

**SECTION 27 75 20  
ASSISTED LISTENING SYSTEM**

**PART 1 - GENERAL**

DESCRIPTION OF WORK **NOTE: ASSISTED LISTENING SYSTEM EQUIPMENT AND DEVICES ARE SHALL BE DELETED AS PART OF ALTERNATE 4.**

**(PROVIDE IN-FLOOR INDUCTION LOOP CABLING, CONDUIT, BOXES AND PULLWIRE FOR ROUGH-IN ONLY UNDER BASE BID SHALL BE PROVIDED).**

**1.1**

- A. Work covered by this document includes design, engineering, labor, material and products, equipment warranty and system guarantee, training and services for, and incidental to, the complete installation of new and fully operating assisted listening system and associated equipment (here-in-after referred to as the System) at locations indicated on the contract drawings. These items shall be tested and certified capable of distributing audio signals via induction loops saw cut into the concrete floor at the public TV viewing areas.
- B. The System shall be delivered free of engineering, manufacturing, installation, and functional defects. It shall be designed, engineered and installed for ease of operation, maintenance, and testing.
- C. The term "provide", as used herein, shall be defined as: designed, engineered, furnished, installed, certified, and tested, by the Contractor.
- D. At each of the (4) television displays located in the public areas, an induction loop (loop) assisted listening system shall be installed to provide assisted listening for those with hearing aids having t-coils. Due to the close proximity of the TV viewing locations on each floor, a "low-spill" system shall be implemented. The system shall consist of the following:
  1. Qty (4) induction loops at each TV viewing location. The layout, spacing and overlap of the induction loops are shown on the drawings.
  2. At the first floor, induction loops shall consist of an 18 AWG wire with an HDPE jacket. The concrete floor will be "scored" to accommodate the 18 AWG cable.
  3. At the 2<sup>nd</sup> floor, induction loops shall consist of "flat" 18 AWG cable glued to the concrete floor prior to the floor finish (carpet) being installed.
  4. Qty (1) 2-channel loop amplifier installed at each TV viewing location. The induction loop cabling will be routed to and terminated at the amplifier.
  5. The amplifier shall be wall mounted and plugged into a power source at the TV locations. The audio input of the amplifier will be plugged into the audio output of the TV display.

**1.2 QUALITY ASSURANCE**

- A. The Contractor installing security equipment and cabling must have a minimum of (5) years experience installing audio/visual systems of similar size and scope.
- B. The Contractor must be licensed by the Nevada State Contractors Board.
- C. The Contractor shall be a trained and authorized installer of the equipment.

**1.3 SUBMITTALS**

- A. Manufacturer's Data Sheets

1. Submit minimum 6 copies. Architect/Engineer will retain a minimum of 3 copies and return balance to Contractor.
2. Data sheets must be bound in 3-ring binders. Provide a table of contents for each binder indicating the products submitted. Products listed in the table of contents should be in the same order as they appear in the Specifications.
3. Where pre-printed data covers more than one distinct item, mark data sheet to clearly indicate which item is to be provided. Delete or cross-out non-applicable data.

**B. Substitutions**

1. No material substitutions will be allowed except by written acceptance from the Consultant. Specified catalog numbers are used for description of equipment and standard of quality only. Equivalent material will be given consideration only if adequate comparison data including samples are provided.

**1.4 REGULATIONS AND CODE COMPLIANCE**

- A. The Contractor will comply with all applicable governmental regulations including Federal, State, City, and local applicable codes and ordinances.
- B. References to codes and standards called for in the Specifications refer to the latest edition, amendments, and revisions to the codes and standards in effect on the date of these Specifications.
- C. All work and materials shall conform to and be installed, inspected and tested in accordance with the governing rules and regulations of the security industry, as well as federal, state and local governmental agencies, including, but not limited to the following
  1. ANSI/NFPA-70, 2002 -- National Electrical Code (NEC).
  2. Underwriter's Laboratories, Inc. (UL) 294 - Access Control Systems.
  3. Underwriter's Laboratories, Inc. (UL) 1076 - Burglar Alarm and Systems
  4. Federal Communications Commission (FCC).
  5. Americans with Disabilities Act (ADA).

**1.5 WARRANTY AND SERVICES**

- A. The complete Security System and all portions thereof, shall be guaranteed to be free from defects in workmanship and materials for a minimum period of one (1) year from date of final acceptance. Promptly remedy such defects and any subsequent damage caused by the defects or repair thereof at no expense to the owner.

**PART 2 - PRODUCTS**

**2.1 LOW-SPILL INDUCTION LOOP AMPLIFIER**

- A. Provide qty (1) "low-spill" loop amplifier at each of the (4) TV location (1005 - Living Room, 1006 - Dining Room, 2004 - Activity Room, 2006 - Dining Room).
- B. Loop amplifiers shall be wall mounted behind the TV flat panel displays.
- C. The contractor shall provide a fused power supply for the loop amplifier and shall connect it to power at the TV location.
- D. The loop amplifier shall be capable of driving (2) main "I" loops and (2) secondary "Q" loops.
- E. The loop amplifier shall have the following physical characteristics:
  1. Physical Dimensions: 9" high x 6.5" wide x 3.5" deep.
  2. Audio Inputs: 1 mic, 1-100v line or balanced.
  3. Terminals: 2-part 5mm screw terminals.
  4. Line Power: Aux 12V 100mA.

5. Sensitivity: -50dBV Microphone, +40dBV 100V line, -10dBV balanced line.
6. Power Input: 120V.
7. LED Indicators: Input signal limit, AC present, (4) loop current, 1A, 3A - I loop, 1A, 3A - Q loop.
8. Dynamic Range: >60dB.
9. THD: <0.25%.

F. Acceptable Products:

1. Contacta Inc. SecureT Low-Spill Wall Mount Amplifier.
2. Or Approved Equal.

**2.2 18 AWG INDUCTION LOOP CABLING - FIRST FLOOR**

- A. Provide 18 AWG stranded copper cabling for induction loops.
- B. Cable shall have an HDPE jacket suitable for sealing into a concrete floor.
- C. Cabling shall be installed in the top of the concrete floor by "scoring" the concrete after it is poured. The cabling shall be sealed with a suitable concrete sealing compound.
- D. Cabling shall be routed from the concrete floor to the loop amplifier via a floor mounted junction box with conduit routed to the TV locations.

**2.3 18 AWG INDUCTION LOOP CABLING - 2ND FLOOR**

- A. Provide 18 AWG stranded "flat" copper cabling for induction loops.
- B. Cable shall be affixed to the concrete floor in accordance with the manufacturer's requirements prior to the floor covering being installed.
- C. Cabling shall be routed from the concrete floor to the loop amplifier via a floor mounted junction box with conduit routed to the TV locations.

**PART 3 - EXECUTION**

**3.1 GENERAL INSTALLATION REQUIREMENTS**

- A. Coordinate TV mounting and loop amplifier mounting locations and heights with the VA.
- B. Wall mount loop amplifier at TV locations and connect to power and audio output from the TV's.
- C. Verify loop layout and dimensions with the manufacturer prior to installing the loops. Layout temporary loops on top of the floor to verify to proper operation of loops.
- D. At the first floor, score the concrete floor and install induction loops. Patch score lines with concrete finishing compound.
- E. At the second floor, affix flat loop cable to the concrete floor per the manufacturer's requirements.
- F. Connect loops to terminals on loop amplifier.
- G. Adjust the input mixer controls so that the Limit LED turns on during loud speech or music peaks.
- H. Adjust the output drive control to give the correct field strength. Use a field strength meter to verify field strength in accordance with the manufacturer's requirements (Contacta ET-FSM or equal).
- I. Verify audio quality with a loop receiver in accordance with the manufacturer's requirements (Contacta ETRX or equal).

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VA SIERRA NEVADA HEALTH CARE SYSTEM  
COMMUNITY LIVING CENTER  
VAMC, RENO, NV  
RBB PROJECT #1017200

VA PROJECT #654-317  
VA CONTRACT #VA 261-P-0933