1.01 As a minimum, each communications outlet faceplate location identified should be capable of supporting three (3) network devices. However, there may be circumstances that require more, or less, devices at any one location. UAF Facilities Services Division of Design and Construction (FS/DDC) and the UA Office of Information Technology (OIT) will assist in identifying network locations. It is left up to the designer to coordinate the correct number of communication cables and ports at each location to accommodate the University’s needs.

1.02 Locations of communications ports:

A. One communications port for each vending machine position.
B. DDC (Direct Digital Control) panel: two communications port inside of panel
C. Elevator: See Elevator Division
D. Fire Alarm Panel: inside Fire Alarm Panel (UAF moving to dedicated fiber connection.)
E. Life Safety Emergency Power Supply: two; location dependent upon model/brand EPS.
F. Point of Sale (POS) devices
G. Menu boards and digital signage (shuttle tracker, etc.)
H. Copy readers
I. Security cameras
J. Smart classrooms (monitors, touch panels, etc.)
K. Parking kiosks
L. Wireless access points
M. Alertus beacons

1.03 FS/DDC responsibilities:

A. Define the communications needs of the building or space. Working with the user group, determine the needs of the various programs in the facility. Also determine the quantity of fiber connections.

B. Coordinate construction schedule, specifically:
1. When the wiring is ready to be cross-connected.

2. When the building will be turned over to the user.

1.04 OIT and UAF Facilities Services responsibilities:

A. OIT: In conjunction with FS/DDC and user, determine locations for telephone and network communications outlets.

B. Cross-connect the wiring once the contractor has landed the wires on the terminals.

C. Work with users to provide the handsets they request.

D. Coordinate installation of hub room equipment.

E. Coordinate activities with FS/DDC Project Manager.

1.05 Contractor responsibilities:

A. Run communication cabling within building.

B. Land wiring on communications patch panels, racks, and field jacks.

C. Label all cabling at both ends

D. Test each connection and provide a report

1.06 All new construction will be VOIP.

1.07 All wiring will terminate on patch panels.

PART 2 – PRODUCTS

2.01 The communication cable will meet Category 6 (or better) industry standard specifications and will be plenum rated unless otherwise directed.

2.02 Communication cable:

A. The jacket must be a soft, user-friendly jacket that is easy to strip and resists kinking.

B. The white common pairs must have a co-extruded stripe for easy identification of the white common. The stripe must be a permanent part of the dielectric that cannot be removed until stripped.

C. The cable must contain a Rip Cord for easy cable entry.

D. The cable jacket must have sequential footage markings.
2.03 If fiber optic cable is required, meet the industry standards for multimode fiber set forth by OIT.

PART 3 - EXECUTION

3.01 Grounding:

A. Telecommunications Bonding Backbone (TBB): All grounding and bonding shall be done in accordance with TIA/EIA standards.

B. Location and method of grounding communications systems must be clearly indicated in design documents.

C. Equipment racks are to have separate grounding conductor to common grounding bus. Do not “daisy-chain” grounding connections between racks so that removing one grounding conductor will interrupt the ground path for more than the intended piece of equipment.

3.02 Communications outlet faceplates – General:

A. There can be more than one (1) communication cable bundle per communications outlet faceplate.

B. In new construction, and where feasible in existing buildings, install the communications outlet mounting box and its associated conduit in the walls with the faceplate back surface flush to the wall.

C. Mounting the faceplate in an extra-deep double duplex receptacle box is preferred.

D. In surface-mount applications, mount the faceplate to the appropriate metal raceway back box.

E. Whether surface or flush mounted, the proper clearance on all sides of the faceplate is 4 inches and 2 inches in front. Do not install faceplate in areas where obstacles will restrict access to it.

F. It is permissible to mount the faceplate on or into cabinetry or desk units, provided the mounting service is permanently affixed to the floor.

G. In areas where a faceplate provides wall phone service, mount outlet box and faceplate at the standard outlet height. Provide an additional ½ inch conduit (or equivalent capacity metal surface raceway) from the outlet box to a 2 inch x 4 inch utility box (or equivalent metal surface raceway box) at the wall-phone height.

3.03 Faceplates in office areas:

A. Minimum of one faceplate per occupant or one faceplate per 100 square feet of floor.
space.

B. Locate communications outlet faceplates wherever work areas might be required over the life of the building, and located near power outlets.

C. Locate faceplates above the desktop at an approximate height of 40 inches from the finished floor to the bottom of the mounting box.

3.04 Faceplates in reception and open areas:

A. Review number of faceplates on a case-by-case basis with OIT personnel with a minimum of one faceplate per 150 square feet.

B. Locate faceplates at the standard height for outlet boxes, approximately 15 inches from the finished floor to the bottom of the mounting box.

3.05 Faceplates in laboratory areas:

A. Minimum of one faceplate per 150 square feet of floor space.

B. In all laboratory areas designated for use as "computer laboratories", one faceplate per computer station and one faceplate per network printer.

C. Mount faceplates near electrical outlets and approximately 6 inches from the top of the bench surface/splash board to the bottom of the mounting box.

D. Install additional faceplates near or above the ceiling for video distribution, placement of these faceplates determined by OIT personnel on a case-by-case basis.

3.06 Faceplates in classroom/conference areas:

A. Two faceplates, one on the front wall and one on the back wall.

B. Locate faceplates at the standard height for outlet boxes, approximately 15 inches from the finished floor to the bottom of the mounting box.

C. Install additional faceplates near or above the ceiling for video distribution, placement of these faceplates determined by OIT personnel on a case-by-case basis.

3.07 Faceplates in residence hall areas:

A. Minimum of one faceplate per occupant. If there are two occupants (double room), then two faceplates, installed on opposite walls.

B. Mount faceplates near electrical outlets and approximately 6 inches from the top of the desk surface to the bottom of the mounting box.
C. In faculty housing, married student housing and the Cutler Student Apartment Complex: Minimum of two faceplates per unit and faceplates must be located in different rooms (e.g., study and living area, study and bedroom(s), etc.).

3.08 Cabling access points:

A. Use cabling access points to provide OIT services in areas where use of a faceplate is not reasonable, such as doorjambs and ceilings.

B. OIT personnel in cooperation with representatives of Facilities Services and Safety & Security will determine the number and location of cabling access points for a building.

C. If a cabling access point is installed to provide wall phone service, mount the outlet box at the standard outlet height and provide an additional ½ inch conduit from the outlet box to a 2 inch x 4 inch utility box at the wall-phone height.

D. If the cabling access point requires an outlet box to mount a device, cover the outlet with a blank stainless steel wall plate and secure using two-pin type security screws until the device is ready to be mounted.

3.09 Wireless Access Points:

A. Provide one (1) communications jack above the ceiling for connection to OIT provided wireless router. Coordinate location(s) with OIT to provide coverage throughout the building.

3.10 Terminate all fiber optic cable with SC type connectors unless specified otherwise by an OIT representative

27 20 00 - 5
3.11 Labeling: Label jacks and corresponding wiring to this standard: Floor#-Hub Room-Port#:

<table>
<thead>
<tr>
<th>FLOOR#</th>
<th>HUB ROOM</th>
<th>PATCH#</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, etc. B, P</td>
<td></td>
<td></td>
<td>Floor on which outlet port is located. This may be a number or letter.</td>
</tr>
<tr>
<td>0,1, 2, etc, +</td>
<td></td>
<td></td>
<td>Floor on which hub room located. Where there is more than one hub room per floor, add location: E=East, W=West, N=North, S=South.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>###</td>
<td>Unique three digit identifier of patch. (E. G. There will never be more than one port with the number 027.) Patch number will be at individual jack.</td>
</tr>
<tr>
<td>Sample 1: 1-1-023</td>
<td>Outlet port on floor 1, hub room is on floor 1, patch number is 023</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 2: 2-1W-023</td>
<td>Outlet port on floor 2, hub is on floor 1 west side, patch number is 023</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.12 Terminate all fiber optic cable with SC type connectors unless specified otherwise by a OIT representative. Test each cable upon installation and provide the results of those tests both written and electronically to the FS/DDC Project Manager.

3.13 Consultant to specify wire management raceway and hangers for all communication cabling. It is preferred to have all cabling in conduit, surface raceway, or cable tray. Raceway must be sized to leave 20% free board for future installations.

3.14 Terminate all fiber optic cable with SC type connectors unless specified otherwise by an OIT representative.

3.15 Provide a fiber link between the Building Management System main panel and the nearest fiber connection point in a Satellite Equipment Room. The intent is to tie into the Controls Host Room via the fiber link.

END OF SECTION