**SECTION 27 51 29**

**EMERGENCY COMMUNICATIONS SYSTEMS**

**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 analog 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 sixty (60) months beginning on the earlier of (1) sale to an end customer, or (2) six (6) months after the equipment leaves the manufacturer’s facility.

**1.03 CERTIFICATIONS AND STANDARDS**

1. The command unit shall be designed to meet the following standards:
	1. NFPA 72: National Fire Alarm and Signaling Code (2022), §24.10
	2. International Building Code (IBC) (2021), §1009.8
	3. Accessibility
		1. ADA Accessibility Guidelines (ADAAG) (2010), Ch. 7
		2. ANSI ICC A117.1 (2017): Accessible and Usable Buildings and Facilities, Ch. 7
	4. Safety
		1. UL 62368-1
	5. Direct connection of Terminal Equipment (TE) to the Public Switched Telephone Network (PSTN)
		1. Part 68 of the FCC Rules (47 C.F.R. Part 68)

**PART 2 PRODUCTS**

**2.01 GENERAL**

1. The analog call station shall:
	1. Consist of an indoor-rated vandal resistant ADA-compliant hands-free area of refuge two-way communication device with a stainless steel faceplate and metal button.
	2. Have, at minimum, an IP31 ingress protection rating.
	3. Be available in configurations for flush or surface mounting.
	4. Be line powered—no power supply or battery backup required.
	5. Be half duplex in operation.
	6. Be programmable from a remote location via in-band DTMF commands issued from a touch-tone telephone.
	7. Be capable of dialing from a list of five (5) telephone numbers in round robin fashion until the call is answered.

**2.02 HARDWARE**

1. The analog call station faceplate shall:
	1. Be constructed of a 304 grade stainless steel plate with provisions for a primary button, primary signage, a hands-free speaker, a hands-free microphone, and LED indicators.
	2. Have a thickness of 0.09 in. (2.2mm).
	3. Measure 4.75” W x 8.23” H.
2. The analog call station faceplate primary signage shall:
	1. Be constructed of 304 grade stainless steel with lettering and braille raised for ADA compliance.
	2. Lettering shall be raised no less than 0.03125 in.
	3. Braille shall be raised no less than 0.025 in.
	4. Read “EMERGENCY”.
	5. Be printed red.
3. The primary button shall:
	1. Be a high quality 0.56 in. diameter push button (0.85 in. overall diameter) and switch in a single assembly.
	2. Have an operating temperature range of -13°F (-25°C) to +131°F (+55°C).
	3. The switch shall be mechanically rated to 50,000 cycles (typical).
	4. Provide tactile feedback.
	5. Have an enclosure design that is watertight as per IP67 rating.
	6. Have an actuator constructed of aluminum and anodized red.
4. The analog call station shall have visual indicators as follows.
	1. Two (2) 3mm diameter red light emitting diodes (LEDs).
	2. The first LED shall be labeled “CALLING”.
	3. The second LED shall be labeled “ANSWERED”.
5. The speaker shall:
6. Be a 2.5” round, indoor rated speaker.
7. Have an operating temperature range of -13°F (-25°C) to +140°F (+60°C).
8. Be capable of withstanding 90-95% relative humidity conditions at +40°C (±2°C) for 48 hours and operating without any deterioration of sound quality.
9. Have a silver mylar cone.
10. Be constructed of a neodymium magnet.
11. The microphone shall:
12. Be a 6.0 mm diameter, RoHS compliant, indoor rated microphone.
13. Have an operating temperature range of -22°F (-30°C) to +158°F (+70°C).
14. The analog call station shall measure:
	1. When installed with a flush mount: 4.75 in. W x 8.23 in. H x 2.76 in. D
	2. When installed with a surface mount: 5.50 in. W x 8.38 in. H x 2.76 in. D
15. The analog call station shall weigh:
	1. When installed with a flush mount: 5.5 lbs. (2.5 kg)
	2. When installed with a surface mount: 6.0 lbs. (2.7 kg)
16. The flush mount shall:
	1. Be constructed of 18 Ga. cold-rolled steel (CRS).
	2. Have a zinc-plated finish.
17. The surface mount shall:
	1. Be constructed of 16 Ga. cold-rolled steel (CRS).
	2. Be painted black with a matte finish.

**2.03 AUDIO**

1. The analog call station shall support half duplex audio.
2. The analog call station shall support automatic noise cancellation (ANC).

**2.04 FUNCTIONALITY**

1. Programming
	1. The analog call station shall be programmable from a remote location via in-band DTMF commands issued from a touch-tone telephone.
	2. Programming of the analog call station shall not require the need of additional software.
	3. Programming of the analog call station shall require authentication with a DTMF command.
2. Telephone Calls
	1. The analog call station shall be programmable with up to five (5) different telephone numbers of up to 20 digits each including pauses.
		1. If the first telephone number does not answer or is busy, the analog call station shall automatically call the second telephone number.
		2. If the second telephone number does not answer or is busy, the analog call station shall automatically call the third telephone number and so on.
		3. The analog call station shall continue dialing through the five (5) telephone numbers in round robin fashion until the call is answered.
	2. The analog call station shall have a call conversation timer that is user configurable from 1 to 9 minutes or indefinitely until a CPC (Calling Party Control) disconnect pulse, busy signal, silence, or a return to dial tone is received.
	3. The analog call station shall have a configurable hang-up on silence timer when there is no voice transmission on the call for up to 90 seconds in 10-second increments—this timer shall also support the option of being disabled.
	4. When the call is finished, the analog call station shall automatically terminate the call.
	5. The analog call station shall be capable of auto-answering any inbound call placed to it.
3. Hearing Impairment Aid (LED)
4. The analog call station shall have a total of two (2) LEDs.
5. The analog call station shall have two (2) LEDs to indicate the status of a call.
6. The analog call station shall illuminate an LED, labeled “CALLING”, when calling party has placed a call.
7. The analog call station shall illuminate an LED, labeled “ANSWERED”, when the call has been answered by the attendant.
8. Voice Messages
9. The analog call station shall be programmable with one (1) voice message.
10. The analog call station shall be capable of automatically notifying the attendant of the analog call station location via a recorded audio message that plays at the beginning of the phone conversation.
11. The voice message can be replayed via an in-band DTMF command issued by an attendant at a sub-command unit or a remote touch-tone telephone through the PSTN connection.
12. The analog call station shall be programmable with a voice message duration of up to 16 seconds.
13. Installation and Maintenance
14. Customer-specific settings, including telephone numbers to be dialed, 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. Telephony Interface
	1. The analog call station shall be equipped with one (1) analog telephone line interface, accessible from a fixed cable assembly or a terminal block connector.

**2.06 POWER REQUIREMENTS**

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

**2.07 ENVIRONMENTAL**

1. The analog call station shall:
	1. Operate in a temperature range of + 32°F (0°C) to + 120°F (+49°C).
	2. Operate in a humidity range up to 95% RH (non-condensing).

**2.08 MANUFACTURED UNITS**

1. The analog call station shall be model HON-AOR-CSE-NM.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

1. The installer shall carefully follow instructions in 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 equipment requiring users to log on using a password shall be configured with user/site-specific password/passwords. No system/product default passwords shall be allowed.
4. The analog call station shall be capable of supporting either flush mounting or surface mounting through one of the following available mounts:
5. HON-AOR-CS-FM-1, flush mount for analog call stations;
6. Or HON-AOR-CS-SM-1, surface mount for analog call stations.

**END OF SECTION**