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OfficeLink Solo Product Manual



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IMPORTANT SAFETY INSTRUCTIONS

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

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. 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, consult your dealer or local power company. This product is designed for indoor use only.
4. To reduce the risk of electric shock, do not disassemble this product, but take it to qualified service personnel 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.
5. If the product does not operate normally by following the operating instructions, or if the product has been dropped or the cabinet has been damaged, or if the product exhibits a distinct change in performance; refer servicing to qualified service personnel.
6. If this product is used in a manner other than specified in this manual, the protection provided by the product may be impaired.
7. Adequate air flow must be maintained in order for the unit to operate correctly. Do not wrap the unit in blankets, paper, or other material that may impede ventilation.



CAUTION: THIS PRODUCT
CONTAINS ELECTROSTATIC
SENSITIVE DEVICES. USE
APPROPRIATE HANDLING
PROCEDURES.

U.S. REGULATORY COMPLIANCE

FCC Part 68 Notice: To comply with FCC Part 68 regulations, the following requirements must be met:

1. If the telephone company requests information on the equipment connected to their lines, please tell them:
 - a. the telephone number the equipment is connected to;
 - b. this equipment operates on standard RJ11 phone jacks;
 - c. the FCC registration number;
 - d. the ringer equivalence number (REN). The REN shows how many devices, such as phones, modems, etc. can be connected to your line. In most areas, there cannot be more than five devices (i.e., a REN of five) on a phone line. If the REN is exceeded, then your phone may not ring properly.

NOTE: Items C and D above are found on the label on any Teltone equipment connected to your telephone line.

2. These devices must not be installed on coin-operated telephone lines or party lines.
3. Repair work on this device must be done by Teltone Corporation.
4. If any trouble is experienced with this equipment, the telephone company may request that the customer disconnect the registered equipment from the telephone line to determine if the registered equipment is malfunctioning and if the registered equipment is malfunctioning, the use of such equipment shall be discontinued until the problem has been corrected.

FCC Part 15 Class A Notice: 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.

CANADIAN REGULATORY COMPLIANCE

Notice: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The Industry Canada label or the abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to connect it to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may prevent degradation of service in some situations.

Repairs to certified equipment should be made by Teltone Corporation.

Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminal devices to be connected to a telephone interface without overloading the interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the REN of all devices does not exceed five (5) in most, but not all cases. Check with your local exchange carrier for the REN limit in your service area. The REN assigned to each device is located on the equipment label.

COMPLIANCE NOTICE: This digital apparatus does not exceed the Class A limits for Radio Noise Emissions set out in the equipment standard ICES-003 for digital apparatus.

AVIS DE CONFORMATION: Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectriques édicté par le ministère des Communications du Canada.

OfficeLink Solo

Model OL1-02

INTRODUCTION

Teltone's OfficeLink Solo is a compact, single-user device that enables remotely located employees, system administrators, teleworkers, or mobile workers to call into their corporate phone system. With OfficeLink Solo, up to 25 employees (one at a time) can make and receive business-related phone calls from their home or telework center, while appearing to callers as if they are in the office. Through the OfficeLink Solo unit, remote workers can work from any touchtone telephone to access PBX features to transfer callers, set up conference calls, check and leave voice messages, and use abbreviated dialing, custom calling features, and all other capabilities available inside the office.

OfficeLink Solo supports the extension of calls to satellite office or home telephones. When installed on any PBX, ACD (automatic call distributor), or Centrex switch platform equipped with a 2500 set interface, OfficeLink permits a remote worker or an ACD agent to dial in from a home telephone and receive incoming calls or make outgoing calls (see Figure 1).

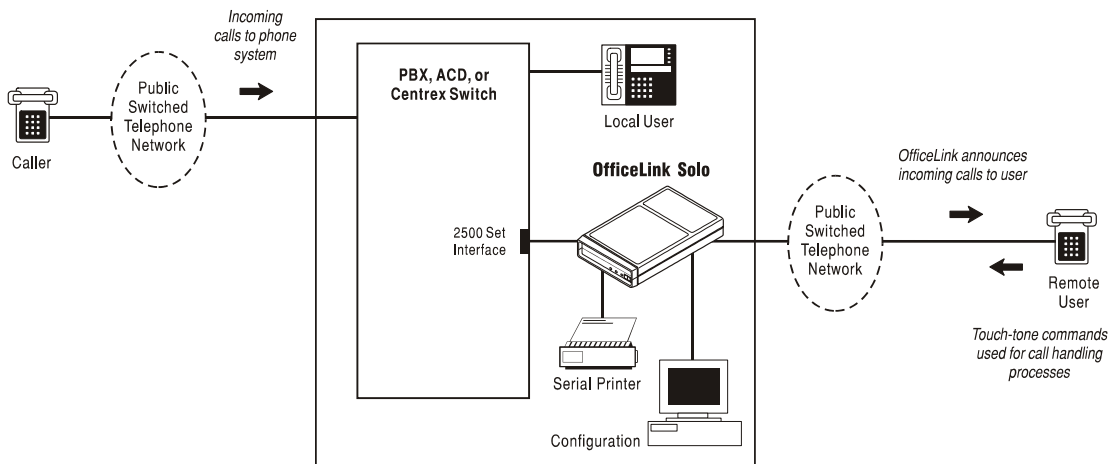


Figure 1. Typical OfficeLink Solo Application

OfficeLink Solo also provides secure remote telephone access for service quality monitoring and PBX/Centrex system maintenance. Remotely located customer service supervisors can monitor agent performance by dialing into an ACD, PBX, or Centrex equipped with an observation port. Off-premise telephone system administrators can call into the corporate PBX, key telephone, or Central Office Centrex system to access WATS, FX, tie lines, or other specialized services, check system condition, status, security, and change settings on the switch or perform system maintenance functions. OfficeLink Solo increases the availability and usefulness of PBX and Centrex services by enabling unattended access and hence 24-hour availability.

OfficeLink Solo Product Manual

Additionally, OfficeLink Solo helps businesses control toll calling expenses. Off-premises callers can use less expensive WATS, FX, tie or dedicated lines of the office telephone system. Accounting of business calling is simplified because long-distance charges of business calls made off-premises are included in each month's office telephone bills. OfficeLink Solo increases convenience and time savings for business callers and for employees.

Complete system administration and security capabilities are provided with OfficeLink Solo. It provides enhanced password security and other hacker-prevention features. In addition, printed call records allow monitoring for abuse of calling privileges by authorized users.

Using this Manual

This manual is written for the system administrator and the installer of the unit. It is not intended for the remote users of the unit. This manual provides instructions for installing and programming an OfficeLink Solo unit.

If this is your first experience with OfficeLink Solo, please be sure to read the information in "Getting Started" starting on page 2. If you are familiar with this unit, you can skip to "Installation" starting on page 5 and "Programming" starting on page 12. For examples of typical OfficeLink Solo applications and corresponding user instructions and programming steps, see "Typical Applications" starting on page 22. For a complete description of the OfficeLink Solo functions and programming commands, see "Commands" starting on page 40.

GETTING STARTED

This section outlines basic information with which you should be familiar before working with the OfficeLink unit. Please review this section before installing the unit.

Using the Unit

To use the OfficeLink Solo unit, a remote user dials the telephone number dedicated to the OfficeLink's Remote port. After accessing the unit and completing the password procedure (if required), the remote user is in command mode or hears dial tone from the OfficeLink's Local port. The user can then enter control codes to invoke any system feature within the PBX or Centrex system normally available to a local user using a 2500 set. The OfficeLink unit passes the various ringing cadences, which indicate the type of call being sent to the remote user, as ringing tones in the headset.

If the user is an ACD agent working from a remote location, he or she can log in to the ACD just as a local agent would, and prepare to receive calls.

The default mode of operation for OfficeLink Solo is to maintain a continuous connection between the remote user's telephone and the OfficeLink unit at all times. This is the preferred method of operation for users who make or receive large

numbers of calls, such as remote ACD agents. As calls ring in to the OfficeLink (Local port), a ringing tone is heard in the user's handset to alert him or her of the incoming call. When the call is complete, the remote user remains connected and can make additional calls or wait until another call arrives. The remote user directs the OfficeLink unit to go on-hook after completed calls and off-hook when new calls are announced.

For remote users who do not do intensive call work, the connection can be maintained only for the duration of individual calls, a per call connection. In Per Call Connection, OfficeLink and the remote user to maintain a connection on a per call basis. As calls ring in to the OfficeLink (Local port), the Remote port is taken off-hook and the remote user's telephone number is dialed. In this mode of operation, the user calls the OfficeLink unit to make one or more outgoing calls. When a call is complete, the remote user may remain connected and make additional calls, or disconnect and wait until another call arrives. The OfficeLink unit calls the user each time that an incoming call is received.

Control Codes

Remote OfficeLink users control the telephone line by entering control codes (DTMF sequences). When users enter control codes, the digits must be entered *within the programmed interdigit time period* of each other (default is 1 second); otherwise, the OfficeLink unit ignores the code.

The user control codes include:

- Local port Off-hook with Tone Limiting (**)
- Local port Off-hook with Tone Pass-Through (#*)
- Switch hook flash (*#)
- Hang-up (on-hook) Local port and go to command mode (##)
- Disconnect (#9)
- Resize (*default* is disabled)
- Turn on per call: *100#
- Turn off per call: *200#
- Query dial back number: *77#
- Cancel dial back number and disconnect: 000#
- Answer dial back call: 5

You can change most of the control codes from the defaults to other two- or three-digit values. You can disable the function and codes for disconnect, resize and switch hook flash. You cannot change the codes for turning on and off per call, querying or canceling a dial back number, and answering a dial back call.

For guidelines for users, see "Information for OfficeLink Users" on page 78.

Security

Passwords are the primary means to prevent unauthorized use of the telephone services for which this OfficeLink Solo unit is being installed. A maximum of 25 passwords can be programmed, each 3 to 10 digits long.

If a user repeatedly enters an invalid password, the OfficeLink unit goes into “Prevent” mode (if enabled). This mode blocks (locks out) all user access to the unit. The number of invalid attempts, the unit’s response to users, and the amount of time the blocking is active are programmable.

Configuring the Unit

The system administrator, usually User 1, configures and manages the OfficeLink unit. To remotely program the unit, the system administrator must be User 1 and remote programming must be enabled.

User 1 can be allowed to call the unit from any location and enter programming mode. If you enable remote programming, physical access to the unit (to press the front panel switch to the Program position) is not required.

If your application has 25 users, you must disable remote programming before assigning User 1 to a remote user instead of to the system administrator.

For configuring your OfficeLink Solo, OfficeLink Solo Configuration Software is provided on the product CD (also available from the www.teltone.com website). The unit can also be programmed on site or remotely through a DTMF telephone. For more information, see “Programming Access” on page 17.

Printed Call Records and Settings

The OfficeLink unit can print call records in real time. With a serial printer connected to the RS-232C port on the back panel of the OfficeLink unit, a record of each call or access attempt is printed immediately after each call.

The unit can also print the current system configuration for the unit. Pressing and holding the front panel switch in the Program position for longer than 2 seconds generates a printout of the current configuration.

The interface and call record format are described in “Serial Interface” on page 68.

Front Panel

The OfficeLink Solo front panel (see Figure 2) provides status indicators and a switch for disabling/enabling the unit and for on-site programming of the unit.



Figure 2. OfficeLink Solo Front Panel

Green Power/Status LED	Off indicates the unit is disabled Slow flash indicates the OfficeLink unit is enabled and in idle state Rapid flash indicates that the unit is in programming mode or communicating via the serial port 1-second on/1-second off indicates the unit is in Prevent mode Double blink indicates Per Call Connection is active
Red Remote LED	On: indicates the Remote port is off-hook
Red Local LED	On: indicates the Local port is off-hook
Switch Disable Position	Placing the switch in the Disable position disables the unit; it cannot answer <i>any</i> calls. When in the Disable position, the green LED is off. Placing the switch in the Disable position ends calls in progress and exits programming mode. The switch stays in this position until you change it.
Switch Ready Position	Placing the switch in the Ready position allows the OfficeLink unit to make or receive calls. When the switch is in the Ready position, the green LED flashes. The switch stays in this position until you change it.
Switch Program Position	Pressing the switch to the Program position until the green LED flashes quickly allows the <i>next</i> user who calls the OfficeLink unit to access programming mode (see “Programming Access” on page 17). This position is momentary: the switch springs back to the Ready position when you release it.

INSTALLATION

This section presents the required and optional items used in installing the unit, walks you through the installation process, and provides a quick test sequence at the end. Please read through the entire section before starting the installation process.

OfficeLink Package

Unpack your OfficeLink Solo package and verify that you received the following items:

- OfficeLink unit
- AC power pack
- Software and documentation CD-ROM
- Product Registration card

You will also need two RJ11C cords, which are not supplied, unless you ordered them.

For more information about the unit, see “Specifications” on page 65. Return any items that appear damaged to Teltone. See “Return Procedures” on page 64).

Mounting the Unit

The OfficeLink Solo unit is equipped with rubber feet and may be placed on any flat surface. You can also order hardware to mount the unit on a wall or rack.

The Wall Mounting Strap (UM-110-101) mounts a single OfficeLink unit to a wall. See Figure 3.

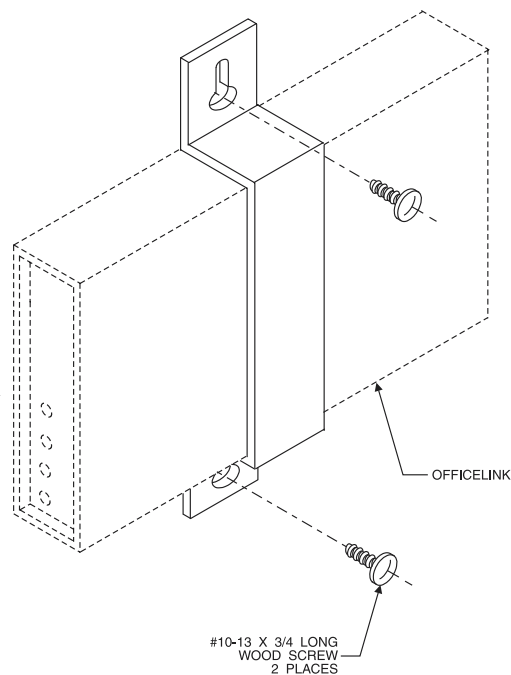


Figure 3. Wall Mounting Strap

The Wall Mounting Bracket (UM-111-401), which mounts up to four OfficeLink units to a wall, is shown in Figure 4.

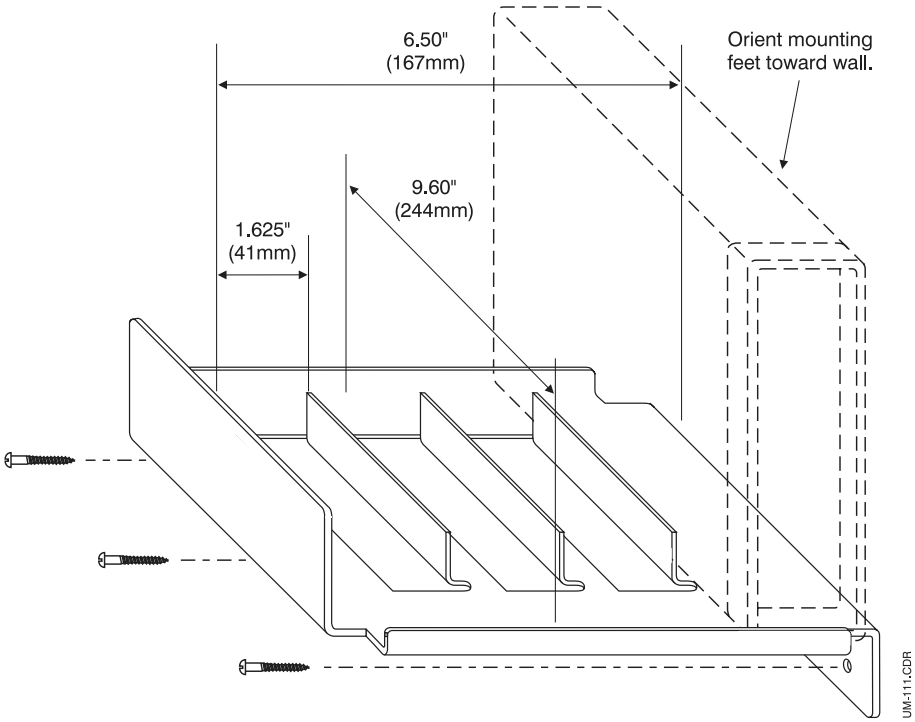


Figure 4. Wall Mounting Bracket

The Rack Mounting Shelf (UM-113-801) mounts up to eight OfficeLink units in a sheet metal housing. With the supplied mounting hardware, you can install the shelf in center- or front-mounting positions in either a 19- or 23-inch rack. An eight outlet power strip with a 14-foot cord is included with the rack. See Figure 5.

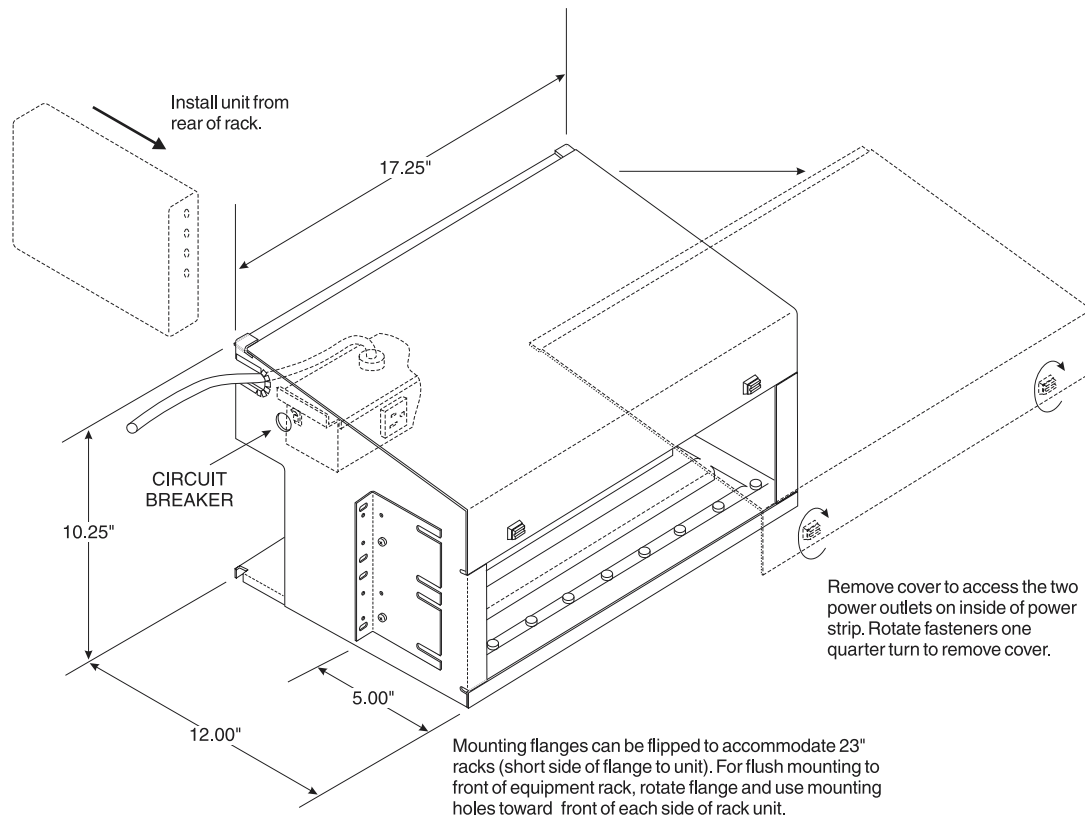


Figure 5. Rack Mounting Shelf



Note: To order a mounting package, see “Ordering Information” on page 71. Installation instructions are included.

Line Requirements

The OfficeLink Solo unit may be used on any line compatible with a standard analog DTMF telephone.

The Remote port line should be loop start with forced disconnect. The Local port line on the OfficeLink *must* be loop start.

If you are using a loop start line *without forced disconnect* for the Remote port line, the switching platform must deliver dial tone, busy tone or reorder when the caller disconnects. The corresponding function in the OfficeLink unit *must* be programmed (See “Disconnection” on page 14). *Otherwise, if the user does not enter the*

disconnect code (default #9) before hanging up, the OfficeLink unit will be held in a busy state.

Hardware Requirements

You must have the following hardware in order to install the OfficeLink unit.

- OfficeLink Solo unit
- AC power pack, included with OfficeLink package
- Two RJ11C cords, which are *not* included with the OfficeLink package. Must be purchased separately.

Connecting the Unit



Caution: Never install telephone wiring during a lightning storm.

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

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

Use caution when installing or modifying telephone lines.

Step 1: Connect Power

Connect the transformer (AC adapter) and power cord between the unit and a 120 VAC outlet. See Figure 6.

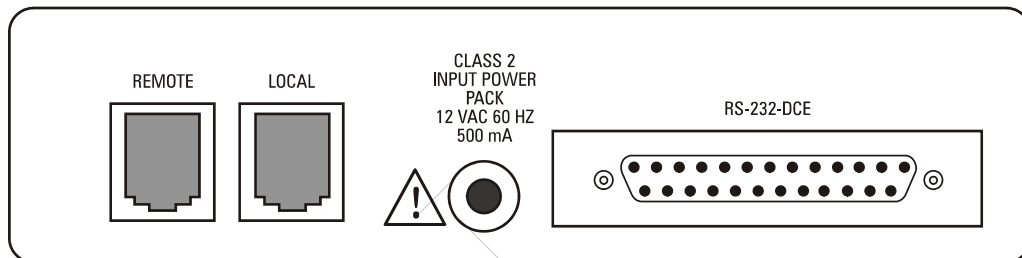


Figure 6. OfficeLink Solo Rear Panel

Step 2: Set Front Panel Switch to Ready

Set the front panel switch to Ready (see Figure 2).

The green LED flashes slowly on and off.

Step 3: Connect the Unit to PSTN

Connect a telephone line coming from the PSTN or PBX to the Remote jack on the back of the OfficeLink unit. Determine the telephone number and write it in this space for future reference:

_____.

This is the number the remote users will dial to connect to the OfficeLink unit.

Step 4: Connect the Unit to the PBX/ACD

Connect the line from the PBX/ACD analog port to the Local jack on the back of the OfficeLink unit. For future reference, write the number for the Local jack in this space:

_____.

This is the internal extension number for the remote user.

Step 5: Connect the Unit to a PC or Printer (Optional)

The RS-232C serial port on the back of the OfficeLink unit (see Figure 6) may be used for two separate purposes.

If you will be programming the OfficeLink unit from a PC, connect the PC to the serial port on the back of the OfficeLink unit. See “Programming Access” on page 17.

If you will use the print call records function, connect a serial printer to the serial port on the back of the unit. The printer should have a minimum 80-column width and operate at 1200 bps.

The interface and call record format are described in “Serial Interface” on page 68.

Quick System Test

Step 1: Press the Front Panel Switch to Program

Momentarily press the front panel switch to the Program position (see Figure 2).

The green LED flashes quickly.

Step 2: Call the OfficeLink Unit

Dial the telephone number of the line connected to the Remote port.

The OfficeLink unit answers after the first ring and responds with three beeps.

This verifies the connection to the Remote port is functioning and the phone number is correct.



Note: The OfficeLink unit will wait for 5 minutes for you to dial the number associated with the Remote port and enter programming mode. After 5 minutes, the OfficeLink unit will return to an idle state (slow flashing green LED).

Step 3: Exit Programming Mode

Enter *88# within 2 minutes.

The OfficeLink unit responds with two beeps, followed by a single beep reminder tone every 5 seconds.



Note: While in programming mode, the unit will disconnect your call and return to an idle state if no DTMF is detected within 2 minutes.

Step 4: Verify Dial Tone

Enter the DTMF off-hook control code (**) and verify that dial tone is heard (level is not important at this time).

This verifies the connection to the Local port is functioning.

Step 5: Enter On-Hook Control Code

Enter the DTMF on-hook control code (##).

The OfficeLink unit hangs up the Local port and responds with two beeps.

Step 6: Call the Local Port (Optional)

Have someone call the extension number (Local port) and listen for the ringing signal.

Enter the DTMF off-hook code (**) to answer and, later, the on-hook code (##) to hang up.

This verifies the connection to the Local port is functioning and the phone number is correct.

Step 7: Enter the Disconnect Code

Enter the DTMF disconnect code #9.

Verify that a single beep is heard and the Remote port has been disconnected (both red LEDs are off and the green LED is flashing slowly).

You have now completed the installation process for the OfficeLink unit. If you have any problems with the installation, see “Troubleshooting” on page 61.

PROGRAMMING

This section first describes the programmable functions of OfficeLink Solo so that you can select the most appropriate settings for your application and plan your programming task. How to access programming mode, and basic programming and test steps are also included.

Once you have programmed the OfficeLink unit, the programmed settings are held in nonvolatile EEPROM (Electrically Erasable Programmable Read-Only Memory). Therefore, programmed information is retained even during a power loss. Batteries are not required.

You can query the OfficeLink unit via phone for its current settings. The unit will respond using a limited synthesized voice vocabulary (digits 0 through 9). The voice level is adjustable.

The unit can also print the current system configuration for the unit. Pressing and holding the front panel switch in the Program position for longer than 2 seconds generates a printout of the current configuration. The printer interface is defined in “Serial Interface” on page 68.

Details on all programmable functions can be found in “Commands” starting on page 40. For a summary of the functions and commands, see “Programming Quick Reference” on page 75.

Planning the Programming Task

The OfficeLink Solo unit provides many functions that you can enable or adjust. Before starting to program all the functions and user settings, you should understand the operational requirements for your unit and plan your programming task.

Develop your plan by considering the issues discussed in this subsection. Use the programming worksheets to record the settings for your plan (see “Programming Worksheets” on page 73). For examples of typical applications, see “Typical Applications” on page 22.

About Users

Make sure you know the number of users for this unit and how and when they want to use the unit. Remember that only one user can access the unit at a time.

Check to see if your users should have access to the switch hook flash and/or reseize functions. The reseize function enables users to end one call and make another without going on-hook, then off-hook. It is also helpful with telephone systems that do not recognize the OfficeLink switch hook flash. If this is the case, enable reseize so users can use the reseize control code instead of switch hook flash code.

Long Distance Charges

If the OfficeLink unit users incur long distance charges when they call the OfficeLink unit, consider using the one of the Dial Back options. With Dial Back, first the user calls the OfficeLink unit and hangs up, and then the OfficeLink unit dials the user to start the calling session. This results in the toll charges for the calling session being incurred at the office end rather than at the user's end.

If there is only one user for the unit, you may want to use Immediate Dial Back. In this case, the user calls the OfficeLink unit and hangs up. Then the unit automatically dials the dial back number for User 25. If you are planning to enable immediate dial back, you must also consider the best setting for the number of rings before the unit answers calls.

Call Frequency Considerations

If some users have intermittent call traffic, consider enabling per call connection. When Per Call Connection is enabled, the OfficeLink unit calls the user as incoming calls arrive. This eliminates the need for a full-time connection between the OfficeLink and the user. However, even though there is not a full-time connection with per call turned on, only one user at a time can access the OfficeLink unit.



Notes: Some long-distance carriers may take longer than others to process a call. Before using Per Call Connection, check that your carrier does not cause delays when calling the user's PCC/Dial Back telephone number.

The same phone number is used for the Per Call Connection and Dial Back functions.

If you enable Per Call, you must enable and assign passwords.

Tone Blasting Concerns

Consider if users will communicate with people or machines. So callers are not annoyed by DTMF tones blasting in their ears, the tones can be limited. Or when the user is communicating with a machine, such as a bank-by-phone system, DTMF tones can be allowed to pass through.

Several settings control how DTMF tones are transmitted:

- **Tone Limiting** - To shield the caller from user-generated DTMF tones, the OfficeLink unit limit can the tone duration. The DTMF sequence must begin with *or # for Tone Limiting to be invoked.
- **Tone Pass-Through** - If * and # must be transmitted by the remote user for outbound telemarketing or Voice Response Unit control, Tone Pass-Through can be invoked.

- **Tone Blanking** - Similar to Tone Limiting, Tone Blanking mutes the line if additional DTMF digits are dialed after a DTMF * or #. This function allows OfficeLink users to make announced transfers to another OfficeLink user without causing both units to hang-up.
- **Interdigit Time** – This setting determines the duration of the Tone Limiting and Tone Blanking functions.

Figure 7 shows how the different settings work together to transmit the tones.

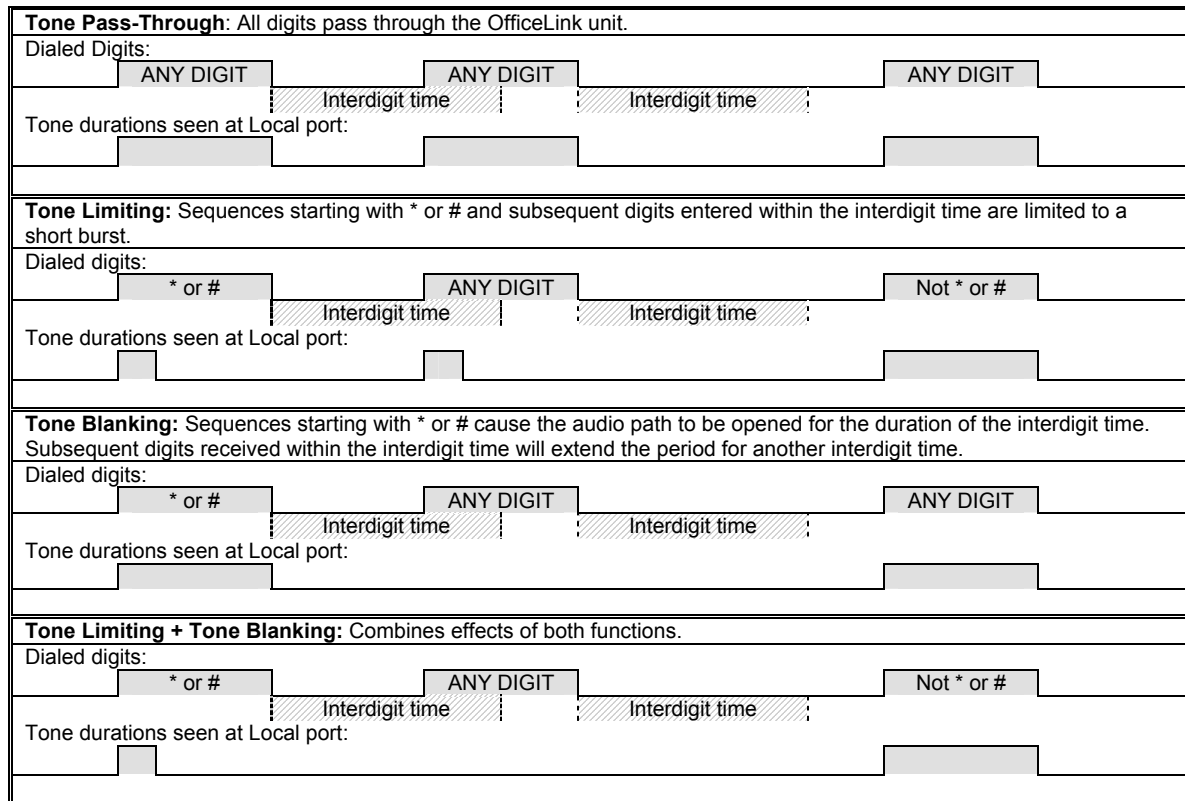


Figure 7. Tone Pass-Through, Tone Limiting, and Tone Blanking

Depending on your application, decide whether or not to enable Tone Blanking. You must also decide the best initial access mode for users: on-hook (which means users have to enter an off-hook control code to start a call when they first access the unit) or off-hook (which means users are automatically off-hook in either tone limiting or tone pass-through mode when they first access the unit).

Disconnection Issues

To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. The OfficeLink unit can disconnect using several different methods. Using more than one of these methods is recommended.

User-Dialed Disconnect Control Code (Default #9)

The user-dialed disconnect control code tells the OfficeLink unit to hang-up both Remote and Local ports.

This disconnect method relies on the user to *always* remember to enter the Disconnect control code before hanging up. Because users can forget to enter the disconnect code, you should always use one or more additional disconnect methods as a back-up.

For more information, see “Control - Disconnect Code” on page 49.

Forced Disconnect Detection

Forced disconnect (also called COD [Cutoff on Disconnect]) is a break in the loop sent by the telephone switch (C.O.) for greater than 800 milliseconds. This normally occurs 4 to 20 seconds after the other party has gone on-hook (hung-up).

Forced disconnect detection is always active. If your switch provides forced disconnect, this method is probably the best backup for disconnecting the OfficeLink unit.

To determine if your telephone switch provides forced disconnect, after completing the steps in “Basic Programming and Test” on page 19, make a call into the OfficeLink unit, dial a valid password, and then hang up the telephone. If the Remote LED turns off in less than 20 seconds, you are using a loop start line that provides forced disconnect. If the Remote LED does not go out, you *must* determine another disconnect backup method to use; otherwise, a lockup condition will occur and a physical reset will be required.

Call Progress Tone Detection

When the user hangs up the telephone, the switch connected to the Remote port may return dial tone or busy/reorder tone.

The OfficeLink unit can detect these call progress signals in order to disconnect.

A simple test to determine if your switch returns one of these tones is to unplug the line connected to the Remote port and plug it into a telephone or test set. Then have someone call the OfficeLink number for the Remote port and then hang up. Listen and note the response from the switch.

For information about programming a unit for disconnecting upon detection of dial tone or busy/reorder tone, see “Disconnect” on page 52.



Note: You may wish to cover all possibilities by enabling disconnect on both dial tone detect and busy/reorder detect.

Idle Detection

The OfficeLink unit can disconnect by monitoring activity on the telephone line during an established call and detecting idle (no activity) on the line for a programmable period of 1-99 minutes.

Whenever the line is idle (silent), the unit will issue a 500 ms warning tone 16 seconds prior to the end of the timer, and if no audio is detected, will disconnect the call. Upon expiring, a single beep is issued before disconnecting.

For more information, see “Disconnect - Idle Detect” on page 52.

User Timeout

The user timeout causes the OfficeLink unit to disconnect when the timer for the current user expires. Each user may be programmed with a different timeout period from 0 (disabled) to 99 minutes.

For more information, see “Users - User Timeout” on page 57.

Milliwatt Detection

If you dial a test number that plays a 1000 Hz test tone, the OfficeLink unit can be programmed to detect the tone within 1 to 300 seconds. With Milliwatt Detect enabled, when the unit detects the tone, it disconnects the Local port line for 2 seconds before reseizing it for a new call. Although rarely used, this setting can be used by system administrators to disconnect the unit when it is not responding to other disconnect methods.

For more information, see “Disconnect - Milliwatt Detect” on page 53.

Security Issues

Consider enabling passwords and a dial back option to increase the security of the OfficeLink unit services.

The OfficeLink unit is factory programmed to return an answer tone to the user to indicate that it is ready to accept a password. This makes it more user friendly; however, to make it more secure, you may want to disable the answer tone.

Also consider whether you want to allow users to change their own PCC/dial back number and whether you want to block access to the unit after a programmable number of invalid password entries.

Phone Line Issues

Depending on your office phone system, you may want to program the OfficeLink unit to detect only the standard ring of 2 seconds on, 4 seconds off, and to ignore any calls that do not match this pattern.

Also plan on checking the voice level and adjusting the OfficeLink amplifier to boost the voice to compensate for low transmission levels if needed.

Programming Access

The OfficeLink Solo unit is programmed through the serial port or by placing a call to it and entering programming mode. When programming through the serial port, you can use the OfficeLink Solo Configuration Software or a customer-provided program, or you can program the unit from a terminal. When programming via phone, you can use an on-site phone (physical access to the unit is required) or you can use a remotely located phone.

OfficeLink Solo Configuration Software

A windows-based PC program is provided for configuring the OfficeLink Solo unit. This program is the simplest way to configure the unit. It uses standard Windows conventions for operation and includes sample configurations and wizards to aid in programming your OfficeLink unit. The wizards provide step-by-step help in configuring the OfficeLink unit for several typical applications. You can save configurations on your PC and use them to easily program other units.

The Print command provides options for printing a listing of the System Programming and User's Guide. The printed user's guide is based on the functions and settings that you have selected for your OfficeLink unit and provides detailed operating instructions customized for your users.

For information about installing the program, see "OfficeLink Solo Configuration Software" on page 71.

After starting the program:

1. Select Communications Port on the Comm menu and select the serial port that the OfficeLink unit is connected to. Click OK.
2. Click the Connect button to connect to the OfficeLink unit and place it into programming mode.
3. If you want to modify the current settings that are in the OfficeLink, but do not have those settings saved in a file, click the Query button. The current settings will be read from the OfficeLink unit and displayed in the program. If you wish to save this configuration, select Save on the File menu.

If you want to start with settings that you have previously saved in a file, select Open on the File menu.

4. Make any changes that you wish.
5. Save the file if you wish.
6. Send your changed settings to the OfficeLink unit by clicking the Apply button.



Notes: The OfficeLink unit times out after 2 minutes with no commands sent to it. When that occurs, a Timeout Disconnect message is displayed. Just continue with your programming. When you are ready to send your settings to the unit, click the Connect button before clicking the Apply button.

The Send Defaults button sets the OfficeLink unit and the settings in the program to factory defaults.

Customer-Provided Program/Terminal

If you wish to write your own program to configure the OfficeLink unit or program from a terminal, the following information is needed.

Sending any command string starting with a * places the OfficeLink unit into programming mode.

Command strings from the PC are the same as those from a phone (for example, to enable remote programming access, you dial the command *15*1# from your phone, so from the PC, you would send *15*1#).

The OfficeLink unit returns an error (!A) if there is an error in the command string. The OfficeLink unit returns an OK (!B) if the command is accepted.

On-Site Phone Programming

1. Momentarily press the front panel switch to the Program position. You now have 5 minutes to call the OfficeLink unit and enter programming mode before the OfficeLink unit returns to idle state.
2. Dial the telephone number for the Remote port of the OfficeLink unit (see the phone number noted in “Connecting the Unit” on page 9). A password is not required.

The OfficeLink Solo unit answers the ringing telephone line with three beeps, indicating access to programming mode.

Remote Phone Programming



Note: Remote programming must be enabled (default is disabled) and a password must be entered for User 1 before the OfficeLink unit can be accessed for remote programming.

1. Dial the telephone number for the Remote port of the OfficeLink unit (see the phone number noted in “Connecting the Unit” on page 9).
2. Dial the password for User 1 (system administrator) after the answer tone.

The OfficeLink unit responds with three beeps, indicating access to programming mode.

Basic Programming and Test

Basics

- All commands start with a * and end with a #.
- To exit from programming mode and disconnect the Remote port, enter ##.
- If no DTMF is seen within a 2-minute period, the unit exits programming mode and returns to an idle state (slow flashing green LED).

When you are programming via phone:

- If you hear an error tone (high/low, high/low), retry the programming sequence. Confirmation tones (three beeps) indicate that the entry was correct.
- You can go directly from programming mode to command mode by entering *88#. Then, acting as User 1, you can answer incoming calls, make outgoing calls, test specific functions, or use any other function as a normal user.

The following steps program the OfficeLink unit for one user and one system administrator.

Step 1: Set Front Panel Switch to Ready

Set the front panel switch to Ready (see Figure 2).

The green LED flashes slowly on and off.

Step 2: Enter Programming Mode

See “Programming Access” on page 17.

Step 3: Enable Passwords

To enable passwords, enter:

*15*1#

If programming from a telephone, the OfficeLink unit answers with three beeps (confirmation tones).

For more information, see “Security - Password Enable” on page 53.

Step 4: Assign a Password for User 1 (System Administrator)

The User 1 password is the system administrator’s access into programming mode when Remote Programming is enabled. If Remote Programming is not enabled, User 1 is a normal user of the OfficeLink unit.

To enter the password for User 1, enter:

*1*1*xx...xxx#*1*1*xx...xxx#

where: xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

If programming from a telephone, listen for three beeps indicating that a password is assigned to User 1. The OfficeLink unit will not respond until it receives the # (if you hear the error tone, redial the command making sure you include the * and # digits as shown).

For more information, see “Users - Passwords” on page 56.

Step 5: Verify the Password

If programming from a telephone, verify the password by dialing:

*77*1*1#

Listen for the voice response from the OfficeLink unit. The unit will respond in the following format: “one” beep “password” beep beep beep.

If the password does not match what you wanted, repeat Steps 4 and 5.

For more information, see “Miscellaneous - Programming Query” on page 60.

Step 6: Enable Remote Programming (Optional)

Remote programming allows User 1 to call the unit from any location and enter programming commands (thus, physical access to the unit is not required).

Remote programming is optional (default is disabled).

To enable/disable remote programming, enter:

*98*X#

where: X = 0 to disable (default)
X = 1 to enable

For more information, see “Security - Remote Programming” on page 54.

Step 7: Assign a Password to User 2

To enter the password for User 2, enter:

*1*2*xxx...xx#

where: xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

If programming from a telephone, listen for three beeps indicating that a password is assigned to User 2. The OfficeLink unit will not respond until it receives the # (if you hear the error tone, redial the command making sure you include the * and # digits as shown).

For more information, see “Users - Passwords” on page 56.

Step 8: Verify the Password for User 2

If programming from a telephone, verify the password by dialing:

*77*1*2#

Listen for the voice response from the OfficeLink unit. The unit will respond in the following format: “two” beep “password” beep beep beep.

If the password does not match what you wanted, repeat Steps 7 and 8.

For more information, see “Miscellaneous - Programming Query” on page 60.

Step 9: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 10: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the Disconnect Confirmation tone (one beep).

Step 11: Access the OfficeLink Unit

Dial the OfficeLink Remote port telephone number. When it connects, the red Remote LED will light and you will hear a 1-second answer tone.

Dial the password for User 2 (assigned in Step 7), followed by #.

The OfficeLink unit responds with two beeps if correctly dialed, followed by a single beep reminder tone every 5 seconds.

Step 12: Make a Test Call

For our test call, we will use the Tone Limiting method to cause the Local port to go off-hook and draw dial tone from the office telephone switch (see “Control - Off-Hook with Tone Limiting” on page 50).

For our test call, dial:

**

Wait for dial tone (the dial tone comes from the ACD or PBX), then dial a phone number.

When the party answers, you can test the tone limiting function by pressing and holding down the * or # key. If your keypad is capable of continuous tone generation, the called party will only hear a short tone blast. If you enter any other DTMF digit within the Interdigit Time (see “Control - Interdigit Time” on page 48), that digit will also be tone limited.



Notes: During this call, check that the answer tone and ring indication tone levels are satisfactory. If not, see “Access - Answer, Ringback & Voice Level” on page 45.

During this call, check that the voice levels are satisfactory. If the voice levels are too low, you can increase the amplifier gain; if they are too high, you can lower the amplifier gain. See “Amplifier - Gain” on page 45.

To hang up the call, dial:

##

The Local line is disconnected. The Local LED turns off, but the Remote LED remains lit. A single beep reminder tone is heard every 5 seconds.

To disconnect from the OfficeLink unit, dial:

#9

The OfficeLink unit responds with one beep and disconnects.

Step 13: Program Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options that are appropriate for your application. See “Disconnection Issues” on page 14.

The OfficeLink unit is now ready for use with one user password and one system administrator password for remote programming access.

TYPICAL APPLICATIONS

This section describes typical application scenarios for OfficeLink Solo. A description on how to use the unit in each scenario is followed by the programming steps for that situation. Please be aware that not all settings are included in these examples: only settings pertinent to each scenario are included. It is assumed that settings dealing with the amplifier, prevent mode, control codes, remote programming, ring detect, answer tone, etc. will also be programmed as needed.

Remote Access

In a “remote access” scenario,, one or more users need occasional secure remote access to the office telephone system for system maintenance, service quality monitoring, or remote access to telephone system features.

Remote Access Operation

Instructions for users in this type of scenario:

1. Call the OfficeLink unit.
OfficeLink responds with the answer tone.
2. Enter your password (followed by #).
OfficeLink responds with dial tone.
3. You can make or receive calls.

Programming for a Remote Access Scenario

Step 1: Enter Programming Mode

See “Programming Access” on page 17 for details on different methods of accessing the OfficeLink unit for programming.

Step 2: Enable Passwords (Optional)

Passwords increase system security and are recommended for this scenario.

To enable passwords, enter:

*15*1#

For more information, see “Security - Password Enable” on page 53.

Step 3: Enter Passwords

If you enabled passwords, you must enter passwords for each user of the OfficeLink unit. The OfficeLink unit supports up to 25 different passwords.

To enter passwords for users, enter:

*1*UU*xxx...xx#

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

For more information, see “Users - Passwords” on page 56.

Step 4: Set the Initial Access Mode (Optional)

The Initial Access mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for an off-hook control code.

The options are:

0 = goes to idle and waits for a control code (default)

1 = automatically places Local port off-hook using Tone Limiting

2 = automatically places Local port off-hook using Tone Pass-Through
(all DTMF passes through the unit)

Remote access applications typically use option 2, so enter:

*19*2#

For more information, see “Access - Initial Access Mode” on page 42.

Step 5: Set the Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options. See “Disconnection Issues” on page 14.

Step 6: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 7: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the single beep, then dial #9 to disconnect.

Telecommuting

Telecommuting scenarios involve remote users who need long-term access to their office telephone system, both for placing and receiving calls.

Continuous Connection Scenario

This is the preferred method of operation for users who make or receive large numbers of calls, such as remote ACD agents. In continuous connection, the OfficeLink unit and the remote user’s telephone maintain a connection at all times.

Continuous Connection Operation

Instructions for users in this type of scenario:

1. Call the OfficeLink unit.
OfficeLink responds with the answer tone.
2. Enter your password (followed by #).
OfficeLink responds with dial tone.
3. A ringing tone in your handset announces an incoming call.
4. Enter the off-hook code (**) to answer the call.
You are now connected to the caller.
5. When the call is finished, enter the on-hook code (##) to end the call and go to command mode.
6. You can continue to receive or make calls.

Programming for a Continuous Connection Scenario

Step 1: Enter Programming Mode

See “Programming Access” on page 17 for details on different methods of accessing the OfficeLink unit for programming.

Step 2: Disable Per Call Connection

Although Per Call Connection is disabled by default, ensure it is disabled by entering:

*51*0#

For more information, see “Access - Per Call Connection” on page 43.

Step 3: Enable Passwords (Optional)

Passwords are highly recommended for a continuous connection application.

To enable passwords, enter:

*15*1#

For more information, see “Security - Password Enable” on page 53.

Step 4: Enter Passwords

If you enabled passwords, you must enter passwords for each user of the OfficeLink unit. The OfficeLink unit supports up to 25 different passwords.

To enter passwords for users, enter:

*1*UU*xxx...xx#

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

For more information, see “Users - Passwords” on page 56.

Step 5: Set the Initial Access Mode (Optional)

The Initial Access mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for one of the off-hook control codes.

The options are:

0 = goes to idle and waits for a control code (default)

1 = automatically places Local port off-hook using Tone Limiting

2 = automatically places Local port off-hook using Tone Pass-Through (all DTMF passes through the unit)

Continuous connection applications typically user option 1, so enter:

*19*1#

For more information, see “Access - Initial Access Mode” on page 42.

Step 6: Set the Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options. See “Disconnection Issues” on page 14.

Step 7: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 8: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the single beep, then dial #9 to disconnect.

Per Call Connection Scenario

For users who make or receive a relatively small number of calls, OfficeLink can be programmed for per-call connection. In Per Call Connection, OfficeLink and the remote user to maintain a connection on a per call basis.

Per Call Connection Operation

Instructions for users in this type of scenario:



Note: When Per Call Connection is enabled, the Confirmation tone on disconnect is a low-high tone instead of a beep, and the Reminder tone is two beeps instead of one.

To start Per Call Connection:

1. Call the OfficeLink unit.
OfficeLink responds with answer tone.
2. Enter your password (followed by #).
OfficeLink responds with two beeps.
3. If Allow User to Change PCC/Dial Back Number is enabled and you wish to change your PCC/ Dial Back number, enter:

*50*DD DD DD ... DD#



Note: To allow pauses and other functions in the dial sequence, all items in the dial string are entered as digit pairs (see “Users - PCC/Dial Back Number” on page 57).

4. If you want to verify your PCC/Dial Back number, enter:
**77#*
OfficeLink responds by speaking back the telephone number.
5. You can make or receive calls.
6. To turn on Per Call Connection, dial *100#.
OfficeLink responds with two beeps.
7. Dial the Disconnect control code (default #9).
OfficeLink responds with low/high tone and disconnects.
8. Hang up the phone and wait for calls.



Caution: After you have turned on Per Call, no other OfficeLink user can use the unit until you turn off Per Call. When you have finished your call work, be sure to turn off Per Call (see below).

To end Per Call Connection:

1. Dial the OfficeLink unit.
OfficeLink responds with answer tone.
2. Enter your password (followed by #).
OfficeLink responds with two beeps.
3. To turn Per Call Connection off, dial *200#.
OfficeLink responds with two beeps.
4. Dial Disconnect control code (default #9).
OfficeLink responds with single beep and disconnects.
5. Hang up the phone.

Programming for a Per Call Connection Scenario

Step 1: Enter Programming Mode

See “Programming Access” on page 17 for details on different methods of accessing the OfficeLink unit for programming.

Step 2: Enable Per Call Connection

To enable Per Call Connection, enter:

*51*1#

For more information, see “Access - Per Call Connection” on page 43.

Step 3: Enable Passwords

Passwords are required for Per Call Connection operation.

To enable passwords, enter:

*15*1#

For more information, see “Security - Password Enable” on page 53.

Step 4: Enable Allow User to Change PCC/Dial Back Number (Optional)

You may want to allow users to change their Per Call Connection/Dial Back number remotely.

Enter your desired option:

*53*X#

where: X = 0, to disable (default)

X = 1, to enable

For more information, see “Security - Allow User to Change PCC/Dial Back Number” on page 54.

Step 5: Enter Passwords

Passwords are required for accessing the OfficeLink unit in Per Call Connection. The OfficeLink unit supports up to 25 different passwords.

To enter passwords for users, enter:

`*1*UU*xxx...xx#`

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

For more information, see “Users - Passwords” on page 56.

Step 6: Enter Per Call Connection/Dial Back Numbers

Each user is assigned a unique telephone number that the OfficeLink unit uses when invoking PCC or Dial Back.

Enter the numbers:

`*50*UU*DD DD DD...DD#`

where: UU = 1-25, User number

DD is the actual dial string

To allow pauses and other functions in the dial sequence, all items in the dial string are entered as digit pairs (for details on entering the dial string, see “Users - PCC/Dial Back Number” on page 57).



Note: The same number is used for both Dial Back and Per Call Connection, if both options are in use.

Step 7: Verify the PCC/Dial Back Numbers

If you are programming the OfficeLink unit from a telephone, you should verify the numbers you have entered.

Using the query command, dial:

`*77*50*UU#`

where: UU is the User number (01-25)

Listen for the voice response from the OfficeLink unit. The unit will respond with the User number followed by the stored dial sequence. For example, “two” beep “five five five one two three four” beep beep beep.

Step 8: Set the Initial Access Mode (Optional)

The Initial Access mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for one of the off-hook control codes.

The options are:

0 = goes to idle and waits for a control code (default)

1 = automatically places Local port off-hook using Tone Limiting

2 = automatically places Local port off-hook using Tone Pass-Through
(all DTMF passes through the unit)

Per call connection applications typically user option 0, so enter:

*19*0#

For more information, see “Access - Initial Access Mode” on page 42.

Step 9: Set the Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options. See “Disconnection Issues” on page 14.

Step 10: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 11: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the single beep, then dial #9 to disconnect.

Using Dial Back

The Dial Back options increase security and can reduce toll charges since the billing is issued to the business entity.

Immediate Dial Back

In this mode, the OfficeLink unit does not answer the user’s initial call so the user does not incur any toll charges at all. Immediate dial back is appropriate when there is only one user because the unit always dials the User 25 PCC/Dial Back number. This

mode can operate without passwords, but using passwords ensures that only the authorized user has access to the OfficeLink unit.

Immediate Dial Back Operation

When the remote users first call the OfficeLink unit, they must let it ring one more time than the number of rings programmed. For example, if you have programmed the OfficeLink unit to answer after two rings, instruct users to hang up after the third ring.

Instructions for users in this type of scenario:

1. Call the OfficeLink unit and let it ring *one more time* than the programmed number of rings, then hang up the telephone.
2. When the OfficeLink unit calls back, answer the call.
OfficeLink responds with one beep every 4 seconds.
3. Enter 5.
OfficeLink responds with answer tone.
4. Enter your password (followed by #).
OfficeLink responds with two beeps.
5. You can make or receive calls.

Programming for Immediate Dial Back

Step 1: Enter Programming Mode

See “Programming Access” on page 17 for details on different methods of accessing the OfficeLink unit for programming.

Step 2: Enable Immediate Dial Back

To select the Immediate Dial Back option, enter:

`*52*3#`

For more information, see “Access - Dial Back” on page 41.

Step 3: Enable Passwords (Optional)

Passwords increase system security, but are optional for Immediate Dial Back operation.

To enable passwords, enter:

`*15*1#`

For more information, see “Security - Password Enable” on page 53.

Step 4: Enter Passwords

If you enabled passwords, you must enter passwords for each user of the OfficeLink unit. The OfficeLink unit supports up to 25 different passwords.

To enter passwords for users, enter:

*1*UU*xxx...xx#

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

For more information, see “Users - Passwords” on page 56.

Step 5: Program the Dial Back Number for User 25

When OfficeLink unit is programmed for Immediate Dial Back, it uses the User 25 PCC/Dial Back number.

Enter the number for User 25:

*50*25*DD..DD..DD.....DD#

where: DD is the actual dial string

To allow pauses and other functions in the dial sequence, all items in the dial string are entered as digit pairs (for details on entering the dial string, see “Users - PCC/Dial Back Number” on page 57).



Note: The same number is used for both Dial Back and Per Call Connection, if both options are in use.

Step 6: Program the Number of Rings

The OfficeLink unit waits until it has seen the programmed number of rings and then 6 seconds without ringing before it dials the programmed User 25 PCC/Dial Back Number.

To enter the number of rings, enter:

*17*RR#

where: RR = 1-16 rings (default=1)

For more information, see “Access - Number of Rings” on page 40.

Step 7: Set the Initial Access Mode (Optional)

The Initial Access mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for one of the off-hook control codes.

The options are:

0 = goes to idle and waits for a control code (default)

1 = automatically places Local port off-hook using Tone Limiting

2 = automatically places Local port off-hook using Tone Pass-Through
(all DTMF passes through the unit)

Dial back applications typically user option 0, so enter:

*19*0#

For more information, see “Access - Initial Access Mode” on page 42.

Step 8: Set the Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options. See “Disconnection Issues” on page 14.

Step 9: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 10: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the single beep, then dial #9 to disconnect.

Selective Dial Back with COD/Selective Dial Back

The Selective Dial Back options are used in situations with multiple users requiring high security. The user calls the OfficeLink unit, which answers the call and responds with answer tone. When the user successfully enters their password and hangs up, the OfficeLink unit dials the user’s PCC/Dial Back number.

Selective Dial Back with COD/Selective Dial Back Operation

Instructions for users in this type of scenario:

1. Call the OfficeLink unit.
OfficeLink responds with answer tone.
2. Enter your password (followed by #).
OfficeLink responds with two beeps.
3. Enter the Disconnect control code (#9 default), if enabled, and hang up the telephone.



Note: Entering the Disconnect code causes a quicker dial back.

4. When the unit calls back, answer the phone.
OfficeLink responds with one beep every 4 seconds.
5. Enter 5.
OfficeLink responds with two beeps.
6. You can make or receive calls.

Programming for Selective Dial Back with COD/Selective Dial Back

Step 1: Determine if Your Switch Provides a Forced Disconnect (COD)



IMPORTANT: Before programming OfficeLink Solo for Selective Dial Back, check if your switch provides Forced Disconnect (COD) service. See “Disconnection Issues” on page 14.

Step 2: Enter Programming Mode

See “Programming Access” on page 17 for details on different methods of accessing the OfficeLink unit for programming.

Step 3: Enable Selective Dial Back

If you determined that your switch *does* provide a forced disconnect (COD), enter the Selective Dial Back with COD option:

*52*1#

If you determined that your switch *does not* provide a forced disconnect (COD), enter the Selective Dial Back option:

*52*2#

For more information, see “Access - Dial Back” on page 41.

Step 4: Enable Passwords

Passwords are required for Selective Dial Back operations.

To enable passwords, enter:

*15*1#

For more information, see “Security - Password Enable” on page 53.

Step 5: Enter Passwords

Passwords are required for accessing the OfficeLink in Selective Dial Back. The OfficeLink units supports up to 25 different passwords.

To enter passwords for users, enter:

*1*UU*xxx...xx#

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

For more information, see “Users - Passwords” on page 56.

Step 6: Enter Per Call Connection/Dial Back Numbers

Each user is assigned a unique telephone number that the OfficeLink unit uses when invoking PCC or Dial Back.

Enter the numbers:

*50*UU*DD DD DD...DD#

where: UU = 1-25, User number

DD is the actual dial string

To allow pauses and other functions in the dial sequence, all items in the dial string are entered as digit pairs (for details on entering the dial string, see “Users - PCC/Dial Back Number” on page 57).



Note: The same number is used for both Dial Back and Per Call Connection, if both options are in use.

Step 7: Verify the PCC/Dial Back Numbers

If you are programming the OfficeLink unit from a telephone, you should verify the numbers you have entered.

Using the query command, dial:

*77*50*UU#

where: UU is the User number (01-25)

Listen for the voice response from the OfficeLink unit. The OfficeLink unit will respond with the User number followed by the stored dial sequence. For example, “two” beep “five five five one two three four” beep beep beep.

Step 8: Set the Initial Access Mode (Optional)

The Initial Access mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for one of the off-hook control codes.

The options are:

0 = goes to idle and waits for a control code (default)

1 = automatically places Local port off-hook using Tone Limiting

2 = automatically places Local port off-hook using Tone Pass-Through (all DTMF passes through the unit)

Dial back applications typically user option 0, so enter:

*19*0#

For more information, see “Access - Initial Access Mode” on page 42.

Step 9: Set the Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options. See “Disconnection Issues” on page 14.

Step 10: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 11: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the single beep, then dial #9 to disconnect.

Selective + Number Dial Back

This option is for employees using different telephones during the day. It enables users to reprogram the Dial Back number each time they access the OfficeLink unit.

Selective + Number Dial Back Operation

Instructions for users in this type of scenario:

1. Call the OfficeLink unit.
OfficeLink responds with answer tone.
2. Enter your password (followed by #).
OfficeLink responds with two beeps.
3. Enter the telephone number to which the OfficeLink unit will dial back, followed by a #.



Note: To allow pauses and other functions in the dial sequence, all items in the dial string are entered as digit pairs (see “Users - PCC/Dial Back Number” on page 57).

OfficeLink responds with two beeps.

4. Enter the Disconnect control code (#9 default), if enabled, and hang up the telephone.



Note: Entering the Disconnect code causes a quicker dial back.

5. When the unit calls back, answer the phone.
OfficeLink responds with one beep every 4 seconds.
6. Enter 5.
OfficeLink responds with two beeps.
7. You can make or receive calls.

Programming for Selective + Number Dial Back

Step 1: Enter Programming Mode

See “Programming Access” on page 17 for details on different methods of accessing the OfficeLink unit for programming.

Step 2: Enable Selective with Number Dial Back

To select the Selective with Number Dial Back option, enter:

*52*4#

For more information, see “Access - Dial Back” on page 41.

Step 3: Enable Passwords

Passwords are required for Selective Dial Back operations.

To enable passwords, enter:

*15*1#

For more information, see “Security - Password Enable” on page 53.

Step 4: Enter Passwords

Passwords are required for accessing the OfficeLink in Selective Dial Back. The OfficeLink supports up to 25 different passwords.

To enter passwords for users, enter:

*1*UU*xxx...xx#

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9

For more information, see “Users - Passwords” on page 56.

Step 5: Set the Initial Access Mode (Optional)

The Initial Access mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for one of the off-hook control codes.

The options are:

0 = goes to idle and waits for a control code (default)

1 = automatically places Local port off-hook using Tone Limiting

2 = automatically places Local port off-hook using Tone Pass-Through (all DTMF passes through the unit)

Dial back applications typically use option 0, so enter:

*19*0#

For more information, see “Access - Initial Access Mode” on page 42.

Step 6: Set the Disconnect Options



Caution: To avoid having the OfficeLink unit stay off-hook forever, the unit must know when the user has gone on-hook. Be sure to set the disconnect options. See “Disconnection Issues” on page 14.

Step 7: Apply Programming

If you are programming the unit with OfficeLink Solo Configuration Software, click the Apply button to send the configuration to the OfficeLink unit.



Note: If the Apply button is grayed out, click the Connect button to re-establish the programming connection with the OfficeLink unit. Then click the Apply button to send the configuration to the unit.

A progress bar is displayed while the configuration is sent to the OfficeLink unit. You must wait until the progress bar disappears before you are allowed to continue.

Step 10: Exit Programming Mode and Disconnect

If you are programming the unit with OfficeLink Solo Configuration Software, click the Disconnect button.

or

Dial ## and listen for the single beep, then dial #9 to disconnect.

COMMANDS

This section describes the functions and commands used to program the OfficeLink unit. A programming quick reference is provided on page 75.

Access

Access - Ring Detect

Function 16:

This function determines what the OfficeLink unit considers as valid ringing. The unit can be programmed to detect only the standard ring of 2 seconds on, 4 seconds off, and to ignore any calls that do not match this pattern.

To set the type of ringing detected by OfficeLink, enter:

`*16*x#`

where: x = 0, the unit requires 400 ms minimum for ring (default)

x = 1, the unit detects 2 seconds on / 4 seconds off only

x = 2, the unit requires 250 ms minimum for ring



Note: This function is automatically disabled while the unit is in programming mode and on the first call after the front panel switch is pressed to the Program position. This ensures that the unit can be accessed for programming regardless of the available ringing signal.

Access - Number of Rings

Function 17:

This function determines the number of rings required before the OfficeLink unit answers calls received on the Remote port. This setting is also used in conjunction with immediate dial back (see “Access - Dial Back” on page 41).

To set the number of rings before answer, enter:

`*17*RR#`

where: RR=1-16, is the number of rings (default 1)



Note: This function is automatically disabled on the first call after the front panel switch is pressed to the Program position. This ensures that the unit can be accessed for programming regardless of the available ringing signal.

Access - Answer Tone

Function 2:

The OfficeLink returns a 1-second answer tone to prompt the user to enter a password. You can disable this tone to frustrate hacker attempts to break into the OfficeLink unit.

To enable/disable Answer Tone, enter:

*2*X#

where: X=0, to disable
X=1, enable (default)

Access - Dial Back

Function 52:

With this option enabled, the remote user calls the OfficeLink unit, then the unit dials the user to start the calling session. This function increases security and can reduce toll charges since the billing is issued to the business entity.

There are four types of dial back operation:

- **Immediate Dial Back** - This option ensures that toll charges are incurred at the OfficeLink end. In this mode, the OfficeLink unit does not answer the user's initial call so the user does not incur any toll charges. Immediate dial back is appropriate when there is only one user because the unit always dials the User 25 PCC/Dial Back number. This mode can operate without passwords, but using passwords ensures that only the authorized user has access to the OfficeLink unit.

With immediate dial back, the OfficeLink unit sees ringing on the Remote port for the programmed number of rings and then ringing goes away for more than 6 seconds (The user lets it ring *one more time* than the programmed number of rings and then hangs up). The OfficeLink unit then dials the User 25 PCC/Dial Back number to establish a connection with the remote user.

For this option, be sure to program the Number of Rings setting (see "Access - Number of Rings" on page 40) and the PCC/Dial Back Number for User 25 (see "Users - PCC/Dial Back Number" on page 57).

- **Selective Dial Back with COD-** The Selective Dial Back options are used in situations with multiple users requiring high security.



Important: To use this option, the telephone line connected to the Remote port *must* provide a Forced Disconnect (COD). See “Disconnection Issues” on page 14.

The remote user calls the OfficeLink unit, which answers the call on the Remote port and prompts for a password. The OfficeLink unit then selects the appropriate stored PCC/Dial Back telephone number and prompts the user to disconnect.

- **Selective Dial Back** – Works the same as Selective Dial Back with COD for lines that do not support forced disconnect.



Important: When using this option, be sure to set the appropriate disconnect options. See “Disconnection Issues” on page 14.

- **Selective + Number Dial Back** - This option is for people using different telephones during the day. It enables users to reprogram the Dial Back number each time they access the OfficeLink unit.

The remote user calls the OfficeLink unit, which answers the call on the Remote port and prompts for a password. The remote user is then able to enter the telephone number that the OfficeLink unit will use to dial back.

For the selective dial back options, passwords must also be enabled. Also you must either enable Allow User to Change PCC/Dial Back Number or enter the PCC/Dial Back Number for users. The same phone number is used for the Per Call Connection and Dial Back functions.

To program Dial Back operation, enter:

*52*D#

where: D=0, disabled (default)
D=1, Selective Dial Back with COD
D=2, Selective Dial Back
D=3, Immediate Dial Back
D=4, Selective + Number Dial Back

Access - Initial Access Mode

Function 19:

The Initial Access Mode specifies whether the OfficeLink unit automatically goes off-hook on the Local port when accessed by the user, or whether it waits for the user to enter an off-hook control code. If you enabled passwords, users must first enter their password when the OfficeLink unit answers before the unit can go off-hook.

The Interdigit Time must also be set appropriately.

To set the initial access mode, enter:

*19*D#

where: D = 0, unit goes on-hook after the user has accessed the unit and waits for the user to enter a control code (default)

D = 1, automatically places Local port off-hook after the user has accessed the unit and dialed a password (if required). This mode uses Tone Limiting.

D = 2, automatically places Local port off-hook after the user has accessed the unit and dialed a password (if required). This mode uses Tone Pass-Through (all DTMF passes through the unit).

Access - Per Call Connection

Function 51:

This option is designed for scenarios with users who have intermittent call traffic. This option enables the OfficeLink unit and the remote user to maintain a connection on a per call basis. As calls ring in to the OfficeLink unit (Local port), the Remote port is taken off-hook and the remote user's PCC/Dial Back telephone number is dialed by the end of the first ring. This eliminates the need for a full-time connection between the OfficeLink unit and the remote user.

In this mode of operation, the user calls the OfficeLink unit to make one or more outgoing calls. When a call is complete, the remote user may remain connected and make additional calls, or disconnect and wait until another call arrives. The OfficeLink unit calls the user each time that an incoming call is received.

To use per call, a user typically accesses the OfficeLink unit, enters their password, and turns on PCC by entering *100#. Then the user disconnects, and both OfficeLink ports go on-hook until the Local port receives ringing from the office switch. Then, the OfficeLink Remote port goes off-hook and dials the number of the remote user. The user's phone rings. The user answers and hears a tone (to indicate that this is an OfficeLink call, not a personal call). To turn off per call, the user enters *200#.

Only one user at a time can access the OfficeLink unit using Per Call Connection. If a second user attempts to access the unit, a low/high tone is issued indicating that another user has control of the OfficeLink unit. The second user is then disconnected.



Notes: If the user forgets to turn off Per Call Connection at the end of their call work, others users cannot access the unit. The user must re-access the OfficeLink unit and turn it off by entering *200#. Otherwise, the system administrator can access the OfficeLink unit in programming mode and enter *200# to turn off PCC for that user.

Some long-distance carriers may take longer than others to process a call. Before using Per Call Connection, check that your carrier does not cause delays when calling the user's PCC/Dial Back telephone number.

When this function is enabled, the user enters *100# to switch to a per call connection and enters *200# to switch to a continuous connection. When this function is disabled, *100# and *200# have no effect.

Passwords must be enabled. Also you must either enable Allow User to Change PCC/Dial Back Number or enter the PCC/Dial Back Number for users. The same phone number is used for the Per Call Connection and Dial Back functions.

To enable/disable Per Call Connection, enter:

*51*X#

where: X = 0, disable (default)
X = 1, enable

Access - Reminder Tone

Function 42:

The Reminder Tone informs the OfficeLink user that he or she is connected to the Remote port and the unit is in an idle state. The user can wait for calls or enter control codes to make calls, access voice mail, etc. The OfficeLink unit issues a single beep at 5-second intervals (default) unless Per Call Connection has been enabled, when it issues two beeps.

To program the interval for the Reminder Tone, enter:

*42*TT#

where: TT = 0, disable
TT = 4-60, sets the reminder interval in seconds (default is 5 seconds)

Access - Answer, Ringback & Voice Level

Function 3:

This function sets the levels of answer tone and other audible feedback tones, OfficeLink voice responses, and ring indication tone back to the caller. The levels can be adjusted upward or downward from the default.

To set the levels, enter:

*3*L#

where: L=1, -16 ±2 dBm (lowest level)

L=2, -10 ±2 dBm (default)

L=3, -4 ±2 dBm (loudest level)

AmplifierAmplifier - Gain

Function 10:

The OfficeLink unit is equipped with an amplifier to compensate for low line levels. The amplifier gain (volume level) can be adjusted according to the needs of each installation.



Note: Dialing difficulties may be encountered in some locations if the gain is set higher or lower than required for local compensation.

Where input amplitude plus gain would result in an output amplitude greater than -9 dBm, the amplifier will limit the gain to below -9 dBm. Where the received signal alone exceeds -9 dBm, it is retransmitted unamplified.

Use the default value unless users complain of low voice levels. Then increase the gain by increasing the value by three until a suitable level is reached without dialing errors. If necessary, fine-tune the gain by 1 dB increments.

With Amplifier enabled, you can also set direction control and sensitivity.

To set the amplifier gain, enter:

*10*NN#

where: NN=0-15, is the gain in dB (default 5)

NN = 0, disable

Amplifier - Direction

Function 12:

The purpose of direction control is to ensure that dialed digits can be detected, i.e., that the amplifier does not amplify the level of dial tone and attenuate the level of the digits being dialed. This function amplifies the signal only on the OfficeLink Remote port while the user is dialing, then turns off and allows the amplifier to operate normally.

When enabled, direction control is turned on after any of the following occur:

- ring trip
- a switch hook flash
- when sending an off-hook code from command mode
- when reseizing.

If direction control is needed, option 1 works for most applications. When set to 1, direction control will be turned off automatically when voice is detected. When set to 1, it is turned on after 3 seconds of dial tone. Direction control is also turned on after detecting 3 seconds of busy or reorder tone and will not turn off until you send a switch hook flash or go to command mode.

If the user has difficulty breaking dial tone, change the Amplifier Direction setting. Amplifier Gain must be enabled.

To turn direction control on or off, enter:

*12*D#

where D = 0, to disable direction control

D = 1, turns direction control off after the first digit ends (default)

D = 2, turns direction control on when it detects a DTMF digit and off after each digit ends

D = 3, turns direction control off after #

Amplifier - Sensitivity

Function 11:

This function sets the typical thresholds at which the amplifier turns on. Use this function if problems are experienced with low-level signals not being amplified. Amplifier Gain must be enabled.

Typical threshold levels can be lowered for either direction, or for both directions. The table below lists the threshold levels for each of the six options.

For example, by default (S=0) the amplifier turns on when it detects transmission levels in either direction of -44 dBm or lower. Setting S=1 increases the amplifier sensitivity to signals from the OfficeLink Remote side (-48 dBm) and decreases sensitivity to signals from the OfficeLink Local side (-42 dBm).

To set the thresholds at which the amplifier turns on, enter:

*11*S#

where: S = 0, no sensitivity bits are set (default)

S = 1, increase sensitivity to signals from OfficeLink Remote port and decrease sensitivity to signals from Local port

S = 2, increase sensitivity to signals from OfficeLink Local port and decrease sensitivity to signals from incoming Remote port

S = 3, enhanced sensitivity to both sides (amplifier turns on at lower dBm levels from both directions)

S = 4, Remote + enhanced sensitivity

S = 5, Local + enhanced sensitivity

Amplifier - Disable on Modem Detect

Function 13:

This function enables the unit to detect a 2225 Hz (modem) tone and disable the amplifier in order to eliminate interference with computer data transmission. The amplifier remains disabled until the OfficeLink unit is reset, the Local port line is dropped and reseeded by the OfficeLink unit, or the unit is disconnected and reaccessed.

To turn on or off the disable on modem tone detection setting, enter:

*13*x#

where: x = 1, enable

x = 0, disable (default)

Control

Control - Tone Blanking

Function 33:

Tone Blanking mutes the line if additional DTMF digits are dialed after a DTMF * or #. This function allows OfficeLink users to make announced transfers to another OfficeLink user without causing both units to hang-up.

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This function blanks the DTMF tones passed through the OfficeLink unit for the Interdigit Time (see “Control - Interdigit Time” on page 48) and extend the blanking period if another DTMF digit is seen within the Interdigit Time period.

If Tone Limiting (see “Control - Off-Hook with Tone Limiting” on page 50) is active, the DTMF passed through the OfficeLink unit is restricted further (see Figure 7).

To program the Tone Blanking function, enter:

*33*x#

where: x = 1, enable
x = 0, disable (default)

Control - Interdigit Time

Function 41:

This function sets the duration the OfficeLink unit uses to perform the Tone Limiting and Tone Blanking functions (see Figure 7). Be sure to set the Initial Access Mode and off-hook control codes accordingly.

Also, when users enter DTMF control codes, the digits must be entered within this time period of each other.

To program the Interdigit Time, enter:

*41*TT#

where: TT = 1-20 (increments of 100 milliseconds)
(default is 10, which equals 1 second)

Control - Reseize Time

Function 6:

This function sets the duration of the on-hook period of a reseize sequence. For details of the reseize operation, see “Control - Reseize” on page 51.

To set the Reseize time, enter:

*6*TT#

where: TT = 0, Disables the Reseize time (default)
TT = 5-30 (increments of 100 milliseconds)



Note: The Reseize code must be enabled (see “Control - Reseize” on page 51).

Control - Noise Control

Function 60:

Noises, such as a loud radio held too close to the telephone, can disrupt use of the OfficeLink unit. With this option you can set two timeout periods in order to regain control of the OfficeLink unit in such situations.

The OfficeLink unit detects continuous noise for the duration of the first timeout period (AA), then opens the audio path and sends four beeps to the Remote port, leaving the path open for 2 seconds so you can send ## to go to command mode or *# to have the unit send a switch hook flash. If you dial a DTMF command (** or #*), the OfficeLink unit restores the audio path, then looks for noise during the second timeout period (BB).

To program the noise control option, enter:

*60*AA*BB#

where: AA=0, Disables Noise Control

AA=1-99, sets the first timeout period in seconds (default 0)

BB=0-99, sets the second timeout period in seconds (default 0)



Note: Recommended values are 10-15 seconds for AA and 20-30 seconds for BB.

Control - Disconnect Code

Function 37:

When the user enters this code, it instructs the OfficeLink unit to hang up and disconnect the Remote port, and if off-hook, the Local port. The OfficeLink unit responds with a single confirmation beep prior to disconnect unless Per Call Connection is enabled, when it responds with the Low/High tone response.

To set the Disconnect code, enter:

*37*N*DDD#

where: N = 0, Disables the Disconnect function

N = 2–3, sets the number of digits in the Disconnect code

DDD = 0, 2 or 3 digits, valid entries are 0-9, * or # (default #9)

Control - Off-Hook with Tone Limiting Code

Function 36:

To shield the caller from user-generated DTMF tones, the OfficeLink unit can limit the tone duration. The caller only hears the DTMF control codes used to create a switch hook flash or a hang-up.

When the user enters this code, it instructs the OfficeLink unit to place the Local port off-hook and limit the DTMF passed through to a caller to a nominal 28-32 milliseconds. This function is enacted when the user enters * or #, and it is re-enacted when subsequent DTMF digits are dialed within the Interdigit Time (see Figure 7).

The Interdigit Time must also be set appropriately.

To set the Tone Limiting code, enter:

`*36*N*DDD#`

where: N = 2–3, sets the number of digits in the Tone Limiting code
DDD = 2 or 3 digits, valid entries are 0-9, * or # (default **)

Control - Off-Hook with Tone Pass-Through Code

Function 38:

If * and # must be transmitted by the user for outbound telemarketing or Voice Response Unit control, the user can disable tone limiting by entering this code.

When the user enters this code, it instructs the OfficeLink unit to place the Local port off-hook and allow all DTMF digits to pass through the unit to the office switch and the calling party (see Figure 7). While the unit is off-hook with tone limiting, the user can turn on tone pass-through by entering this code.

The Interdigit Time must also be set appropriately.

To set the Tone Pass-Through code, enter:

`*38*N*DDD#`

where: N = 2–3, sets the number of digits in the Tone Pass-Through code
DDD = 2 or 3 digits, valid entries are 0-9, * or # (default **)

Control - On-Hook Code

Function 39:

When the user enters this code, it instructs the OfficeLink unit to place the Local port on-hook (hang-up) and return to an idle state. The OfficeLink responds with a two-

beep confirmation tone. The user is then in command mode, hears reminder tones (unless disabled), and can enter control codes.

To program this function, enter:

`*39*N*DDD#`

where: N = 2–3, sets the number of digits in the On-Hook code.
DDD = 2 or 3 digits, valid entries are 0-9, * or # (default ##)

Control - Reseize Code

Function 34:

The reseize function performs the same action as a hang up (on-hook function), followed by a delay, then a pick up (off-hook). A user can end one call and make another using only one DTMF control code. It is also helpful with telephone systems that do not recognize the OfficeLink switch hook flash. In this case, users can use the reseize code instead of switch hook flash code. This is recommended for advanced users.

To set the Reseize code, enter:

`*34*N*DDD#`

where: N = 0, Disables the Reseize function (default)
N = 2–3, sets the number of digits in the Reseize code
DDD = 0, 2 or 3 digits, valid entries are 0-9, * or #



Note: The reseize time must be enabled (see “Control - Reseize Time” on page 48).

Control - Switch Hook Flash Code

Function 35:

When the user enters this code, it instructs the OfficeLink unit to generate a switch hook flash on the Local port. This allows the remote user to transfer calls, conference, and use other PBX features.

To program this function, enter:

`*35*N*DDD#`

where: N = 0, Disables the switch hook flash function
N = 2–3, sets the number of digits in the switch hook flash code
DDD = 0, 2 or 3 digits, valid entries are 0-9, * or # (default *#)

Disconnect

Disconnect - Dial Tone Detect

Function 9:

The Dial Tone detect function causes the OfficeLink unit to disconnect after dial tone has been present for a period of time. This is useful when the switch connected to Remote port does not issue a forced disconnect (COD) when the user hangs up, but instead returns dial tone. Recommended timing is 10 seconds for detection of this tone.

To program the dial tone detect, enter:

`*9*TT#`

where: TT = 0, disable (default)

TT = 5-20, sets the detect time in seconds

Disconnect - Busy/Reorder Tone Detect

Function 18:

The Busy/Reorder detect function causes the OfficeLink unit to disconnect after busy or reorder tones have been present for a period of time. This is useful when the switch connected to Remote port does not issue a forced disconnect (COD) when the user hangs up, but instead returns busy or reorder tone. Recommended timing is 10 seconds for detection of these tones.

To program the busy/reorder detect, enter:

`*18*TT#`

where: TT = 0, disable (default)

TT = 5-20, sets the detect time in seconds

Disconnect - Idle Detect

Function 8:

During an established call, if the line is idle (silent) for the programmed period of time, the unit issues a warning tone 16 seconds prior to timeout, and then disconnects the call if no audio is detected.

To program the idle detect, enter:

*8*TT#

where: TT = 0, disable (default)

TT = 1-99, sets the detect time in seconds

Disconnect - Milliwatt Detect

Function 40:

If you dial a test number that plays a 1000 Hz test tone, the OfficeLink unit can be programmed to detect the tone within 1 to 300 seconds. With Milliwatt Detect enabled, when the unit detects the tone, it disconnects the Local port line for 2 seconds before reseizing it for a new call. Although rarely used, this option can be used by system administrators to disconnect the unit when it is not responding to other disconnect methods.

To program the Milliwatt detect, enter:

*40*TTT#

where: TT = 0, disable

TT = 1-300, sets the detect time in seconds (default 15)

Security

Security - Password Enable

Function 15:

Passwords are the primary means to prevent unauthorized use of the services for which this unit is being installed.

Passwords must be enabled for remote programming, per call, and the selective dial back options. Passwords are optional with the other options. Passwords are set for each user.

If password access is enabled and no passwords are programmed, the unit will return an error tone when a password entry is attempted.

To enable/disable password use, enter:

*15*X#

where: X = 0, disable

X = 1, enable (default)

Security - Remote Programming

Function 98:

This function allows User 1 to call the unit from any location and enter programming commands (thus, physical access to the unit is not required).



Note: When Remote Programming is enabled, the User 1 password is the system administrator's access into the programming mode. Passwords must be enabled and a password for User 1 must be programmed.

If Remote Programming is not enabled, User 1 is a normal user of the OfficeLink unit. All programming access must be through the serial port or initiated by pressing the front panel switch to the Program position.

To enable/disable remote programming, enter:

*98*X#

where: X = 0, disable (default)

X = 1, enable

Security - Allow User to Change PCC/Dial Back Number

Function 53:

This function allows users to reprogram their Per Call Connection/Dial Back number remotely. If a user does not reprogram their PCC/Dial Back Number, the OfficeLink unit dials their programmed number (see "Users - PCC/Dial Back Number" on page 57). If a user reprograms their PCC/Dial Back number, the new number remains in effect until the user again reprograms the number. If the user has reprogrammed their number and you query the unit for its current settings, the unit replies with the latest reprogrammed PCC/Dial Back number.

If a user does not have a programmed PCC/Dial Back Number and does not enter a number, the OfficeLink unit will not function as intended.

Per Call Connection and/or a dial back option must also be enabled.

To program this function, enter:

*53*X#

where: X = 0, disable (default)

X = 1, enable

Security - Prevent

Function 25:

Temporarily blocks all user access after repeated attempts to enter an invalid password. The number of invalid attempts, the unit's response to the user, and the amount of time the function is active are also programmable.

To enable/disable program the prevent function, enter:

*25*X#

where: X = 1, enable

X = 0, disable (default)

Security - Number of Invalid Attempts

Function 27:

This function sets the number of consecutive invalid password entries before the Prevent function is activated.

Prevent must be enabled.

To program the number of invalid attempts, enter:

*27*NN#

where: NN = 1-20, attempts to dial an invalid password (default 5)

Security - Response to Users during Prevent

Function 26:

This function determines the type of response given to users when the Prevent function is active.

Prevent must be enabled.

To specify the response to users, dial:

*25*R#

where: R = 0, users receive error tone while Prevent is active (default)

R = 1, the OfficeLink unit does not answer while Prevent is active

R = 2, the OfficeLink unit answers but ignores all passwords while Prevent is active

Security - Prevent Duration

Function 28:

This function specifies the number of minutes that Prevent is active before allowing any user to dial a valid password.

Prevent must be enabled.

To program the number of minutes, dial:

*28*TT#

where: TT = 1 to 20, minutes (default 5)

Users

Users - Passwords

Function 1:

Passwords are the primary means to prevent unauthorized use of the services for which this OfficeLink unit is being installed. A maximum of 25 passwords can be programmed, each 3 to 10 digits long. Password use must be enabled using the Password Enable function (see “Security - Password Enable” on page 53).

Password tips for system administrators and users:

- Use long passwords—the longer the password, the more secure the system.
- Change passwords—change them at least twice a year, and change the length along with the digits.
- Use multiple passwords—if one password has been broken, it can be changed without impacting all users. Vary the length of passwords assigned to different users.
- Never disseminate the programming password (User 1).
- Monitor system usage daily and watch for excess traffic over the normal amount of calling. OfficeLink call records provide a call-by-call and user-by-user (User number) listing.
- Avoid using passwords that can be guessed by association, such as personal or company telephone numbers, addresses, names, or vanity license plates (names associated with numerals on push-button phone keypads; for example, “NAMES” = 62637).

To program a password, enter:

*1*UU*xxx...xx#

where: UU = 1-25, user number

xxx...xx is the password, 3 to 10 digits, valid entries are 0-9



Notes: To program the User 1 password, enter the entire command string *twice*.

The User 1 password is the system administrator's access into the programming mode when Remote Programming is enabled. If Remote Programming is not enabled, User 1 is a normal user of the OfficeLink unit.

If password access is enabled and no passwords are programmed, the unit will return an error tone when a password entry is attempted.

Users - User Timeout

Function 4:

You can set a timer to prevent users from monopolizing the unit or to reset the unit if a user forgets to enter the disconnect code on a loop start line. Users hear a warning tone 16 seconds before the timer disconnects the unit. The timer can be set differently for each user.

To program a user timeout, enter:

*4*UU*TT#

where: UU = 1-25, user number

TT = 0, disables the timeout (default)

TT = 1-99, sets the timeout in minutes

Users - PCC/Dial Back Number

Function 50:

Each user is assigned a unique telephone number that the OfficeLink unit uses when invoking PCC or Dial Back.

To program the PCC/Dial Back numbers, enter:

*50*UU*DD DD DD...DD#

where: UU = 1-25, User number

DD, is the actual dial string

To allow pauses and other functions in the dial sequence, all items in the dial string are entered as digit pairs (see Table 1).

Table 1. Dial Sequence Digits/Functions and Digit Pairs

Dial Sequence Digit/Function	Digit Pair
DTMF 0	00
DTMF 1	01
DTMF 2	02
DTMF 3	03
DTMF 4	04
DTMF 5	05
DTMF 6	06
DTMF 7	07
DTMF 8	08
DTMF 9	09
<i>invalid</i>	10
DTMF *	11
DTMF #	12
Reseize	13
1-second pause	14
Switch hook flash	15
<i>invalid</i>	16-99

Example:

To program the OfficeLink unit to dial 9, pause, 487-1212 for User 2, dial:
 *50*02*091404080701020102#



Notes: When using the OfficeLink Solo Configuration Software, it is not necessary to enter the phone number digits as digit pairs.

Per Call Connection and/or a dial back option must be enabled. The same number is used for both Dial Back and Per Call Connection if both options are in use.

If Immediate Dial Back is enabled, only program the User 25 number.

If Allow User to Change PCC/Dial Back Number is enabled, user can remotely change their number.

Miscellaneous

If you send a query command to the unit from a telephone, the response will be a voice response. If querying through the serial port, the ASCII numeric values will be sent.

Miscellaneous - Version Query

Function 90:

If you are not certain which version of OfficeLink model that you are working with, look at the label on the bottom of the OfficeLink unit or enter:

*90#

The OfficeLink unit will respond with one of the following versions:

<u>OfficeLink Response</u>	<u>Model Number:</u>
168 (one-six-eight) beep 200 (two-zero-zero)	OL1-01 or OL1-05
181 (one-eight-one) beep 200 (two-zero-zero)	OL1-02 (Prior to OfficeLink Solo Model) or OL1-06
181 (one-eight-one) beep 300 (three-zero-zero)	OL1-02 (OfficeLink Solo Model)

Miscellaneous - Restore Defaults

Function 99:



Caution: This step resets the OfficeLink unit and restores all programming back to factory defaults.

To program the OfficeLink unit to Restore Default Settings, enter:

*99#*99#

Miscellaneous - Amplifier Query

Function 82:

This function allows you to determine whether or not your OfficeLink unit has an amplifier installed.

To query the OfficeLink if an amplifier is installed, enter:

*82#

The OfficeLink unit will respond with “one” if installed, “zero” if not installed.

Miscellaneous - Programming Query

Function 77:

This command allows you to query the current settings of the OfficeLink unit. There are two forms of this command:

To query user specific commands:

`*77*TT*UU#`

where: TT = command number
UU = 1-25, user number

To query other commands:

`*77*TT#`

where: TT = command number

The OfficeLink unit replies with the current settings for the command.

The current settings of the unit can also be printed from the OfficeLink Solo Configuration Software. With a printer connected to the serial port, the unit can also print the current system configuration. Pressing and holding the front panel switch in the Program position for longer than 2 seconds generates a printout of the current configuration.

Miscellaneous – Turn Off Per Call Connection

Function 200:

The system administrator, while in programming mode, can turn off the per call connection of the last user to access the unit by entering `*200#`.

Miscellaneous - Go to Command Mode

Function 88:

The system administrator can go directly from programming mode to command mode by entering `*88#`. Then, acting as User 1, answer incoming calls, make outgoing calls, test specific functions, or use any other function as a normal user.

Miscellaneous – Exit Programming Mode and Disconnect

Function ##:

The system administrator can exit programming mode and disconnect by entering `##`.

TROUBLESHOOTING



Notes: Please note that the telephone company may ask you to disconnect the OfficeLink unit from the network until the problem has been corrected or until you are sure the OfficeLink unit is not malfunctioning.

Before returning any unit determined to be defective, be sure to contact Teltone for an RMA (Return Material Authorization) number. See “Warranty and Service” on page 64.

For information about programming the unit, see “Programming” on page 12. For information about verifying programming, see “Miscellaneous - Programming Query” on page 60.

Green LED is not lit or is lit but not flashing

Verify that the front panel switch is set to Ready.

Verify that the unit is plugged in. If the wall receptacle is on a switched outlet, ensure that the switch is on.



Caution! This step involves hazardous voltage! Ask a qualified technician to unplug the power cable from the wall and verify that there is 120 VAC $\pm 10\%$ at the wall receptacle. If not, the problem is an open circuit breaker or faulty building wiring. Plug the power cable into the wall receptacle without the unit connected to it. Verify that there is a minimum of 12 VAC at the power cable connector. If not, the power cable is defective.

Reconnect the unit. If the green LED still does not flash, the unit is defective.

Unit does not answer. Green LED is flashing.

Disconnect the telephone line from the unit's Remote port and connect the line to an analog telephone. Call the telephone number for the Remote port. If the telephone does not ring, ensure that you dialed the number correctly. If so, there is a problem in the wiring. If the telephone rings, answer the call and check that the talk path is acceptable. If the talk path is not satisfactory, the problem is with the telephone line.

If the talk path is acceptable, reconnect the telephone line to the OfficeLink unit's Remote port. Press the front panel switch to the Program position until the green LED flashes quickly. Call the unit within 5 minutes. If the unit does not answer (the Remote LED does not light), the unit is defective.

If the unit answers (Remote LED lights), verify that the ring detect setting and the ring cadence on the Remote port line match.

If ring detect (Access – Ring Detect) is set to 2 seconds on/4 seconds off, verify that the ringing to the unit is 2 seconds on and 4 seconds off.

If you are not sure of the cadence, set the ring detect (Access – Ring Detect) to 250 ms minimum. Try to call the unit. If the unit answers, ringing to the unit is nonstandard. The unit must be operated with the ring detect (Access – Ring Detect) set to 250 ms or 400 ms minimum.

Unit answers but does not return answer tone. Green LED is flashing.

Check the telephone line to the Remote port by calling the unit. If the Remote LED does not light, disconnect the telephone line from the unit's Remote port and connect the line to an analog telephone. Call the telephone number for the Remote port. When the telephone rings, answer the call and check that the talk path is acceptable. If the talk path is not satisfactory, the problem is with the telephone line.

If the talk path is acceptable, reconnect the telephone line to the OfficeLink unit's Remote port. Press the front panel switch to the Program position until the green LED flashes quickly. Call the unit within 5 minutes. When the unit answers, the Remote LED lights. Listen for three beeps. If you do not hear three beeps, the OfficeLink unit is defective.

The OfficeLink unit does not return answer tone if the password option is disabled. Verify that the answer tone (Access - Answer Tone) and password (Security - Passwords) options are enabled. If both options are enabled, set the answer tone level (Access - Answer, Ringback & Voice Level) to the loudest setting: -4 ± 2 dBm. If the problem persists, contact Teltone Technical Support.

Unit returns the error tone when a password entry is attempted.

Verify that passwords are enabled and also that user passwords have been programmed.

Unit does not seize the Local port line and the Local LED does not light.

Verify the initial access mode. If the initial access mode is 1 (Device off-hook with Tone Limiting) or 2 (Device off-hook with Tone Pass-Through), the unit is defective.

If the initial access mode is 0 (Device on-hook), call the unit again and enter the Off-Hook with Tone Limiting code (default **). If the Local LED does not light, the unit is defective.

Unit does not seize the Local port line. The Local LED lights but you do not hear dial tone.

Dial tone is provided by the line connected to the Local port on the OfficeLink unit.

Disconnect the telephone line from the unit's Local port and connect the line to a telephone and go off-hook. If you hear dial tone, the unit is defective.

If you do not hear dial tone, there may be a problem with the line, although it may be acceptable in certain applications.

Remote LED lights and immediately drops.

The loop current on the Remote port line may be low. Ask a qualified technician to test the line. Disconnect the telephone line from the unit's Remote port and connect the line to an analog telephone, with an ammeter in series. Go off-hook with the telephone and verify that there is at least 20 mA. If there is at least 20 mA, the unit may be defective.

Unit cuts through, but dial tone does not stop after the first digit is dialed.

Verify that the Local port line accepts DTMF digits by connecting a telephone to it and pressing keypad digits to break the dial tone.

Verify that the amplifier direction control (Amplifier - Direction) is set to 1 (turns direction control off after the first digit ends).

Verify that the amplifier is installed properly by entering *82# (Miscellaneous - Amplifier Query). The response "zero" indicates the unit is defective.

Verify the amplifier gain setting (Amplifier - Gain). Adjust the gain by several dB to see if the problem can be resolved. If the problem persists, contact Teltone Technical Support.

Wrong or missing digits seen by receiving equipment.

Verify that the amplifier direction control (Amplifier - Direction) is set to 1 (turns direction control off after the first digit ends).

Adjust the amplifier gain (Amplifier - Gain) until the digits are reliably detected, which usually requires increasing the gain setting. If the problem persists, contact Teltone Technical Support.

Unit is not responding to control codes as intended.

Make sure the unit is programmed correctly. Some functions require other functions to be enabled. For example, if the amplifier is not enabled, the sensitivity will not function. If Per Call Connection is enabled but passwords are not enabled, the unit cannot function as intended.

WARRANTY AND SERVICE

Warranty Information

Teltone warrants this product to be free from defects in material and workmanship for a period of 24 months, given proper installation and usage. The warranty date is stamped on the bottom of the unit. At its sole discretion, Teltone will repair or replace free of charge any unit found to be defective during the warranty period. Units found defective beyond the warranty period will be repaired or replaced at a flat rate.

Note that the warranty is voided if unit is opened by unauthorized personnel.

Toll Fraud Disclaimer

While this device is designed to be reasonably secure from intrusions by fraudulent callers, it is by no means invulnerable to fraud. Therefore, no express or implied warranty is made against such fraud.

Return Procedures

If a unit is found to be defective, contact Teltone customer service at 425-951-3388 to obtain a RMA (Return Material Authorization) number and shipping instructions. When returning units, provide the following information:

- Unit model number, unit part number, and serial number (obtained from the Unit ID label on the bottom of the unit).
- Teltone RMA number
- All available fault information
- Complete shipping and billing address
- Repair purchase order

Technical Assistance

For technical assistance on this product, call Teltone technical support at 425-951-3390 or send an email to support@teltone.com.

Maintenance

The OfficeLink Solo unit can be cleaned by using a damp cloth and wiping away any dust or residue on the metal. Always disconnect power before cleaning the unit.

The OfficeLink Solo unit should be checked periodically for damage or hazardous conditions. There are no user-serviceable parts in this unit.

SPECIFICATIONS

Power Requirements

Use unit only with Class 2 power source, rated 120 VAC, 60 Hz, 10W input; 12 VAC, 500 mA output

Input	120 VAC \pm 10%
Output	12V, 500 mA nominal

Operation during Power Loss

All programmed settings are retained in non-volatile EEPROM during power loss. No batteries required.

Ring Voltage Detection

Voltage	40-150 VRMS
Frequency	16-66 Hz
Timing (programmable)	> 250 ms > 400 ms > 2000 \pm 20 ms on, 4000 \pm 440 ms off

Insertion Loss

With amplifier set for 0 dB gain < 2.5 dB, 300-3500 Hz

Longitudinal balance

> 60 dB, 200-1000 Hz
> 50 dB, 1000-4000 Hz

Telephone Line Requirements

Local port	Loop start
Remote port	Loop start (with forced disconnect preferred)
Seizure	20 mA minimum 100 mA maximum
Maximum break duration with no loss of seizure	350 ms (Remote port only)
Minimum break for guaranteed loss of seizure	550 ms (Local port only)

DTMF Receive Detect

Tone duration	Must accept > 40 ms Must reject < 20 ms
Tone level composite signal	Must accept > -25 dBm Must reject < -37 dBm
Twist	\pm 6 dB
Frequency deviation	Must accept \pm 1.5% + 2 Hz of nominal Must reject \pm 3.5% + 2 Hz of nominal

DTMF Transmit Signals

Tone duration	70 \pm 5 ms
Interdigit time	70 \pm 5 ms
Tone level	-6 \pm 4 dBm

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Remote Port Impedance

DC	210 \pm 30 ohms (after seizure)
AC	925 \pm 75 ohms (before password and with Local line split)

Local Port Impedance

DC	210 \pm 30 ohms (after seizure)
AC	925 \pm 75 ohms (with the Remote line open)

Seizure of Local Port Line

With password enabled	< 250 ms after valid password entered Audio path is open for 2 seconds after seizure if passwords are enabled
With password disabled	< 250 ms after ring trip

Call Progress Tone Detection

Dial tone detect	305 - 640 Hz, > -27 dBm Rejects signals below -37 dBm
1000 Hz tone detect	1000 \pm 50 Hz, > -27 dBm Must reject < 900 Hz, > 1100 Hz Must reject any tone below -37 dBm
Data disable detect	2225 Hz \pm 100 Hz for 350 \pm 100 ms

Audible Tones

Answer tone	1 second, beginning 2 seconds after ring trip
Confirmation tone	3 short beeps
Error tone	Alternating high and low tones for 2 seconds (indicates error in programming or password entry)
Per call in use tone	Low/high
Ringing tone	440 Hz interrupted every 25 ms (follows ring signal on Local port)
Warning tone	500 ms answer tone
Frequency	440 \pm 10 Hz
Level (programmable)	-4 \pm 2 dBm -10 \pm 2 dBm -16 \pm 2 dBm

Amplifier

Gain (programmable)	0 to 15 dB \pm 1 dB (1dB steps) Measured with input at -30 dBm
Maximum output with gain	Input signal < -9 dBm: -9 dBm input signal > -9 dBm: tracks input signal level
Gain between 500 and 3300 Hz	\pm 1 dB of gain at 1000 Hz
Gain at 300 Hz	Will not deviate from gain at 1000 Hz by more than -3 dB
Singing point	Unconditionally stable
Overload	Will not occur until signal on output is +9 dBm at 1 kHz
Harmonic distortion	<1% between 500 and 3300 Hz with signal and source load impedance of 900 ohms, input signal at 0 dBm, and gain set to +7 dBm
Turn-on time	<5 ms when input signal of 1 kHz at -30 dBm is applied and unit gain is set for +7 dB

Mechanical Specifications

Dimensions	1.5 in x 5.5 in x 9 in
Weight	1 lb 10 oz

Indicators and Controls (Front Panel)

Green LED	Off indicates unit is disabled Slow flash indicates unit is enabled and in idle state Rapid flash indicates unit is in programming mode 1-second on/1-second off indicates unit is in prevent mode Double blink indicates unit is in per call
Red Remote LED	On indicates Remote port is off-hook
Red Local LED	On indicates Local port is off-hook
3-position switch	Places unit in Ready, Disable, or Program mode

Power and Line Connections (Rear Panel)

Two RJ11C jacks	For connecting Remote and Local telephone lines
AC power jack	See power requirements
RS-232C port	For connection to a printer to enable call recording or to a PC for programming

Environmental Specifications

Temperature	0 to 55 degrees C
Relative humidity	Unit will operate at 55 degrees C and 85% relative humidity (noncondensing) for 72 hours with no degradation of performance

OfficeLink Solo Configuration Software Requirements

PC operating system	Windows 95, 98, 2000, NT, XP
PC	2 MB hard disk space, available serial port, CD-ROM drive

Regulatory Compliance

FCC Part 68	AHHUSA-67638-OT-E
Canadian CS-03	IC: 344 4145 A
FCC and Industry Canada REN	1.0 B
FCC Part 15, Class A	Complies
UL 1459	Complies
CSA C22.2 No. 225-M90	Complies

SERIAL INTERFACE

The OfficeLink unit provides a 1200 bps serial RS-232C interface with an 8-bit data word, no parity. The unit is configured as DCE and its connecting jack is DB25S.

Pin No.	RS-232C Code	Description
1	AA	Protective ground (common with signal ground)
2	BA	RXD Receive Data
3	BB	TXD Transmit Data
6	CC	DSR Data Set Ready (always high)
7	AB	Signal Ground
8	CF	DCD Data Carrier Detect (high when incoming line is off-hook)
22	CE	RI Ring Indicator (high when ringing is present on incoming line)

The serial interface provides two functions. The first is to program the OfficeLink from a PC. The second is to output call records or current settings to a printer.

When calls are placed through the OfficeLink unit, call records are output from the serial port. Call data is not stored within the OfficeLink unit, so any OfficeLink usage that occurs while the printer is disabled is not recorded.

The connected printer should have a minimum 80-column width and operate at 1200 bps.

Call Record Format

Call records contain information about calls passed through the OfficeLink (including user number, digits dialed, disposition and duration of the call), as well as information about accesses to the unit for programming and unsuccessful access attempts. For each call or attempt, information is displayed in four columns or “fields” separated by commas, as follows:

<FIELD1>, <FIELD2>, <FIELD3> , <FIELD4>

There is a space after the comma between field 1 and field 2, field 3 is expanded with leader dots, and field 4 is shown at the right margin.

- <**FIELD1**> The word USER followed by a number indicates a call

The word PROGRAM indicates access to the OfficeLink unit for programming

The word NO CODE or DENIED indicates an unsuccessful attempt to access the unit
- <**FIELD2**> Shows the digits dialed (up to 45 digits)
- <**FIELD3**> Gives the disposition of the call (see “Example Call Records” on page 70).
- <**FIELD4**> Call duration. If the user signals a reseize, a new record is started and the timer restarts. If the user timeout option is set for this user, the total duration of calls recorded for a single access to the OfficeLink unit will be within the timeout period.

Example Call Records

Field 1	Field 2	Field 3	Field 4	Comments
NO CODE		ON-HOOK		A user dialed the OfficeLink unit then hung up after receiving answer tone.
NO CODE		DTMF T/O		A user dialed the OfficeLink unit, then did not enter any digits. After 16 seconds the OfficeLink unit disconnected.
DENIED				A user dialed the OfficeLink unit, then entered invalid password digits. The OfficeLink unit disconnected. Note: Access denied calls are indented to highlight them.
PROGRAM	##			The OfficeLink unit was accessed for programming through the User 1 password or the front panel switch, and the exit programming and disconnect command (##) was entered.
USER 02	5551212	ON-HOOK	,00:00:15	User 2 placed a call to 555-1212, then hung up after 15 seconds.
USER 02	5551212##		,00:00:15	User 2 placed a call to 555-1212, then entered ## to go to command mode.
USER 02	5551212**		,00:00:15	User 2 placed a call to 555-1212, then entered **. The unit was placed off-hook after 15 seconds.
USER 02	5551212	TIME-OUT	,00:20:15	User 2 placed a call to 555-1212. The OfficeLink unit disconnected after the user time-out period was exceeded.
USER 25	5551212	IDLE T/O	,00:05:15	User 25 placed a call to 555-1212. The OfficeLink unit disconnected after the programmed idle detect time had elapsed.
USER 25	5551212	REORDER T/O	,00:02:05	User 25 placed a call to 555-1212. The OfficeLink unit disconnected after detecting reorder tone.
USER 25	5551212	BUSY T/O	,00:00:05	User 25 placed a call to 555-1212. The OfficeLink unit disconnected after detecting busy tone.
USER 25	5551212	DIAL TONE T/O	,00:00:45	User 25 placed a call to 555-1212. The OfficeLink unit disconnected upon detecting dial tone after the specified dial tone detect time had elapsed.

OFFICELINK SOLO CONFIGURATION SOFTWARE

To run OfficeLink Solo Configuration Software on a PC, the following minimum specifications are required:

- Processor: Intel Pentium compatible 133 MHz or faster
- Operating system: Microsoft Windows 95, 98, 2000, NT, or XP
- RAM: as recommended by Microsoft for your operating system
- Available disk space: 20 MB minimum
- Drives: CD-ROM

The configuration software is provided on the product CD and on the Teltone website.

To install the configuration software onto a PC:

1. Insert the product CD into the CD-ROM drive.
2. Find the OfficeLink Solo Configuration Software installation folder on the product CD.
3. Double click SETUP.EXE.
4. Continue through setup, clicking Next when prompted.
5. Click Finish to complete the installation.

To program an OfficeLink unit, connect the RS-232C port on the unit's rear panel to a serial port on the PC running the program using a serial cable (to order a cable from Teltone, see "Ordering Information" on page 72).

ORDERING INFORMATION

Basic Unit

OL1-02 OfficeLink Solo. Includes AC power cord and transformer and product CD, which includes OfficeLink Solo Configuration Software and product documentation.

Accessories and Spares

UM-110-101 Wall Mounting Strap for one OfficeLink unit (optional)

UM-111-401 Universal Wall Mounting Bracket (optional) for wall mounting up to 4 units.

UM-113-801 Universal Rack Mounting Shelf (optional) for rack mounting up to 8 units.

CA-7F 7 ft. Modular Telephone Cord (two cords required per unit, 7 or 25 ft. lengths)

CA-25F 25 ft. Modular Telephone Cord (two cords required per unit, 7 or 25 ft. lengths)

PS-12 AC-01 Replacement power transformer (AC adapter), 120/12 VAC, 500 mA. UL approved transformer is included with each unit.

742-00022-01 6 ft. Serial Cable for programming or printing (with DB25 male connector for connecting to OfficeLink Solo and DB9 female connector for connecting to PC/printer)

PROGRAMMING WORKSHEETS

To ensure the security of your system, store this page and others referring to the programming of the unit in a safe place located away from the unit.

Remote Port Telephone Number:				
Local Port Telephone Number:				
SUMMARY, USER-SPECIFIC FUNCTIONS				
User	Password	Timeout	PCC/Dial Back Number	Notes
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

PROGRAMMING WORKSHEETS (CONTINUED)

To ensure the security of your system, store this page and others referring to the programming of the unit in a safe place located away from the unit.

OTHER FUNCTIONS		
Function #	Function	Required Setting
Access		
16	Ring Detect	
17	Number of Rings	
2	Answer Tone	
52	Dial Back	
19	Initial Access Mode	
51	Per Call Connection	
42	Reminder Tone	
3	Answer, Ringback & Voice Level	
Amplifier		
10	Gain	
12	Direction	
11	Sensitivity	
13	Disable on Modem Detect	
Control		
33	Tone Blanking	
41	Interdigit Time	
6	Reseize Time	
60	Noise Control	
37	Disconnect Code	
36	Off-Hook with Tone Limiting Code	
38	Off-Hook w/ Tone Pass-Through Code	
39	On-Hook Code	
34	Reseize Code	
35	Switch Hook Flash Code	
Disconnect		
9	Dial Tone Detect	
18	Busy/Reorder Tone Detect	
8	Idle Detect	
40	Milliwatt Detect	
Security		
15	Password Enable	
98	Remote Programming	
53	Allow User to Change PCC/Dial Back Number	
25	Prevent	
27	Number of Invalid Attempts	
26	Response to Users during Prevent	
28	Prevent Duration	
Users		
1	Password Assignment	See worksheet on previous page
4	User Timeout	
50	PCC/Dial Back Number	

PROGRAMMING QUICK REFERENCE

Function	Command	Description	Default
Access			
Ring Detect	*16*X#	X=0: 400 ms minimum for ring X=1: 2 seconds on / 4 seconds off X=2: 250 ms minimum for ring	X = 0
Number of Rings	*17*RR#	RR=1-16: number of rings before answer	RR = 1
Answer Tone	*2*X#	X=0: Disabled X=1: Enabled	Enabled
Dial Back	*52*D#	D=0: Disabled D=1: Selective Dial Back with COD D=2: Selective Dial Back D=3: Immediate Dial Back D=4: Selective with Number Dial Back	Disabled
Initial Access Mode	*19*D#	D=0: Unit on-hook D=1: Unit off-hook with Tone Limiting D=2: Unit off-hook with Tone Pass-Through	Mode 0
Per Call Connection	*51*X#	X=0: Disabled X=1: Enabled	Disabled
Reminder Tone	*42*DD#	DD=0: Disabled DD=4-60: Interval between beeps (seconds)	DD=5
Answer, Ringback & Voice Level	*3*L#	L=1: -16 ±2 dBm L=2: -10 ±2 dBm L=3: -4 ±2 dBm	L = 2
Amplifier			
Gain	*10*NN#	NN=0: Amplifier disabled NN=1-15: gain (dB)	NN = 5
Direction	*12*D#	D=0: Direction control disabled D=1: Off after first digit ends D=2: Off after each digit ends D=3: Off after # ends	D = 1
Sensitivity	*11*S#	S=0: Standard sensitivity S=1: Caller sensitivity S=2: Office sensitivity S=3: Enhanced sensitivity S=4: Caller + enhanced sensitivity S=5: Office + enhanced sensitivity	S = 0 (standard sensitivity)
Disable on Modem Detect	*13*X#	X=0: Disabled X=1: Enabled	Disabled
Control			
Tone Blanking	*33*X#	X=0: Disabled X=1: Enabled	Disabled
Interdigit Time	*41*DD#	DD=1-20: Interdigit time (x 100ms)	DD=10 (1000ms)
Reseize Time	*6*DD#	DD=0: Disabled DD=5-30: Timeout (x 100 ms)	Disabled

Function	Command	Description	Default
Noise Control	*60*AA*BB#	AA=0: Disabled AA=1-99: Initial timeout (seconds) BB= 0-99: Second timeout (seconds)	Disabled
Disconnect Code	*37*N*DDD#	N=0: Disabled N=2-3: Number of digits in the code D=Control code: length = N (digits 0-9, *or #)	# 9
Off-Hook w/ Tone Limiting Code	*36*N*DDD#	N=2-3: Number of digits in the code D=Control code: length = N (digits 0-9, *or #)	**
Off-Hook w/ Tone Pass-Through Code	*38*N*DDD#	N=2-3: Number of digits in the code D=Control code: length = N (digits 0-9, *or #)	#*
On-Hook Code	*39*N*DDD#	N=2-3: Number of digits in the code D=Control code: length = N (digits 0-9, *or #)	# #
Reseize Code	*34*N*DDD#	N=0: Disabled N=2-3: Number of digits in the code D=Control code: length = N (digits 0-9, *or #)	Disabled (no digits programmed)
Switch Hook Flash Code	*35*N*DDD#	N=0: Disabled N=2-3: Number of digits in the code D=Control code: length = N (digits 0-9, *or #)	*#
Disconnect			
Dial Tone Detect	*9*TT#	TT=0: Disabled TT=5-20: Time (seconds)	Disabled
Busy/Reorder Tone Detect	*18*TT#	TT=0: Disabled TT=5-20: Time (seconds)	Disabled
Idle Detect	*8*TT#	TT=0: Disabled TT=1-99: Time (minutes)	Disabled
Milliwatt Detect	*40*TTT#	TTT=0: Disabled TTT=1-300: Tone duration time to disconnect (seconds)	TTT = 15
Security			
Password Enable	*15*1#	X=0: Disabled X=1: Enabled	Enabled
Remote Programming	*98*X#	X=0: Disabled X=1: Enabled	Disabled
Allow User to Change PCC/Dial Back Number	*53*X#	X=0: Disabled X=1: Enabled	Disabled
Prevent	*25*X#	X=0: Disabled X=1: Enabled	Disabled
Number of Invalid Attempts	*27*NN#	NN=1-20: Number of attempts	5
Response to Users during Prevent	*26*R#	R=0: Error tone R=1: Ignore ringing R=2: Ignore passwords	R=0 (error tone)
Prevent Duration	*28*MM#	MM=1-20: Duration (minutes)	5

Function	Command	Description	Default
Users			
Passwords	*1*UU*NN...N#	UU=1-25: User number NN...N=Password: (3-10 digits) NOTE: Enter twice for User 1	No passwords
	*1*UU*#	Removes password from User UU NOTE: Enter twice for User 1	
User Timeout	*4*UU*TT#	UU=1-25: User number TT=0: Disabled TT=1-99: Timeout (minutes)	Disabled (all users)
PCC/Dial Back Number	*50*UU*DD...D#	UU=1-25: User number DD...D=PCC/Dial Back number	No digits programmed
Miscellaneous Commands			
Version Query	*90#	181 beep 300=OfficeLink Solo	
Restore Defaults	*99#*99#		
Amplifier Query	*82#	1=Amplifier in unit 0=No amplifier in unit	
User Programming Query	*77*TT*UU#	TT=Command number UU=1-25, User number	
Programming Query	*77*TT#	TT=Command number	
Turn Off Per Call Connection	*200#	Turns off the per call connection of the last user to access the unit.	
Go to Command Mode	*88#	Exits from programming mode and returns to command mode	
Exit from Programming and Disconnect	##	Exits from programming mode and disconnects	

INFORMATION FOR OFFICELINK USERS

The following User's Guide will help an OfficeLink Solo user complete and receive calls through the OfficeLink unit.



Note: If you use the OfficeLink Solo configuration software to program the unit, you can print user's guides that are tailored to the specific way you have configured the OfficeLink unit (by selecting the Print command on the File menu).

Please complete the steps below before distributing the guide to users.

1. Read through the guide, noting anything that varies with your application.
2. Have you changed any code defaults? If you have changed the defaults for any codes, write the new values in the blank lines provided.
3. Distribute copies of the User's Guide to the users. Please keep a copy for yourself for future reference.



Caution! The following user information is generic and contains details that may not apply to your specific application.

User's Guide

Accessing OfficeLink Solo

- Dial the telephone number assigned to the OfficeLink unit:

- With Answer Tone enabled (default enabled):
 - You will hear a 1-second tone. Enter your password (followed by #) within 15 seconds. If your password is accepted, you will hear dial tone or two beeps.
- With Answer Tone Disabled:
 - Wait 3 seconds after the unit answers and enter your password (followed by #) within 15 seconds. If your password is accepted, you will hear dial tone or two beeps. If you hear dial tone, you are ready to make a call. If you hear two beeps, you are in the command mode, and must enter the off-hook code _____(**) (with tone limiting) or _____(#*) (with tone pass-through) in order to get dial tone.

Receiving a Call

1. A ringing tone in your handset announces incoming calls.
2. Enter the off-hook code _____(**) to answer the call.
You are now connected to the caller.
3. When the call is finished, enter the on-hook code _____(##) to end the call and go to command mode.

Making a Call

The OfficeLink unit can reduce the # and * tone duration to shield your callers from tone “blasts” as you enter control codes. To limit the tone blasts when you call a person, use the off-hook with tone limiting code to make a call. If you make a call to equipment that needs to recognize # and * tones (for example, bank-by-phone systems), use the off-hook with tone pass-through code.

1. If you are calling a person, enter the code for off-hook (with tone limiting) _____(**). If you are calling a machine, enter the code for off-hook (with tone pass-through) _____(#*).
2. Wait for dial tone and make your call. If dial tone persists after attempting your call, try the call again, pressing firmly on the buttons of the keypad. If the call still does not go through, contact your system administrator.

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3. When the call is finished, enter the on-hook code _____ (##) to end the call and go to command mode.

During a call, you can turn off tone limiting by entering the Tone Pass-Through code (default #*).

Transferring and Conferencing

To transfer calls or set up three-party conferences, enter the switch hook flash code (if enabled) _____ (*#).

Disconnecting

Enter the disconnect control code _____ (#9) *before* hanging up. If the disconnect code is disabled, simply hang up your telephone.

If the OfficeLink unit is programmed for automatic disconnection after a set time period, you will hear a warning tone 16 seconds before being disconnected. If your call was not concluded, redial the OfficeLink unit.

Per Call Connection

1. To turn on Per Call Connection, enter *100# while in command mode.
OfficeLink responds with two beeps.
2. Dial the Disconnect control code (default #9) if enabled. If disabled, skip this step.
OfficeLink responds with low/high tone and disconnects.
3. Hang up the phone and wait for calls.



Caution: After you have turned on Per Call, no other OfficeLink user can use the unit until you turn off Per Call. When you have finished your call work, be sure to turn off Per Call before disconnecting.

To turn off Per Call Connection, enter *200# while in command mode.

OfficeLink responds with two beeps.

Immediate Dial Back

1. Call the OfficeLink unit and let it ring _____ times, then hang up.
2. When the OfficeLink unit calls back, answer the call.
OfficeLink responds with one beep every 4 seconds.
3. Enter 5.
OfficeLink responds with answer tone (if enabled).

4. If passwords are required, enter your password (followed by #).
OfficeLink responds with dial tone or two beeps.
5. You can make or receive calls.

Selective Dial Back

1. Call the OfficeLink unit.
OfficeLink responds with answer tone.
2. Enter your password (followed by #).
OfficeLink responds with two beeps.
3. Enter the Disconnect control code (#9 default), if enabled, and hang up the telephone.
4. When the OfficeLink unit calls back, answer the phone.
OfficeLink responds with one beep every 4 seconds.
5. Enter 5.
OfficeLink responds with two beeps or dial tone.
6. You can make or receive calls.

Selective + Number Dial Back

1. Call the OfficeLink unit.
OfficeLink responds with answer tone.
2. Enter your password (followed by #).
OfficeLink responds with two beeps.
3. Enter your telephone number using the digit pairs from the following table. For each digit in your phone number, enter the corresponding digit pair. To enter pauses and other functions, enter the corresponding digit pair. At the end of your phone number, enter #.

For example if the phone number is 4871515, you would enter 04 08 07 01 05 01 05#.

Phone Number Digit/Function	Digit Pair
DTMF 0	00
DTMF 1	01
DTMF 2	02
DTMF 3	03
DTMF 4	04
DTMF 5	05
DTMF 6	06
DTMF 7	07
DTMF 8	08
DTMF 9	09
DTMF *	11
DTMF #	12
Reseize	13
1-second pause	14
Switch hook flash	15

OfficeLink responds with two beeps.

To verify the dial back number:

- Enter *77# and listen for the OfficeLink unit to respond with the programmed number.

To cancel the dial back number:

- Enter 000# and wait for the OfficeLink unit to disconnect.

4. Enter the Disconnect control code (#9 default), if enabled, and hang up the telephone.
5. When the unit calls back, answer the phone.

OfficeLink responds with one beep every 4 seconds.

6. Enter 5.

OfficeLink responds with two beeps.

7. You can make or receive calls.

ACD Instructions

Logging In:

- Once you have accessed the OfficeLink unit, you can enter your ACD login code. After completing the ACD login process, enter ____ (##) to place the OfficeLink unit on-hook in preparation for receiving incoming calls.

Logging Out:

1. Enter _____ (*#) to place the OfficeLink unit off-hook.
2. Enter your ACD logout code.
3. Enter _____ (##) to return to command mode.
4. If Per Call Connection is on, turn it off by entering *200#.

OfficeLink responds with two beeps.
5. If no other telephone calls are to be made, enter _____ (#9) to disconnect from the OfficeLink unit.
6. Hang up your telephone.

ACD Logout during Heavy Calling Traffic

Select one of the following methods.

Method 1:

1. Wait until the calling party hangs up.
2. Enter the switch hook flash control code _____ (*#) or the Reseize code _____.

OfficeLink responds with dial tone.

3. Enter the ACD logout code, then enter the on-hook control code _____ (##).
4. If Per Call Connection is on, turn it off by entering *200#.

OfficeLink responds with two beeps.
5. Enter the disconnect control code _____ (#9).

OfficeLink responds with one beep and disconnects.
6. Hang up.

Method 2:

1. Answer the last incoming call and ask for permission to put the caller on-hold for a moment, then enter the switch hook flash code _____ (*#).
2. When you hear ACD dial tone, enter the ACD logout code, then enter the switch hook flash code _____ (*#) again to reconnect the calling party.
3. Complete the call.
4. Enter the on-hook control code _____ (##).

You will not hear the two-beep confirmation tone and will not receive another incoming call.
5. If Per Call Connection is on, turn it off by entering *200#.

OfficeLink responds with two beeps.

6. Enter the disconnect control code ____ (#9).
OfficeLink responds with one beep and disconnects.
7. Hang up.

User Settings Quick Reference

Your OfficeLink unit is programmed to include the following options. If a setting has a default value, it is shown in (). If a default is not used for your unit, your system administrator will have entered the current setting. If a value is not written on the blank line, use the value in ().

Initial Access Mode:

- On-hook (default)
- Off-hook with tone limiting
- Off-hook with tone pass-through

Answer Tone:

- Enabled
- Disabled

Switch Hook Flash:

- Enabled, code ____ (*#)
- Disabled

Disconnect:

- Enabled, code ____ (#9)
- Disabled

User Timeout:

- No automatic disconnect
- After ____ minutes

On-Hook (Hang-Up):

- Code ____ (##)

Reminder Tone:

- Enabled - every ____ (5) seconds
- Disabled

Off-Hook:

- ____ (**) with tone limiting
- ____ (#*) with tone pass-through

Reseize:

- Enabled, code ____
- Disabled (default)

GLOSSARY

2500 set	The standard single-line touch tone desk telephone.
Abbreviated Dialing	A feature of telephone systems that allows a caller to dial one or two digits to make a call. The system translates the digits to the actual number being called. Also known as “speed dialing”.
ACD	Automatic Call Distributor. A specialized telephone system for handling many incoming calls. Used by mail order companies, airlines, or any company that has a large number of incoming calls, ACD systems answer incoming calls and route each call to an available operator (one who is not currently handling a call) from a group of operators.
Busy Tone	A signal generated by the central office indicating that the line you are calling is busy.
Centrex	Business telephone service offered by a local telephone company from a local central office. Centrex is leased to businesses as a substitute for a business-owned PBX or key telephone system.
COD	Cutoff on Disconnect. See Forced Disconnect.
Command Mode	Refers to the OfficeLink unit’s state when the Local port is on-hook and the user is connected to the Remote port. When entering this mode, the user hears two beeps. While in this mode, the user hears a ringing tone when the Local port is ringing and a reminder tone. However, if Per Call Connection is enabled, the user hears two beep reminder tone. While in this mode, the user enters control codes, such as **, to handle calls.
Commands	DTMF sequences used by system administrators to program an OfficeLink unit.
Control Codes	DTMF sequences entered by users to control the telephone line via OfficeLink Solo. Users enter these codes while in command mode.
Custom Calling Features	Special services offered by the local telephone company, such as call forwarding, speed dialing, and others, which do not require special equipment at the customer’s premises.
dB	A decibel is a unit of measure of signal strength.
DTMF	Dual-tone multi-frequency. Push-button telephone signaling.
EEPROM	Electrically Erasable Programmable Read-Only Memory

Forced Disconnect	Method used by the telephone company to clear a line. When the called party goes on-hook, the central office returns an open (that is, drops loop current) of at least 800 ms to the calling party. This is also known as Calling Party Control (CPC) or Cutoff on Disconnect (COD).
Ground Start	One of two types of switched trunks (outside lines) typically leased from telephone companies, the other type being “loop start”. A ground start trunk initiates an outgoing trunk seizure by applying a local resistance up to 550 ohms from ground to the tip conductor.
Hacker	A person who tries to break into computer or telephone systems, usually by a series of trial-and-error attempts to break the password.
Idle State	Refers to the OfficeLink unit’s state when it is enabled and no user is connected.
Key Telephone System	A telephone system in which the telephones have multiple buttons that permit a user to select outgoing or incoming central office phone lines directly.
LED	Light-emitting diode. A semiconductor diode that emits light when a current is passed through it. Used for status and information displays on electronic devices.
Local Port	The OfficeLink port which is typically connected to a local PBX/ACD analog port.
Loop Start	One of two types of switched trunks (outside lines) typically leased from telephone companies, the other type being “ground start”. A loop start trunk is seized by connecting a low resistance between the tip and ring (both wires) of the telephone line.
Off-Hook	Refers to the state of the OfficeLink unit’s Local port. When a user is in command mode, entry of the Tone Limiting control code (default **) or Tone Pass-Through control code (default #*) places the OfficeLink Local port off-hook to answer a call or to make a call.
On-Hook	Refers to the state of the OfficeLink unit’s Local port. When a remote user is connected to the OfficeLink Remote port, and the Local port is on-hook, a Reminder Tone is sent back to the remote user (default every 5 seconds.). A single beep reminder is issued during normal use; a two-beep reminder is issued when Per Call Connection is invoked.
PBX	Private Branch Exchange. A private telephone system allowing communication within a business and between the business and the outside world. Most PBXs require you to dial 9 to access an outside line.

PCC	Per Call Connection
Programming Mode	Refers to the OfficeLink unit's state when the system administrator (User 1) is entering commands to program the unit.
Remote	At a location physically removed from the equipment in question, that is, a computer or PBX system that can be accessed by dialing through the telephone network.
Remote Port	The OfficeLink port which is typically connected to a PSTN or PBX line. This is the line which is dialed by the user to connect to the OfficeLink unit.
Reorder Tone	A tone that sounds like the busy signal, but is twice as fast. It indicates that all switching paths are busy. If you hear a reorder or "fast busy", dial the number again.
Resize	Resize is a single control code that performs the same function as the following sequence: hang-up (##), pause, off-hook (**).
Switch Hook Flash	A momentary depression of the button in the telephone cradle, used to signal for various services, such as calling an attendant or transferring a call.
Telecommuting	The practice of "commuting" to the office by means of a computer, modem, and telephone line, as opposed to transporting oneself physically to the office. That is, working at home or from some location away from the office.

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