16760-H: INTERCOM SYSTEMS

Applicability:
The Design Professional (A/E) shall adhere to UMHHC Design Guidelines for all work at UMHHC facilities. Any requested deviations from these guidelines, shall be sent, in writing, to UMHHC’s Facilities Planning and Development (FP&D). Address the correspondence to the assigned FP&D engineer for the given project. The deviation shall not be incorporated into the construction documents until written approval of the deviation is received by the Design Professional.

The Design Professional is fully responsible for the professional quality, technical accuracy, code compliance, and overall coordination of the contract documents. Compliance with these guidelines shall not be construed so as to relieve the Design Professional of any of that responsibility.

All renovated and new UMHHC buildings shall have intercoms as noted in program statement, defined needs during design development or as noted below.

Standards:

Existing Systems
Existing intercom systems will be retained unless specific direction is given otherwise. The only exceptions shall include:
1. Existing system is out of production and compatible parts are not available.
2. The existing system violates current code requirements.

Existing systems include, but are not limited to the following:
1. Building/Campus Wide intercoms are SLO-1000 Mark II.
2. Large departmental systems are Aiphone RCX.
3. Smaller systems are Aiphone LEF-3 or LEF-10.

New, or Expanded Intercom Systems
Building Wide (Dial) Intercom
1. Contractor is to provide and install SLO-1000 Mark II intercom station equipment as shown on the drawings and is to extend the system to the existing building-wide LS-1000 Mark II intercom system. Contractor is to provide and install all necessary common control equipment, including power supplies, cabinets, line cards shelf assemblies, cabling, mounting brackets, backboxes necessary for a complete operating system.
2. Central common control equipment’s are to be located in and are to be connected to either the main communications equipment room, University Hospital Room B2F234C, or in Mott Room F3798C. The new stations are to be interconnected with these existing intercom main central equipment’s.
3. Cables and Connections
   a. Intercom cabling is to be run from the local stations to the nearest communications closet and terminated on line side of 66-type punch-down blocks. A single multi-pair cable is to be terminated on the riser side of the blocks and extended to the central control station. Bridging clips are to be installed as required.
   b. Station cabling is to be two-pair minimum size 24 AWG with solid copper conductors.
   c. Riser cable is to be 25 or 50 pair solid copper conductors, minimum size 24 AWG.

Equipment
1. Desk intercom stations are to be supplied with LCD display and handset.
2. Wall intercom stations are to be supplied with LCD display.
3. Intercom ceiling speakers are to be connected as separate stations or in series as a single intercom station and are to be 8”, 8 watt speakers with white grill assemblies.

**Ongoing Operations**

Interconnection of the intercom system to the existing building system is to in no way disrupt the ongoing operation of the existing intercom. Interconnection is to be carefully scheduled and coordinated with the Architect to ensure Owner notification of any potential disruption.

**Local Intercoms**

**System Description**

1. The local intercom is intended to be a fast, efficient, low cost means of direct voice communication between adjoining rooms, such as between radiology control booths and procedure rooms or isolation rooms and anterooms.

2. The system is to be composed of master stations, secondary stations, remote stations, station selection switches, and any and all materials such as cabinets, backboxes, wire, cable, relays, terminal blocks, backboards, transformers, power supplies, amplifiers, etc., necessary to provide a completed operating system.

3. Local intercoms are to be provided as either two-station intercoms or as multi-station intercoms, as shown on the drawings.

4. Two-station intercoms are to consist of a master station and a remote station.

**Master Station**

The master station is to be capable of the following functions:

1. Auto monitor, push-to-talk operation. Hands-free answer from other master or secondary stations.

2. Call initiation to a pre-assigned remote stations, or other master station for multi-station intercoms.

3. Call termination.

4. Master stations are to be either desk or wall mounted as appropriate to the application.

5. In procedure rooms two-station intercom systems are to be capable of connection to a foot switch which may be used for call initiation and call termination.

**Remote Stations**

1. Remote stations are to be capable of automatic answer and hands-free conversation upon being accessed by single channel master stations.

2. Remote stations are to be desk mounted, wall mounted, or ceiling mounted as shown on drawings.

3. Moveable stations are to use standard wire from the instrument to the wall jack.

**Secondary Stations**

Secondary stations are to be capable of automatic answer hands-free conversation, and call initiation to any master station in the local intercom system. Secondary stations are to be desk mounted or wall mounted.

**Systems Types**

1. New systems shall be by Manufacturers listed in section 16995.

2. Existing systems shall be expanded, or enhanced, as needed to meet needs of renovation project. Confirm with BioMedical Engineers the current maintainability of these systems. If current system is not maintainable, replace with a new system as noted above.

**Installation**

1. All central equipment and power supplies will be in communication rooms. No battery powered, or locally powered units to be installed unless specifically noted in program statement.

2. All stations, preferably, will be flush or semi-flush mount.
3. All wiring from stations to tray will be in raceway. Tray may be used to communication rooms.
4. All systems wiring will be neatly, and consistently labeled, and trained in a consistent manner. Wiring will be cut to length as needed to maintain a clean installation.
5. Field wiring will be run through terminal strips or push down blocks to allow for ease in maintenance testing, repairs or systems expansions.
6. Power the intercoms for clinical or critical, functions from critical power systems.
7. Rooms with furniture partitions, such as staff rooms, shall be carefully evaluated to see if standard equipment will meet the needs of the staff. When needed, add ceiling mounted speaker/microphones to improve functionality of intercoms for all such rooms.
8. Provide detailed, as-built, drains, interconnection drawings, operation and maintenance manuals.