

Section 27 11 00

COMMUNICATION EQUIPMENT ROOM FITTINGS

Section 27 11 16

Communications Cabinets, Racks, Frames and Enclosures

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. Provide all labor, materials, and equipment for the complete installation of work called for in the Contract Documents.

1.2 SCOPE OF WORK

- A. This section includes the minimum requirements for wall-mounted cabinets for use as telecommunications enclosures, consolidation point enclosures or in communications equipment rooms.
- B. Included in this section are the minimum composition requirements and installation methods for the following:
 - 1. Cabinets, wall-mounted.

1.3 QUALITY ASSURANCE

- A. All cable and equipment shall be installed in a neat and workmanlike manner. All methods of construction that are not specifically described or indicated in the contract documents shall be subject to the control and approval of the Owner or Owner Representative. Equipment and materials shall be of the quality and manufacture indicated. The equipment specified is based upon the acceptable manufacturers listed. Where "approved equal" is stated, equipment shall be equivalent in every way to that of the equipment specified and subject to approval.
- B. Strictly adhere to all Building Industry Consulting Service International (BICSI), Electronic Industries Alliance (EIA) and Telecommunications Industry Association (TIA) recommended installation practices when installing communications/data cabling.
- C. Material and work specified herein shall comply with the applicable requirements of:
 - 1. TIA – 569-B Commercial Building Standard for Telecommunications Pathways and Spaces, 2004
 - 2. ANSI/TIA – 568-C Commercial Building Telecommunications Cabling Standard, 2009
 - 3. ANSI/NECA/BICSI 568-2006 – Standard for Installing Commercial Building Telecommunications Cabling

4. TIA – 606-A Administration Standard for Commercial Telecommunications Infrastructure, 2007
5. ANSI-J-STD – 607-A Joint Standard for Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, 2002
6. NFPA 70 – National Electric Code, 2008

1.4 SUBMITTALS

A. Provide product data for the following:

1. Manufacturers data sheets/cut sheets, specifications and installation instructions for all products (submit with bid).

PART 2 – PRODUCTS

2.1 Cabinets, Wall-Mounted

A. Wall-Mounted Equipment Cabinets (CUBE-iT PLUS Cabinet System)

1. Wall-mounted cabinets shall be manufactured from steel sheet.
2. Each cabinet shall have a rear panel that attaches to the wall, a hinged cabinet body that swings open from the rear panel providing easy access to the rear of equipment and a locking front door.
3. The rear panel shall be 5" (130 mm) deep and shall provide cable access with pre-punched knockouts for conduit along the top and bottom edges of the panel. There shall be a minimum of (4) combination 1/2" and 3/4" conduit knockouts (2 top/2 bottom) and (8) combination 2-1/2" and 3" knockouts (4 top/4 bottom). The back edge of the knockouts will be located 1-5/8" (41 mm) from the back surface of the panel (cabinet/wall) allowing conduit to be attached to the wall with auxiliary framing strut. The cabinet will include rubberized or plastic/composite grommets that fit within the 3" knockouts to protect cables when conduit is not used to route cables. There shall also be one 6" (150 mm) high by 6" (150 mm) wide cutout in the back of the rear panel so that cables can enter the panel through the wall. The rear panel shall provide attachment points for accessory equipment mounting brackets and cable tie points within the panel (cabinet). The manufacturer of the cabinet will sell compatible equipment mounting brackets and cable ties as separate accessories.
4. The cabinet body shall include a single pair of vertical 19"EIA equipment mounting rails. The mounting rails shall be EIA-310-D compliant with the Universal hole pattern. Mounting holes shall be spaced vertically on alternating 5/8"-5/8"-1/2" (15.9 mm – 15.9 mm – 12.7 mm) centers and shall be roll-formed with #12-24 threads. Mounting rails shall provide 12, 18, or 26 rack-mount unit (U) spaces for equipment as specified below.
5. Mounting rails shall be adjustable in depth so that they can be positioned at any point within the cabinet body. The design of all cabinets shall allow an additional pair of mounting rails (for a total of two pairs of

mounting rails per cabinet) to be added to the cabinet. The manufacturer of the cabinet will sell compatible mounting rails as a separate accessory.

6. Mounting rails shall bolt in place directly to the cabinet frame. The mounting rails shall be L-shaped. The side of the mounting rails will be punched to provide lacing points for cables.
7. The hinge design that attaches the cabinet body and the rear panel shall allow the rear panel to be removed during installation.
8. The hinge that attaches the cabinet body and the rear panel shall allow the cabinet body to open at least 90°. The hasp used to secure the rear panel and the cabinet body together shall assist in drawing the components together during the locking action.
9. The cabinet body shall include vents that are designed to accept fan kits. The manufacturer of the cabinet will sell compatible fan and filter kits as separate accessories.
10. The front door will be hinged and locking. The front door and rear panel will be keyed alike. The front door will have rounded edges and corners. The cabinet body will allow the front door to be attached so that it will swing open from the right or left. The front door will be solid or have a tinted window, as specified below.
11. Finish shall be epoxy-polyester hybrid powder coat (paint) in the color(s) specified below. Tinted windows in doors shall be bronze acrylic (not clear) with a UL flammability classification of 94HB or better.
12. The cabinet shall be delivered fully assembled and will include installation hardware (hex lag screws) for wood studs and 50 each #12-24 equipment mounting screws.
13. Load bearing capacity for cabinets will be 200 pounds (90.7 kg) per cabinet. Load bearing capacity will be stated in the manufacturer's product literature.
14. Cabinets shall be UL Listed under category NWIN to standard UL 60950. UL Listing will be stated in the manufacturer's product literature.
15. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-IT PLUS Cabinet System

Part Number **13265-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 12U x 19"EIA x 11.8" (300 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **13265-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 12U x 19"EIA x 11.8" (300 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **13275-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 12U x 19"EIA x 11.8" (300 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **13275-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 12U x 19"EIA x 11.8" (300 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11890-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 12U x 19"EIA x 16.8" (427 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11890-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 12U x 19"EIA x 16.8" (427 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **11901-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 12U x 19"EIA x 16.8" (427 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **11901-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 12U x 19"EIA x 16.8" (427 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11840-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 12U x 19"EIA x 22.8" (579 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11840-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 12U x 19"EIA x 22.8" (579 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **11900-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 12U x 19"EIA x 22.8" (579 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **11900-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 12U x 19"EIA x 22.8" (579 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11996-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 12U x 19"EIA x 28.8" (732 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11996-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 12U x 19"EIA x 28.8" (732 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **12419-224**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 12U x 19"EIA x 28.8" (732 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **12419-724**, CUBE-IT PLUS Wall-Mount Cabinet, 24" (610 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 12U x 19"EIA x 28.8" (732 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **13265-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 18U x

19"EIA x 11.8" (300 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **13265-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 18U x 19"EIA x 11.8" (300 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **13275-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 18U x 19"EIA x 11.8" (300 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **13275-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 18U x 19"EIA x 11.8" (300 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11890-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 18U x 19"EIA x 16.8" (427 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11890-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 18U x 19"EIA x 16.8" (427 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **11901-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 18U x 19"EIA x 16.8" (427 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **11901-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 18U x 19"EIA x 16.8" (427 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11840-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 18U x 19"EIA x 22.8" (579 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11840-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 18U x 19"EIA x 22.8" (579 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **11900-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 18U x 19"EIA x 22.8" (579 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **11900-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 18U x 19"EIA x 22.8" (579 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11996-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 18U x 19"EIA x 28.8" (732 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11996-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 18U x 19"EIA x 28.8" (732 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **12419-236**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 18U x

19"EIA x 28.8" (732 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **12419-736**, CUBE-IT PLUS Wall-Mount Cabinet, 36" (910 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 18U x 19"EIA x 28.8" (732 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **13265-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 26U x 19"EIA x 11.8" (300 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **13265-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 26U x 19"EIA x 11.8" (300 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **13275-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 26U x 19"EIA x 11.8" (300 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **13275-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 13" (330 mm) Deep Exterior, 26U x 19"EIA x 11.8" (300 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11890-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 26U x 19"EIA x 16.8" (427 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11890-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 26U x 19"EIA x 16.8" (427 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **11901-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 26U x 19"EIA x 16.8" (427 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **11901-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 18" (460 mm) Deep Exterior, 26U x 19"EIA x 16.8" (427 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11840-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 26U x 19"EIA x 22.8" (579 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11840-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 26U x 19"EIA x 22.8" (579 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **11900-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior, 26U x 19"EIA x 22.8" (579 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **11900-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 24" (610 mm) Deep Exterior,

26U x 19"EIA x 22.8" (579 mm) Deep Interior, Tinted Window Front Door, Black.

Part Number **11996-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 26U x 19"EIA x 28.8" (732 mm) Deep Interior, Solid Metal Front Door, Computer White.

Part Number **11996-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 26U x 19"EIA x 28.8" (732 mm) Deep Interior, Solid Metal Front Door, Black.

Part Number **12419-248**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 26U x 19"EIA x 28.8" (732 mm) Deep Interior, Tinted Window Front Door, Computer White.

Part Number **12419-748**, CUBE-IT PLUS Wall-Mount Cabinet, 48" (1220 mm) High x 24" (610 mm) Wide x 30" (760 mm) Deep Exterior, 26U x 19"EIA x 28.8" (732 mm) Deep Interior, Tinted Window Front Door, Black.

B. Equipment-Mounting Hardware for CUBE-iT PLUS Cabinet:

1. Provide additional equipment-mounting hardware if required to attach equipment to the equipment mounting rails in the cabinet.
2. Equipment mounting hardware will be combination pan head, pilot point mounting screws, threaded #12-24, and 5/8" long.
3. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Equipment Mounting Hardware

Part Number **40605-001**, Hardware Kit For Threaded Mounting Rails, 12-24 Screws, Package Of 50, Zinc.

Part Number **40605-005**, Hardware Kit For Threaded Mounting Rails, 12-24 Screws, Package Of 50, Black.

C. Mounting Rails for CUBE-iT PLUS Cabinet:

1. Provide additional mounting rails if required to support equipment.
2. Mounting rails will be punched with the EIA-310-D Universal hole pattern. Vertical hole spacing will be 5/8"-5/8"-1/2" (15.9 mm – 15.9 mm – 12.7 mm) to make up each 1-3/4" (44.45 mm) rack-mount unit (U) space. Holes will be roll-formed with #12-24 threads.
3. Installation hardware will be included with the mounting rails.
4. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Equipment Mounting Rails

Part Number **12787-524**, Threaded Mounting Rails, 12U, One Pair, Clear (Brushed Aluminum). For 24" (610 mm) High CUBE-iT PLUS Cabinets.

Part Number **12787-536**, Threaded Mounting Rails, 18U, One Pair, Clear (Brushed Aluminum). For 36" (910 mm) High CUBE-iT PLUS Cabinets.

Part Number **12787-548**, Threaded Mounting Rails, 26U, One Pair, Clear (Brushed Aluminum). For 48" (1220 mm) High CUBE-iT PLUS Cabinets.

D. 90° Mounting Bracket for CUBE-iT PLUS Cabinet:

1. Provide a 90° mounting bracket if required to support equipment in the rear panel of the cabinet.
2. 90° mounting bracket will attach 19"EIA equipment in vertical orientation within the 5" (130 mm) deep rear panel.
3. 90° mounting bracket will be punched with the EIA-310-D Universal hole pattern. Hole spacing will be 5/8"-5/8"-1/2" (15.9 mm – 15.9 mm – 12.7 mm) to make up each 1-3/4" (44.45 mm) rack-mount unit (U) space. Holes will be roll-formed with #12-24 threads.
4. Installation hardware will be included with the 90° mounting bracket.
5. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
90° Mounting Bracket for CUBE-iT PLUS

Part Number **13285-501**, 90° Mounting Bracket, 2U x 19"EIA, One Pair, Clear (Brushed Aluminum).

E. 45° Mounting Bracket for CUBE-iT PLUS Cabinet:

1. Provide a 45° mounting bracket if required to support patch panels in the rear panel of the cabinet.
2. 45° mounting bracket will attach 19"EIA patch panels at a 45° orientation within the 5" (130 mm) deep rear panel.
3. 45° mounting bracket will be punched with the EIA-310-D Universal hole pattern. Hole spacing will be 5/8"-5/8"-1/2" (15.9 mm – 15.9 mm – 12.7 mm) to make up each 1-3/4" (44.45 mm) rack-mount unit (U) space. Holes will be roll-formed with #12-24 threads.
4. Installation hardware will be included with the 45° mounting bracket.
5. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
45° Mounting Bracket for CUBE-iT PLUS

Part Number **12796-501**, 45° Mounting Bracket, 3U x 19"EIA, One Pair, Clear (Brushed Aluminum).

F. Termination Block Panel for CUBE-iT PLUS Cabinet:

1. Provide a termination block panel if required to support 66-style/H89D-style brackets or 110D-style (without legs) block termination hardware in the rear panel of the cabinet.
2. The termination block panel will be a metal panel, pre-punched to attach (6) 100-pair 110D-style (without legs) blocks or (4) 66-style blocks/H89D-style brackets and will include cabinet installation hardware.

3. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Termination Block Panel for CUBE-iT PLUS

Part Number **13287-501**, Termination Block Panel, 11.6" (295 mm) High x 19" (480 mm) Wide x 2.5" (64 mm) Deep, For (4) 66-Style Blocks/H89D-Style Brackets, Clear (Brushed Aluminum).
Part Number **13288-501**, Termination Block Panel, 11.6" (295 mm) High x 19" (480 mm) Wide x 2.5" (64 mm) Deep, For (6) 100-Pair 110D-Style (Without Legs) Blocks Or (2) 300-Pair 110D-Style Blocks, Clear (Brushed Aluminum).

G. Vertical Mounting Bracket for CUBE-iT PLUS Cabinet:

1. Provide a vertical mounting bracket if required to support 19"EIA rack-mount equipment in the vertical orientation on the equipment mounting rails in the cabinet.
2. Vertical mounting bracket will attach 19"EIA equipment in vertical orientation to the equipment mounting rails in the cabinet.
3. Vertical mounting bracket will be punched with the EIA-310-D Universal hole pattern. Hole spacing will be 5/8"-5/8"-1/2" (15.9 mm – 15.9 mm – 12.7 mm) to make up each 1-3/4" (44.45 mm) rack-mount unit (U) space. Holes will be roll-formed with #12-24 threads.
4. Vertical mounting bracket will support 75 pounds (34 kg) of equipment.
5. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Vertical Mounting Bracket for CUBE-iT PLUS

Part Number **13286-501**, Vertical Mounting Bracket, 2U x 19"EIA, One Pair, Clear (Brushed Aluminum).
Part Number **13286-502**, Vertical Mounting Bracket, 3U x 19"EIA, One Pair, Clear (Brushed Aluminum).

H. Power Strips for CUBE-iT PLUS Cabinet:

1. Provide a power strip to distribute power to rack-mount equipment within the cabinet.
2. Power strip will be rated for 100-125 Volts Alternating Current, 15 Amperes or 20 Amperes, will have 8 or 6 outlets, an IEC C20 power inlet, and will include a detachable power cord with NEMA straight or locking plug, as specified below.
3. The power strip will attach to the top, bottom or side of the cabinet body and will not use any rack-mount unit (U) spaces.
4. Installation hardware will be included with the power strip.
5. The power strip will be UL Listed.
6. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Power Strip for CUBE-iT Plus

Part Number **12820-701**, Power Strip, 8 Outlets (NEMA 5-15R), 100-125 Volt AC, 15 Ampere, With Circuit Breaker, IEC C20 Power Inlet

And Detachable 8'2" (2.4 m) Long Power Cord With A Straight NEMA 5-15P Plug, Black.

Part Number **12820-702**, Power Strip, 8 Outlets (NEMA 5-15R), 100-125 Volt AC, 15 Ampere, With Circuit Breaker, IEC C20 Power Inlet And Detachable 10' (3 m) Long Power Cord With A Locking NEMA L5-15P Plug, Black.

Part Number **12820-703**, Power Strip, 6 Outlets (NEMA 5-15R), 100-125 Volt AC, 15 Ampere, Surge-Protected, With Circuit Breaker, IEC C20 Power Inlet And Detachable 8'2" (2.4 m) Long Power Cord With A Straight NEMA 5-15P Plug, Black.

Part Number **12820-704**, Power Strip, 6 Outlets (NEMA 5-15R), 100-125 Volt AC, 15 Ampere, Surge-Protected, With Circuit Breaker, IEC C20 Power Inlet And Detachable 10' (3 m) Long Power Cord With A Locking NEMA L5-15P Plug, Black.

Part Number **12820-705**, Power Strip, 8 Outlets (NEMA 5-20R), 100-125 Volt AC, 20 Ampere, With Circuit Breaker, IEC C20 Power Inlet And Detachable 8'2" Long (2.4 m) Power Cord With A Straight NEMA 5-20P Plug, Black.

Part Number **12820-706**, Power Strip, 8 Outlets (NEMA 5-20R), 100-125 Volt AC, 20 Ampere, With Circuit Breaker, IEC C20 Power Inlet And Detachable 10' (3 m) Long Power Cord With A Locking NEMA L5-20P Plug, Black.

Part Number **12820-707**, Power Strip, 6 Outlets (NEMA 5-20R), 100-125 Volt AC, 20 Ampere, Surge-Protected, With Circuit Breaker, IEC C20 Power Inlet And Detachable 8'2" (2.4 m) Long Power Cord With A Straight NEMA 5-20P Plug, Black.

Part Number **12820-708**, Power Strip, 6 Outlets (NEMA 5-20R), 100-125 Volt AC, 20 Ampere, Surge-Protected, With Circuit Breaker, IEC C20 Power Inlet And Detachable 10' (3 m) Long Power Cord With A Locking NEMA L5-20P Plug, Black.

NOTES: Cabinets can support 19" EIA rack-mount power strips or power distribution units (PDUs) also. Contact CPI technical support (800-834-4969) for assistance selecting a 19" rack-mount power strip or PDU.

I. Fan Kits for CUBE-iT PLUS Cabinet:

1. Provide a fan kit with CUBE-iT PLUS cabinet whenever active (powered) equipment is stored within the cabinet.
2. Provide a filter kit with the fan kit when the cabinet is placed outside of the communications equipment room (used as a consolidation point or telecommunications enclosure).
3. The fan will attach inside the cabinet over vents in the side panel.
4. The fan will be rated for 115 Volts or 230 Volts Alternating Current and 100 CFM and will include a power cord and installation hardware.
5. The fan assembly will be UL Recognized.
6. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Fan Kit for CUBE-iT PLUS

Part Number **12804-701**, Fan Kit, 115 Volt AC, 50/60 Hertz, 100 CFM, With Attached 5' (1.5 m) Long Power Cord With A Straight NEMA 5-15P Plug, Black.

Part Number **12804-701**, Fan Kit, 230 Volt AC, 50/60 Hertz, 100 CFM, With Attached 5' (1.5 m) Long Power Cord With A Straight NEMA 6-15P Plug, Black.

Part Number **12805-201**, Fan Filter Kit, Computer White.

Part Number **12805-701**, Fan Filter Kit, Black.

Part Number **12806-001**, Filters, Box of 6.

J. Light for CUBE-iT PLUS Cabinet:

1. Provide a light within CUBE-iT PLUS cabinet when there is less than 50 foot-candles of light within the cabinet.
2. The light will attach to the top, bottom or side of the cabinet body and will not use any rack-mount unit (U) spaces.
3. The light will have an on/off switch that is in clear sight and easily accessible when the cabinet door/rear panel is open.

4. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Light for CUBE-iT PLUS

Part Number **12803-701**, Light, 115 Volt AC, 8-watt florescent, in housing, with attached 6' (1.8 m) long power cord and NEMA 5-15P Plug, Black.

K. Rubber Foot Kit for CUBE-iT PLUS Cabinets:

1. Install a rubber foot kit on the bottom of 24" (610 mm) high or 36" (910 mm) high and 24" (610 mm) deep or 30" (760 mm) deep wall-mount cabinets when the cabinet is placed on the floor, shelf or table top surface (not secured to the wall).
2. The rubber foot kit will attach to the bottom of the cabinet body, lifting the cabinet body and allowing the cabinet front door and the rear panel to swing open away from the cabinet body.
3. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Rubber Foot Kit

Part Number **13483-001**, Rubber Foot Kit.

L. Shelves for CUBE-iT PLUS Cabinet:

1. Cabinet shelves shall be manufactured from sheet aluminum.
2. Cabinet shelves will require two points of support. Cabinet shelves will attach to the equipment mounting rails within the cabinet so that there is support at each corner of the shelf at the front of the shelf. The support surface of the shelf will extend beyond the mounting rail (cantilever).
3. Cabinet shelves will be secured to equipment mounting rails with hardware at each support point.
4. Cabinet shelves will be fixed (not sliding) and solid (not vented).

5. Cabinet shelves will be sized to provide support for the entire width and depth of the equipment placed on the shelf.
6. Cabinet shelves will be rated for the load supported.
7. The combined loads of equipment placed on shelves and of the shelves placed within a cabinet will not exceed the load bearing capacity of the cabinet.
8. Shelf finish shall be epoxy-polyester hybrid powder coat in the color(s) specified below.
9. Design Make:
Chatsworth Products, Inc. (CPI),
CUBE-iT PLUS Cabinet System
Shelves

Part Number **12291-201**, Fixed Shelf, Solid, 2U x 19"EIA x 10" (254 mm) Deep, 40 lb (18.1 kg) Capacity, Computer White.

Part Number **12291-701**, Fixed Shelf, Solid, 2U x 19"EIA x 10" (254 mm) Deep, 40 lb (18.1 kg) Capacity, Black.

Shelf surface is 17-1/4" (438 mm) wide by 9.8" (249 mm) deep. Use in 13" (330 mm) deep, 18" (460 mm) deep, 24" (610 mm) deep or 30" (760 mm) deep CUBE-iT PLUS Cabinets.

Part Number **40074-200**, Fixed Shelf, Solid, 2U x 19"EIA x 15" (380 mm) Deep, 50 lb (22.7 kg) Capacity, Computer White.

Part Number **40074-700**, Fixed Shelf, Solid, 2U x 19"EIA x 15" (380 mm) Deep, 50 lb (22.7 kg) Capacity, Black.

Shelf surface is 17-1/4" (438 mm) wide by 14.8" (376 mm) deep. Use in 18" (460 mm) deep, 24" (610 mm) deep or 30" (760 mm) deep CUBE-iT PLUS Cabinets.

NOTES: Cabinets can support other types of shelves. Additionally, a second pair of mounting rails can be attached to any cabinet to support 4-point cabinet shelves. Contact CPI technical support (800-834-4969) for assistance selecting a shelf.

M. Horizontal Bus Bar for CUBE-iT PLUS Cabinet:

1. Provide a 19"EIA rack-mount copper bus bar within the cabinet to serve as an extension of the telecommunications grounding bus bar (TGB) for equipment within the cabinet.
2. The bus bar shall be manufactured from copper alloy.
3. The bus bar should be a minimum of 3/4" (19 mm) high and 3/16" (4.7 mm) thick.
4. The bus bar should be pre-punched to attach to a 19"EIA-compliant rack.
5. The bus bar should be pre-punched with two sets of .281" (7.1 mm) holes spaced 3/4" (19 mm) apart (one set of holes on each side) for attaching 2-hole compression lugs and eight .109" (2.7 mm) diameter holes threaded #6-32 UNF spaced 1" (25.4 mm) apart for bonding equipment to the bus bar.
6. The bus bar should include a hardware kit with rack-installation hardware and eight ring terminals with screws for bonding equipment to the bus bar.
7. Bus bar finish shall be brushed or sanded.
8. Design Make:
Chatsworth Products, Inc. (CPI),
Horizontal Bus Bar

Part Number **10610-019**, Horizontal Rack Busbar, 19"EIA

PART 3 – EXECUTION

3.1 INSTALLATION

A. Cabinets, Wall-Mounted (CUBE-iT PLUS Cabinet)

1. Provide all components of the cabinet system (cabinet, mounting rails, cable managers, power strips, and accessories) from a single manufacturer.
2. Attach the cabinet to the wall so that the front door and cabinet body can be opened fully without obstruction by other building, storage or architectural components. Follow the manufacturer's installation instructions when securing the cabinet to the wall and backboard. When not attached to the wall, the floor, shelf or tabletop surface on which the cabinet is placed must be able to hold the combined weight of the cabinet and the equipment within the cabinet. The cabinet should not be attached to sheet rock (gypsum wall board). The cabinet must be attached directly into studs through a 3/4" (19 mm) plywood backboard. The cabinet may be attached to a masonry wall when the installer provides hardware. Use included hardware or the appropriate hardware as defined by local code or the authority having jurisdiction. The top of the cabinet when installed should not exceed 84" (2133.6 mm) above the finished floor.
3. Cables shall enter/exit the cabinet through conduit knockouts in the top and/or bottom of the rear panel of the cabinet or through the rectangular cut out in the back of the rear panel of the cabinet. Use edge-protection grommets on conduit knockouts when cables pass through a conduit knockout but are not enclosed in conduit.
4. Install and adjust to position all accessories including power strips, equipment-mounting rails, fan and filter kits and lights, prior to installing equipment into the cabinet. Verify that fans, light and power strips work prior to installing equipment. Shelves, if used, may be installed with equipment.
5. Provide a telecommunications ground for equipment within the cabinet. Attach a 19"EIA bus bar to the equipment mounting rails so that the mounting rails are bonded together. Attach a bonding conductor sized as defined in J-STD-607-A and as defined by local code or the authority having jurisdiction between the Telecommunications Grounding Busbar and the 19"EIA bus bar within the cabinet using two-hole compression lugs to connect the bonding conductor to each busbar. The installer will provide the 19"EIA bus bar, antioxidant compound, the bonding conductor and other necessary hardware required to make the connections between the cabinet and the Telecommunications Grounding Busbar.