

**ARCHITECTS  
&  
ENGINEERS  
SPECIFICATION  
ARCU SYSTEM®**

**AREA OF RESCUE / REFUGE COMMAND UNIT  
TWO-WAY COMMUNICATION SYSTEM**

VERSION 2.9



**HOUSING DEVICES, INC**  
407 R. MYSTIC AVE. MEDFORD, MA 02155  
800-392-5200

# ARCU<sup>®</sup> AREA OF RESCUE \ REFUGE SYSTEM TELEPHONE TYPE

## ARCU-10 AREA OF REFUGE COMMUNICATION SYSTEM

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following:
1. Area of Refuge vandal resistant and ADA-compliant hands-free speakerphone communications system with Area of Refuge Command unit Master Station.
  2. Outlet boxes, conduit, wiring, and all other equipment necessary to provide a complete and operating Area of Refuge Assistance system.
  3. Equipment furnished under the terms of this specification shall be the standard product of a single manufacturer.
  4. Basis of design: ARCU-10 & ADA 1000 Area of Refuge/ Rescue Call System equipment supplied by Housing Devices, Inc., 407 R. Mystic Avenue, Medford, MA 02155,(800-392-5200)
- B. SUBMITTALS
1. Product Data: For each type of product indicated.
  2. Wiring diagrams showing typical field wiring connections.
  3. Operation and maintenance data.
  4. As-built drawings that include any changes to wiring, wiring designations, junction box labeling and any other pertinent information shall be supplied upon completion of project.

#### 1.2 QUALITY ASSURANCE

- A. The Contractor shall be from an established business which has been operating in the area for a minimum of five years.
- B. The Contractor shall show evidence that he maintains a service organization and parts inventory to adequately support the supplied equipment.
- C. The Contractor shall provide a one year guarantee of the installed system against defects in material and workmanship. All contractor labor and materials shall be provided at no expense to the Owner. Guarantee period shall begin on the date of acceptance by the Owner or Site Representative.
- D. The System Manufacturer shall warrantee the installed system's components against defects in material and manufacturer's workmanship for a period of one year from date of acceptance by the Owner or Site Representative. Replacement or repair of system components only (job-site labor not included) shall be at the Manufacturer's discretion and provided at no expense to the Owner.
- E. The supplying Contractor shall have attended the Manufacturer's installation and service school or have been authorized by the Manufacturer to install the equipment.

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## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

### 2.2 COMMUNICATIONS EQUIPMENT

- A. System overview:
1. The communication system consists of Area Station's with battery back-up (4 hours of full operation & standby upon loss of power) and programmable automatic dialer and remotely located transformer & a Master Station.
- B. ADA-1000 area of refuge speakerphone:
1. Flush mounted or Surface mounted
  2. Vandal proof 16-gauge 304 stainless steel construction with engraved lettering.
  3. 3" diameter button:
    - a. Engraved with "PUSH FOR HELP" lettering backfilled in red.
    - b. Capable of being activated from any angle with a minimum of effort.
    - c. No other hardware shall protrude from the station as high as the pushbutton.
  4. Red LED indicator confirms transmission of the "HELP REQUESTED" SIGNAL.
  5. Piezoelectric alarm.
  6. 3" Mylar 45 ohm speaker
  7. Dual audio and visual alarms for the hearing and visually impaired.
- C. ARCU Command Unit (master)
1. Stainless Steel
  2. Surface Mounted
  3. Handset for Talk/ Listen
  4. LED for each area
  5. Talk & Hold buttons for each area
  6. Power Led (red)
  7. Battery Back-up w\ light (
  8. Green Led to indicate outgoing call initiated from any area station
  9. Override button to cancel any outgoing call
  10. Audio alert signaling for outgoing call from the area station

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## WIRING

- D. System wiring shall be in accordance with good engineering practices as established by the EIA and NEC.
- E. Wiring shall meet all established state and local electrical codes. All wiring shall test free from shorts and grounded as specified.
- F. Wiring shall be accomplished using labeled, captive screw, plug-in connectors and 22 AWG shielded twisted pairs for all connections.
- G. All cable shall be as recommended by the manufacturer or an approved equivalent.
  - 1. Area Station wiring to ARCU shall be a 4 conductor overall shielded twisted pairs.
  - 2. ARCU wiring shall be 2-wire analog telephone line, 120vac power.

## 2.3 BASIC SYSTEM OPERATION

- A. When in use the system shall provide two-way audio communications between the ADA-1000 , ARCU and or a called outside party . Communication at the Area Station shall be hands-free after initial contact from the ARCU or called party, the ARCU will use an ADA compliant volume control handset.
- B. When an emergency call is placed by the ADA-1000, it provides the following indications at the ADA-1000 to assure the caller that the call is being processed. After pressing the “PUSH FOR HELP” call button:
  - 1. Audio and visual confirmation:
    - a. A “HELP REQUESTED” LED shall illuminate.
    - b. A 90 dB piezoelectric alarm shall sound.
- C. The ARCU allows Emergency Personnel to check status of each area of refuge and to talk with each ADA-1000 on an individual basis or all of them together
- D. A lighted green LED labeled “**RESCUE SERVICES**” indicates that an emergency is in progress.
- E. If an emergency call is in progress, by lifting the handset on the ARCU-10unit you can automatically join the conversation .At this point you can place any or all ADA-1000’s on hold by pushing the hold button corresponding to that unit, which will leave them talking to the called party. Or you can disconnect the called party by pressing the “**DISCONNECT TO CALL SERVICES**” button, which will leave you talking to the ADA-1000.
- F. If there is no emergency call in progress you can call into any or all ADA-1000’s by pressing the corresponding talk button to that unit.
- G. By hanging up the ARCU you disconnect from the conversation while leaving the ADA-1000 continuing any ongoing conversation with the called party.

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## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. Complete system shall be installed in strict accordance with manufacturer's written instructions.
- B. Mounting height:
  - 1. Area Station: call button centered 3'-6" AFF. (or approved local code)
  - 2. ARCU-10 top call button 3'-6" AFF. (or approved local code)
- C. Wiring:
  - 1. Concealed:
    - a. All wiring in areas of new construction shall be concealed in walls, ceilings, etc.
    - b. All wiring in existing areas shall be concealed in walls and ceilings where practicable.
    - c. Above ceilings, support with "J" hooks mounted to the building. Do not lay wiring on suspended ceilings or drape on conduit, piping, structural members, etc.
  - 2. Exposed:
    - a. All wiring shall be installed in raceways where exposed:
      - 1.) EMT except in finished areas.
      - 2.) Surface raceway where necessary in existing finished areas. (See 3.1-C-b. above.)

### 3.2 INSPECTION AND TEST UPON COMPLETION

- A. System field wiring diagrams shall be provided to the Contractor by the system Manufacturer prior to installation.
- B. Upon completion of the installation:
  - 1. Four (4) copies of complete operational instructions shall be furnished, complete with record drawings. Instructions shall include part numbers and name, address, and telephone number of parts source.
  - 2. Contractor shall provide to the Engineer a signed statement that the system has been wired and tested, and functions properly according to the specifications.
- C. Nothing herein contained shall be construed to relieve the Contractor from furnishing a complete and acceptable electrical wiring system in all its categories. The Engineer will reject any materials or labor which are or may become detrimental to the accomplishment of the intentions of these specifications.

### 3.3 IN SERVICE TRAINING

- A. The Contractor shall furnish training with the system. This session shall be broken into segments that will facilitate the training of individuals in operating the Master Station as well as the Area Station. Operating manuals and users guides shall be provided at the time of the training.