TALK A PHONE
Creating Communications Solutions®

Installation & Operation Manual for

EC-8 Phone Line Consolidator

For Use With Talk-A-Phone Hands-Free Emergency Phones

Quick Programming and Setup Guide on Page 5

I. Getting Started

A. Introduction

Thank you for your purchase of this Model EC-8 Phone Line Consolidator. This unit is built with an exceptional standard of quality and should provide years of reliable service.

This manual will guide you through the installation of this unit and provide comprehensive operating instructions. Please read this instruction manual COMPLETELY before you install this unit.

Once you have installed the unit and are familiar with its operation, store this manual in an accessible location for future reference.

B. What Is In The Box

- One Phone Line Consolidator with Auxiliary Output Cable
- One Owner Information Card
- One Power Supply
- One Instruction Manual

You should inspect your Phone Line Consolidator when you open the box for possible damage in shipment. If it is damaged, or any of the components are missing, contact your Talk-A-Phone Co. distributor immediately. Do not discard any hardware or packing material before you are certain you have all the items listed above, and the unit is installed and functioning correctly.

C. Technical Requirements

- ❏ 120V AC 60Hz power source with output of 24V DC (Model ETP-UPS is strongly recommended as a back-up power supply)
- ❏ Maximum impedance between the emergency phones and the EC-8 is 25 Ohms. Maximum cable length will vary with gauge (see FAQ, page 9)

For Local Mode only:
- ❏ Standard touch-tone telephone.

For Remote Mode or Day/Night Mode:
- ❏ Dedicated P.O.T.S. type phone company line or Analog PBX line—you must know if your phone is on a PBX before you begin programming.
  If connected to a PBX, your extension must provide:
  - ❏ at least 24 Volts at 20 mA off-hook (no current is drawn on-hook)
  - ❏ either a disconnect pulse (voltage drop at end of call) or 30-seconds of silence after hang-up (no re-order or howler feature)
- ❏ If connected to a P.O.T.S. line, there must be no special features, such as hook-flash, call-waiting, auto-redial when busy or voice-mail. If the telephone company has activated any such features, contact them to have these features turned off.

II. Hardware Installation

A. Providing Power
Connect the power supply to the EC-8, then plug the Power Supply into an electrical outlet or UPS that supplies 120VAC 60HZ. Note: without a UPS, Emergency/Information phones connected to the EC-8 will not function in the event of a power failure.

B. Connecting Emergency/Information Phones
Up to 8 Talk-A-Phone Co. Emergency/Information Phones may be connected to your EC-8. To do so, simply plug the RJ11 connector from the phone into the appropriate port on your EC-8.

Talk-A-Phone offers a punch-down block, Model ETP-DMRK, for conveniently connecting your phones to an EC-8.

C. Local Mode
In Local Mode, pressing the button on any of the Emergency/Information phones will cause a standard touch-tone telephone to ring.

For this configuration, connect a telephone to the LOCAL PHONE port on the EC-8. If desired, two touch-tone phones can be connected in parallel to the Local Phone port by using a telephone-type "Y" adapter.

D. Remote Mode
In Remote Mode, pressing the button on any of the Emergency/Information phones will cause them to access a phone line to dial out.

For this configuration, connect an outside phone line to the TELCO IN port on the consolidator. (Note: See Technical Requirements, page 3, for phone line requirements. DO NOT plug a phone company phone line or PBX extension line into the LOCAL PHONE port as damage will result.)

E. Day/Night Mode
Day/Night Mode is primarily used when a facility has a guard on-site during the day but not at night. It may also be used in any situation where the guard station is not always manned.

When an emergency/information phone calls and the EC-8 is in Day/Night mode, it will ring the local phone first, ring it a second time if no one answers the first time, then if no one answers the second time it will dial a remote number. If no one should answer the remote number, it will re-ring the local phone and continue this cycle until either the phone is answered or times out (see Emergency Phone manual for information on setting the time-out.) When a guard leaves for the night, she can enter the code *36* to configure the EC-8 to

ring the remote phone first and then switch to the local phone (see Software Programming, page 6).

For this configuration, a standard touch-tone telephone is connected to the Local Phone port on the EC-8. If desired, two touch-tone telephones can be connected in parallel to the Local Phone port by using a telephone-type "Y" adapter. Then connect an outside phone line to the TELCO IN port on the consolidator. (Note: See Technical Requirements, page 3, for phone line requirements. DO NOT plug a phone company phone line or PBX extension line into the LOCAL PHONE port as damage will result.)

F. Sharing a Phone Line
Another telephone instrument (e.g. fax , modem, standard telephone, etc.) can share the outside phone line with the EC-8 by connecting the outside phone line to the "TELCO IN" port on the EC-8 and connecting the telephone instrument sharing the line to the "TELCO OUT" port. Be sure to set the EC-8 not to answer before your other device picks up (or, if sharing with a standard telephone, be sure to allow enough rings for the person answering the phone to pick up). Note: The other device sharing the line should not be emergency equipment of any kind.

G. Mounting the EC-8
The consolidator can be mounted on the wall using the tabs with keyslots on each side, or it can lie on a flat surface.

H. Connecting Auxiliary Devices
Extending from the top of the unit is a white connector with three wires: purple, red and yellow. These wires provide two dry contact closures to enable activation of a relay for turning on accessory devices indicating that a call is coming in to the Consolidator, as well as the ability to separately activate a relay when the call is answered, such as a flasher/siren or a recording device. (Contact Talk-A-Phone Technical Support for additional assistance in connecting relays.)

When an Emergency Phone call is received at the Consolidator, a connection will occur between the red and violet wires (normally open). When the call is answered at the Consolidator, the red and yellow wires (normally closed) are also connected. In this way, one or more devices can be activated through appropriate relays when the Consolidator is receiving calls, and one or more of them can be turned off when the call is answered. All three lines go "open" when the Consolidator has completed all activity (all calls answered).

III. Software Programming

A. Quick Programming and Set-Up Guide
In order to program your Emergency Phone System, you must program your EC-8 Consolidator AND your Emergency Phones. While it is recommended that you read the complete instructions below before you begin, the following quick guide will serve most applications.

1. Connect a phone line or analog PBX extension to the port labled TELCO LINE IN, or connect a standard telephone to the port labeled LOCAL PHONE (or both). **NOTE:** Do not plug a phone line into the LOCAL PHONE port or damage will result.
2. Connect Talk-A-Phone Emergency/Information phones to ports 1-8.
3. To program the EC-8, either lift the handset of the phone connected to the LOCAL PHONE port or dial the phone number connected to the TELCO LINE IN port. The EC-8 will answer with three beeps. Enter codes with the keypad of your phone. The Consolidator will respond with 1 beep if the command was completed successfully or 2 beeps if an error was detected.
4. If you plugged a standard telephone company line into the TELCO LINE IN and you are not using the LOCAL PHONE port, you do not need to program the EC-8. Skip to step 9 to program the Emergency Phones.
5. Enter the Consolidator Access Code: *31**
6. If an analog PBX line is connected to the TELCO LINE IN port, enter *39*2*
7. To route emergency phone calls to the LOCAL PHONE port only, enter *37*
8. To have emergency phone calls alternate between TELCO LINE IN and LOCAL PHONE, enter *63*. Then enter *35* to call LOCAL PHONE first or *36* to call TELCO LINE IN first.
9. Enter *4X* to route to port X on the EC-8 to program you emergency phone. See the Emergency Phone Manual for further instructions.

B. Detailed Programming Information

To program the EC-8 Consolidator, call it by either dialing the phone number of the line connected to the TELCO IN port or by lifting the handset of the standard telephone plugged into the LOCAL PHONE port. In either case, the EC-8 will respond with three beeps. The Consolidator will respond to all programming requests in one of two ways:

1 Beep	Command completed successfully
2 Beeps	Error(s) detected

If you hear two beeps, enter the code again. If you hear two beeps a second time, hang up and try again.

Remote Mode

In Remote Mode, if you have plugged a standard telephone company phone line into the TELCO IN port, you do not need to program the EC-8. Move on to Programming your Emergency/Information Phones.

If you are using a PBX line in the TELCO IN port: you must program the EC-8 for PBX mode :

1. Call your EC-8 (listen for 3 beeps)
2. Enter Guard Access Code: *31**
3. Program the Consolidator for a PBX line: *39*2*
4. Move on to Programming your Emergency/Information Phones

Local Mode

1. Pick up the LOCAL PHONE (listen for 3 beeps)
2. Enter Guard Access Code: *31**
3. Program the Consolidator for Local Mode: *37*
4. Move on to Programming your Emergency/Information Phones

Day/Night Mode

1. Call your EC-8 or pick up the handset connected to the LOCAL PHONE port (listen for 3 beeps)
2. Enter Guard Access Code: *31**
3. Program the Consolidator for Day/Night Mode: *63*
4. Program the Consolidator to call either:
     Local first, then Remote: *35*
     Remote first, then local: *36*
5. If you are using a PBX line in the TELCO IN port enter the PBX code: *39*2*
6. Move on to Programming your Emergency/Information Phones

C. Programming the Emergency/Information Phones

Once the Consolidator has been programmed, each Emergency/Information phone must be programmed individually. You can route your call to the desired phone port by entering the following code:

4X Routes to Emergency/Information phone in port jack number X (X=1-8)

For details on programming the Emergency/Information phones, refer to the Installation & Operation Manual for Emergency/Information phones. (Note: if your Consolidator is in Remote Mode or Day/Night Mode and your remote phone line is a PBX extension, be sure to program your phones for Mode 2. See Emergency Phone Manual, pages 11 and 15 for more information on Modes).

D. Code Summary

Command	Function
31 …[up to 8 digits]*	Guard Access Code entry for phone programming **(Default Code is *31**)**
30 …[up to 8 digits]*	Master Access Code entry to change Guard Access Code or Master Access Code **(Default Code is *30*12345678*)**
*30*14725836*	Resets Consolidator programming to factory defaults
32 …[up to 8 digits]*	Programs and stores a new Master Access Code
33 …[up to 8 digits]*	Programs and stores a new Guard Access Code
34 …[up to 2 digits]*	Sets number of rings before EC-8 picks up when it is dialed
62	Remote Mode (default)
37	Local Mode
63	Day/Night Mode
35	In Day/Night Mode, call LOCAL PHONE then TELCO IN
36	In Day/Night Mode, call TELCO IN then LOCAL PHONE
39…[1 or 2]*	Program the type of phone line in the TELCO IN *39*1* for ordinary phone lines (default) *39*2* for PBX lines
4…[1-8]	Routes to emergency/information phone in phone jack number 1-8

IV. Operation

A. General Information

When a push button on the Emergency/Information Phone is pressed it will automatically either ring the local phone or dial out using the phone line connected to the TELCO IN port. according to how you have programmed the EC-8. If the phone line is being shared with another device (see page 5, sharing a line), the EC-8 will seize the line on behalf of the emergency phone.

When a call comes in on the EC-8, an LED will light indicating which phone is calling in. If a call is already being answered, any other calls which come in will cause the appropriate LED to blink to indicate they are awaiting an open line. As soon as the initial call has been completed, any calls that were waiting will be put through in the order in which they were placed.

B. Calling Emergency/Information Phones through the Consolidator

To call from a remote phone, dial the telephone number of the Consolidator. To call from the local phone, simply pick up the phone. In either case, you will hear 3 beeps when the EC-8 is ready.

Enter the code to route to an Emergency/Information Phone, *4X* where X= phone jack number 1-8. There will be a short pause and then the Emergency/Information Phone will answer with a series of tones.

For more information on Emergency/Information Phones, consult the Emergency/Information Phone manual.

C. Answering the Emergency/Information Phones

When a call comes in on either the local phone or a remote phone, the EC-8 is effectively transparent. That is, you will have an open line of communication to the Emergency/Information Phone from the moment you answer the call.

D. Using Auxiliary Devices

Auxiliary devices can be activated when a call comes in to an EC-8 (see page 4, Connecting Auxiliary Devices). Their functioning is determined by how they are connected—no programming is necessary and they cannot be controlled via local or remote phone.

Note: for CU-8 or CU-16 systems, please see the instructions for your specific model.

V. <u>Frequently</u> <u>Asked</u> <u>Questions</u>

1. **If I have more than one EC-8 can I connect them to the same phone line either in parallel or in series (using a "daisy chain")?** Each EC-8 Consolidator requires its own phone line or local phone. (Exception: A 2-line local phone, connected to the LOCAL port will allow 2 EC-8's to be connected in parallel.)

2. **What kind of cable do I need to run from the Emergency Phones to my EC-8 Consolidator?** We strongly recommend twisted, shielded pairs with the shield connected to earth ground only at the EC-8 end. The resistance on the line is not to exceed 25 ohms. The following chart shows distances and recommended wire gauges:

Distance from EC-8 to Emergency/Information Telephone	Recommended Wire Gauge
0 - 500 feet	24 G
501 - 750 feet	22 G
751 - 1,000 feet	20 G
1,001 - 1,800 feet	18 G
1,801 - 3,000 feet	16 G
3001 - 5,000 feet	14 G

Distance from EC-8 to Local Phone	Recommended Wire Gauges
0 - 1000 feet	24 G
1001 - 1500 feet	22 G
1501 - 2000 feet	20 G
2001 - 3,600 feet	18 G
3,601 - 5,000 feet	16 G
5,001 - 8000 feet	14 G

3. **I am using an EC-8 Consolidator in "local" mode. Do I need to program a phone number into my Emergency Phones?** You must enter a phone number (see Emergency/Information Phone Manual, page 8) even though your Talk-A-Phone unit is not using this number to connect to the local phone. We recommend the number 1234567.

4. **If I made some mistakes during programming is there a way to reset the programming?** If you have forgotten your access code, you may reset the programming on your EC-8 to factory default by entering *30*14725836*. Note: you will NOT have to reprogram your individual Emergency/Information Phones.

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5. **Does the EC-8 remember its programming if I unplug it?** Yes. All memory is non-volatile and does not require a back-up battery.

6. **My EC-8 is not at my desk where the calls come in. Is there a way to make the LED's remote so I can see who is calling?** Although the LED's cannot be made remote, Emergency/Information phones can be purchased with the "V" option which allows a location identifying message to be recorded into the phone. This message is then played as soon as the call is answered. This ensures that no matter what phone answers the call (local or remote) the location will be immediately announced.

   Another option is to purchase an EB-100 or EB-200 Base Station. These devices will display a 6 digit code (e.g. 122806 for 1228 Main St. 6th floor) as soon as the call has been answered.

7. **Are the Emergency Phones powered by the EC-8?** Yes. For this reason it is imperative that you use some method to provide back-up power for your EC-8. Talk-A-Phone offers a Model ETP-UPS for this purpose. There are many other UPS's commercially available. If you are going to use an alternative UPS to Talk-A-Phone Model ETP-UPS, be sure that it has a wave form type of stepped approximation to a sine wave.

VI. <u>Basic Trouble-Shooting</u>

Note: Please also read the Trouble-Shooting Guide in the Emergency Phone Manual.

Problem	Possible Causes
My unit does not function at all. I can not call it or call out with it.	1. The power supply is not properly connected (check the power LED). 2. The phone wires are not properly connected. 3. Your unit has been struck by lightning or another very high voltage source. Contact Talk-A-Phone's Service Department. 4. There isn't enough power on the line (see Technical Requirements, page 3). 5. You may have accidentally plugged a PBX line or phone company line into the Local port. If so, contact Talk-A-Phone technical support.
I hear noise on the line.	1. You are not using twisted, shielded wire. Fluorescent lights, elevator machinery and many other devices can produce noise on your wires if they are not properly twisted and shielded. (See FAQ #2 for wiring requirements.)
When the power goes out in the building the emergency phones do not work.	1. Purchase a UPS for your EC-8! The EC-8 supplies power to all connected emergency phones. Therefore, if the EC-8 loses power, the emergency phones will cease functioning. Talk-A-Phone offers a model ETP-UPS. You may also find a UPS at your local electronics store. (For UPS requirements, see FAQ #7, page 10.)
The Local Phone rings briefly but then when I pick up I hear three beeps.	1. The Emergency/Information phone that called in was not programmed with a phone number (see FAQ #3, page 9)
When I call an Emergency Phone through the EC-8, I cannot communicate with the person at the other end.	1. The Emergency Phone was not programmed to automatically go "live" after being called. It is in programming mode. You can activate it for a single call or for all future calls by entering your guard code (*4**) followed by either *5* for a single call or *78* for all future calls. (See Emergency Phone Manual, page 9 for more information.)
The EC-8 will not accept my Access Code	1. You are using a touch-tone phone on a PBX that is not giving the EC-8 the appropriate tones. 2. Someone has changed the Access Code. You can reset all codes to factory default by entering *30*14725836* (see FAQ #4, page 9).

VII. Talk-A-Phone Co. Limited Warranty

Talk-A-Phone Co. warrants Talk-A-Phone equipment against any defects in material and workmanship, under normal use, for a period of twelve (12) months from date of installation, provided that Talk-A-Phone receives a completed "Installation Certification" certifying the date on which the system has been installed. An "Installation Certification" card is enclosed with every unit. In the event that no "Installation Certification" is received by Talk-A-Phone, the twelve (12) months will commence on the date of shipment by Talk-A-Phone. The warranty period for Models ETP-PM, ETP-MT and ETP-MT/R is five (5) years, under the same terms and conditions.

In the event this product is found by Talk-A-Phone to be defective within the warranty period, Talk-A-Phone's only obligation and your exclusive remedy shall be the repair and/or replacement of any defective parts, provided the equipment is returned to Talk-A-Phone Co., 5013 N. Kedzie Ave., Chicago, IL 60625. It is expressly understood that Talk-A-Phone shall have no obligation to furnish labor, nor pay for the labor of any third parties, nor bear the expense of shipping defective products for repair. This warranty shall not apply if Talk-A-Phone determines that the defect was caused by improper use or installation, or damage caused to the equipment by others.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

VIII. <u>Federal Communications Commission Information</u>

This device has been granted a registration number by the Federal Communications Commission (FCC), under part 68 rules and regulations for direct connection to telephone lines. In order to comply with these FCC rules, the following instructions must be carefully read and applicable portions followed completely. These instructions must be provided to the consumer.

A. This equipment complies with part 68 of the FCC rules. A label located on an outside surface of this equipment contains, among other information, the FCC registration number and ringer equivalence number (REN). If requested, this information must be provided to the Telephone Company.

B. As indicated below, the suitable jack (USOC connecting arrangement) for this equipment is shown. If applicable, the facility interface codes (FIC) and service order codes (SOC) are shown.

C. The ringer equivalence number (REN) is used to determine the quantity of devices which, when connected to the telephone line, may result in the device not ringing in response to an incoming call. In most, but not all, areas, the sum of the REN's should not exceed five (5.0). To be certain of the maximum number of devices that may be connected to the line, as determined by the total REN's, contact the Telephone Company to determine the maximum REN for the calling area.

D. If this equipment (indicated with trade name and model) causes harm to the Telephone Network, the Telephone Company will notify you in advance. If advance notice is not practical, the Telephone Company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

E. The Telephone Company may make changes to its facilities, equipment, operations or procedures that could affect the operation of this equipment. If this happens, the Telephone Company will provide advance notice in order for you to make the necessary modifications needed in order to maintain uninterrupted service.

F. If trouble is experienced with this equipment, (indicated below with trade name and model, together with a service center in the U. S. A. address and telephone number), contact the manufacturer for repair and/or warranty information. If the trouble is causing harm to the Telephone Network, the Telephone Company may request that you remove the equipment from the Network until the problem is resolved. User repairs must not be made. Doing so voids the warranty.

G. This equipment must not be used on Telephone Company provided public coin service. Connection to party lines is subject to State Tariffs, (contact your State Public Utility Commission for information). If so required, this equipment is hearing aid compatible (HAC).

H. The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

I. The Talk-A-Phone Co. U. S. A. Service Center is located at 5013 North Kedzie Avenue, Chicago, Illinois 60625-4988, telephone number (773) 539-1100, fax number (773) 539-1241.

IX. Phone Line Specifications

A. MODE I Operation

The following criteria must be met by a phone line to insure proper functionality of the FCC approved equipment. All voltages use Tip as ground when measuring.

1. On-Hook voltage must be less than or equal to –36 V (-50 V standard).

2. Off-Hook should be recognized in a maximum time of 300 ms.

3. At an Off-Hook voltage of –15 V, the current that is supplied must be no less than 20 mA and no more than 120 mA.

4. Dial tone must consist of 350 Hz and 450 Hz tones at –17 dB ± 0.5%.

5. The telephone line must generate Ring-Back consisting of 440 Hz and 480 Hz tones at –17 dB ± 0.5%, with a duty cycle of 1.6 seconds on—4.8 seconds off ± 10% interrupted at 20 Hz.

6. The telephone line must generate a busy signal consisting of 480 Hz and 620 Hz tones at –17 dB ± 0.5%, with a duty cycle of 500 ms on—500 ms off.

7. The telephone line must be able to recognize or send the following frequencies in order to decode or transmit DTMF:

    a) 685 Hz — 709 Hz   Row 1

    b) 757 Hz — 784 Hz   Row 2

    c) 837 Hz — 867 Hz   Row 3

    d) 925 Hz —957 Hz   Row 4

    e) 1189 Hz — 1229 Hz   Column 1 (1, 4, 7, *)

    f) 1314 Hz — 1358 Hz   Column 2 (2, 5, 8, 0)

    g) 1453 Hz — 1501 Hz   Column 3 (3, 6, 9, #)

    h) 1607 Hz — 1659 Hz   Column 4 (A, B, C, D)

8. When dialing, the telephone line should require a minimum tone pulse ON time of 40 ms, as well as a minimum between tone gap of 40 ms.

9. The telephone line should support and match with a 600Ω AC impedance, as well as a DC resistance of 100 Ω — 200 Ω.

B. MODE II and MODE III Operation

Talk-A-Phone phones can be used with most PBX systems with non-standard dial tones, ring-backs, busy signals and hang-ups.

X. Information To The User

A. Section 15.105

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and may cause harmful interference to radio communications if not installed and used in accordance to the instructions. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna;
2. Increase the distance between the equipment and the receiver;
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
4. Consult the dealer or an experienced Radio/TV technician for assistance.

B. Section 15.21

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

C. Section 15.27

The user is cautioned that any peripheral device installed with this equipment, such as a modem or printer, must be connected with a high-quality shielded cable to insure compliance with FCC limits.

D. Talk-A-Phone Factory Service

Talk-A-Phone factory service is available to Talk-A-Phone users at a reasonable charge, plus transportation to and from our factory. When you send units to our factory, freight prepaid, our technicians will examine, service and promptly return the units to you, transportation collect.

You must receive a Return Materials Authorization (RMA) number to send units in for repair. Contact the Talk-A-Phone Service department for more information.

Talk-A-Phone also sells replacement components for our products directly both to dealers and to our users. When ordering, please give either the component part number or a brief description of the component's function, and the model for which it is needed.

When returning equipment for service or ordering replacement components, please be sure to include your full name, address and telephone number.

CONSOLIDATOR INFORMATION

Model #   <u>EC-8</u>

1. To Reach This Unit, Call This Number (or use local phone): _____

2. Consolidator Location: _____

3. Mode: ____ Local Mode   ____ Remote Mode   ____ Day/Night Mode

4. Type of Remote Line (If Used):   _____Telephone Company

                                              _____PBX Extension

5. **Port**   **Phone Location**

     1.   _____

     2.   _____

     3.   _____

     4.   _____

     5.   _____

     6.   _____

     7.   _____

     8.   _____

Installation Date: _____

NOTES

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