UNDERSTANDING ELEVATOR EMERGENCY COMMUNICATION CODE COMPLIANCE
INTRODUCTION

Few people think of elevator phones as part of a critical communication system and, as a consequence, these phones are sometimes viewed as a nuisance by those that are responsible for providing them. Because telecommunications is not a traditional area of expertise for elevator mechanics, phone issues can sometimes be misdiagnosed. A common remedy for phone trouble is to immediately replace the phone, which can be rather costly. In other cases, the phone lines are considered the issue. This may not always be the case.

THE BAD NEWS:

As much as you kick, scream and fight, you are required by law to provide emergency phones in your elevators and with that comes a set of many codes that you must comply with and are liable for.

THE GOOD NEWS:

It doesn’t have to be that hard! We’ll walk you through the codes you should be adhering to, phone line suggestions that comply and still save money and a quick and easy checklist to test your emergency phones to ensure that they’re working properly.
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We will start with the most basic:

**American Society of Mechanical Engineers (ASME) A17.1-2010 Section 5.3.1.19**

“A telephone connected to a central telephone exchange shall be installed in the car and an emergency signaling device operable from inside the car and audible outside the hoistway shall be provided.”

- This is required of all elevators, including residential

The purpose of this requirement is not so that passengers can necessarily make phone calls while they ride, but rather for the sole purpose of summoning help in the event of entrapment. Often, cell phones do not have service in elevators, so this is of utmost importance.
As we get into commercial and publicly accessible facilities, codes become more complex and specific. Here are the ones you need to know:

**ASME 2.27.1.1.1**

“A two-way communications means between the car and a location staffed by authorized personnel shall be provided.”

**ASME 2.27.1.1.2**

When the two-way communications location is not staffed 24h a day by authorized personnel who can take appropriate action, the means of two-way communications shall be directed within 30 seconds to on- or off-site location, staffed by authorized personnel, where an appropriate response can be taken.

Is it your best option to have an elevator help phone ringing to your elevator technician’s cell phone? What if they don’t/can’t answer?
ASME CODES YOU SHOULD KNOW

ASME 2.27.1.1.3

The two-way communication means within the car shall comply with the following requirements:


(b) A push button to actuate the two-way communication means shall be provided in or adjacent to a car operating panel. The push button shall be visible and permanently identified with the “PHONE” symbol (see 2.26.12.1). The identification shall be on or adjacent to the “PHONE” push button. When the push button is actuated, the emergency two-way communication means shall initiate a call for help and establish two-way communications.

(c) A visual indication on the same panel as the “PHONE” push button shall be provided, that is activated by authorized personnel, to acknowledge that two-way communications link has been established. The visual indication shall be extinguished when the two-way communication link is terminated.

(d) The two-way communication means shall provide on demand to authorized personnel, information that identifies the building location and elevator number and that assistance is required.

(e) After the call acknowledgement signals are sent [2.27.1.1.3(c)], the two-way voice communications shall be available between the car and authorized personnel.

(f) The two-way communications, once established, shall be disconnected only when authorized personnel outside the car terminate the call or a timed termination occurs. A timed termination by the two-way communication means in the elevator, with the ability to extend the call by authorized personnel, is permitted if voice notification is sent a minimum of 3 minutes after communication has been established. Upon notification, authorized personnel shall have the ability to extend the call; automatic disconnection shall be permitted if the means to extend are not enacted within 20 seconds of the voice notification.
ASME 2.27.1.1.3 (cont.)

The two-way communication means within the car shall comply with the following requirements:

(g) The two-way communication means shall not use a handset in the car.

(h) The two-way communications shall not be transmitted to an automated answering system. The call for help shall be answered by authorized personnel.

(i) Operating instructions shall be incorporated with or adjacent to the “PHONE” push button.

This is a big overlooked one: Many answering services are automated to have the system answer, press 1 for this, 2 for that, etc. or put callers in a queue waiting for the next available operator. Code states this is not acceptable.
ASME 2.27.1.1.4

Where the elevator rise is 18 m (60 ft) or more, a two-way voice communications means within the building accessible to emergency personnel shall be provided and comply with the following requirements:

(a) The means shall enable emergency personnel within the building to establish two-way voice communications to each car individually. Two-way voice communication shall be established without any intentional delay and shall not require intervention by a person within the car. The means shall override communications to outside of the building.

(b) Two-way voice communications, once established, shall be disconnected only when emergency personnel outside the car terminates the call.

IN ENGLISH, PLEASE?

- Calls must be answered by live personnel.
- If travel exceeds 60 ft., an accessible phone onsite must be available for emergency personnel to speak with the elevator passengers.
- Phone must be able to break into existing elevator phone calls. If a call is connected to an offsite answering facility the lobby phone must be able to join in the conversation.
- Phone must be able to select which elevator(s) to connect to.
- The elevator phone must automatically answer inbound calls. You must be able to call back in to the elevator and the phone must automatically answer.
ASME CODES YOU SHOULD KNOW

More of a visual learner? Here are the codes you need to know along with a nice little history lesson of when they became required.

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<td>Hands-free device only</td>
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<td>Machine room/onsite communications if over 60 feet of travel</td>
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<td>Communication capability for onsite Authorized/ Emergency Personnel</td>
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<td>Onsite monitoring only if staffed 24 hours by Authorized Personnel</td>
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<td>Location Identifier On Demand from Authorized Personnel</td>
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<td>Emergency Communication systems do not require voice communications-must be able to identify caller’s location</td>
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<td>Automatic Answer on calling back into elevator</td>
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<td>Offsite communications shall not interfere with onsite communications</td>
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<td>Local telephone Line Status Monitoring</td>
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**Legend:**
- **X** = Required by ASME/B-44
- **Blank Space** = Not required by ASME/ADA
- **A** = Required by ADA
- **=* = If over 50 ft. of travel
Many people resent elevator codes because they believe that it brings with it more hassle and more cost. In fact, a common industry practice cuts corners and operates all elevator emergency phones from a single phone line using line sharing in order to avoid additional costs and labor. This is a dangerous practice and is not code compliant. However, there is a way to avoid these drawbacks and still meet code. Let's take a look:
Phone Line Sharing the Wrong Way

**TELEPHONE LINE SHARING**
Common Industry Practice

- **Single Phone Line**
  - Problem: Fails ASME and ADA because all phones will not work simultaneously. One phone off-hook prevents remaining phones from operating properly, often blocking calls completely.
  - Operator cannot call back into individual elevators. When multiple elevator phones are in use, operators may not be able to play location message.

**Simply connecting multiple emergency phones to a single phone line:**
- Sacrifices reliable performance for perceived cost savings.
- Does not meet the intent of A17.1 for any year since 1978.

**Activating phones on a shared phone line can:**
- Block other emergency calls
- Cause connected calls to disconnect
- Prevent retrieval of ADA required location information

A single malfunctioning phone can disable all phones attached to the shared line.

In its simplest form, an elevator phone is connected to a dedicated phone line and is used to call “Authorized Personnel” when help is needed. Sounds simple enough but in many instances, real world application is different. Customers don’t want to pay for phone lines that are seemingly almost never used and certainly not one for every elevator in their building. So, some elevator maintenance companies cave in to this customer resistance and wire all of the phones to the same line (line sharing). You may ask yourself - What could be wrong with that? Everything!

For starters, there is often not enough phone line current to support multiple emergency phones in use simultaneously. Remember the past- what happened when you put one too many phone extensions in at your house? The ringers quit working and voice volume decreased. Modern hands free phones experience those same problems but because they are full of electronics, you won’t always get a degradation of performance. Instead, the phone simply won’t work. This is unacceptable and causes blocked calls, disconnected calls, and blocked location information.
Phone Line Sharing the Right Way

TELEPHONE LINE SHARING
The ASME, ADA Code Complying Kings III Solution

With Kings III’s own unique phone line consolidating dialer, all phones will party-line together enabling simultaneous two-way communication between each elevator cab and our monitoring station. As each phone is activated, it sends an identifying signal allowing our operators to locate each caller as ADA requires.

In addition, operators can call back into the elevator.

Should phone line sharing ever be acceptable? Yes it should, but only when you are certain that appropriate hardware is in place to support multiple phones in use simultaneously. Several companies, including Kings III, offer this. Contrary to mainstream opinion, elevators don’t have to have individual dedicated phone lines to be code compliant. Line sharing works, is cost effective and is code compliant if done properly. Utilizing line seizure technology, the elevator phone temporarily takes over an existing phone line, such as a fax line or access control line, long enough to complete the emergency call in time of need while allowing all codes to be met. Once the emergency call is complete, the line is released. All phones party-line together, enabling simultaneous two-way communication between each elevator cab and monitoring station. As each phone is activated, it sends an identifying signal allowing operators to locate each caller and call back into the elevator, as required by ADA.

Proper line sharing requires a consolidation unit so multiple emergency phones can share a single phone line and still operate simultaneously. This solves the blocked calls issue.
Questions to ask when using a consolidator:

✓ Can it share the line with other elevator equipment such as the modems for remotely monitoring elevator performance?

✓ Does it have the ability to seize a "non-emergency" phone line for use by emergency phones?

✓ Can a secondary line be connected as back-up should the primary line ever fail?
TEST YOUR EMERGENCY PHONE- A CHECKLIST

Even if phone lines are code-compliant, there is always the possibility of a malfunction, so testing them routinely is essential. While this can seem tedious, it doesn’t have to be time consuming. The easiest way to test your elevator involves two testers. If only using one tester, be sure to lock out one elevator. Follow this quick and easy checklist to ensure elevators are Americans with Disabilities Act (ADA), ASME and International Building Code (IBC) compliant:

- Activate at least two elevator phones at approximately the same time to test that each phone in use at the same time is able to carry on a two-way conversation with emergency operator(s).

  **This part of the test failed if:**
  - Only one or none of the calls go through
  - One call connects but disconnects once 2nd phone is activated
  - The phones will not dial out
  - The calls can be completed but the parties cannot hear each other

- Ask the operator to identify your location and cab numbers, as required by ASME.

  **This part of the test failed if:**
  - The operator cannot ID the elevator without aid from the caller.

- Call from the emergency responder phone (generally located at a guard station on the main egress level or in the fire control room) to test the on-site emergency responder’s ability to call directly back to the elevators without intentional delay.

  **This part of the test failed if:**
  - The elevator phones cannot be called back directly

**Once all aspects of this simple test are passed, you can be assured your elevator emergency communications system is both working properly and is code compliant.**
Who We Are

A family owned company, we have built our business around delivering peace of mind to our customers by helping them to reduce their risk and liability. Our turnkey emergency communication services are utilized in elevators, pools, parking garages, campuses and more. At the heart of our business lies our very own state of the art Emergency Dispatch Center (EDC). The EDC is not only always on call 24/7/365 with a redundant back up center, but it is also differentiated by the advanced training required of our operator teams. Our full-service package includes equipment, installation, maintenance and monitoring, bundled together to provide a convenient and hassle-free solution for our clients.

We believe that our dedication has enabled our success as a class-leading emergency communications provider. This has allowed us to expand our business into new naturally integrated sectors in a way that compliments our desire to help existing customers as well as new industry verticals.

Kings III is proud to offer an array of emergency communication services that help clients to better protect their company, their clientele and now their employees. Learn more about our help phone monitoring and also our new worker safety solution at www.kingsiii.com.
Our JV Revenue Sharing Program

With our elevator industry exclusive Joint Venture program, we can take our all-inclusive service package directly to your customers. This program makes monthly savings and professional monitoring available to your customers and offers you a chance to increase your revenue from ADA phones while relieving you of the headaches associated with managing your customers phone service.

Learn more about it here

Connect with us:

www.kingsiii.com

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