entering the name, select ◄BKSP (backspace) to delete the previous character. CLEAR *removes all digits, allowing you to start over.*

Press the *OK* key to return to the CA/DN menu.

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Feature Activator Keys

Feature Activator keys must be configured to match network feature activator codes that have been assigned to your line.

Using the dial pad, enter the feature activator code assigned by your network service provider.
If you need to make corrections while entering numbers, select ◄BKSP (backspace) to delete the previous digit.

```
07=NETWORK FA#59   (CALL)
◄BKSP         CALL  LABEL
```

Select CALL if a call needs to be originated when the feature is activated. When enabled, (CALL) will appear in the top line of the display as shown above.

With CALL enabled, the feature is always activated within the context of a call. Features that need to originate a call include Call Forward (on Siemens EWSD), ICM intercom (on Nortel DMS-100), and Call Pickup.

If the phone is on-hook when a Feature Activator key with CALL enabled is pressed, a new call will be originated. If the phone is already off-hook when the feature key is pressed, the feature will be activated within the context of the current call.

The CALL feature is not used with Lucent 5ESS Custom ISDN and Avaya Definity Custom ISDN.

Feature Activator keys are automatically labeled on the display after a Parameter Download, and after manually changing an unused key to a Feature Activator key. To change the label, select LABEL.

```
LABEL:Call Forward
◄BKSP CLEAR   TEXT NUMBER
```

The label entry mode defaults to predefined text labels, as indicated by 'TEXT' in the display above the 3rd softkey. Press a dial pad key to select one of the 10 predefined labels.

Note: Selecting a predefined label does not change the key function. The key must be programmed with the correct Feature Activator code, as required by the network.

Predefined Feature Activator labels are shown in the table below.

Dial Pad Key #	Predefined Label
1	CALL FORWARD
2	PRIVACY
3	AUTOMATIC CALLBACK
4	GROUP CALL PICKUP
5	DIRECTED CALL PICKUP
6	AUTOMATIC RECALL
7	CALL PARK
8	PARK RETREIVE
9	PRIORITY CALL
0	INTERCOM

If you want to enter a customized label, select TEXT, and then select 'ABC' for uppercase characters, 'abc' for lowercase characters, or '123' for numbers – refer to page 23. TEXT returns to predefined label mode.

```
KEYPAD=PREDEFINED TEXT
   TEXT   123   ABC   abc
```

OK When finished, press the *OK* key twice to return to the key selection menu or press the *SETUP* key to exit Setup Mode.

DSS Keys

DSS keys are a special type of Call Appearance/Directory Number keys that are programmed with speed dial numbers to provide Direct Station Selection. When the call appearance is idle or busy, DSS keys act like Speed Dial keys, to call a station. When ringing, DSS keys act like CA/DN keys, to answer a call. The LED indicator on the key shows the status of the station's call appearance (idle, ringing, hold, busy).

Shared call appearances for stations you wish to monitor must be configured on your ISDN line. You must program the DSS number to dial the monitored station on your phone (even if Parameter Download is provided).

JKL 5 If the Call Appearance/Directory Number is not shown in the top line of the display, you can enter a reference directory number for the monitored station with the dial pad. This number is not required for operation.
If you need to make corrections while entering numbers, select ◀BKSP *(backspace) to delete the previous digit.*

```
08=DSS/DN# 5559876
◀BKSP CLEAR  DSS#   LABEL
```

◯ Select DSS#.

```
1001
◀BKSP  CLEAR  PAUSE
```

JKL 5 Using the dial pad, enter the number you would dial to call the monitored station.

◯ "Smart" pauses are entered with the PAUSE softkey, and are shown in the display as a **P** character. The first pause in a dial string will wait until the call is answered; additional pauses delay dialing for one second. Enter multiple pauses to increase the delay time.

OK Press the *OK* key after entering the DSS number.

DSS keys are automatically labeled on the display after a Parameter Download, and after manually changing an unused key to a DSS key. You can customize the labels with the dial pad – refer to page 23.

OK Press the *OK* key twice to return to the key selection menu or press the *SETUP* key to exit Setup Mode.

Tone Commander 8810 Installation Instructions

Speed Dial Keys

Keys not assigned for call appearances or Feature Activators may be used as Speed Dial keys. Dialing strings can include network feature activator codes, to simplify the use of features such as Directed Call Pickup and Call Forwarding. Speed Dial keys may also be programmed from the User Options menu.
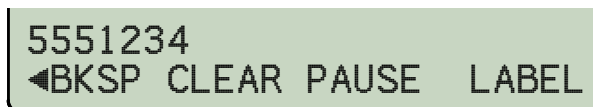
```
◄BKSP   FA   PAUSE   LABEL
```
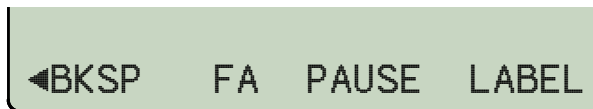
The currently programmed dial string, if any, will be shown in the display.

Enter digits (24 maximum) with the dial pad.

After entering the first digit, pause, or feature activator, the FA softkey will be replaced by CLEAR.

```
5551234
◄BKSP CLEAR PAUSE   LABEL
```

If you need to make corrections while entering numbers, select ◄BKSP (backspace) to delete the previous digit.

CLEAR *removes all digits, allowing you to start over. A Speed Dial key will revert to 'Unused' if saved with a cleared dial string.*

Speed Dial keys are automatically labeled on the display after changing an Unused key to a Speed Dial key. You can customize the labels with the dial pad – refer to page 23.

"Smart" Pauses

Pauses are entered with the PAUSE softkey, and are shown in the display as a **P** character. The first pause in a dial string will wait until the call is answered; additional pauses delay dialing for one second. Enter multiple pauses to increase the delay time.

```
5551234P1P12
◄BKSP CLEAR PAUSE   LABEL
```
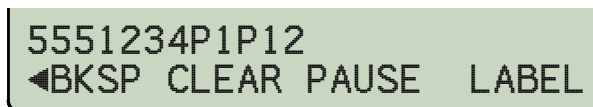
Feature Activator Codes

You can use Local Inspect (page 37) to view the codes assigned to Feature Activator keys on your telephone, or consult with your network service provider for the required codes.

⬤ Feature Activator (FA) numbers are entered with the FA softkey, and are shown in the display as an **F** character. **F** *must be the first character in the dialing string; the two numeric digits immediately following the **F** indicate the network feature activator code. The FA softkey is only available when no digits have been entered.*

```
◄BKSP    FA   PAUSE   LABEL
```
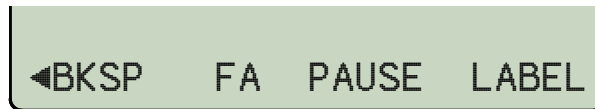
After entering **F**, the FA softkey will be replaced by CLEAR.

In the example below, the Speed Dial key sends feature code '57' (Call Forward) followed by the directory number '555-1234'.
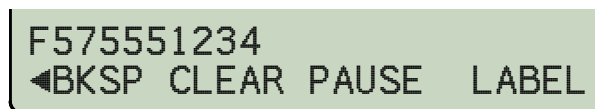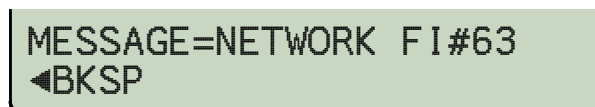
```
F575551234
◄BKSP CLEAR PAUSE   LABEL
```

OK When digits have been entered, press the *OK* key twice to return to the key selection menu or press the *SETUP* key to exit Setup Mode.

Message Waiting Indicator

The Message Waiting indicator must be configured to match the assigned network feature indicator code.

⬤ From the Installation Options menu, select MSG.
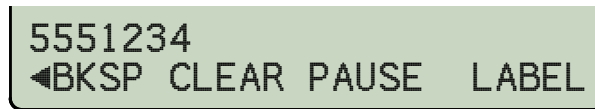(*SETUP* → INSTL → MSG)

```
MESSAGE=NETWORK FI#63
◄BKSP
```

5 Using the dial pad, enter the feature indicator code assigned by your network service provider. In most cases, this is set to 63.
If you need to make corrections while entering numbers, select ◄BKSP (backspace) to delete the previous digit.

OK Press the *OK* key twice to return to the Installation Options menu or press the *SETUP* key to exit Setup Mode.

Tone Commander 8810 Installation Instructions
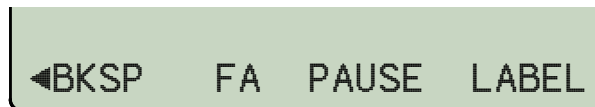
Unused Keys

Any Speed Dial key can be changed to an Unused key by clearing the dialing string.

Any Unused key can be changed to a Speed Dial key by adding a dialing string – see page 26.

```
5551234
◄BKSP CLEAR PAUSE  LABEL
```

Select CLEAR to remove the dialing string. The key is converted to an Unused key.

```
◄BKSP   FA  PAUSE  LABEL
```
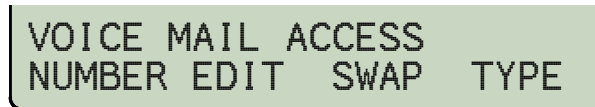
Press the *OK* key to return to the key selection menu.

Voice Mail Keys

Voice Mail Access Key

> *Note:* The *VMAIL* key must be programmed to dial the voice mail access number in order for this feature to work properly. "Smart" pauses and PIN codes can be included in the number*.*
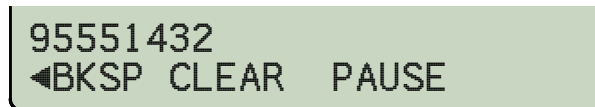
From the Installation Options menu, select KEYS.
(*SETUP* → INSTL → KEYS)

Press the *VMAIL* key.
The Message Waiting indicator will flash.

```
VOICE MAIL ACCESS
NUMBER EDIT  SWAP   TYPE
```

Select NUMBER to view or change the *VMAIL* key speed dial number. This is the number that is dialed to access your voice mail system.
The currently programmed dial string, if any, will be shown in the display.

```
95551432
◄BKSP CLEAR   PAUSE
```

Enter digits (24 maximum) with the dial pad.

"Smart" pauses are entered with the PAUSE softkey, and are shown in the display as a **P** character. The first pause in a dial string will wait until the call is answered; additional pauses delay dialing for one second. Enter multiple pauses to increase the delay time.

If you need to make corrections while entering numbers, select ◄BKSP (backspace) to delete the previous digit. CLEAR *removes all digits, allowing you to start over.*

When all digits have been entered, press the *OK* key.

Voice Mail Menu Keys

Multifunction keys can be programmed to speed dial common voice mail access functions when connected to the voice mail system.

Presets are provided for several voice mail systems. You can load one of the presets and, if needed, change individual keys; or start with a blank menu and customize all keys.

○ Select TYPE to load a preset or clear all keys.
The display will show the current preset type, or "CUSTOM" if any keys have been edited.

```
VOICE MAIL TYPE=CUSTOM ▶
AUDIX   ARIA SRNADE uRCH
```

```
VOICE MAIL TYPE=CUSTOM ▶
NONE
```

○ Select AUDIX, ARIA, SRNADE, uRCH, or select NONE to clear all Voice Mail Menu keys, and then select YES to confirm your selection.

The presets are compatible with the following voice mail systems:

AUDIX – Audix, Intuity Audix, Avaya Modular Messaging
ARIA – Octel Aria, Octel 250/350, Intuity Aria, Avaya Unified Messenger
SRNADE – Octel Serenade, Octel 200/300, VMX
uRCH – uReach

(OK) Press the *OK* key to select a preset and exit this menu.

Presets are listed in the tables below and on the following page.

Key #	AUDIX	
	Function / Label	Code
1	PLAY/REPLAY	20
2	SKIP TO NEXT	#
3	PAUSE/RESUME	3
4	FAST-FORWARD	6
5	ENVELOPE INFO	23
6	REWIND	5
7	FASTER	9
8	SLOWER	8
9	ACTIVITY MENU	*7
10	ERASE MESSAGE	*3

Key #	ARIA	
	Function / Label	Code
1	PLAY/REWIND	1
2	SKIP TO NEXT	#
3	PAUSE/RESUME	2
4	FAST-FORWARD	3
5	ENVELOPE INFO	5
6	SAVE MESSAGE	339
7	FASTER	6
8	SLOWER	4
9	CANCEL/EXIT	*
10	ERASE MESSAGE	337

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Key #	SRNADE Function / Label	Code
1	PLAY/PLAY NEXT	5
2	REWIND	2
3	PAUSE/RESUME	*
4	FAST-FORWARD	4
5	ENVELOPE INFO	8
6	SAVE MESSAGE	7
7	SPEED UP	*8
8	NORMAL SPEED	*3
9	EXIT MAILBOX	99
10	ERASE MESSAGE	3

Key #	uRCH Function / Label	Code
1	PLAY/REPLAY	1
2	REWIND	7
3	PAUSE/RESUME	8
4	FAST-FORWARD	9
5	ENVELOPE INFO	#6
6	SAVE MESSAGE	2
7	FASTER	6
8	SLOWER	4
9	CANCEL/EXIT	*
10	ERASE MESSAGE	3

To customize Voice Mail Menu keys, select EDIT.

```
PLAY/REPLAY              SAVE MESAGE

SKIP TO NEXT                 FASTER

PAUSE/RESUME                 SLOWER

FAST-FORWARD            CANCEL/EXIT

ENVELOPE INFO         ERASE MESSAGE

November 23, 2006            4:23 PM
 SELECT  MENU  ENTRY
                        CANCEL
```

Press a multifunction key to change its label or speed dial number. Consult your voice mail user's guide for voice mail functions and their access codes.

```
NAME:PLAY  MESSAGE
◀BKSP  CLEAR   ABC    CODE
```

Enter or change a key label with the dial pad keys – see page 23.

Select CODE to change the speed dial number assigned to the key. Function access codes for voice mail systems are typically one to three digits, although you can enter up to 24 digits per key. Multiple functions can be combined on a single key.

Press the *OK* key after entering the new code.

Swapping Voice Mail Menu Key Positions

If you want to swap the positions of two Voice Maul Menu keys, select SWAP.

```
SELECT ENTRY TO SWAP
                 CANCEL
```

Press the first key that you want to swap. The selected key's indicator will alternately flash red and green.

CANCEL *aborts the swap operation.*

```
SET NEW LOCATION
                 CANCEL
```

Press the key for the new position, or select CANCEL to exit without swapping.

Terminal Mode *(National ISDN only)* _____

If the network does not support Parameter Download, you must manually select the terminal mode.

From the Installation Options menu, select MODE.
(*SETUP* → INSTL → ► → MODE)

```
TERMINAL MODE=CACH EKTS
  CACH  BASIC MERID1
```

Select the terminal mode based upon the type of service that was ordered from your network service provider.

CACH – CACH EKTS *(default).*
BASIC – Voice or Basic EKTS.
MERID1 – Nortel Meridian 1 Option Series PBX.

In most cases, your phone service should be configured for CACH EKTS.

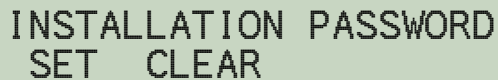Press the *OK* key to return to the Installation Options menu or press the *SETUP* key to exit Setup Mode.

Installation Password ───

You can set a password to prohibit unauthorized entry into the Installation Options menu.
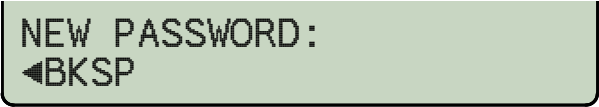
If a password is currently set, the display will prompt you to enter your password prior to making changes.

○ From the Installation Options menu, select PASSWD.
(***SETUP*** → INSTL → ► → PASSWD)
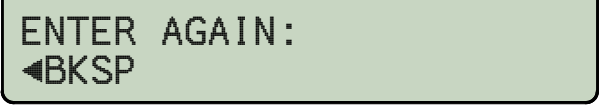
```
INSTALLATION PASSWORD
 SET   CLEAR
```

○ Select SET.

```
NEW PASSWORD:
◄BKSP
```

(5) Enter a new 4 to 11 digit password with the dial pad.
If you need to change a password digit after entering it, select ←BKSP (backspace) to delete the previous digit.

(OK) Press the ***OK*** key.

```
ENTER AGAIN:
◄BKSP
```

(5) Repeat the password when prompted to verify the new entry.

(OK) Press the ***OK*** key.

"PASSWORD SET" will be displayed to confirm the new password.

```
       PASSWORD SET
```

Record your password for future reference.

(OK) Press the ***OK*** key to return to the Installation Options menu or press the ***SETUP*** key to exit Setup Mode.

Removing the Password

◯ Select CLEAR.
"PASSWORD CLEARED" will be displayed to confirm that the password has been removed.

> PASSWORD CLEARED

OK Press the *OK* key to return to Installation Options menu or press the *SETUP* key to exit Setup Mode.

What to do if you lose your password

Contact your system administrator or call Tone Commander technical support at **(800) 524-0024** in the event you misplace your password. You will need to report the serial number of your telephone to receive a new password.

You can use the RESET option to remove all passwords. You must have access to the Installation Options menu, which may be password protected, to use this feature. *This option will clear all programmed numbers and settings in your phone.*

Reset to Factory Default Settings ─────────────────────────

Reset returns all settings to the factory defaults, and clears all speed dial numbers, logs, and passwords. This option is useful when moving the telephone to a new user or location.

Default values are listed in the table on page 55.

◯ From the Installation Options menu, select RESET.
(*SETUP* → INSTL → ► → RESET)

> RESET ALL SETUP OPTIONS?
>   YES   NO

◯ Select YES to confirm the reset operation.

> ALL SETTINGS CLEARED
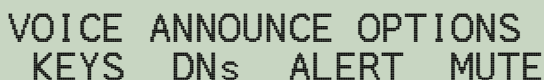> PHONE WILL BE RESTARTED

> INITIALIZING...

OK Press the *OK* key to return to Installation Options menu or press the *SETUP* key to exit Setup Mode. The phone will restart.

Voice Announce ───

This option allows certain incoming calls to be answered automatically by the speakerphone. Voice Announce calls are restricted to calls on selected Call Appearance/Directory Number keys. In addition, calls from specified directory numbers, and/or calls of a selected type determined by the ringing pattern can be restricted. The microphone can be automatically disabled for announcing only, or enabled to allow two-way conversations. Voice Announce can be enabled or disabled by the user at any time.

○ From the Installation Options menu, select VA.
($SETUP$ → INSTL → ► → VA)

```
VOICE ANNOUNCE OPTIONS
 KEYS  DNs  ALERT  MUTE
```

Selecting CA/DN Keys

○ Select KEYS to designate individual call appearances that will accept Voice Announce calls. Use this setting to restrict Voice Announce calls to specific dialed directory numbers (e.g. non-listed private numbers).

```
     SELECT VA KEYS
GREEN=VA    RED=AVAILABLE
```

▬ All available CA/DN keys will light red, Voice Announce enabled keys will light green; all other keys will be off. Press desired call appearance keys to enable or disable the Voice Announce feature for selected keys.

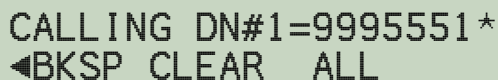***Set all appearances of a directory number to the same Voice Announce setting.***

OK Press the *OK* key when all Voice Announce keys have been selected.

Voice Announce configuration is not affected by Parameter Download, except when CA/DN key allocations change. The default Voice Announce setting for new CA/DN keys identified in a download is *disabled*.

Selecting Incoming Directory Numbers

CA/DN keys must be configured for Voice Announce before selecting incoming DNs.

○ Select DNs to restrict Voice Announce calls to specific callers (or groups of callers). The Calling DN templates are matched to the incoming caller ID to identify Voice Announce calls. You can enter up to three Calling DN templates.

```
CALLING DN#1=9995551*
◄BKSP CLEAR  ALL
```

○ Select ALL if you want to accept all incoming calls.

5 To restrict Voice Announce calls to specific callers or groups, use CLEAR or ←BKSP to delete the current entry, and then enter a combination of wildcards (✳ matches any group of characters, # matches a single character) and numeric digits with the dial pad to allow individual callers or blocks of callers.

For example, 9995551∗ matches 999-555-1000 through 999-555-1999; 99955510#0 matches 999-555-1010, 999-555-1020, etc. Non-numeric characters (such as hyphens) in the incoming caller ID are ignored. Up to 10 digits (including wild cards) may be programmed in each template.

Enter all digit positions as shown in the display for an incoming call; in most cases, this will include the area code.

Press the Left Arrow key to enter additional Calling DN templates. The Right Arrow key moves back to previously-entered templates.

When all Calling DN templates have been entered, press the *OK* key.

Selecting Alerting Patterns

Use the Alert option to allow only specific types of incoming calls (e.g. internal, external, intercom, etc.). CA/DN keys must be configured for Voice Announce before selecting alerting patterns.

Select ALERT to define a specific alerting pattern required to validate incoming Voice Announce calls.

```
ALERTING=ANY               ▶
  ANY   NORMAL DIST INTCOM
```

```
ALERTING=ANY               ▶
  PRI
```

ANY	– Accept any type of alerting (default value)
NORMAL	– normal alerting (pattern 0); typically used for internal calls.
DIST	– distinctive alerting-intergroup (pattern 1); typically used for external calls
INTCOM	– EKTS intercom (pattern 3); used for intercom calls
PRI	– distinctive alerting-special/priority (pattern 2); used for designated priority calls

Press the *OK* key after selecting the alerting pattern.

Automatic Muting

Select MUTE.

```
AUTOMATIC MUTE=ON
  ON    OFF
```

Select ON to automatically mute the microphone during a Voice Announce call, or OFF to enable two-way conversations.

Press the *OK* key after selecting the muting option.

Administration Options

The following test and diagnostic options are available from the Administration Options menu:

- Local Inspect
- Hardware Version
- Software Version
- Serial Number

- Test Functions
- Diagnostics
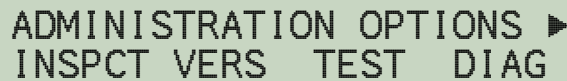- Terminal Restart
- Error Log

Administration Options Menu ———————————————————

You can enter from the Administration Options menu when the phone is idle or during an active call.

[SETUP]   Press the **SETUP** key.

```
          SETUP MENU
    INSTL ADMIN  USER  POTS
```
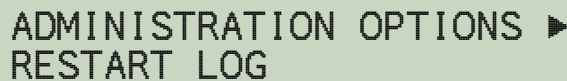
◯   Select ADMIN.

```
    ADMINISTRATION OPTIONS ▶
    INSPCT VERS  TEST  DIAG
```

▶   When ▶ appears in the upper line of the display, you can press the Left or Right Arrow key to see additional menu selections.
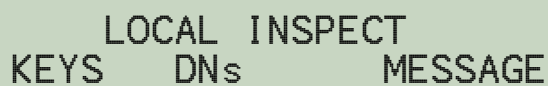
```
    ADMINISTRATION OPTIONS ▶
    RESTART LOG
```

Note: The POTS option is only available when the 8002TA or 8003TA Analog Port Terminal Adapter is installed.

Local Inspect ————————————————————————————

Local Inspect allows you to identify the call appearance/directory number or feature assignment of each configured key, directory numbers, and the feature indicator assignment for the Message Waiting Indicator. You can use Local Inspect after a Parameter Download to verify call appearance and feature assignments.

◯   From the Administration Options menu, select INSPCT.
(**SETUP** → ADMIN → INSPCT)

```
         LOCAL  INSPECT
    KEYS    DNs      MESSAGE
```

◯   Select KEYS, DNs (Directory Numbers), or MESSAGE (Message Waiting Indicator). Each option is described below.

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Keys

◯   Select KEYS.

▭   On the phone or Button Expansion Module, press the key that you want to inspect.
The key's indicator will alternately flash red and green.

Displays will vary depending upon the key type, as shown below.

OK   When you are finished inspecting keys, press the *OK* key to return to the Local Inspect menu or press the *SETUP* key to exit Setup Mode.

Call Appearance/Directory Number Key

The display will show for the selected key:

- Key number, directory number

```
01=DN# 555-349-1012      ▶
```

Press the Right Arrow key to view:

- Originate usage
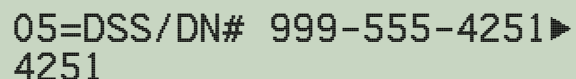- Call appearance reservation

```
ORIGINATING DN? YES     ▶
RESERVED=OUT/PRIORITY IN
```

DSS Key

The display will show for the selected key:

- Key number, directory number
- DSS number

```
05=DSS/DN# 999-555-4251▶
4251
```
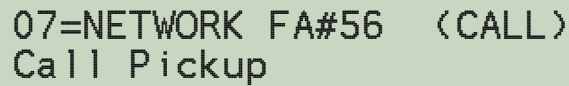
Press the Right Arrow key to view:

- Originate usage
- Call appearance reservation

```
ORIGINATING DN? NO      ▶
RESERVED=NOT RESERVED
```

Feature Activator, Conference, Transfer, or Drop Key

The display will show the key number, network feature activator number, and service description for the selected key.
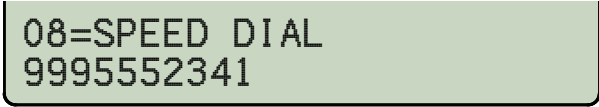
```
07=NETWORK FA#56   (CALL>
Call Pickup
```

(CALL) is displayed if the feature has been locally programmed to originate a call when activated (see page 24).

Speed Dial Key

The display will show the key number and programmed autodial string for the selected key.
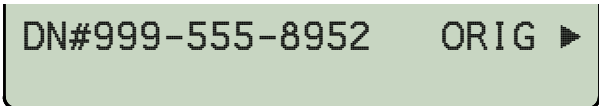
```
08=SPEED DIAL
9995552341
```

Directory Numbers

Select DNs to view the list of directory numbers on this phone.
The first line on the display will show the directory number, and 'ORIG' if this is an originating DN.

```
DN#999-555-8952   ORIG ▶
```

Press the Right Arrow key to view additional directory numbers.

Press the *OK* key to return to the Local Inspect menu or press the *SETUP* key to exit Setup Mode.
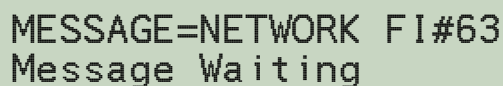
Message Waiting Indicator

Select MESSAGE.
The Message Waiting indicator will light.
The display will show the feature indicator number and the service description, if available. If the service description on line 2 is blank after a National ISDN Parameter Download, this feature has not been provisioned on your line.

```
MESSAGE=NETWORK FI#63
Message Waiting
```

Press the *OK* key to return to the Local Inspect menu or press the *SETUP* key to exit Setup Mode.

Version ——

Use this option to view the telephone's hardware version, software version, and serial number.

   ◯   From the Administration Options menu, select VERS.
         (**SETUP** → ADMIN → VERS)

```
           VERSION
SERIAL H/W    S/W   ADD-ON
```

Serial Number

   ◯   Select SERIAL.

```
SERIAL# 00506179339
```

Hardware Version

   ◯   Select H/W.

```
MODEL: 8810U
TOP:303702A   PCB:302501C
```

Software Version

   ◯   Select S/W.

```
S/W VERSION:02.07.16
```

Optional Equipment Version

   ◯   Select ADD-ON to display installed options.

```
        ADD-ON VERSION
8030X 8003TA
```

   ◯   Select the add-on model to view its software version.

```
MODEL:8030X BUTTON EXPAN
VERSION: 05.01.01
```

   OK   Press the **OK** key to return to the Administration Options menu or press the **SETUP** key to exit
         Setup Mode.

Test ───

Select this option to test the LCD display, LED indicators, and keys.

⬤ From the Administration Options menu, select TEST.
(***SETUP*** → ADMIN → TEST)

```
        TERMINAL  TEST
DISPLY  KEYS  8030X
```

Display and LED Indicators

⬤ Select DISPLY.

```
        DISPLAY/LED  TEST
LCD      RED      GREEN    OFF
```

LCD Display

⬤ Select LCD.
All pixels (picture elements, or dots) on the display should turn dark.

▭ Press any key to return the display to normal operation.

LED Indicators

⬤ Select RED to turn on all red indicators, and turn all others off.

⬤ Select GREEN to turn on all green indicators, and turn all others off.

⬤ Select OFF to turn off all indicators, or wait 5 seconds for automatic off.

(OK) Press the ***OK*** key to return to the Terminal Test menu or press the ***SETUP*** key to exit Setup Mode.

Tone Commander 8810 Installation Instructions

Keys

⬤ Select KEYS.

```
PRESS EACH KEY TO TEST
OR GO OFF-HOOK TO EXIT
```

▭
⬤
🔘(JKL 5) Press each key on the telephone (not on the Button Expansion Module), including the dial pad keys, one at a time.
A letter should appear in the display for each pressed key.
"vwx" is shown in the lower right corner of the display after the first keypress, to fill out the 48-character display. The 8810 has 45 keys.

```
ABCDEFGHIJKLMNOPQRSTUVWX
abcdefghijklmnopqrstuvwx
```

If all keys are operational, the following display will be shown. Press any key to return to the Terminal Test menu.

```
     KEY TEST PASSED
 PRESS ANY KEY TO EXIT
```

If any key fails, or to exit before testing all keys, go off-hook with the handset or unplug the phone.

8030X Button Expansion Module

This option tests the keys and LED indicators on a 8030X Button Expansion Module. It is only available if a 8030X is connected to the phone.

⬤ Select 8030X.

```
PRESS EACH KEY ON 8030X
   PRESS OK TO EXIT
```

▭ Press each key on the 8030X, one at a time.
The key's LED indicator should flash alternately red and green, and a number should appear in the display for each pressed key.

```
123456789012345678901234
567890
```

▭ After all keys have been tested, press any key to exit the test.

🔘(OK) You can also exit the test at any time by pressing the *OK* key to return to the Terminal Test menu or press the *SETUP* key to exit Setup Mode.

Diagnostic Display ─────────────────────────────

○ From the Administration Options menu, select.
(**SETUP** → ADMIN → DIAG)
The display will show the states of layers 1, 2, and 3, the Terminal Endpoint Identifier, and the network switch type.

```
L1:OK     L2:OK      TEI=64
L3:OK     SWITCH=5ESS NI-X
```

(OK) Press the **OK** key to return to the Administration Options menu or press the **SETUP** key to exit Setup Mode.

Restart ─────────────────────────────────

Select Restart to reset the phone. If you are on an active call you will be disconnected. The call log will be cleared. No configuration parameters will be altered.

○ From the Administration Options menu, select RESTART.
(**SETUP** → ADMIN → ► → RESTART)

```
RESTART/CLEAR CALL LOG?
   YES    NO
```
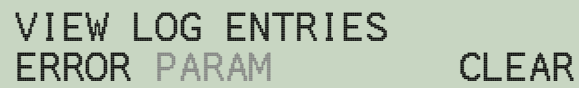
○ Select YES to restart the phone.

Viewing the Error and Download Logs ───────────────────────

○ From the Administration Options menu, select LOG.
(***SETUP*** → ADMIN → ► → LOG)

```
VIEW LOG ENTRIES
ERROR PARAM         CLEAR
```

○ Select ERROR to view the error log or PARAM *(National ISDN only)* to view the Parameter Download log.

The most recent log entry will be shown.

▼ To view a previous (older) log entry, press the Down Arrow key.

▲ To return to the last displayed (newer) log entry, press the Up Arrow key.

OK Press the ***OK*** key to return to the View Log Entries menu or press the ***SETUP*** key to exit Setup Mode.

Clearing Logs

○ Select CLEAR to remove all entries from the error log.

OK Press the ***OK*** key to return to the Administration Options menu or press the ***SETUP*** key to exit Setup Mode. The Parameter Download log is re-written each time a new download is performed.

Troubleshooting

Inoperable Telephone Recovery Procedures

If a telephone is unable to operate normally or remains locked-up in a particular state:

1. Press the *SETUP* key; the Setup Menu should be displayed. Select **ADMIN**, press the ► key, select **RESTART**, and then select **YES**. This will cause the telephone to attempt re-initialization with the network. If full initialization is achieved, proceed to "Verify operation…".

2. *If the phone display is active, but the Setup Menu does not function*, disconnect and reconnect the line cord or local power supply to cycle power on the phone. If full initialization is achieved, proceed to "Verify operation…".

3. *If the phone display is blank and there are no lit LEDs*, for an 8810T, verify connection to an external NT1 and verify power connection to the NT1. For an 8810U, verify connection to an external power supply and make sure the line cord is plugged into the U IN jack on the phone. If power is connected to the phone, but the display remains blank, replace the phone.

4. *If the phone appears operational but full initialization is not achieved*, determine which protocol layer is not initializing by observing the startup diagnostic display.

   Layer 1 (L1) does not initialize:
   - For an 8810T, locate the external NT1 device for the phone; verify connection between the U (LINE) connector on the NT1 and the Telco ISDN line. For an 8810U, verify connection between the U IN jack on the phone and the Telco ISDN line.
   - If the external NT1 indicates Terminal Error, verify connection and correct polarity of all wire pairs between the phone and the S/T (TERMINAL) connector on the NT1. On a multipoint line, verify correct connections and polarity to the partner phone as well. Verify termination settings on both phones and the NT1 (see page 9).
   - For a standalone or single rack-mount NT1, press the NT1 reset button or cycle NT1 power by temporarily disconnecting its stand-alone power supply or removing the NT1 from the rack. CAUTION: If you remove an NT1U-223TC triple NT1 circuit card from the rack, it will disrupt service to the other two NT1 circuits; plan accordingly.
   - The network may take up to 3 minutes to synchronize L1 and L2 with the phone. If there is an external NT1, verify correct line and terminal status indications on the NT1. Follow additional troubleshooting procedures in your NT1 documentation.
   - When Layer 1 is fully initialized, the display will indicate L1:OK

   Layer 2 (L2) does not initialize within a few minutes:
   - Repeat Step 1 (restart phone). If problem persists, contact your service provider.
   - When Layer 2 is fully initialized, the display will indicate L2:OK and show the TEI number assigned by the network.

   Layer 3 (L3) does not initialize within one minute after L2:OK:
   - Verify correct SPID number is programmed and that it is not already in use (on a multipoint line).
   - Verify that your service provider has not changed SPID formats or area codes on your ISDN line. (National ISDN SPID formats include the area code.)
   - When Layer 3 is fully initialized, the display will temporarily show L3:OK and indicate the network switch type before returning to the normal idle display.

Verify operation of the phone after full initialization:

1. Go off-hook on an idle line. The selected key should light green and you should hear dial tone.

2. Dial a valid directory number for a test call. Verify that the call is successfully completed.

Telephone Configuration Troubleshooting

Symptom	Check	Fix
Inbound calls to a specific line cause the LED to flash, but there is no audible ringing.	"RINGER OFF (VOL^ = ON)" is displayed when idle.	Press the Volume Up key while <u>not</u> on a call to enable the ringer.
	SETUP → USER → RING → CONTROL > Select line key	> ALWAYS
A specific line is selected that is supposed to have dial tone, but there isn't any.	**SETUP** → INSTL → KEYS > Select line key	> CA/DN
All inbound calls appear on CA1. Outbound calls cannot be made.	**SETUP** → INSTL → ► → MODE	Select CACH, BASIC, or MERID1 as required by service provisioning.
Ringing calls are not answered when going off-hook *(National ISDN only)*.	**SETUP** → USER → ► → PREF	> RING
Using a specific headset, the voice level to other parties is not loud enough.	**SETUP** → USER → ► → VOICE → HEAD → VOLUME	> XMT+ as many times as required
"SELECT AN IDLE LINE" is displayed when going off-hook or pressing the speaker key.	Originating DN and Call Appearance Reservation settings.	See page 22.

Appendix A
Ordering ISDN Service

Setup Programs

The **8610/8620/8810 User Setup Program** allows you to set up key labels, Speed Dial keys, the Call Directory, and Voice Mail Menu keys using a Windows PC interface. The phone setup information can be read from the phone, saved to disk, and loaded into any 8810, 8610, or 8620 telephone that is equipped with an 8001TA or 8003TA Terminal Adapter. The program will also print key labels for the 8030X Button Expansion Module and 8610/8620 telephones.

For ordering ISDN service, and printing key labels for other Tone Commander phone models, use the **ISDN Telephone Setup Wizard**. You can download these programs, as well as label templates for Microsoft Word, from Tone Commander's Web site at **www.tonecommander.com**.

Ordering Manually

Your service provider may have their own process and forms for ordering ISDN service. Contact them for instructions before you create your order.

Key Assignments

The 8810 is compatible with all NIUF terminal packages and many other standard line configurations. If Parameter Downloading is available, the phone will automatically assign Feature Activator keys and codes to match almost any line configuration. Call appearances are always assigned in ascending order, starting with button #1. Feature activators are assigned in descending order, starting with button #10 on the 8810, or the last button (#40) on the 8030X.

Use the table on the following page as a guide when assigning custom feature activators and indicators.

Where to Go for Help

If you need assistance ordering service, call Tone Commander Customer Technical Support at **(800) 524-0024**.

Recommended Button Assignments

Network Button #		Assignment
1		Call Appearance (PDN)
2		Call Appearances
	3	
	.	
	.	
	.	
	.	
	.	
	.	
	58	
59		Additional Feature Keys
60		Conference *
61		Transfer *
62		Drop *
63		Message Waiting Indicator

* National ISDN only; DO NOT assign these keys for 5ESS Custom ISDN.

With Parameter Downloading, the phone will automatically remap feature activators (other than Conference, Transfer, Drop, and Message Waiting) in descending order, starting with key 10 on the 8810. For example, network feature key #59 will be assigned to key 10, #58 to key 9, etc.

Appendix B
Setup Menu Tree

INSTL *(Installation Options)*

      SPID *(Service Profile Identifier)*

      PARAM *(Parameter Download – National ISDN only)*
          START *(Start Download)*
          AUTO *(Automatic Download Enable/Disable)*

      KEYS
          CA/DN *(Call Appearance/Directory Number)*
              ORIG *(Originating DN)*
               RESERV *(Call Appearance Reservation)*
                  OUT *(Outgoing Only)*
                  IN *(Incoming Only)*
                  PRI *(Outgoing/Priority Incoming)*
                  NOT *(Not Reserved)*
              LABEL *(Key Label)*
          FA *(Feature Activator)*
              CALL *(Originate a Call – National ISDN only)*
              LABEL *(Key Label)*
          DSS *(Direct Station Select)*
              DSS# *(Enter/Edit DSS Dialing String)*
              LABEL *(Key Label)*
          SPDIAL *(Speed Dial)*
              PAUSE *(Dialing Pause)*
              FA *(Feature Activator)*
              LABEL *(Key Label)*
          UNUSED

          Voice Mail Keys (Press VMAIL key for this menu):
              NUMBER *(VMAIL key Dial String)*
                  PAUSE *(Dialing Pause)*
              EDIT *(Voice Mail Menu Keys)*
                  CODE *(Dial String)*
              SWAP *(Swap Voice Mail Menu Key Positions)*
              TYPE *(Menu Key Preset Type)*
                  AUDIX *(Audix, Intuity Audix, Avaya Modular Messaging)*
                  ARIA *(Octel Aria, Octel 250/350, Intuity Aria, Avaya Unified Messenger)*
                  SRNADE *(Octel Serenade, Octel 200/300, VMX)*
                  uRCH *(uReach)*
                  NONE

      MSG *(Message Waiting Indicator)*

      MODE *(Terminal Mode – National ISDN only)*
          CACH *(Call Appearance Call Handling EKTS)*
          BASIC *(Basic EKTS – National ISDN only)*
          MERID1 *(Meridian 1 Option Series PBX)*

      PASSWD *(Installation Password)*
          SET
          CLEAR

Tone Commander 8810 Installation Instructions

ADMIN *(Administration Options)*

USER *(User Options)*

Options in this menu are described in the 8810 User Guide.

CLOCK *(Set Time and Date)*

KEYS
CA/DN Keys:
DSS *(Direct Station Select)*
DSS# *(Enter/Edit DSS Dialing String)*
CLEAR *(Remove Dialing String)*
PAUSE *(Dialing Pause)*
CA/**DN** *(No DSS)*
Feature Activator Keys:
CALL *(Originate a Call – National ISDN only)*
Speed Dial Keys:
PAUSE *(Dialing Pause)*
FA *(Feature Activator)*
CLEAR *(Remove Dialing String)*

Voice Mail Keys (Press VMAIL key for this menu):
NUMBER *(VMAIL key Dial String)*
PAUSE *(Dialing Pause)*
EDIT *(Voice Mail Menu Keys)*
CODE *(Dial String)*
SWAP *(Swap Voice Mail Menu Key Positions)*
TYPE *(Menu Key Preset Type)*
AUDIX *(Audix, Intuity Audix, Avaya Modular Messaging)*
ARIA *(Octel Aria, Octel 250/350, Intuity Aria, Avaya Unified Messenger)*
SRNADE *(Octel Serenade, Octel 200/300, VMX)*
uRCH *(uReach)*
NONE

Unused Keys

DIR *(Call Directory)*

RING *(Personal Ringing)*
TONE *(Ringing Tone)*
ALL *(All Keys use the same Ringing Tone)*
OFFHK *(Off-Hook Ringing)*
NORMAL
SINGLE *(Single Burst)*
CONTROL *(Ringing Control)*
ALWAYS *(Ring Immediately)*
NEVER *(Never Ring)*
WAIT2 *(Wait 2 Ring Cycles / 12 seconds)*
WAIT3 *(Wait 3 Ring Cycles / 18 seconds)*
WAIT4 *(Wait 4 Ring Cycles / 24 seconds)*
WAIT5 *(Wait 5 Ring Cycles / 30 seconds)*
WAIT6 *(Wait 6 Ring Cycles / 36 seconds)*
WAIT7 *(Wait 7 Ring Cycles / 42 seconds)*

PREF *(Off-hook Call Preference – National ISDN only)*
RING *(Answer Ringing Call)*
IDLE *(Select Idle Call Appearance)*
NONE *(Manual Call Appearance Selection)*

VOICE *(Voice Mode)*
HAND *(Handset)*

Tone Commander 8810 Installation Instructions

HEAD *(Headset)*
VOLUME
> **RCV+/-** *(Receive Volume Up/Down)*
> **XMT+/-** *(Transmit Volume Up/Down, Headset only)*

DISPLY *(Display Contrast)*
> **+** *(Increase Contrast)*
> **-** *(Decrease Contrast)*

PASSWD *(Call Log Password)*
> **SET, CLEAR**

POTS *(8002TA/8003TA Analog POTS Port Options)*

Options in this menu are described in the <u>8002TA/8003TA Analog Port Terminal Adapter User Manual</u>.

RING *(Ringing Control)*
> **ALWAYS** *(Ring Immediately)*
> **NEVER** *(Never Ring)*
> **WAIT2** *(Wait 2 Ring Cycles / 12 seconds)*
> **WAIT3** *(Wait 3 Ring Cycles / 18 seconds)*
> **WAIT4** *(Wait 4 Ring Cycles / 24 seconds)*
> **WAIT5** *(Wait 5 Ring Cycles / 30 seconds)*
> **WAIT6** *(Wait 6 Ring Cycles / 36 seconds)*
> **WAIT7** *(Wait 7 Ring Cycles / 42 seconds)*

PRIV *(POTS Line Privacy)*
> **ON**
> **OFF**

CALLWT *(Call Waiting Alert)*
> **CALLID** *(Caller ID Display and Tone)*
> **TONE** *(Call Waiting Tone only)*
> **DISABLE**

ORIG *(POTS Originating Call Appearance)*

Appendix C
Warranty and Service

Tone Commander Product Warranty

For a period of one year from date of dealer purchase, but not to exceed 16 months from date of manufacture, Tone Commander Systems, Inc. (Tone Commander) warrants its products to be free from defects in material and workmanship under conditions of normal use and service. Tone Commander shall, at its option, repair or replace any defective product which, in its opinion, has not been misused, damaged, or improperly installed.

Repair or replacement under this warranty will be performed at Tone Commander's factory. Authorization must be obtained from Tone Commander prior to returning a product for repair. Freight must be prepaid for all units returned to Tone Commander. Units repaired under warranty will be shipped UPS Ground (or equivalent), freight prepaid by Tone Commander.

Products that are older than the warranty period, but less than 7 years old, or still manufactured by Tone Commander may be repaired at the factory for a flat rate charge. Repaired out-of-warranty units are warranted for 90 days from the date of repair.

The repair or replacement of a product under this warranty represents the entire obligation of Tone Commander; Tone Commander shall not be liable for any special or consequential damages resulting from or caused by any defect, failure, incapacity or malfunction of any of its products.

The foregoing express warranty is in lieu of all other warranties, express or implied, including but not limited to any implied warranty of merchantability, fitness, or adequacy for any purpose or use, quality, productiveness or capacity; Tone Commander, to the extent permitted by law, hereby disclaims all such other warranties.

Appendix D
Specifications

Contents of Shipping Container

Telephone + Stand
Handset
Modular line cord
Modular handset coil-cord
User Guide

Standards Compliance

ANSI T1.601-1992 and T1.605-1991
National ISDN, Lucent 5ESS Custom ISDN
FCC Part 15
FCC Part 68
Hearing Aid Compatible
FCC Part 68 Volume Control Requirements
UL, cUL Listed

Network Switch Compatibility

Lucent 5ESS – National and Custom ISDN
Avaya Definity, Multivantage, and Communication Manager PBX – National and Custom ISDN
Nortel DMS-100 – National ISDN
Nortel Meridian 1 Option Series PBX – National ISDN
Siemens EWSD – National ISDN
Lucent/AG Communication Systems GTD-5 – National ISDN

Power Requirements

PS1 (phantom) or PS2 (pins 7 and 8)
24 to 56.5 VDC @ 2 W max. per terminal (excluding wiring losses)

Physical Dimensions

9.6" W x 8.0" D x 3.5" H, excluding handset

Weight

2.3 lbs., including stand and handset

Environmental

Operating Temperature: 32° to 104° F (0° to 40° C)
Storage Temperature: 32° to 122° F (0° to 50° C)
Humidity: 5% to 95% non-condensing

Factory Default Settings

Parameter	Default Value (National ISDN)	Default Value (5ESS Custom ISDN)
Auto Param. Download	Enabled	*N/A*
CA Reservation	Not Reserved	Not Reserved
Call Log Password	None	None
Call Preference	Ring	(Network Controlled) *
Clock	Time of the last error log entry	Time of the last error log entry
Conference	FA/FI=60	*N/A*
Display Contrast	Level 5	Level 5
Drop	FA/FI=62	*N/A*
Handset Volume	Level 3	Level 3
Headset Volume	Level 3	Level 3
Install Menu Password	None	None
Message Waiting	FI=63	FI=63
Multifunction Keys 1-3	CA/DN	CA/DN
Multifunction Keys 4+	Unused	Unused
Off-hook Ring	Single	Single
Originating DN	Yes, PDN	Yes, Keys 1-3
Ringer Volume	Level 3	Level 3
Ringing Control	Always	Always
Ringing Tone	#5 (of 8)	#5 (of 8)
Speakerphone Volume	Level 3	Level 3
Terminal Mode	CACH	N/A
Transfer	FA/FI=61	*N/A*
Voice Announce Alert	Any	Any
Voice Announce DNs	All	All
Voice Announce Keys	All Disabled	All Disabled
Voice Announce Muting	On	On
Voice Mail Menu Presets	Aria	Aria
Voice Mode	Handset	Handset

* fixed setting for 5ESS Custom ISDN

Important Safety Instructions

1. Never install telephone wiring during a lightning storm.

2. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

4. Use caution when installing or modifying telephone lines.

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

5. Read and understand all instructions.

6. Follow all warnings and instructions marked on the product.

7. Unplug the line cord before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

8. Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

9. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

10. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.

11. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.

12. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

13. Never push objects of any kind into this product through any openings as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on this product.

14. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.

15. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    A. When the power supply cord or plug is damaged or frayed.

    B. If liquid has been spilled into the product.

    C. If the product has been exposed to rain or water.

    D. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

    E. If the product has been dropped or the case has been damaged.

    F. If the product exhibits a distinct change in performance.

16. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

17. Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS

FCC Requirements

The Tone Commander Models 8810T and 8810U comply with Part 68 of the FCC Rules. The label affixed to this equipment contains, among other information, the FCC Registration for this equipment. You must, upon request, provide this information to your telephone company.

The following jacks must be ordered from the telephone company in order to interconnect this product with the public communication network: RJ49C.

If your 8810 causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. if possible, they will notify you in advance. But if advance notice is not practical you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

The 8810 is hearing-aid compatible (HAC) per Section 68.316, FCC Rules and Regulations.

If you have trouble with the 8810, please refer to the Troubleshooting section in this manual, or contact us at the address listed on the back of this manual for information on obtaining service or repairs. The telephone company may ask that you disconnect the telephone from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

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