**SECTION 27 32 26**

**RING-DOWN EMERGENCY TELEPHONES**

**PART 1 GENERAL**

**1.01 SUMMARY**

1. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.

**1.02 QUALITY ASSURANCE**

1. All call station installation, configuration, setup, programming, and related work shall be performed by electronic technicians thoroughly trained by the manufacturer in the installation and service of the equipment provided.
2. All equipment shall be warrantied against any defects in material and workmanship under normal use for a period of twenty-four (24) months from date of installation, provided that manufacturer receives a completed "Installation Certification" certifying the date on which the system has been installed. An "Installation Certification" card shall be enclosed with every unit. In the event that no "Installation Certification" is received by manufacturer, the twenty-four (24) months will commence on the date of shipment by the manufacturer.

**1.03 CERTIFICATIONS AND STANDARDS**

1. The call station shall carry the following EMC approvals:
	1. FCC (47 C.F.R. Part 15, Subpart B)
2. The call station shall meet the following standards:
	1. Accessibility
		1. ADA: Standards for Accessible Design – 2010
		2. ANSI ICC A117.1 (2017): Accessible and Usable Buildings and Facilities
		3. NFPA 72: National Fire Alarm and Signaling Code – 2013
		4. NFPA 101: Life Safety Code® 2012
		5. Illinois Accessibility Code
	2. Safety
		1. UL 60950-1
		2. UL 609250-22
	3. Direct connection of Terminal Equipment (TE) to the Public Switched Telephone Network (PSTN)
		1. FCC (47 C.F.R. Part 68)

**PART 2 PRODUCTS**

**2.01 GENERAL**

1. The call station shall:
	1. Consist of an outdoor-rated vandal resistant ADA-compliant hands-free speakerphone communications device with a bonded marine-grade stainless steel faceplate and metal button(s).
	2. Be half duplex in operation.
	3. Be programmable from a remote location via in-band DTMF commands issued from a touch-tone telephone.
	4. Have a two (2) number dialing capability, reverting to the subsequent number if the first is busy or does not respond.

**2.02 HARDWARE**

1. The call station faceplate shall:
	1. Be constructed of a 304 grade stainless steel base plate bonded with a:
		1. Enhanced corrosion resistant #4 brushed 316 grade stainless steel plate with provisions for a primary button, primary signage, secondary button, and secondary signage.
		2. Enhanced corrosion resistant #4 brushed 316 grade stainless steel plate with provisions for a hands-free speaker, hands-free microphone, and LED indicators.
	2. Have a combined thickness of 0.086” (2.13mm).
	3. Measure 8.5” W x 11.5” H.
2. The call station faceplate primary signage shall:
	1. Be constructed of enhanced corrosion resistant 316 grade stainless steel with lettering and braille raised for ADA compliance.
	2. Lettering shall be raised no less than 0.03125”.
	3. Braille shall be raised no less than 0.025”.
	4. Read “EMERGENCY”.
	5. Be printed red and have a UV-resistant finish.
3. The call station faceplate secondary signage shall:
	1. Be constructed of enhanced corrosion resistant 316 grade stainless steel with lettering and braille raised for ADA compliance.
	2. Lettering shall be raised no less than 0.03125”.
	3. Braille shall be raised no less than 0.025”.
	4. Read “INFO”.
	5. Be printed black and have a UV-resistant finish.
4. The primary button shall:
	1. Be a high quality 1.375” diameter push button (1.80” overall diameter) and switch in a single assembly.
	2. The switch shall be mechanically rated to 50,000 cycles (typical).
	3. Provide tactile feedback.
	4. Have an operating temperature range of -40°F (-40°C) to +185°F (+85°C).
	5. Have an enclosure design that is watertight as per IP67 rating.
	6. Be constructed of an aluminum alloy, with a clear chromate finish.
	7. Have a metal cap, painted red with a UV-resistant finish.
5. The secondary button shall:
6. Be a high quality 0.78” diameter push button (1.10” overall diameter) and switch in a single assembly.
7. The switch shall be mechanically rated to 50,000 cycles (typical).
8. Provide tactile feedback.
9. Have an operating temperature range of -40°F (-40°C) to +185°F (+85°C).
10. Have an enclosure design that is watertight as per IP67 rating.
11. Be constructed of an aluminum alloy, with a clear chromate finish.
12. Have a metal cap, painted black with a UV-resistant finish.
13. The call station shall have two light emitting diodes (LEDs) labeled "CALLING" and "ANSWERED".
14. The speaker shall:
15. Be a 3.5” round, RoHS compliant, outdoor rated speaker.
16. Have an operating temperature range of -67°F (-55°C) to +185°F (+85°C).
17. Be capable of withstanding a total immersion for 96 hours and operating without any deterioration of sound quality.
18. Have a speaker cone constructed of a corrosion resistant material.
19. Be constructed of a neodymium magnet and a solid aluminum voice coil and shall be adequately protected from ferrous and non-ferrous particles via a sealed design.
20. The microphone shall:
21. Be a 6 mm diameter, aluminum construction, RoHS compliant, outdoor rated microphone.
22. Have an IP57 type enclosure to protect from dust and water.
23. Have an operating temperature range of -40°F (-40°C) to + 158°F (+70°C).
24. Operate within ±3db of initial sensitivity after being placed in a chamber at +40°C and 90±5% relative humidity for 240 hours. (Tested after 6 hours of conditioning at +25°C)
25. The call station shall weigh approximately 5 lbs.
26. The call station shall have an ABS back box mounted on four 6-32 studs to protect electronics from unintentional installer interaction.

**2.03 AUDIO**

1. The call station shall support half duplex audio.
2. The call station shall be capable of providing sound greater than 80dB at one (1) meter for normal conversation.

**2.04 FUNCTIONALITY**

1. Programming
	1. The call station shall be programmable from a remote location via in-band DTMF commands issued from a touch-tone telephone.
	2. Programming of the call station shall not require the need for additional software.
2. Programming of the call station shall require authentication with a DTMF command.
3. Telephone Calls
	1. The call station shall be programmable with up to two (2) different telephone numbers of up to 18 digits each including pauses.
		1. If the first number does not answer or is busy, the call station shall automatically call the second number.
		2. If the second number does not answer or is busy, the call station shall automatically call the first number.
		3. The call station shall continue dialing in round robin fashion until the call is answered or the call conversation timer limit expires.
		4. The call station shall dial at approximately ten (10) tones per second.
		5. The call station shall be capable of returning on-hook for a minimum of 2.25 seconds when dialing the next number in order to avoid inadvertent triggering of hook flash.
	2. The call station shall have a call conversation timer that is user configurable from 1 to 4,320 minutes.
	3. The call station shall have a hang-up on silence timer when the remote attendant is silent for 30 seconds.
	4. When the call is finished, the call station shall automatically terminate the call.
	5. The call station shall be capable of automatically answering any call placed to it from another telephone.
	6. The call station shall be capable of silently answering an incoming call for monitoring.
4. Hearing Impairment Aides (LEDs)
5. The call station shall illuminate an LED, labeled “CALLING”, when calling party has placed a call.
6. The call station shall illuminate an LED, labeled “ANSWERED”, when the call has been answered by the remote attendant.
7. Voice Message
	1. The call station shall be programmable with one (1) voice message.
	2. The call station shall be capable of automatically notifying the remote attendant of the emergency call station location via a recorded audio message that plays at the beginning of the call station conversation.
	3. The voice message can be replayed via an in-band DTMF command issued from a remote touch-tone telephone.
	4. The call station shall be programmable with a voice message duration of 5, 10, or 16 seconds.
8. Auxiliary Input Functionality
	1. The auxiliary input shall accept a standard dry contact closure.
	2. When a standard dry contact closure is provided to the auxiliary input, the call station shall:
		1. Dial up to two (2) telephone numbers in round robin fashion.
		2. Dial as though a call has been placed via the primary button.
9. Auxiliary Output Functionality
10. The auxiliary outputs shall provide a standard dry contact closure.
11. Activation of the auxiliary outputs shall be triggered by:
	* 1. A call placed via the primary button
		2. An in-band DTMF command issued from a remote touch-tone telephone
12. Diagnostics
13. The call station shall support remote polling through an inbound telephone call.
14. The call station shall support remote polling that assesses the status of telephone line connectivity.
15. When remotely polled, the call station shall automatically answer the inbound telephone call and output a 6-digit location identification number after receipt of an in-band DTMF command issued from the remote end.
16. Installation and Maintenance
17. Customer-specific settings, including telephone numbers to be dialed, auxiliary output activation, and call conversation timer, shall be stored in non-volatile memory and shall not be lost during power cuts or soft reset.

**2.05 INTERFACES**

1. Inputs/Outputs
	1. The call station shall be equipped with one (1) auxiliary input, accessible from a removable terminal block.
		1. The auxiliary input shall be opto-isolated from the telephone line to 1,000V.
		2. The auxiliary input shall accept a standard dry contact closure.
	2. The call station shall be equipped with two (2) auxiliary outputs, accessible from a removable terminal block.
		1. The auxiliary outputs shall be opto-isolated from the telephone line to 1,000V.
		2. The auxiliary outputs shall provide a standard dry contact closure.
2. Telephony Interface
	1. The call station shall be equipped with one (1) analog telephone line interface port, accessible from a removable terminal block.

**2.06 POWER REQUIREMENTS**

1. The call station shall be powered by:
	1. Analog telephone line powered – Minimum: 24V, 20mA off-hook.

**2.07 ENVIRONMENTAL**

1. The call station shall:
	1. Operate in a temperature range of -40°F (-40°C) to + 131°F (+55°C).
	2. Operate in a humidity range up to 95% RH (non-condensing).

**2.08 MANUFACTURED UNITS**

1. The call station shall be a Talkaphone ETP-500EI Analog Call Station.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

1. The installer shall carefully follow instructions in the documentation provided by the manufacturer to ensure all steps have been taken to provide a reliable, easy-to-operate system.
2. All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.
3. All firmware found in products shall be the latest and most up-to-date provided by the manufacturer.
4. All equipment requiring users to log on using a password shall be configured with user/site-specific password(s). No system/product default passwords shall be allowed.

**END OF SECTION**