



THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED

CE PRODUIT DOIT ÊTRE INSTALLÉ SELON LE CODE D'INSTALLATION PERTINENT, PAR UNE PERSONNE QUI CONNAÎT BIEN LE PRODUIT ET SON FONCTIONNEMENT AINSI QUE LES RISQUES INHÉRENTS

I. Introduction

This installation guide provides instructions for installation, programming, and operation of **Model AOR-8 or Model AOR-16**. For instructions on installation or programming of Talkaphone Area of Rescue Call Stations, please refer to the manual for the ETP-100, ETP-110, ETP-400, or ETP-500 Series Analog Call Stations.

It is recommended that this instruction set be read completely prior to the start of any installation.

II. Contents

Please ensure receipt of each of the included **AOR-8 / AOR-16** components:

QTY	Part Number	Description
1	AOR-8 or AOR-16	8- or 16-Station Area of Rescue Command Unit
2		12VDC, 4.5Ah Backup Battery
1		Strobe/Siren

Optional components (sold separately) include:

QTY	Part Number	Description
1	AOR-TR16	Trim Ring for Recess Mounting Model AOR-8 or Model AOR-16
10		6-32 Screw for Flush Mount Trim Ring Assembly

III. Technical Requirements

General:

115-230 VAC, 50-60Hz power source

Maximum impedance between the Talkaphone Analog Call Stations and the AOR-8 or AOR-16 unit is 25 Ohms. Maximum cable length will vary depending on wire gauge (See Frequently Asked Questions, p.9).

For Local Mode Only

No external phone line (i.e. POTS/PSTN line) is required.

For Remote Mode or Day/Night Mode

Three (3) dedicated POTS/PSTN lines (i.e. analog telephone lines or analog PBX lines).

If connected to a PBX, the extension(s) must provide:

1. At least 24 Volts at 20 mA off-hook (no current is drawn on-hook)
2. Either a disconnect pulse (voltage drop at end of call) or 30-seconds or silence after hang-up (no re-order or howler feature)

If connected to a POTS/PSTN line, there must be no special features, such as hook-flash, call-waiting, auto-redial when busy or voicemail. If the telephone company has activated any such features, contact them to have these features turned off.

IV. Installation

1. Remove the **AOR-8 / AOR-16** unit from its packaging carton and inspect for any possible damage. If the unit is damaged or if any components are missing, please contact your Talkaphone distributor immediately. Do not discard any hardware or packaging prior to checking for all included components listed above, and the unit is installed and functioning correctly.
2. Remove the three (3) Phillips screws from the right side of the unit which secure the hinged front cover shut.
3. Remove the packaged front cover door handle from the telephone compartment and install to the outside surface of the unit using the provided screws.
4. Carefully open the hinged front cover taking care there are no loose items which may have shifted during transportation.
5. The **AOR-8 / AOR-16** unit may be either surface mounted or flush mounted to a wall.



NOTE: For flush mounting units, **AOR-8 / AOR-16** units should be ordered with the available AOR-TR16 Flush Mount Trim Ring (sold separately).



NOTE: Conduit knockouts exist on the rear, top, and bottom sides of the enclosure for access to power and communication lines. Determine the method of bringing in these power and communication lines **before** mounting the enclosure.



NOTE: Whenever possible, it is best to keep the maximum clearance possible between analog phone lines and alternating current. Running phone lines too close to hot VAC lines will produce undesired effects on the phone line.

6. For surface mounting the unit directly to the surface of an interior wall:
The **AOR-8 / AOR-16** unit has six (4) surface mounting keyholes.
7. For flush mounting the unit:
The **AOR-8 / AOR-16** unit has eight (8) 7/32 [in] knockouts located on the top, bottom and sides which can be used for either mounting the unit within a wall or to fasten the available **AOR-TR16** Flush Mount Trim Ring. This trim ring may be installed in contact with the closed cover without inhibiting the functionality of the hinge.

8. Secure both halves of the **AOR-TR16** to the wall using the provided 6-32 screws, two (2) washers, and hex nut.
9. Installation of Strobe/Siren
Mount the strobe/siren assembly on a wall in an appropriate location per the instructions packaged with the strobe/siren assembly.
10. Three (3) outgoing low voltage power lines from the strobe/siren assembly must be wired to the Black, Red/White, and Orange lead wires from the relays located in the upper section of the **AOR-8 / AOR-16** unit's internal compartment. The Black wire is a common negative and needs to be connected to both the strobe and siren negative terminals. The Red/White wire gets connected to the Positive terminal of the strobe and the Orange wire gets connected to the positive terminal of the siren.
11. Installing Communication Lines
Bring in the Analog Call Station communication lines and any analog phone lines through conduit knockouts located on the rear, top, or bottom sides of the unit. Always try to separate power lines from communication lines as much as possible to reduce undesired effects on the phone line.
12. The **AOR-8** can support up to eight (8) Analog Call Stations. The Analog Call Stations on the system can connect to either the incoming POTS/PSTN line or the local phone built into the AOR-8 unit.

The **AOR-16** each support up to sixteen (16) Analog Call Stations divided into two (2) banks of eight (8). The Analog Call Stations on the system can connect to either the incoming POTS/PSTN line or the local phone built into the AOR-16 unit.

13. Installing Line(s) for Analog Call Stations
Terminate the incoming Analog Call Station lines to Ports 1-8 in the appropriate bank on the printed circuit board assembly (PCBA) located between the power supply and local phone. The ports are labeled 1-8 for each respective bank. See photo below.



The tip and ring connections for the Analog Call Stations are polarity sensitive.

14. Installing Line(s) for Off-Site Dialing

If a POTS/PSTN line or PBX extension line is to be used in addition to the phone built into the enclosure, connect the incoming phone line to the “TELCO IN” terminals for the respective bank(s), these connections are NOT polarity sensitive. See photo below.



The “TELCO IN” terminals are located on the left side of the **AOR-8 / AOR-16** unit’s enclosure—above the backup batteries.

15. Local Mode

In Local Mode, pressing the button on any of the Talkaphone Analog Call Stations will cause the built in touch-tone telephone to ring.

16. Remote Mode

In Remote Mode, pressing the button on any of the Talkaphone Analog Call Stations will cause them to access a phone line to dial out. For this configuration, connect an outside phone(s) line to the “Telco IN” position(s) on the appropriate bank.



NOTE: See Technical Requirements, p.2, for outside phone line requirements.

17. 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 a Talkaphone Analog Call Station calls and the **AOR-8 / AOR-16** unit is in Day/Night mode, it will ring the **AOR-8 / AOR-16** unit’s built in local handset 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 consolidator to ring the remote phone first and then switch to the local phone (see Software Programming, page 6). For Day/Night Mode connect an outside phone line(s) to the “Telco IN” position(s). This programming must be done for each of the consolidators (one (1) consolidator for the AOR-8 or two (2) consolidators for the AOR-16)



NOTE: See Technical Requirements, p.2, for outside phone line requirements.

18. Sharing a Phone Line

Another telephone instrument (e.g., fax, modem, standard telephone, etc.) can share the outside phone line(s) with the **AOR-8 / AOR-16** unit by connecting the outside phone line(s) to the “Telco IN” position(s) and connecting the telephone instrument sharing the line to the “Telco OUT” position(s). Be sure to configure each consolidator in the **AOR-8 / AOR-16** unit so that it does not 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).



WARNING: The other device sharing the line should never be emergency equipment of any kind, including another bank of the **AOR-16**.

19. Once the correct configuration for the **AOR-8 / AOR-16** unit has been determined and appropriately wired, connect incoming 115-230 VAC 50-60Hz power wiring to the power supply board located in the bottom left of the unit’s compartment. The **LINE**, **NEUTRAL**, and **GROUND** terminals are located on the bottom left side of the power supply as shown below.



WARNING: Once the batteries are connected in the next step, power will be supplied to the unit. Verify all connections and take precautions from unintended electrical shock at this time.

20. Connect the backup batteries. The batteries connect to the power supply board by inserting the connector onto the header pins located on the bottom right of the power supply board which the 115-230 VAC 50-60Hz power supply was connected. Although the pin is polarized, ensure correct polarity when connecting the backup batteries. Red-positive & Black-negative.



WARNING: The order in which 115-230 VAC 50-60Hz or backup batteries is connected does not matter. However, once either the batteries are connected OR the 115-230 VAC 50-60Hz line is energized, THE UNIT WILL BECOME “HOT” ENERGIZED.



It is the installer’s obligation to ensure compliance with all national, regional, and local regulations

V. Programming Instructions

To program the **AOR-8 / AOR-16** unit, each bank of eight (8) Talkaphone Analog Call Stations must have their own internal consolidator programmed. To program each internal consolidator, call it by either dialing the phone number of the line connected to that bank's Telco "IN" port or by lifting the handset and selecting the appropriate line of the built-in handset. In either case, the consolidator will respond with three beeps. Each 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 a standard telephone company phone line is being utilized via the Telco "IN" connection, the consolidator does not need to be programmed. Move on to Programming the Talkaphone Analog Call Stations.

If a PBX line is being connected to the Telco "IN" port, the consolidator must be programmed for PBX mode:

1. Call the consolidator (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 the Talkaphone Analog Call Stations

Local Mode

1. Pick up the built-in handset and select the press the phone line corresponding to the bank of phones/consolidator to be programmed (listen for 3 beeps)
2. Enter Guard Access Code: *31**
3. Program the consolidator for Local Mode: *37*
4. Move on to Programming the Talkaphone Analog Call Stations

Day/Night Mode

1. Call the consolidator or pick up the built-in handset and select the press the phone line corresponding to the bank of phones/consolidator to be programmed (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 a PBX line is being connected to the Telco "IN" port enter the PBX code: *39*2*
6. Move on to Programming the Talkaphone Analog Call Stations

Programming the Analog Call Stations

Once each Consolidator has been programmed, each Talkaphone Analog Call Station must be programmed individually. A call can be routed to the desired phone port by entering the following code:

4X Routes to Analog Call Station in port number X (X=1-8)

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

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 consolidator 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 Analog Call Stations in Port #1-8

VI. Operating Instructions

1. General Information

When a push button on the Talkaphone Analog Call Station 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 the particular consolidator which it is connected is programmed. If the phone line is being shared with another device (see p.5, sharing a line), the consolidator will seize the line on behalf of the Analog Call Station.

When a call comes in to the **AOR-8 / AOR-16** unit, an LED will light indicating which Analog Call Station 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.

2. Calling Talkaphone Analog Call Stations through the Area of Rescue Command Unit

To call from a remote phone, dial the telephone number of the Consolidator. To call from the local phone, simply pick up the phone and select the phone line corresponding to the appropriate consolidator. In either case, you will hear 3 beeps when the consolidator is ready.

Enter the code to route to an Emergency Phone, *4X* where X= Port #1-8. There will be a short pause and then the Analog Call Station will answer with a series of tones.

For more information on Analog Call Stations, consult the Emergency/Information Phone manual.

3. Answering the Analog Call Stations

When a call comes in on either the local phone or a remote phone, the consolidators are effectively transparent. That is, there will exist an open line of communication to the Analog Call Station from the moment the call is answered.

VII. Frequently Asked Questions

1. **If I have more than one consolidator can I connect them to the same phone line either in parallel or in series (using a “daisy chain”)?** Each consolidator requires its own phone line or local phone. (Exception: A multi-line local phone, connected to the LOCAL port will allow multiple consolidators to be connected in parallel.)
2. **What kind of cable do I need to run from the Analog Call Stations to my Consolidator?** We strongly recommend twisted, shielded pairs with the shield connected to earth ground only at the consolidator end. The resistance on the line is not to exceed 25 ohms. The following chart shows distances and recommended wire gauges:

Distance from AOR-8 / AOR-16 Unit to Analog Call Stations	Recommended Wire Gauge
0 - 500 feet	24 AWG
501 - 750 feet	22 AWG
751 - 1,000 feet	20 AWG
1,001 - 1,800 feet	18 AWG
1,801 - 3,000 feet	16 AWG
3001 - 5,000 feet	14 AWG

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

3. **I am using a consolidator in “local” mode. Do I need to program a phone number into the Analog Call Stations?** You must enter a phone number (see Emergency/Information Phone Manual, p.8) even though the Analog Call Station 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 that consolidator to factory default by entering *30*14725836*. Note: you will NOT have to reprogram your individual Emergency/Information Phones.
5. **Does the consolidator remember its programming if I unplug it?** Yes. All memory is non-volatile and does not require a back-up battery.
6. **My consolidator 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, Analog Call Stations have a built-in feature that allows a location identifying audio message to be recorded onto 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 Analog Call Stations powered by the Area of Rescue Command Unit?** Yes.

VIII. General Troubleshooting

Note: Please also read the Troubleshooting Guide in the Emergency Phone Manual.

Problem	Possible Causes
My unit does not function at all. I cannot call it or call out with it.	<ol style="list-style-type: none"> 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 Talkaphone'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 Talkaphone technical support.
I hear noise on the line.	<ol style="list-style-type: none"> 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.)
The Local Phone rings briefly but then when I pick up I hear three beeps.	<ol style="list-style-type: none"> 1. The Analog Call Station that called in was not programmed with a phone number (see FAQ #3, p.9)
When I call an Emergency Phone through the AOR-8 / AOR-16 unit, I cannot communicate with the person at the other end.	<ol style="list-style-type: none"> 1. The Analog Call Station 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, p.9 for more information.)
The consolidator will not accept my Access Code	<ol style="list-style-type: none"> 1. You are using a touch-tone phone on a PBX that is not giving the consolidator 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, p.9).