

Brown University
Communications Standard Parts List

All data installations must receive the *25-year Mission Critical Warrantee from Hubbell™ Premise Wiring*.

All fiber installations must receive *Extended Warranty Program* certification from Corning.

This specification expires April 2010

FACEPLATES

- All faceplates shall be equipped with labels and label holders.
- Single gang 6 port faceplate shall be Hubbell P/N IFP16OW
(Office White)
- Wall phone plates shall be recessed Hubbell P/N P630SR1GC6

MODULAR INSERTS

- Single Modular inserts for all data ports shall be Hubbell P/N HXJ6B
(8-position blue universally wired category 6)
- Single Modular inserts for the voice port shall Hubbell P/N HXJUOW
(6-pos USOC Office White)
- Blank Modular inserts shall be Hubbell P/N SFB10
- Single Modular insert for Video shall be Hubbell P/N SFFX

Modular inserts shall be positioned in the faceplate as follows starting at the top left: all voice jacks followed by all data jacks proceeding down the left column then down the right column. The first voice jack shall be named V1 in the tap list followed by V2. Data jacks shall be named D1, D2, D3 and so forth in the tap list.¹

¹ The tap list is a schedule of all cables in the project that lists the name of the communications outlet, the type of outlet, and destination communications room.

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HORIZONTAL CABLE

- The UTP Horizontal cable utilized for the distribution of **data** shall meet or exceed Category 6 cable standards and shall comply with the *Hubbell 25 year Mission Critical Warranty™*. Color shall be blue. Manufacturer shall be Mohawk P/N M57202B (non-plenum) P/N M57193B (plenum)
- The UTP Horizontal cable utilized for the distribution of **voice**, shall meet or exceed Category 6 cable standards and shall comply with the *Hubbell 25 year Mission Critical Warranty™*. Color shall be white. . Manufacturer shall be Mohawk P/N M56889B (non-plenum) P/N M56905B (plenum)
- The horizontal cable for video shall be 75 ohm, RG-6 Plenum rated Commscope P/N 2275V or approved equal

DATA PATCH PANELS (Communications room)

- 48-port modular patch panel(s) shall be 8 position, 8 conductor, Category 6, manufactured by Hubbell P/N P6E48U
- 24-port modular patch panel(s), if approved, shall be 8 position, 8 conductor, Category 6, manufactured by Hubbell P/N P6E24U
Use of a 24 port panel must be approved in writing by CIS.
- Horizontal wire management, when required, shall be manufactured by Hubbell P/N HC219ME3N

FIBER OPTIC TERMINATION HARDWARE (Communications room)

- 72 Port Simplex Fiber Optic closet connector housing shall be Corning P/N CCH-04U
- 48 PORT Fiber Optic closet connector housing shall be Corning P/N CCH-02U
- 24 PORT Fiber Optic closet connector housing shall be Corning P/N CCH-01U
- 12 port fiber connector-housing panels for Multi mode fiber shall be Corning SC duplex panels P/N CCH-CP12-91
- 12 port fiber connector-housing panels for Single Mode shall be Corning SC duplex panels P/N CCH-CP12-59
- Fiber optic horizontal manager shall be Corning P/N CJP-02U.
- Multi mode connectors shall be SC epoxy and polish, 900 μ m boot, color navy blue manufactured by Corning P/N 95-100-48BP9N
- Single-mode connectors shall be SC epoxy and polish, 900 μ m boot, color yellow manufactured by Corning P/N 95-250 -08 BP9Y

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VOICE TERMINATION HARDWARE (Communications Room)

- The 300 pair BIX mount shall be Nordx P/N QMBIX12E
- The 50 pair BIX mount shall be Nordx P/N QMBIX10C
- The 25 pair BIX connector shall be Nordx P/N QCBIX1A
- The 4 pair Bix connector shall be Nordx P/N QCBIX1A4
- The Bix designation labels shall be Nordx. Label colors shall be
 - GREEN Toward switch
 - BLUE Toward telephone
- Building Entrance Terminals (BIX connectors IN and OUT with splice chamber):
 Manufactured by CIRCA
 - 25 pair- PN- 2100SB-25
 - 50 pair- PN -2250SBP-50
 - 100 pair- PN -2200SBP-100
- Surge Protection Modules:
 Manufactured by CIRCA
 - PN- C3B1FS

VIDEO TERMINATION HARDWARE (Communications room)

- The F connector utilized for the horizontal cable shall be manufactured by Gilbert P/N GF-6-AHS-USA
- Amplifiers, Directional couplers, and splitters shall be supplied and installed by Brown University's Communication Department.

INTRA BUILDING BACKBONE CABLE

- The in -building backbone cables for voice shall be manufactured by ESSEX
- The in –building backbone cable for data shall be a minimum of 12 strands single-mode and 12 stands multimode (62.5 micron) manufactured by Corning and installed by a Corning EWP certified vendor.

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INTER BUILDING BACKBONE CABLES

- The Inter building backbone cable for voice shall be manufactured by Essex
- The Inter building backbone cable for data shall be manufactured by Corning and installed by a Corning EWP certified vendor.

EQUIPMENT RACKS

- Ortronics Mighty Mo 10 Cable Management Rack: P/N OR-MM10716
- Ortronics Mighty Mo Blank Filler Panels
 - 1U – P/N OR-401004788
 - 2U – P/N OR-401004789
 - 3U – P/N OR-401004790
 - 4U – P/N OR-401004791
- Vertical Cable Management System
 - Single Rack Line-Up

Two Ortronics Mighty Mo Cable Management Cages with Door are required: P/N OR-MM6VMD706

 - The two Cable Management Cages for 7-foot racks are mounted at the front on each side
 - These Cable Management Cages are attached to the rack directly on their near sides and with end support brackets on their far sides
 - The doors open to either side as necessary
 - Mult-Rack Line-Up

Two Ortronics Mighty Mo Cable Management Cages with Door (6-Inch) are required – one each, on the left and right ends of the rack line-up: P/N OR-MM6VMD706

 - The two 6-inch Cable Management Cages for 7-foot racks are mounted at the front on the left and right sides, respectively, of the left-most and right-most rack in the line-up
 - These Cable Management Cages are attached to their respective racks directly on their near sides and with end support brackets on their far sides
 - The doors open to either side as necessary

One Ortronics Mighty Mo Cable Management Cage with Door (12-Inch) – is required between each adjoining rack: P/N OR-MM10VMD712

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- The adjoining racks must be set exactly 8.5 inches apart so the 8.5-inch extrusion at the back of the 12-inch cage will fit between them
- The 12-inch Cable Management Cage is mounted directly to the front of the adjoining racks
- The door opens to either side as necessary

- Edge Network Electronics

Supplied by CIS

Cisco: P/N WS-3750-48P or other 1U model typical

- 1U 48-port PoE Edge Switch
- Cisco 3750 PoE maximum draw is 370 Watts

- Wireless Devices

Supplied by CIS

For inside:

- Aruba AP-65 Access Point
<http://www.arubanetworks.com/products/access-points/ap-65.php>
- Aruba AP-65-MNT mounting kit

For outside:

- Aruba AP-70 Access Point
<http://www.arubanetworks.com/products/access-points/ap-70.php>
Mounted inside close to the antenna on exterior
- Aruba AP-ANT-6 2.4/5.0Ghz, Wide Angle Angle 135 degree, SMA connector
[ap-ant-6_ss.pdf](#)
preferred antennae
- Aruba AP-ANT-9 2.4/7.0 Ghz, Bi Wide Angle 90 degree, SMA connector
alternate antennae

- Uninterruptable Power Supply (UPS)

Supplied by CIS

American Power Conversion (APC): P/N SURTA3000RMXL3U

APC Smart-UPS RT 3000VA Rack Tower 120V

- Rack Height 3U
- Net Weight 140 lbs.
- Online Thermal Dissipation 305 BTU

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- | | |
|---------------------|----------------------|
| • Input Connections | NEMA L5-30P |
| • Cord Length | 8 feet (2.44 meters) |

UPS Battery Pack

American Power Conversion (APC): P/N SURT192RMXLBP3U

- | | |
|---------------|----------|
| • Rack Height | 3U |
| • Net Weight | 200 lbs. |

RACK EQUIPMENT LAYOUT

- The standard network equipment rack is sized to hold six (6) patch panels or filler panels, 2U each one (1) 2U fiber patch panel and six (6) sets of 48-port Cisco 3750 PoE Edge Switch and 1U blank filler panel, or 2 U filler panels one 3U rack-mounted UPS and one (1) or two (2) 3U Battery Packs.
- The patch panel field begins with the top patch panel mounted at RUs 43 and 42
- Additional patch panels, up to the rack maximum of six (6), shall be mounted immediately below the previous panel, without skipping RUs, with the sixth panel mounted at RUs 33 and 32
- There are no horizontal cable management or blank filler panels to be placed between the patch panels
- The fiber LIU is mounted between the patch panels and electronics
- The edge switch field begins with a 1U blank filler panel at RU 31
- Immediately below that filler panel, the first 1U edge switch is mounted at U30
- Additional filler panel/edge switch pairs are added in order immediately below switch one (1), up to the rack maximum of six (6) pairs with the sixth switch mounted at RU 20
- Empty rack units will be filled as necessary by panels sized to fit the rack switch count

- Dressing of Horizontal Distribution Cables
 - All horizontal distribution cables to a single patch panel shall be dressed to one channel of the rack
 - Cables to the various patch panels shall be dressed to alternate side channels, beginning with the right channel (facing the rear) for patch panel one.

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- Rack UPS Layout (One Battery Pack) - For one to three switches per rack
 - The first 3U Battery Pack is placed through the rack until the front of the pack is even with the leading edge of the front angle support and rests directly on the front and rear angle supports
 - Above the battery pack, the 3U UPS is mounted using the set of rack rails ordered with the UPS
 - Total height of the UPS and Battery pack is 6U
 - Blank filler panels are installed between the top of the UPS and the bottom of the lowest 3750 edge switch

- Rack UPS Layout (Two Battery Packs) - For four to six switches per rack
 - The first 3U Battery Pack is placed through the rack until the front of the pack is even with the leading edge of the front angle support and rests directly on the front and rear angle supports
 - The second 3U Battery Pack is placed through the rack and rests directly on the first battery pack
 - Above the second battery pack, the 3U UPS is mounted using the set of rack rails ordered with the UPS
 - Total height of the UPS and Battery pack is 9U
 - Blank filler panels are installed between the top of the UPS and the bottom of the lowest 3750 edge switch

A drawing of a typical rack with six switches is included at the end of this document.

CABLE SUPPORTS / CABLE RACEWAY

- The Consulting Engineer shall specify Cable raceway and supports subject to approval by CIS.
- Snap in fittings for surface raceway may use a Wiremold adapter manufactured by Hubbell (A22)
- Furniture adapter plates are available for Steel case, Haworth, etc are available from Hubbell (A21)

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OUTSIDE EMERGENCY PHONES

- Manufactured by Ramtel, Johnston, RI (www.ramtel.com)
- Micro Processor based hands free dual purpose phone with sealed chrome keypad & 4 auto dial buttons, Brown University stencil P/N RR734/3
- Stainless steel Enclosure P/N 926
- Heater/ clip on P/N 800-1072
- 24v transformer P/N 600-1011
- Blinking blue light P/N BL-1A
- Free Standing stanchion 10'H x 10"W x 2"D

ELEVATOR EMERGENCY PHONES

- Elevator phones shall be Ramtel P/N RR833
- (If needed) Phone in Bezel Enclosure Ramtel P/N RR833-906

WHEELCHAIR LIFT PHONES

- One Button wheelchair assistance phone (on the lift) P/N RR733M
- Regular phone with Blue button for wheelchair lift (on each end of the lift)
P/N RR734

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Standard 6-Switch Rack

