

STERIS®



Harmony Integrated OR PRE-INSTALLATION MANUAL

STERIS Corporation Harmony Integrated OR Pre Installation Manual

This document contains rough-in information for typical STERIS Integration installations. It covers pre installation requirements along with electrical expectations. Its primary purpose is to show the customers and their contractors how the rooms need to be prepared for the installation team. It is also intended to show typical equipment and configurations. It is not intended to describe the final configuration nor the installation work to be done. That information is contained in the Final Project Plan.

| | | |
|------|--|----|
| 1 | Responsibilities | 3 |
| 1.1 | STERIS responsibilities | 3 |
| 1.2 | HOSPITAL or HOSPITAL DESIGNEE responsibilities | 4 |
| 1.3 | Site Readiness Examples | 5 |
| 2 | Harmony Integrated OR: Touchpanel Control A/V Systems | 6 |
| 2.1 | Typical Floor Drawing..... | 6 |
| 2.2 | Site Preparation for Touchpanel Control A/V Systems..... | 7 |
| 3 | Harmony Integrated OR: Manual Control A/V Systems..... | 8 |
| 3.1 | Typical Floor Drawing..... | 8 |
| 3.2 | Site Preparation for Manual Control A/V Systems..... | 9 |
| 4 | Equipment Specifications | 10 |
| 4.1 | Racks..... | 10 |
| 4.2 | AV Wall Plate Back Box | 18 |
| 4.3 | AV Wall Plates | 20 |
| 4.4 | Monitors..... | 21 |
| 4.5 | Pan/Tilt/Zoom Camera..... | 28 |
| 4.6 | Nurse Observation Camera | 30 |
| 4.7 | Touch Panels..... | 31 |
| 4.8 | Audio..... | 36 |
| 4.9 | STERIS Documentation Stations..... | 39 |
| 4.10 | Room Drawings and Conduit Schedules for STERIS Standard Systems..... | 53 |

1 Responsibilities

1.1 **STERIS responsibilities**

- 1.1.1 Provide cable conduit drawings, electrical requirements, and mounting requirements for the room.
- 1.1.2 Provide space, structural, and heat load requirements for the a/v rack.
- 1.1.3 Provide site preparation specifications.
- 1.1.4 Deliver all custom back boxes, mounting brackets, and construction-related items to the hospital in accordance with the mutually agreed upon construction or renovation schedule.
- 1.1.5 Participate in all project meetings in person, via conference call or via e-mail.
- 1.1.6 Ship equipment in protective and labeled packaging.
- 1.1.7 Ship cables and equipment on the scheduled ship date
- 1.1.8 Pull and terminate non plenum cabling inside the OR through specified conduits and junction boxes as specified in the Customer Proposal and Final Project Plan.
- 1.1.9 Provide external cables and detailed specifications for the interconnections only if external cabling is specified in the Customer Proposal and Final Project Plan.
- 1.1.10 Provide a pre-installation checklist to verify site preparation is complete.
- 1.1.11 Mount, install, and connect integration equipment – including video, audio, and control cables, cable terminations, wall cameras, wall monitors(does not include wall mounting brackets), a/v rack, touch screen control, and surgical monitors – as applicable to project.
- 1.1.12 Test and validate integration system to complete customer satisfaction.
- 1.1.13 Provide the hospital with a certificate of completion signed by the install team and the hospital.
- 1.1.14 Adjust surgical light brakes as necessary after installation of STERIS monitors.
- 1.1.15 In-service hospital staff at the time of the install. Further in-service training may be scheduled as mutually agreed.
- 1.1.16 Leave a tidy work area each evening and remove packing material to a customer provided on-site container.

1.2 HOSPITAL or HOSPITAL DESIGNEE responsibilities

- 1.2.1 Ensure that site preparations and construction are complete and ready for final integration installation – including electrical and network connections, finished floor and paint.
- 1.2.2 Provide complete room schematics including electrical, mechanical, and equipment location details.
- 1.2.3 Install cable conduit, junction boxes, electrical outlets, and mounting brackets according to project specifications.
- 1.2.4 Ensure that all electrical requirements comply with local code.
- 1.2.5 Ensure space, structural, and heat load requirements are met according to project specs and plan.
- 1.2.6 Receive shipment and safely, securely store equipment if shipment arrives prior to requested installation date.
- 1.2.7 Provide adequate access from delivery/storage area to installation site.
- 1.2.8 Relocate equipment from on-site storage/delivery area to installation site.
- 1.2.9 Run all cables outside the OR– Including conduit, J-hooks, penetrations through firewall, video cables, radio antennae cables, or fiber optics to networking hubs, communications closets, conference rooms, centralized nurse desks, roof tops, or other departments.
- 1.2.10 Ensure that site preparations and construction are complete and ready for final integration installation – including electrical and network connections, finished floor and paint.
- 1.2.11 Proactively schedule the installation in conjunction with the STERIS project manager.
- 1.2.12 Provide a minimum of two (2) weeks advance notice for requested changes to the installation schedule.
- 1.2.13 Remove old equipment or furniture from the room.
- 1.2.14 Provide a clean, dry, dust free environment for rack storage and installation.
- 1.2.15 Provide a secure work site for storing ladders, tool boxes etc during install.
- 1.2.16 Provide easy access to all rooms involved in the installation during normal business hours and upon request after hours.
- 1.2.17 Ensure that all non-STERIS or third party equipment and systems that are not part of the integrated solution are on-site and functional at the time of installation – otherwise full testing and connections cannot be completed.
- 1.2.18 Participate in a final walk-through evaluation of the system followed by a sign-off of the certificate of completion.
- 1.2.19 Provide an on-site container for trash; including shipping and packing material. Empty container on a regular basis.

1.3 *Site Readiness Examples*

Successful and efficient installation of a complete integration system requires that the site be carefully prepared according to the project documentation and schematics. A site that is not ready when the installation crew arrive causes delays and additional expense to both parties. If the installation site is not ready per the mutually agreed specifications STERIS reserves the right to charge a change order fee and extend the timeline needed to finish the project past the planned date given at the project's inception.

1.3.1 This site is ready.



1.3.2 This site is NOT ready.



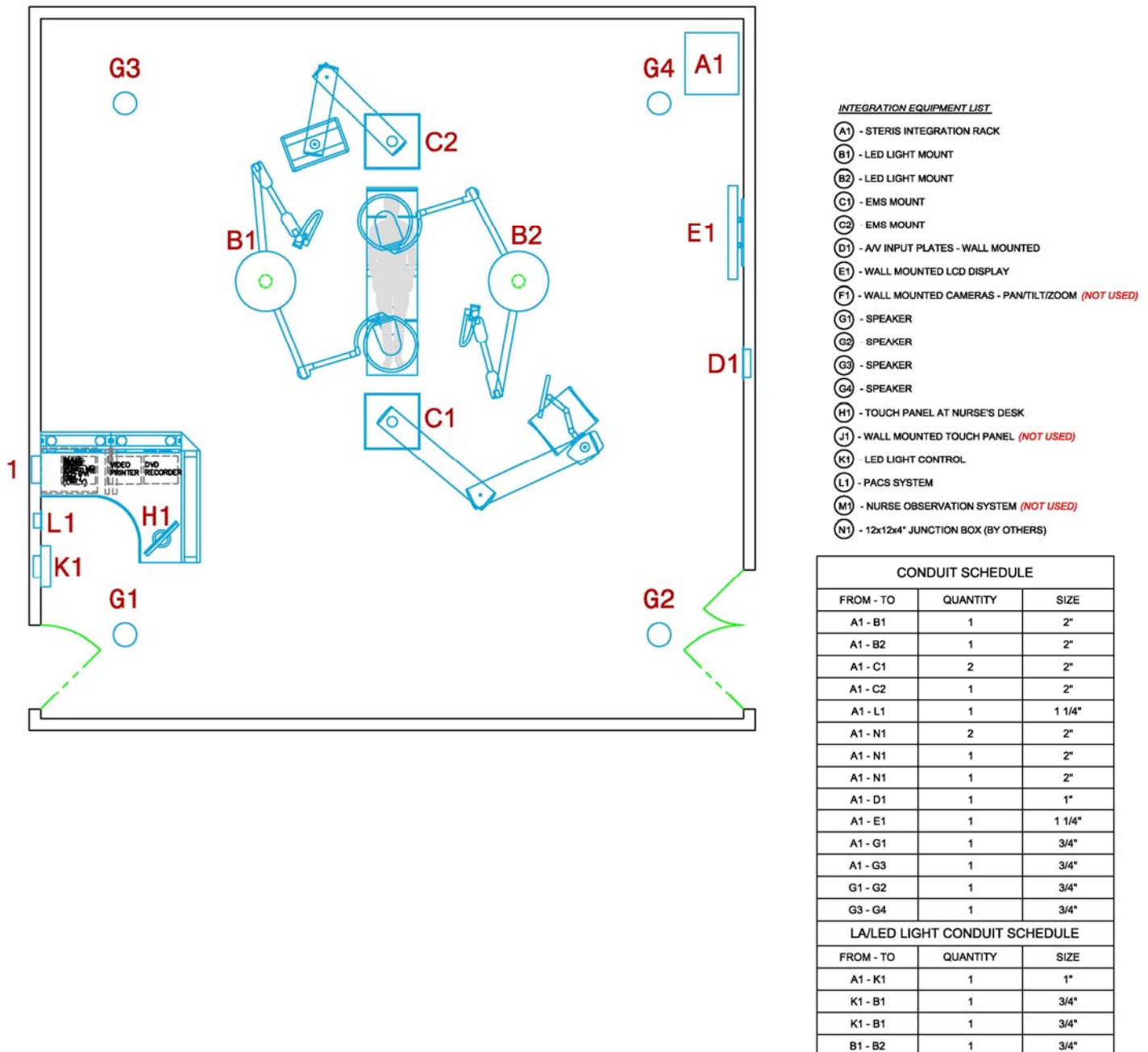
To be ready this site needs:

1. All floor work must be complete
2. All painting must be complete
3. All electrical requirements must be installed and powered
4. Room must be clean and free from dust

2 Harmony Integrated OR: Touchpanel Control A/V Systems

These items are not project specific and are included to identify the typical needs for an integrated project. Please refer to any project specific documents when available as they will supersede the general guidelines provided in this section

2.1 Typical Floor Drawing

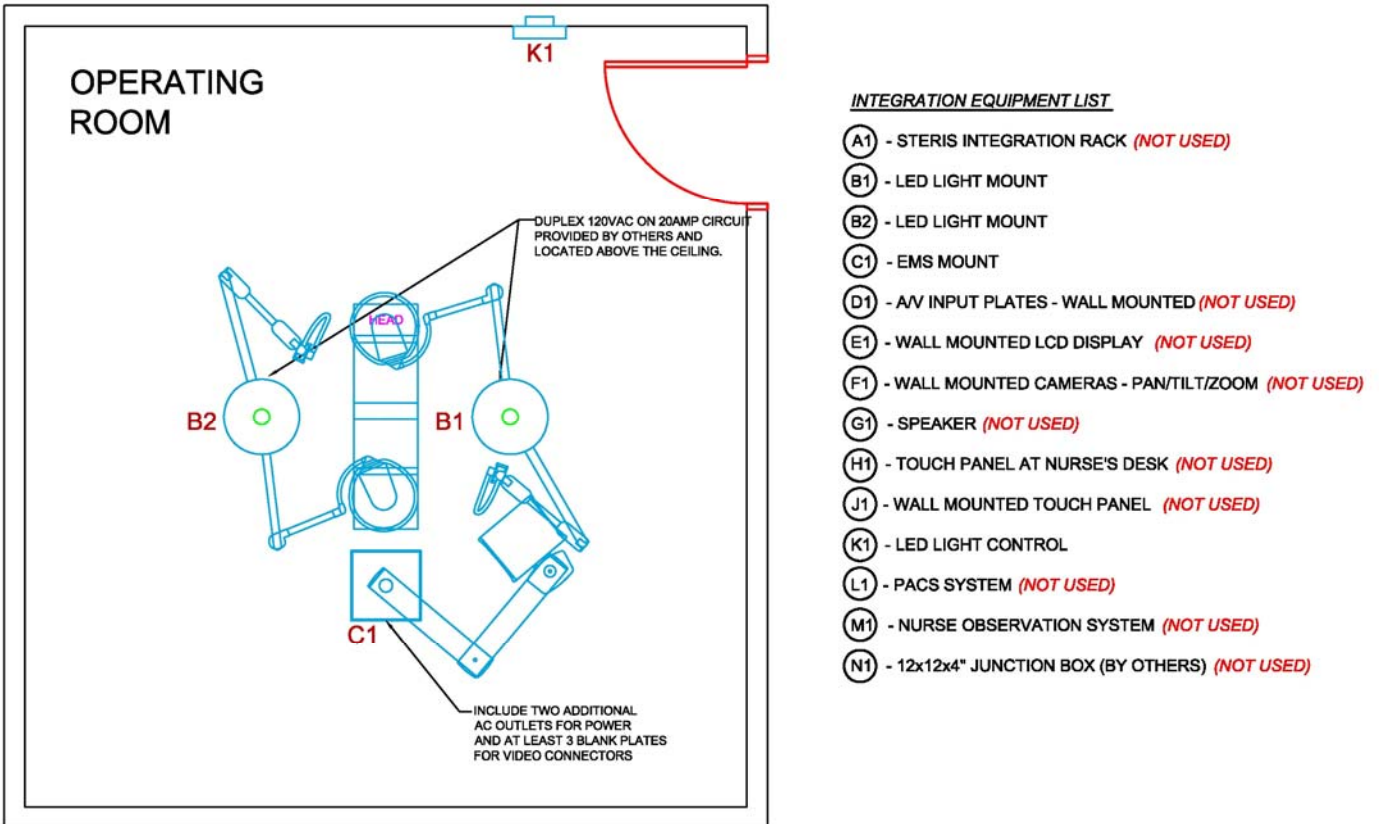


2.2 Site Preparation for Touchpanel Control A/V Systems

- 2.2.1 Provide and install one (1) quad electrical outlet, 110 VAC 20 amp service, at each ceiling hub. All ceiling hub circuits should be on Emergency Power.
- 2.2.2 Provide and install one (1) duplex electrical outlet, 110 VAC 20 amp service, at each wall mounted device location. All wall mounted circuits should be on Emergency Power.
- 2.2.3 Provide and install two (2) quad electrical outlets, 110 VAC 20 amp service, each on a separate circuit, at the Nurse Desk. All Nurse Desk circuits should be on Emergency Power.
- 2.2.4 Provide and install two (2) quad electrical outlets, 110 VAC 20 amp service per Equipment Rack. All Equipment Rack circuits should be on Emergency Power, from the room served.
- 2.2.5 Provide and install conduit according to schedule in the Final Project Plan.
- 2.2.6 All runs between the AV rack, light/boom hubs and nurse's station use 2" diameter conduit.
- 2.2.7 Install one (1) junction box flush mounted at the Equipment Rack location, size to be determined by the facilities electrical engineer. Locate the junction box and terminate conduit according to the schedule to this junction box.
- 2.2.8 Install Mounting Bracket (provided by STERIS) for Wall Mounted Monitors, 84" above finished floor and 6" below AV box. Reinforce wall to support 150 pounds.
- 2.2.9 All speakers cabling must be in dedicated conduit as per schedule.
- 2.2.10 All conduits to wall mounted equipment will terminate in a 4 11/16" junction box with single gang mud ring within 6 inches of the duplex electrical box.
- 2.2.11 All conduits will have ID tags corresponding with equipment code.
- 2.2.12 Conduit runs must not exceed 50' and a pull box required after every 270 degrees of conduit bend.
- 2.2.13 Access must be provided to all junction and pull boxes.
- 2.2.14 All conduits should be provided with pull strings and must have insulated bushings on all open ends.
- 2.2.15 Use of flexible conduit is not acceptable. All cable runs should be continuous. Splices will not be accepted.
- 2.2.16 Cables not run in conduit must be supported by J hooks every 4' for support.
- 2.2.17 Provide and install two (2) Ethernet connections at the Equipment Rack.
- 2.2.18 Provide and install one (1) direct analog (POTS) telephone line when the speaker phone option is installed.

3 Harmony Integrated OR: Manual Control A/V Systems

3.1 Typical Floor Drawing



| CONDUIT SCHEDULE | | |
|------------------|----------|------|
| FROM - TO | QUANTITY | SIZE |
| C1 - B1 | 1 | 2" |
| C1 - B2 | 1 | 2" |

| LA/LED LIGHT CONDUIT SCHEDULE | | |
|-------------------------------|----------|------|
| FROM - TO | QUANTITY | SIZE |
| K1 - B1 | 1 | 3/4" |
| K1 - B1 | 1 | 3/4" |
| B1 - B2 | 1 | 3/4" |

3.2 Site Preparation for Manual Control A/V Systems

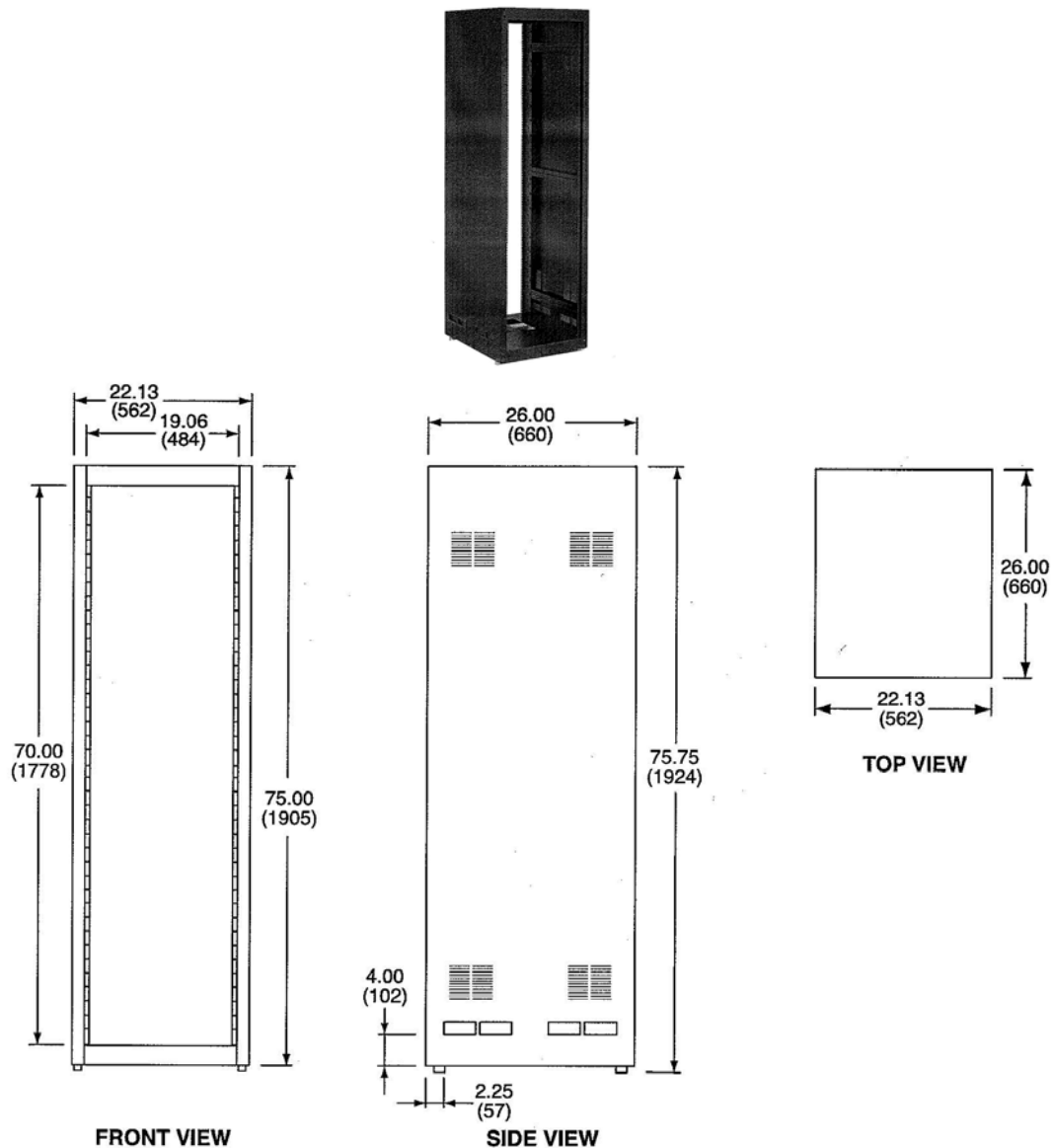
- 3.2.1 Provide and install one (1) quad electrical outlet, 110 VAC 20 amp service, at each ceiling hub. All ceiling hub circuits should be on Emergency Power.
- 3.2.2 For the AV Wall Plate System provide and install one (1) duplex electrical outlet, 110 VAC 20 amp service, at the AV Wall Plate location. All wall mounted circuits should be on Emergency Power.
- 3.2.3 Provide and install conduit according to schedule in the Final Project Plan.
- 3.2.4 For the AV Wall Plate System install one (1) wall mounted A/V box (provide by STERIS) flush mounted at the specified AV Wall Plate location. Locate junction box and terminate conduit according to the schedule.
- 3.2.5 For the AV Wall Plate System install one (1) pull out rack (provide by STERIS) flush mounted at the specified wall mounted rack location. Locate wall mounted rack and terminate conduit according to the schedule.
- 3.2.6 All conduits will have ID tags corresponding with equipment code.
- 3.2.7 One pull box needed for every 100' of conduit run. A pull box required after every 270 degrees of conduit bend.
- 3.2.8 Access must be provided to all junction and pull boxes.
- 3.2.9 All conduits should be provided with pull strings and must have insulated bushings on all open ends.
- 3.2.10 Use of flexible conduit is not acceptable. All cable runs should be continuous. Splices will not be accepted.
- 3.2.11 Cables not run in conduit must be supported by J hooks every 4' for support.

4 Equipment Specifications

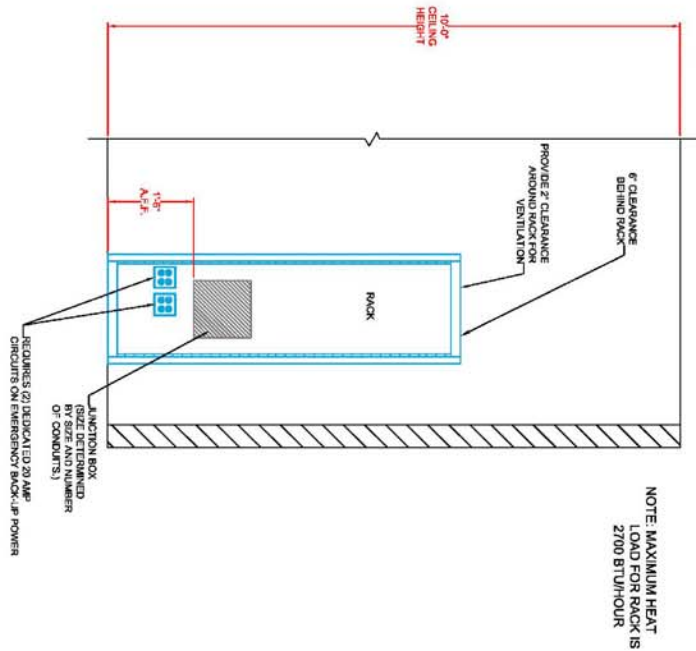
4.1 Racks

4.1.1 Full size AV rack

This is the typical size rack for configurations that contain a larger complement of equipment or when the rack is shared by more than one room. Included is a cut sheet. The heat load generated is 750 watts=2600 BTU/Hr. 2 inches of clearance is required for ventilation.



THE EQUIPMENT AND ROUGH-IN REQUIREMENTS SHOWN ARE FOR BUDGETARY PLANNING PURPOSES ONLY. EQUIPMENT IS SUBJECT TO CHANGE AND DIFFERENT OPTIONS ARE AVAILABLE TO MEET SPECIFIC CUSTOMER DESIGN CRITERIA. POST-ORDER DRAWINGS WILL REFLECT EXACT EQUIPMENT SPECIFICATIONS AND REQUIRE CUSTOMER SIGNED APPROVAL.



This drawing is PRELIMINARY and not to be used for construction purposes.

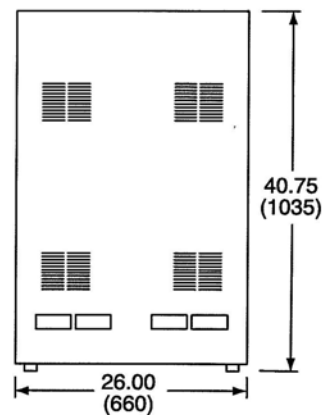
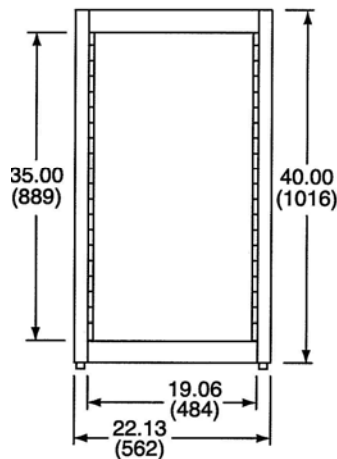
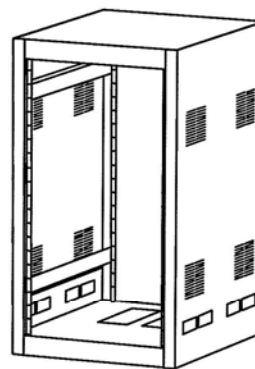
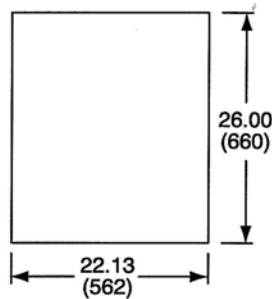
| | |
|---|------------------------------------|
| | |
| STERIS Corporation 3001 New 25th Ave Fort Worth, TX 76104 817-402-3100 | |
| Drawn Date Scale H- B- | Title Date Scale H- B- |

| | |
|--|--|
| TALL RACK (A1) WITH ELECTRICAL REQUIREMENTS | |
|--|--|

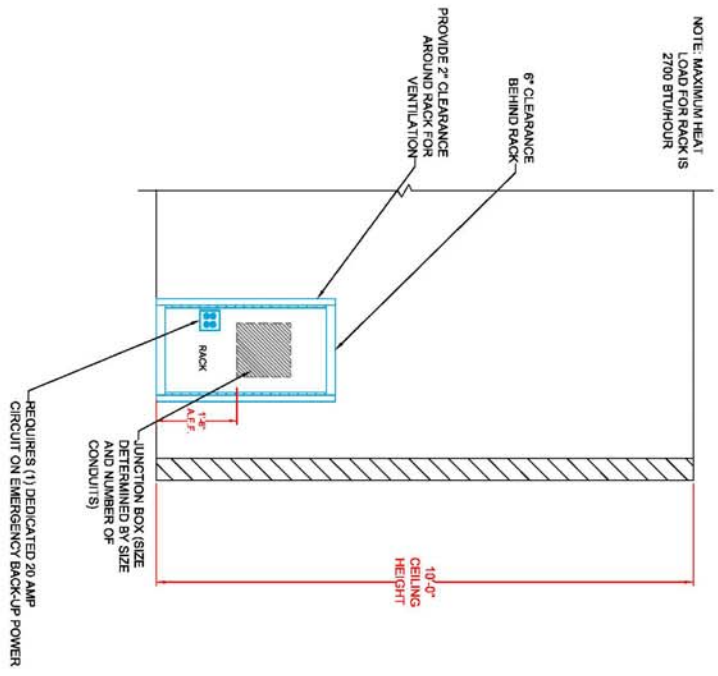
| |
|-------------------------------------|
| |
| STERIS® SYSTEMS PROJECT PLANNING |

4.1.2 Half size AV rack



This is the typical size rack for most configurations with touch panel control. It can be installed in a nurse desk. Included are a cut sheet and an elevation drawing. The heat load generated is 750 watts=2600 BTU/Hr. 2 inches of clearance is required for ventilation.



THE EQUIPMENT AND ROUGH-IN REQUIREMENTS SHOWN ARE FOR BUDGETARY PLANNING PURPOSES ONLY. EQUIPMENT IS SUBJECT TO CHANGE AND DIFFERENT OPTIONS ARE AVAILABLE TO MEET SPECIFIC CUSTOMER DESIGN CRITERIA. POST-ORDER DRAWINGS WILL REFLECT EXACT EQUIPMENT SPECIFICATIONS AND REQUIRE CUSTOMER SIGNED APPROVAL.

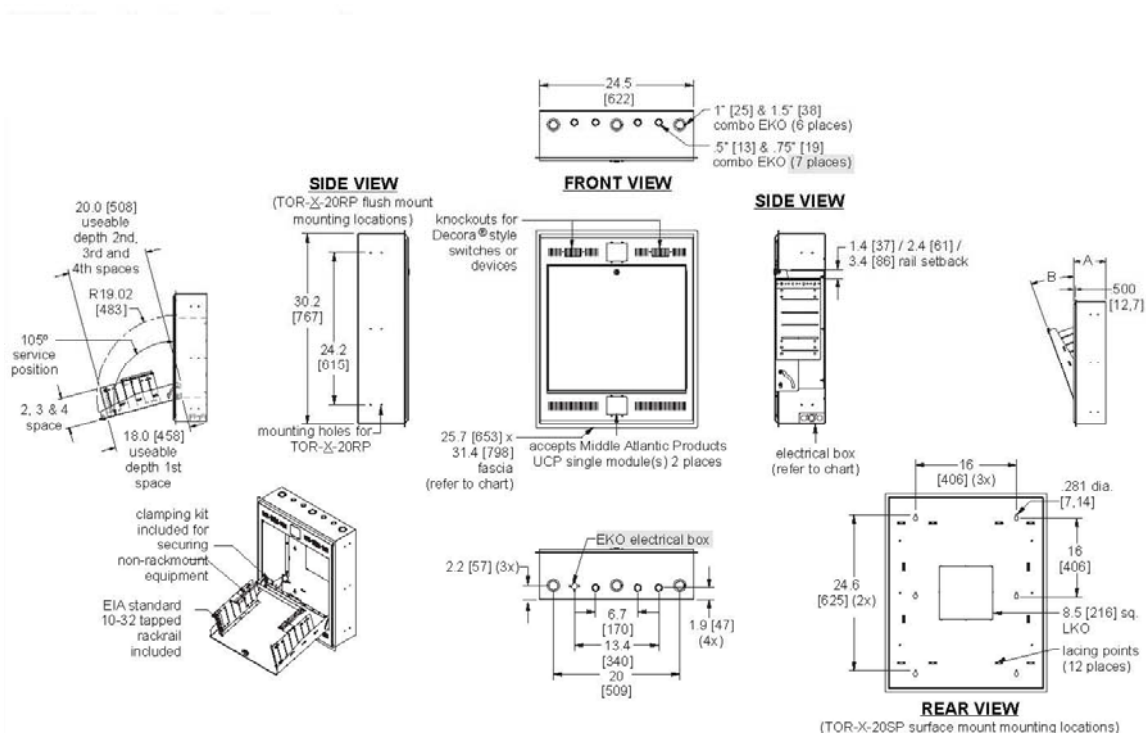


This drawing is PRELIMINARY and not to be used for construction purposes.

| | | | |
|---|--|--|---|
|  STERIS® <small>STERIS Corporation 875 N. MEDLOCK IRVING, TX 75039</small> | | FREE-STANDING RACK (A1) ELEVATION AND ELECTRICAL REQUIREMENTS |  STERIS® <small>SYSTEMS PROJECT PLANNING</small> |
| ID: B7M1 CK: Date: Scale: 1/2" = 1'-0" B- | | | |

4.1.3 Tilt out wall rack

This is to house video routing and control equipment in some of the smaller configuration without touch panel control. Included is a cut sheet.

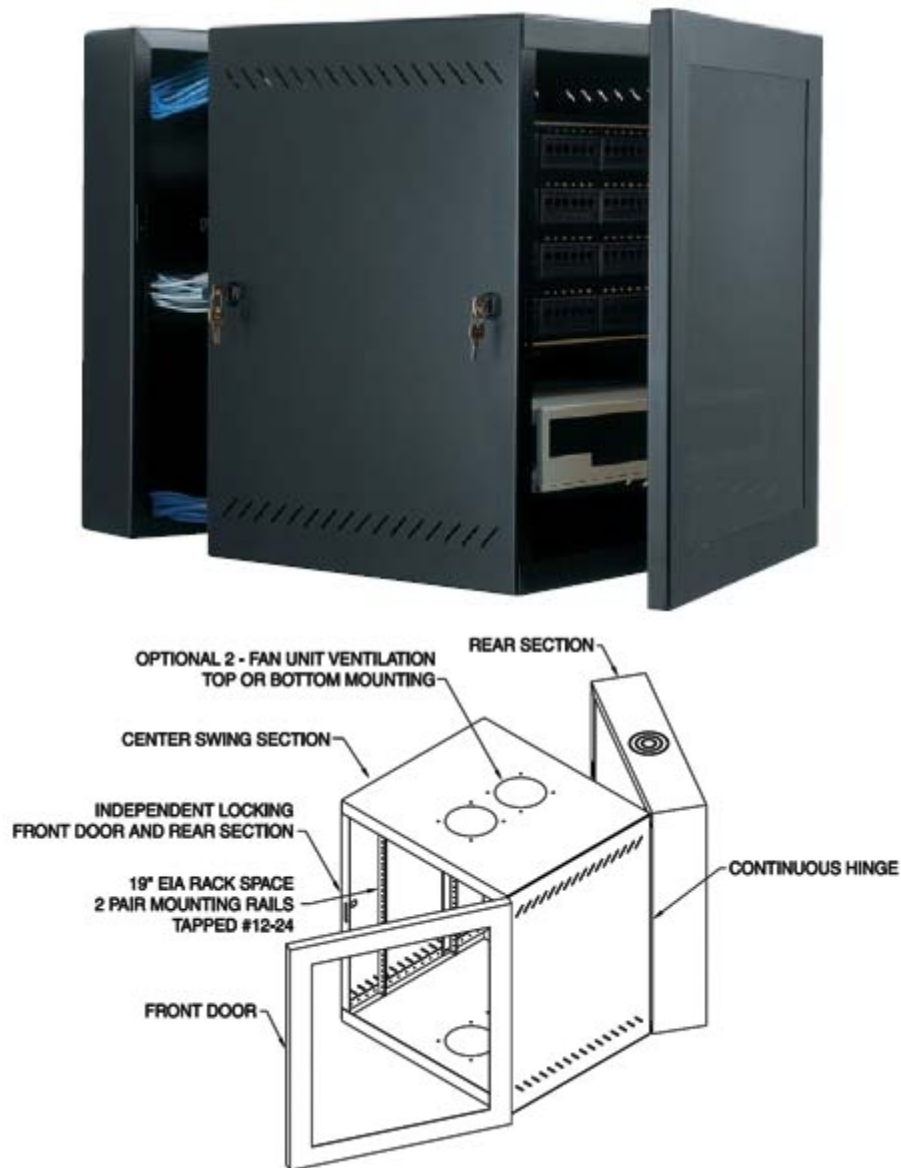


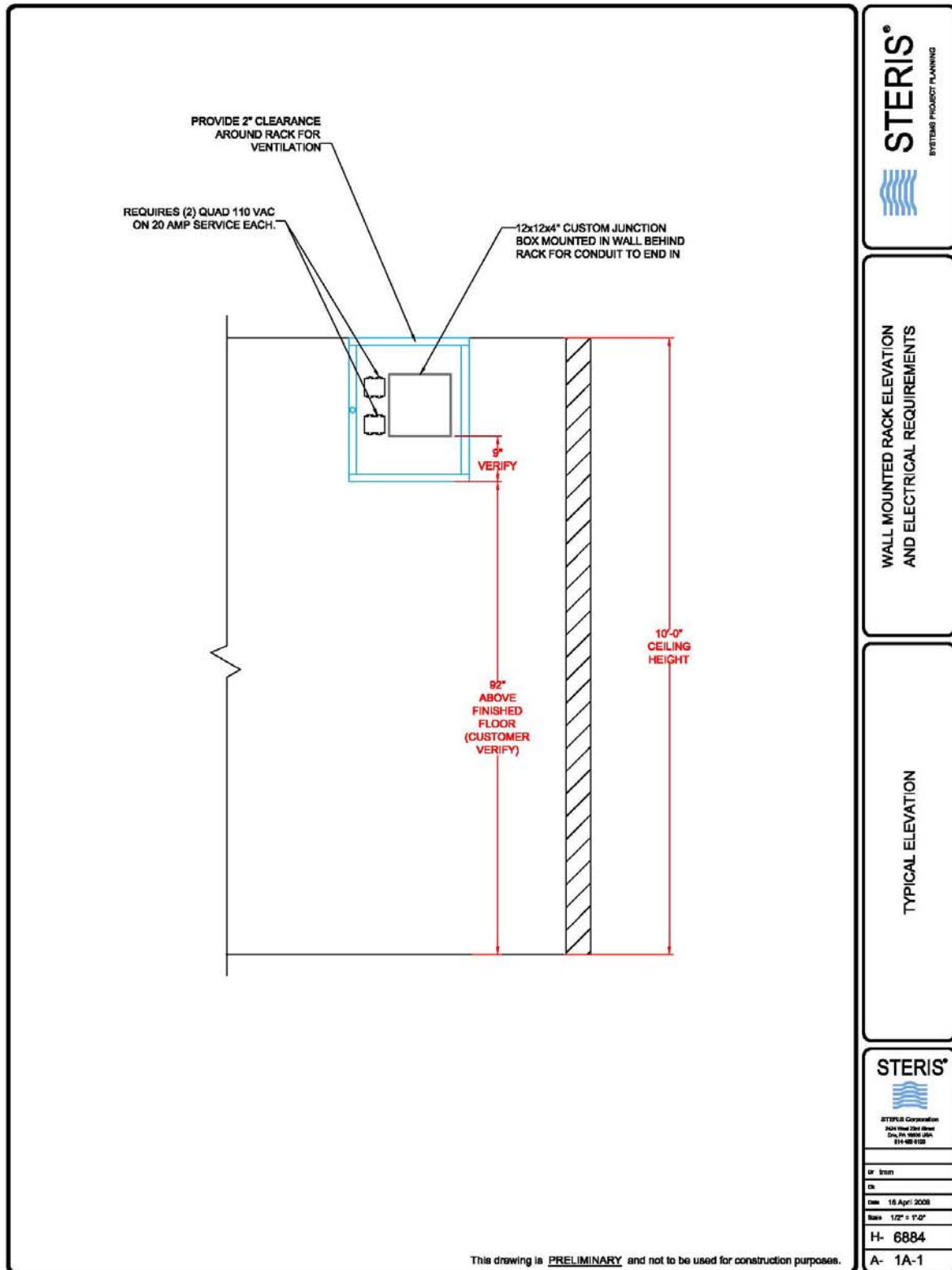


STERIS®
SYSTEMS PROJECT PLANNING

4.1.4 Wall Mounted Rack

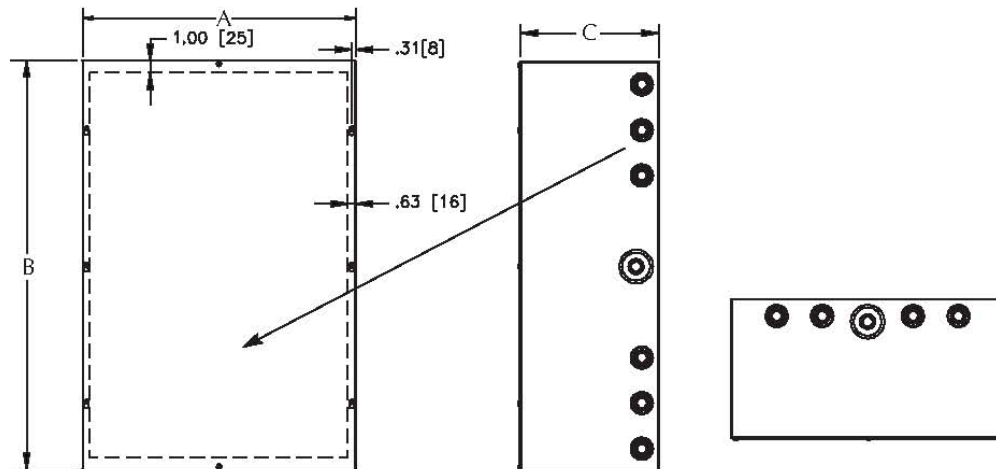
This is used when the typical half rack needs to be mounted off the floor. Included is a cut sheet and elevation drawing.



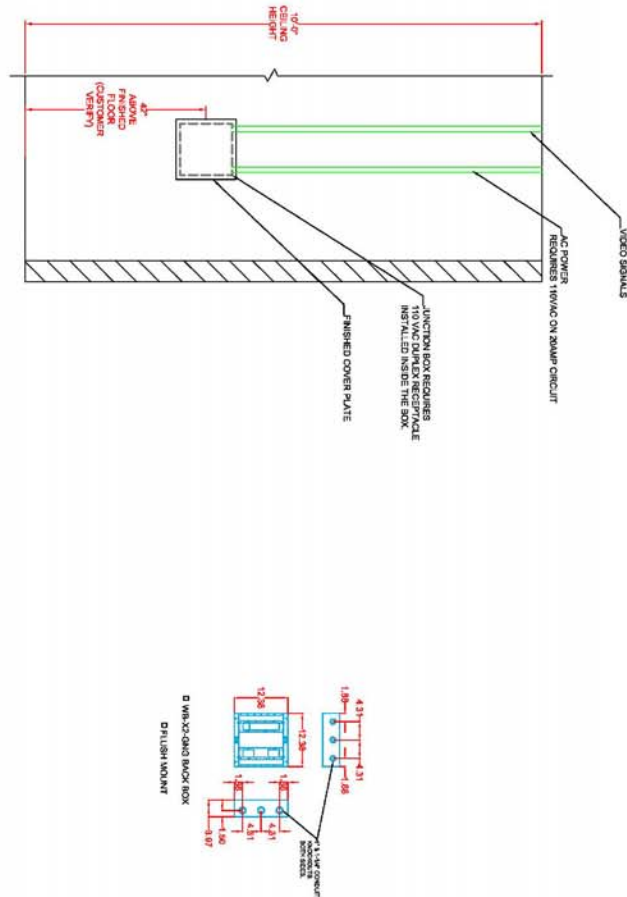


4.2 AV Wall Plate Back Box

This box is used when the room is configured for wall plates that contain DVI connections. Included is a cut sheet and elevation drawing.



| | |
|---------------|----|
| Width (in) A | 12 |
| Height (in) B | 12 |
| Depth (in) C | 4 |



This drawing is PRELIMINARY and not to be used for construction purposes.

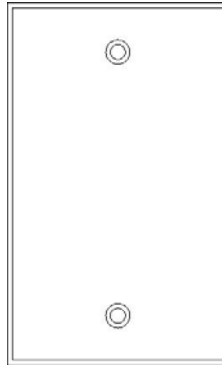
AV WALL PLATE - RLA110
ELEVATION VIEW WITH ELECTRICAL DETAILS



4.3 *AV Wall Plates*

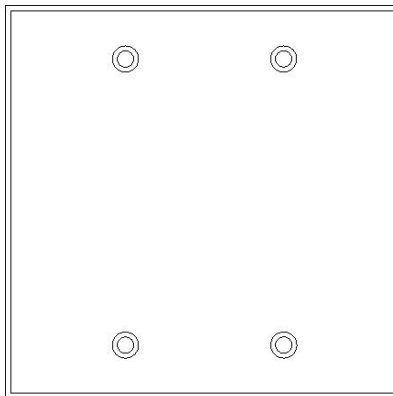
These can be mounted in single gang or double gang electrical boxes. They are also pre mounted on the front plate of the 12x12x4 wall box.

4.3.1 **Single Gang**



| | |
|-------------|------|
| Width (in) | 2.75 |
| Height (in) | 4.5 |

4.3.2 **Double Gang**



| | |
|-------------|-----|
| Width (in) | 4.5 |
| Height (in) | 4.5 |

4.4 *Monitors*

4.4.1 **Light Arm Mounted Monitors**

19 inch



| | |
|--------------------|---------------|
| Equipment Number | RLM19HD |
| Width (in/ mm) | 17.34/ 440.4 |
| Height (in/ mm) | 15.62/ 396.75 |
| Depth (in/ mm) | 2.25/ 57.15 |
| Weight (lb/ kg) | 13/ 5.90 |
| Power Requirements | 60 Watts Max |

21 inch



| | |
|--------------------|------------------------|
| Equipment Number | RLM21HD or RLM21HDM |
| Width (in/ mm) | 19.45/ 494.03 |
| Height (in/ mm) | 16.38/ 416.05 |
| Depth (in/ mm) | 2.5/ 63.5 |
| Weight (lb/ kg) | 17/ 7.71 |
| Power Requirements | 60 Watts Max |

24 inch



| | |
|--------------------|------------------------|
| Equipment Number | RLM24HD or RLM24HDM |
| Width (in/ mm) | 23.2/ 589.28 |
| Height (in/ mm) | 16.4/ 416.56 |
| Depth (in/ mm) | 3.5/ 88.9 |
| Weight (lb/ kg) | 18/ 8 |
| Power Requirements | 100Watts Max |

26 inch



| | |
|--------------------|------------------------|
| Equipment Number | RLM26HD or RLM26HDM |
| Width (in/ mm) | 24.7/ 627.38 |
| Height (in/ mm) | 17.7/ 449.58 |
| Depth (in/ mm) | 3.5/ 88.9 |
| Weight (lb/ kg) | 20/ 9 |
| Power Requirements | 150Watts Max |

4.4.2 Wall Mounted Monitors

42 inch



| | |
|--------------------|------------------------|
| Equipment Number | RLM42HD or RLM42HDT |
| Width (in/ mm) | 40.4 / 1026.16 |
| Height (in/ mm) | 24.4 / 619.76 |
| Depth (in/ mm) | 4.1 / 104.14 |
| Weight (lb/ kg) | 72 / 32.7 |
| Power Requirements | 300 Watts max |

47 inch



| | |
|--------------------|------------------------|
| Equipment Number | RLM47HD or RLM47HDT |
| Width (in/ mm) | 44.6 / 1132.84 |
| Height (in/ mm) | 26.82 / 681.23 |
| Depth (in/ mm) | 5.24 / 133.10 |
| Weight (lb/ kg) | 87 / 39.5 |
| Power Requirements | 350 Watts max |

52 inch



| | |
|--------------------|---------------------|
| Equipment Number | RLM52HD or RLM52HDT |
| Width (in/ mm) | 49.96 / 1268.98 |
| Height (in/ mm) | 30.16 / 766.06 |
| Depth (in/ mm) | 5.51 / 139.95 |
| Weight (lb/ kg) | 101 / 45.8 |
| Power Requirements | 365 Watts max |

4.4.3 Specialty Monitors

21 inch
Monochrome



| | |
|--------------------|--------------|
| Equipment Number | RLM21M3M |
| Width (in/ mm) | 18.66/ 474 |
| Height (in/ mm) | 14.96 / 380 |
| Depth (in/ mm) | 3.89 / 99 |
| Weight (lb/ kg) | 28 / 12.5 |
| Power Requirements | 75 Watts max |

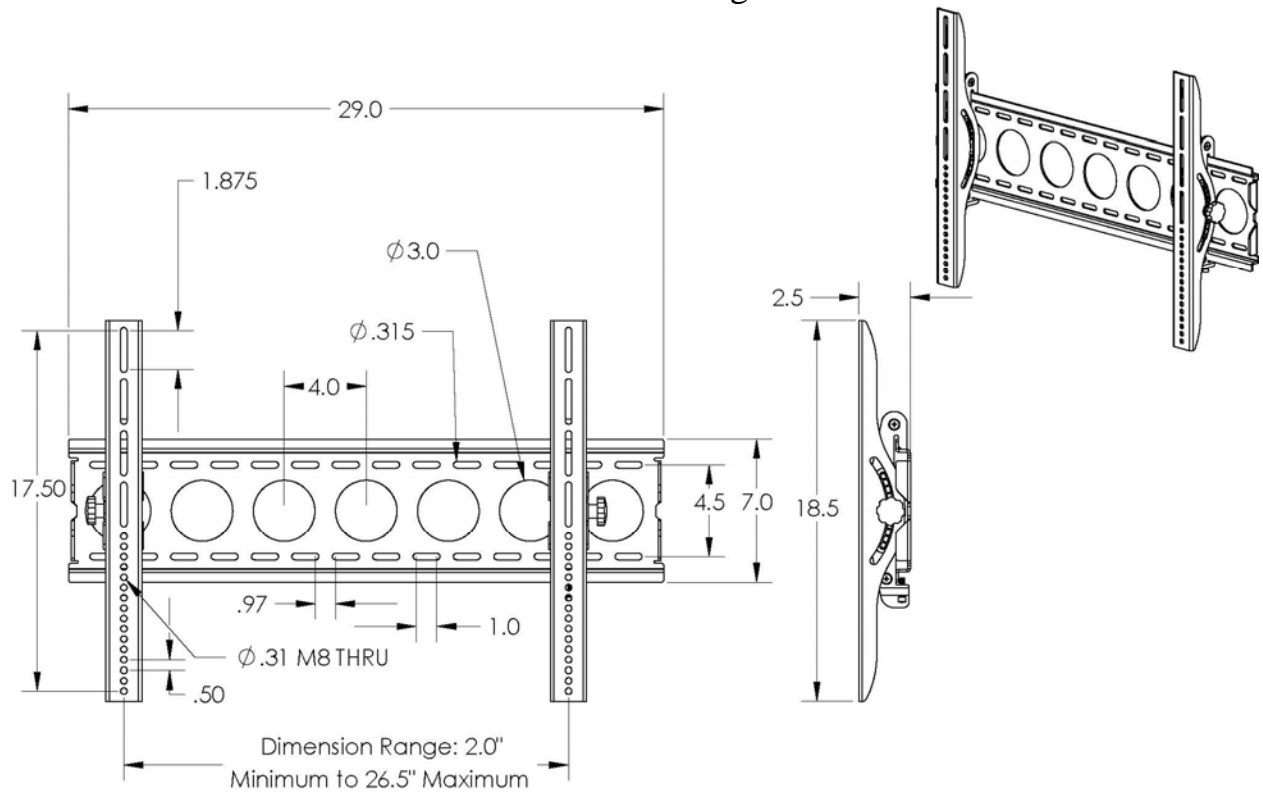
19 inch Desktop

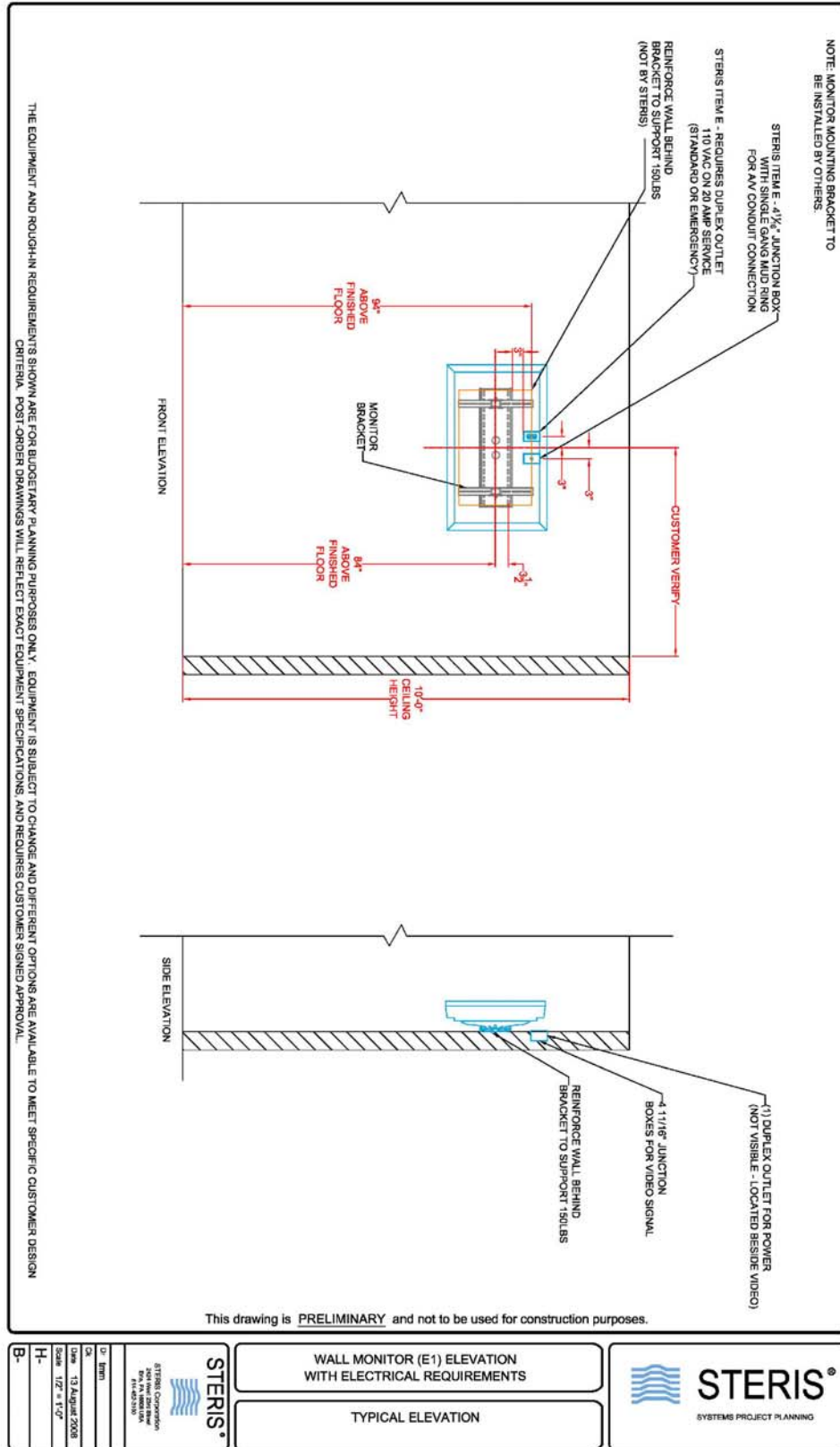


| | |
|--------------------|--------------|
| Equipment Number | RLM19DMG |
| Width (in/ mm) | 16.45/ 418 |
| Height (in/ mm) | 13.54 / 344 |
| Depth (in/ mm) | 3.23 / 82.25 |
| Weight (lb/ kg) | 14 / 6.4 |
| Power Requirements | 55 Watts max |

4.4.4 Mounting Bracket for wall mounted monitors.

Included are a cut sheet and an elevation drawing.





4.5 *Pan/Tilt/Zoom Camera*

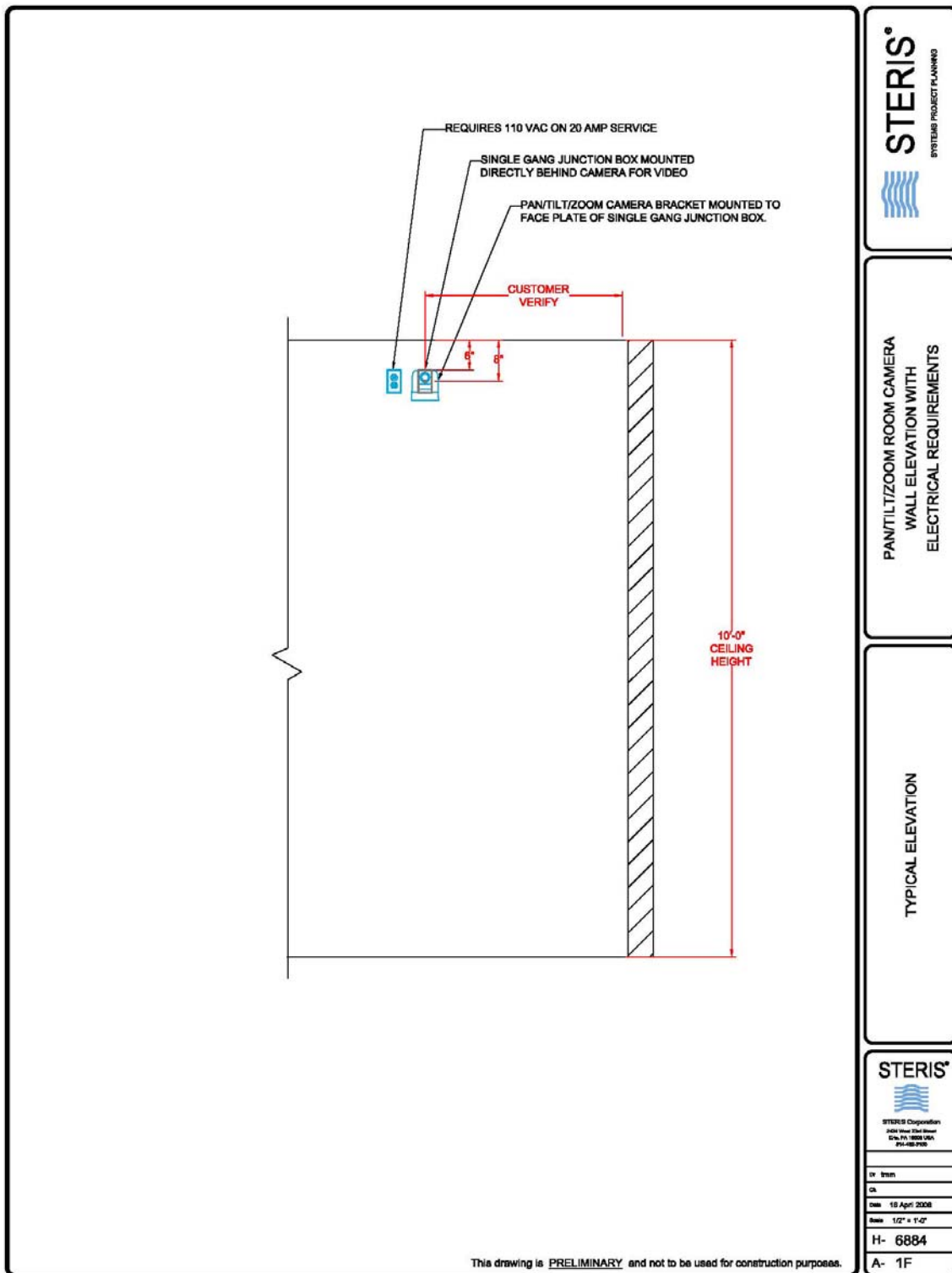
This camera (typically used for video conference) can be mounted on a wall and controlled from the touch panel. Included are tech data, cut sheet and an elevation drawing.



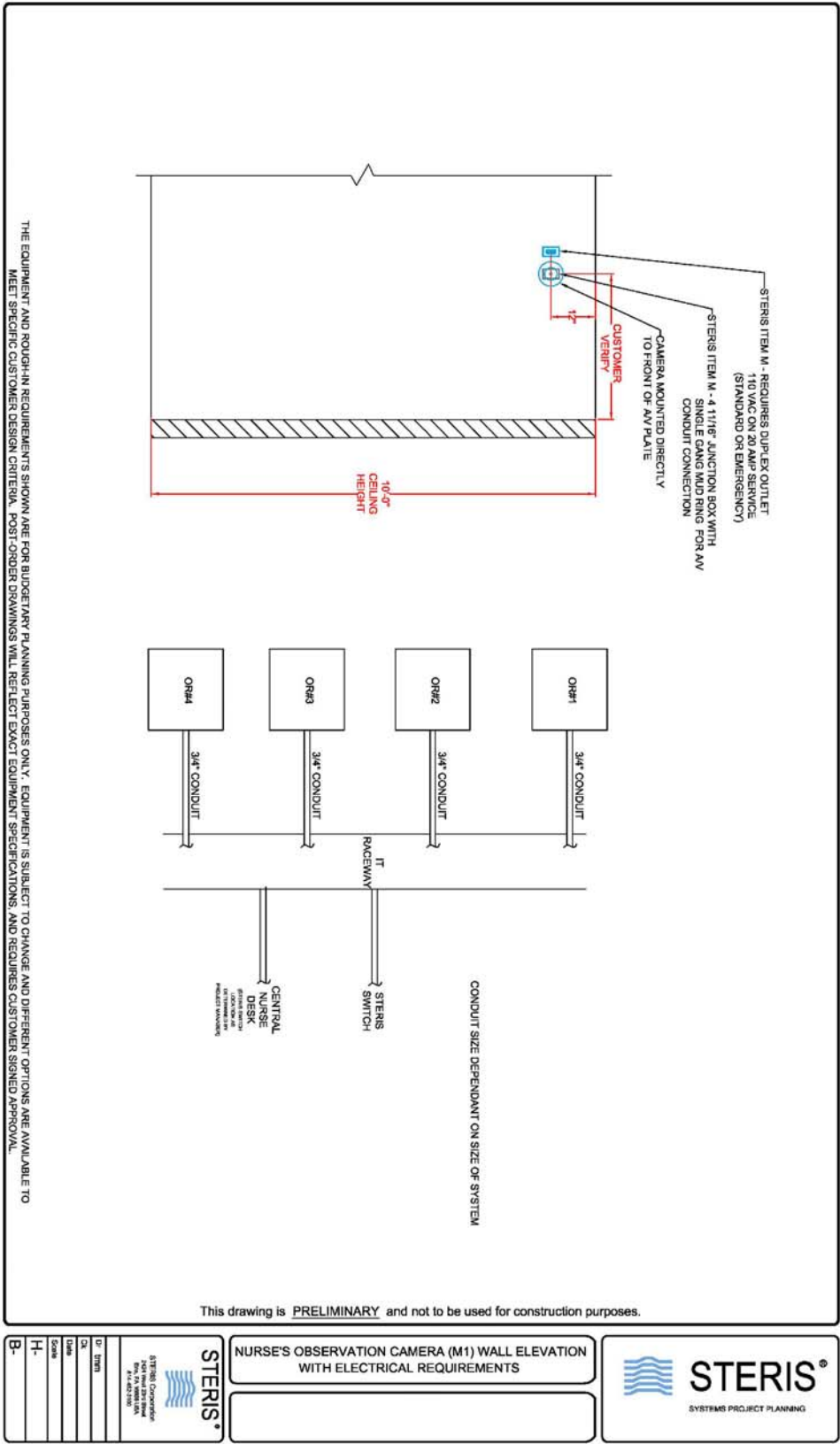
| | |
|--------------------|-----------|
| Width (in/ mm) | 5.25/ 132 |
| Height (in/ mm) | 5.75/ 144 |
| Depth (in/ mm) | 5.75/ 144 |
| Weight (lb/ kg) | 2/ 950 |
| Power Requirements | 12 Watts |

Mounting Bracket





4.6 Nurse Observation Camera



4.7 *Touch Panels*

4.7.1 **Desk Touch Panels**

These touch panels can sit on a table or desk or mounted on an articulation arm. Included are tech data and an elevation drawing.

15 inch Medical Grade



| | |
|--------------------|------------|
| Width (in/ mm) | 13.99/ 355 |
| Height (in/ mm) | 13.8/ 350 |
| Depth (in/ mm) | 8/ 203 |
| Weight (lb/ kg) | 16.13/ 8.3 |
| Power Requirements | 48 Watts |

19 inch Medical Grade



| | |
|--------------------|------------|
| Width (in/ mm) | 16.9/ 429 |
| Height (in/ mm) | 15.21/ 386 |
| Depth (in/ mm) | 8.15/ 207 |
| Weight (lb/ kg) | 17.66/ 8 |
| Power Requirements | 48 Watts |

4.7.2 Wall Mounted Touch Panels

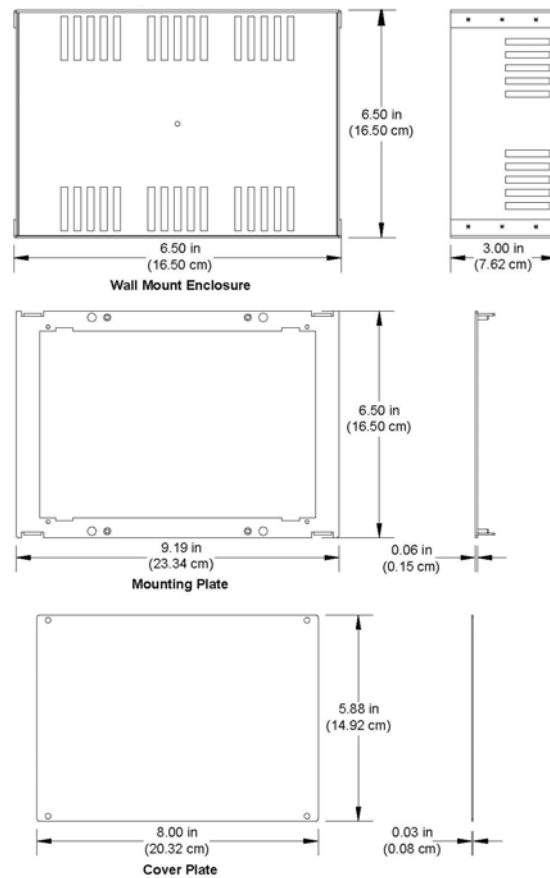
These touch panels can be flush mounted in a wall. Included is tech data, cut sheet for back box, cut sheet for drywall cutout and elevation drawings.

6.4 Wall Mounted

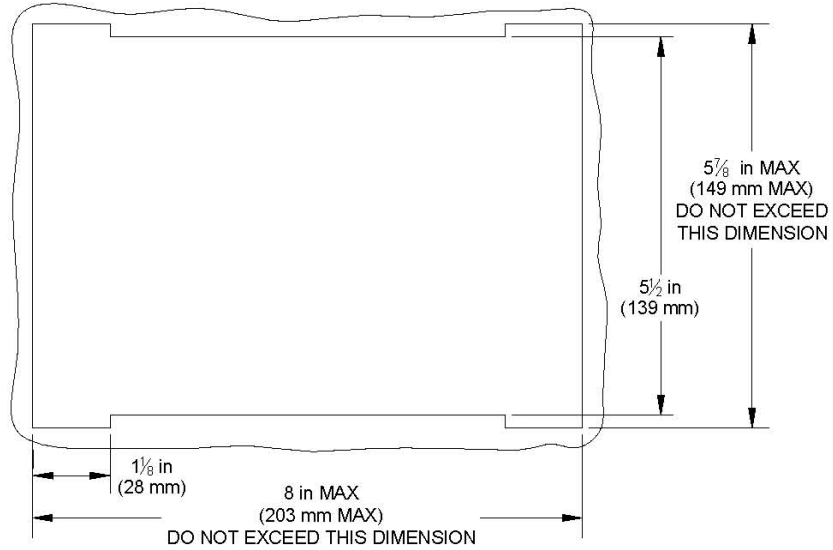


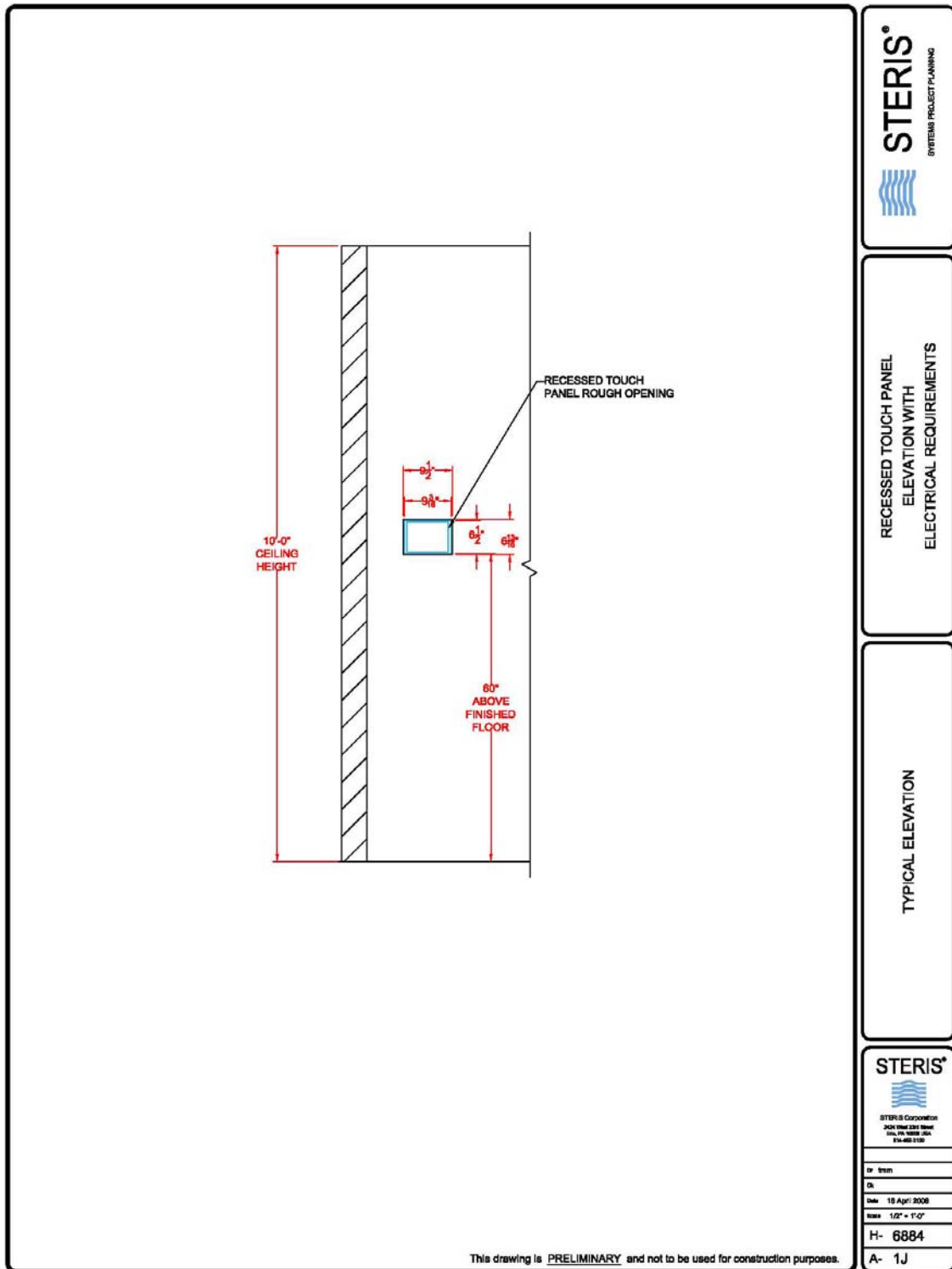
| | |
|--------------------|-------------|
| Width (in/ mm) | 6.06/ 15.39 |
| Height (in/ mm) | 8.57/ 21.77 |
| Depth (in/ mm) | 2.99/ 203 |
| Weight (lb/ kg) | 2.8/ 1.3 |
| Power Requirements | 20 Watts |

Back Box for 6.4



Drywall Cut Out





4.8 *Audio*

4.8.1 **IPod Docks**

IPod Free Standing Dock



| | |
|-----------------|--------------|
| Width (in/ mm) | 3.25 / 81.28 |
| Height (in/ mm) | 2.5 / 63.5 |
| Depth (in/ mm) | 2.25 / 57.15 |

Single Gang wall plate for Free Standing IPod Dock



IPod Wall Mounted Dock



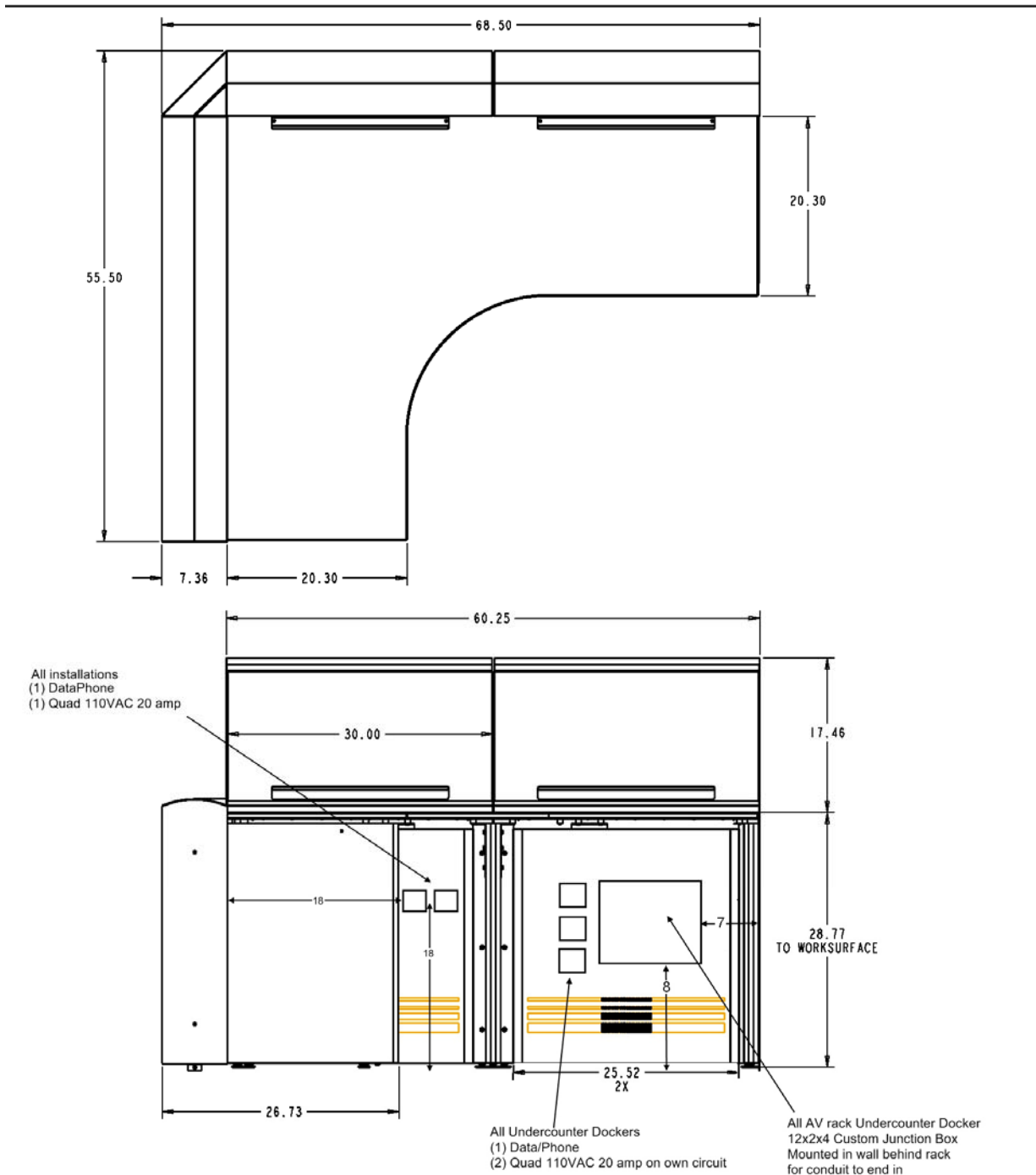
| | |
|-----------------|------------|
| Width (in/ mm) | 4.75/ 127 |
| Height (in/ mm) | 16.35/ 173 |
| Depth (in/ mm) | 3.5/ 83 |

4.9 *STERIS Documentation Stations*

4.9.1 L Shape Documentation Station

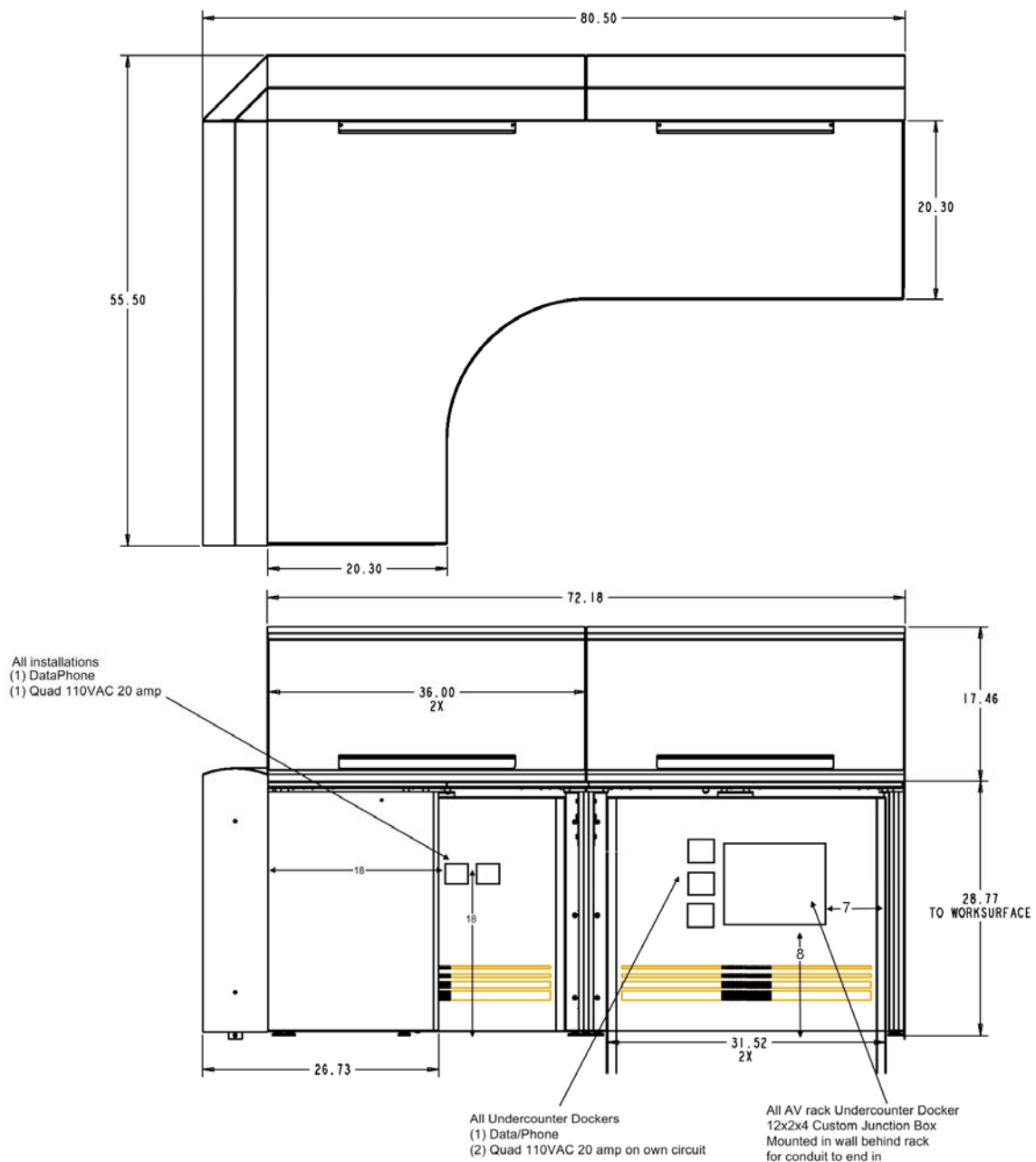


- This documentation station is installed flush to the existing wall. To ensure proper installation, wall and floor must meet at 90 degrees and must be free of finish woodwork or trim.
- It is the customer's responsibility to provide a quad electrical outlet (110VAC, 20 amp circuit), and Data/Phone jacks.
- For any installation requiring an Undercounter Docker the customer must also supply another quad electrical outlet (110/VAC, 20 amp circuit) and Data/Phone jacks.
- For any installation with an AV rack in the Undercounter Docker the customer must install a STERIS supplied back box. See section 4.2 for details.

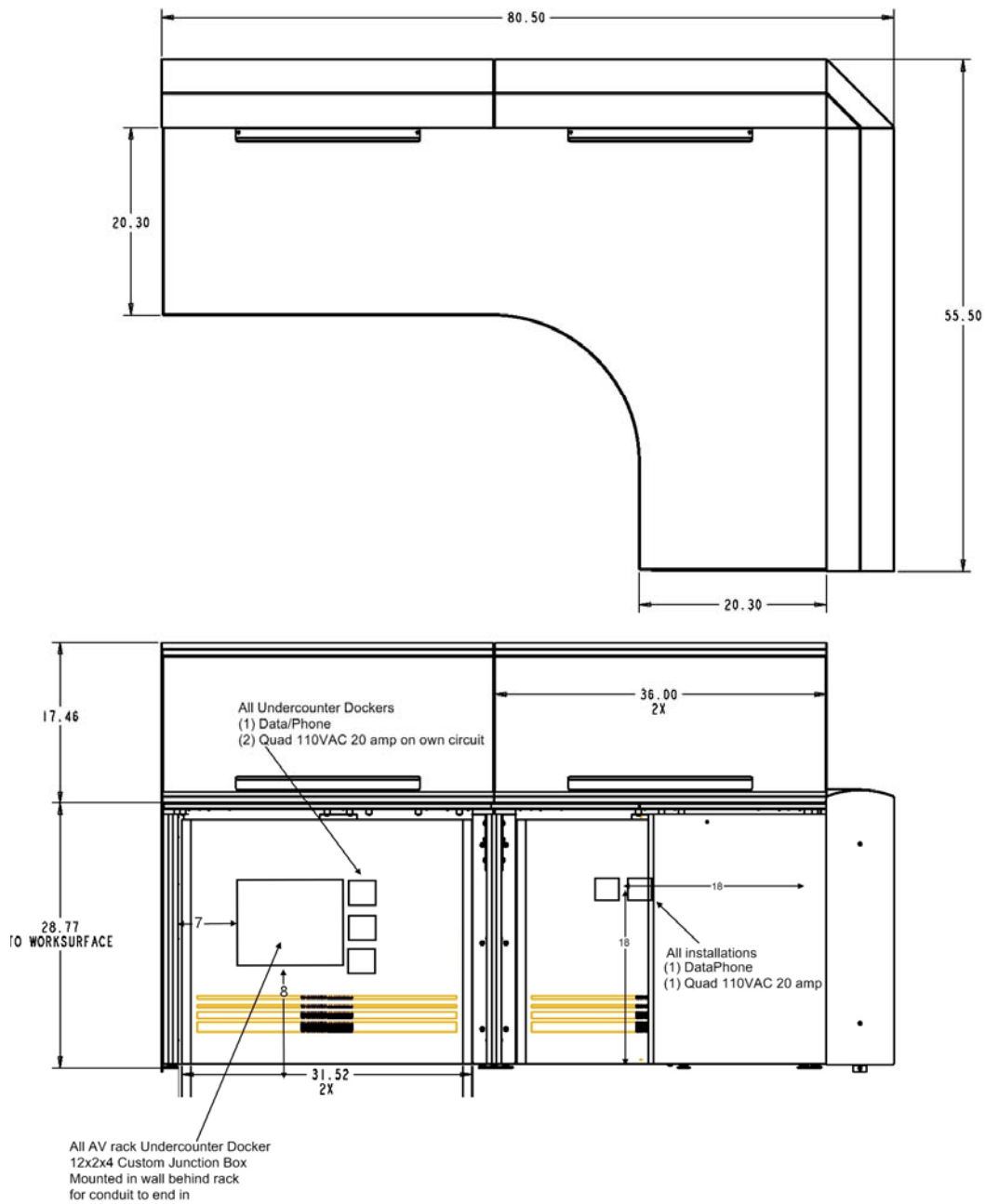


L Shape 60 inch Left Facing Documentation Station

Harmony Integrated OR Pre Installation Manual Rev 2



L Shape 72 inch Left Facing Documentation Station

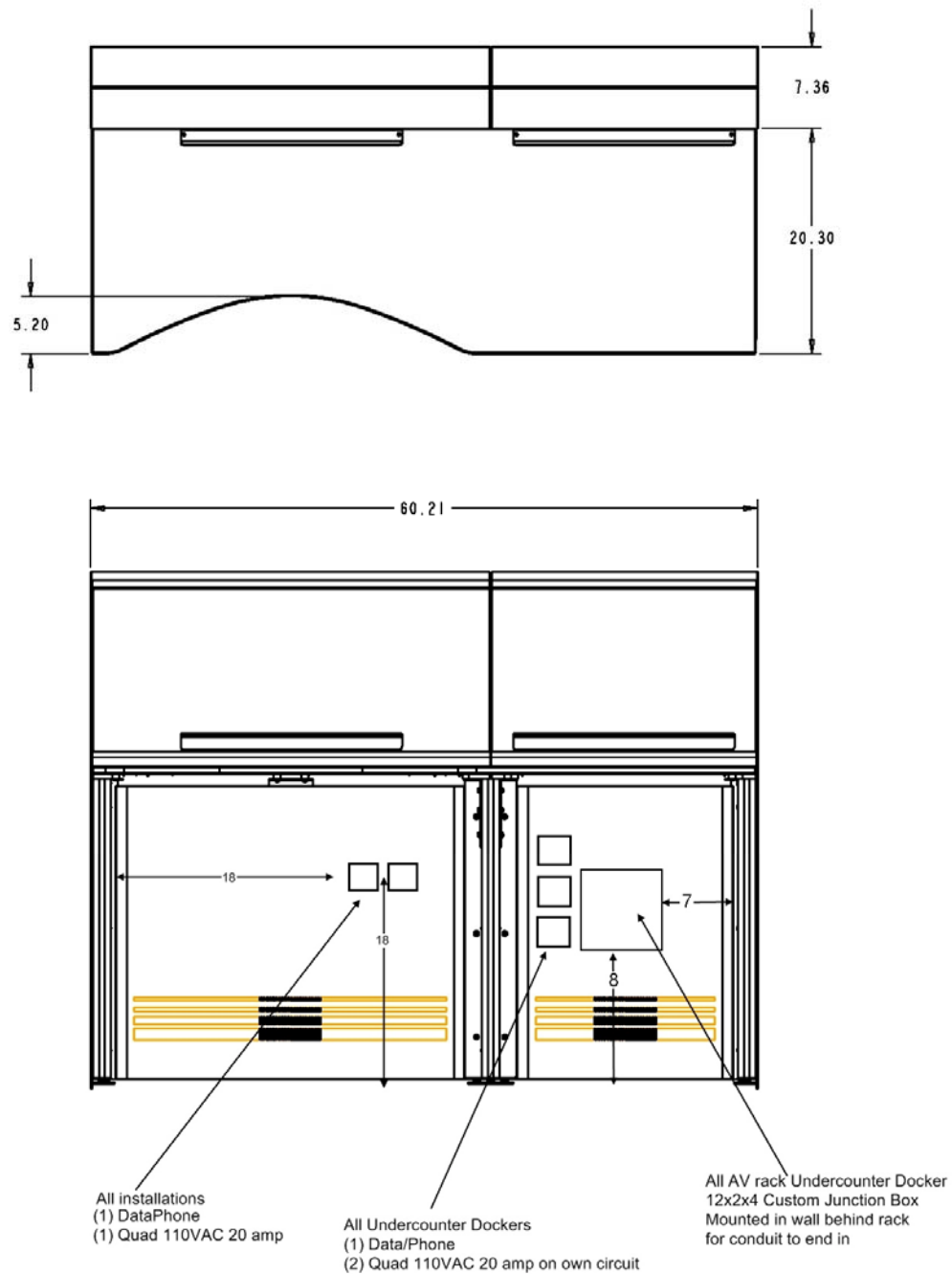


L Shape 72 inch Right Facing Documentation Station

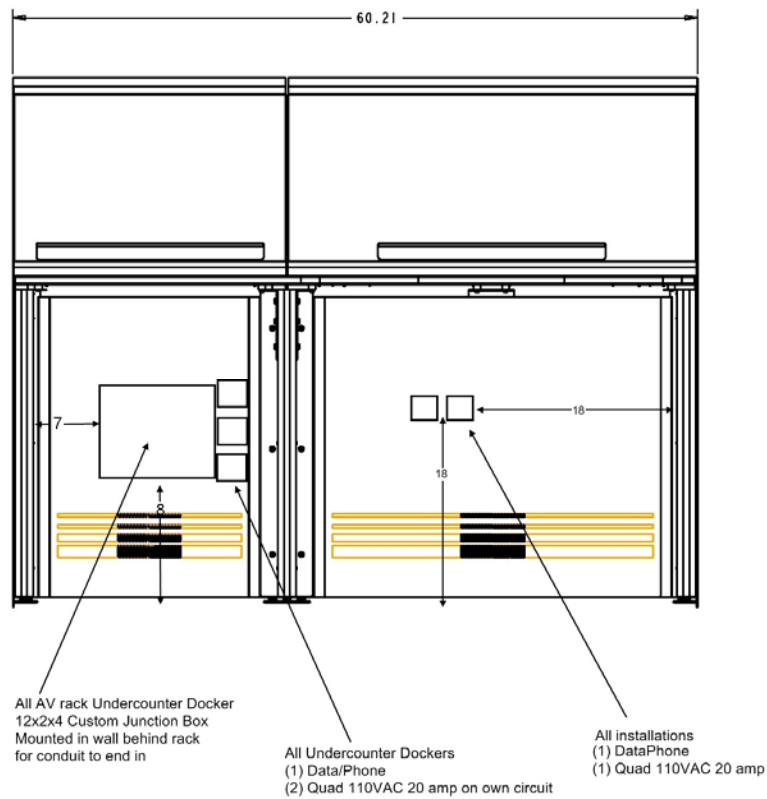
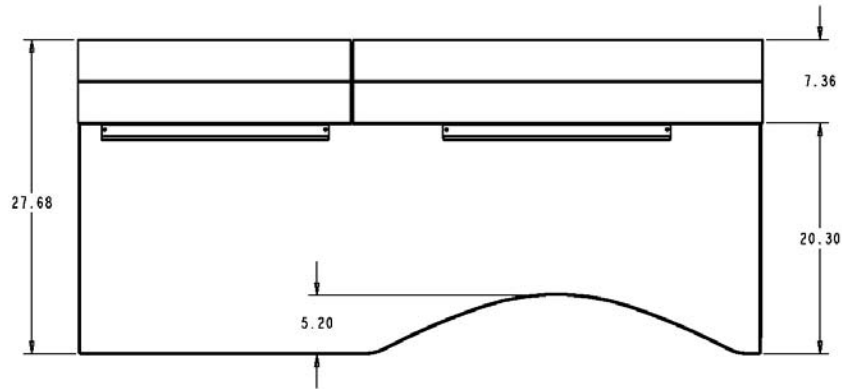
4.9.2 Linear Documentation Station



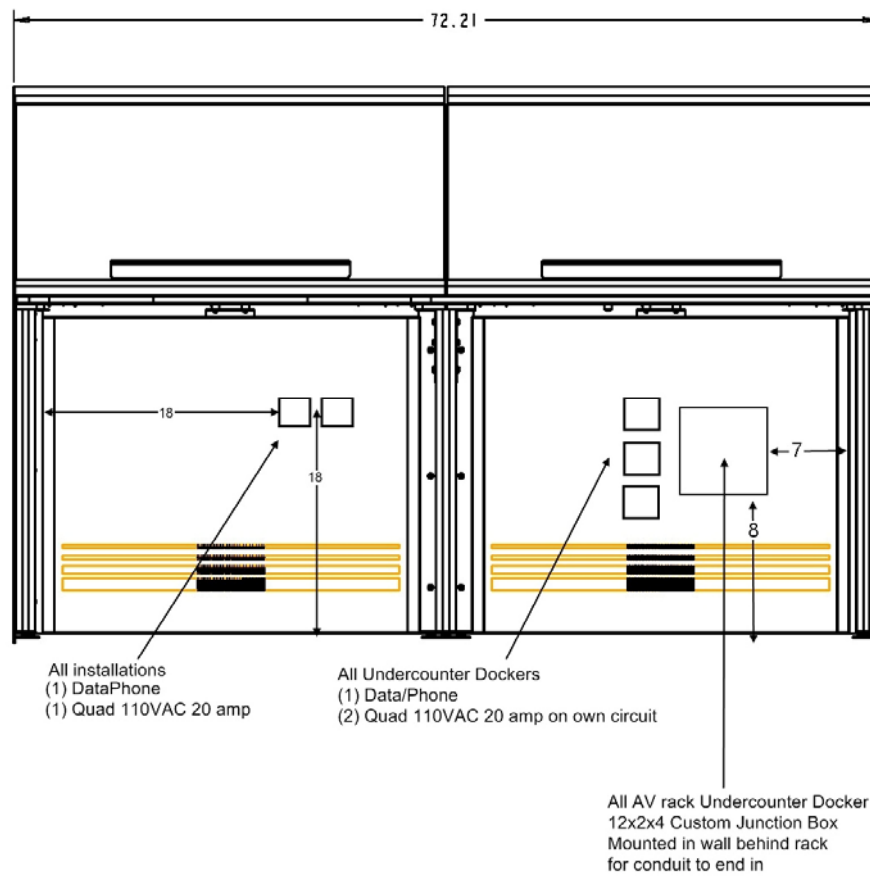
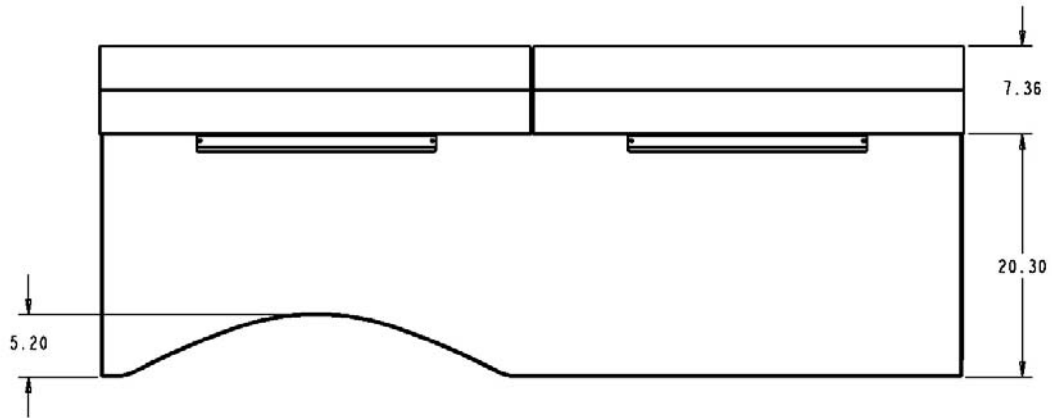
- This documentation station is installed flush to the existing wall. To ensure proper installation, wall and floor must meet at 90 degrees and must be free of finish woodwork or trim.
- It is the customer's responsibility to provide a quad electrical outlet (110VAC, 20 amp circuit), and Data/Phone jacks.
- For any installation requiring an Undercounter Docker the customer must also supply another quad electrical outlet (110/VAC, 20 amp circuit) and Data/Phone jacks.
- For any installation with an AV rack in the Undercounter Docker the customer must install a STERIS supplied back box. See section 4.2 for details.



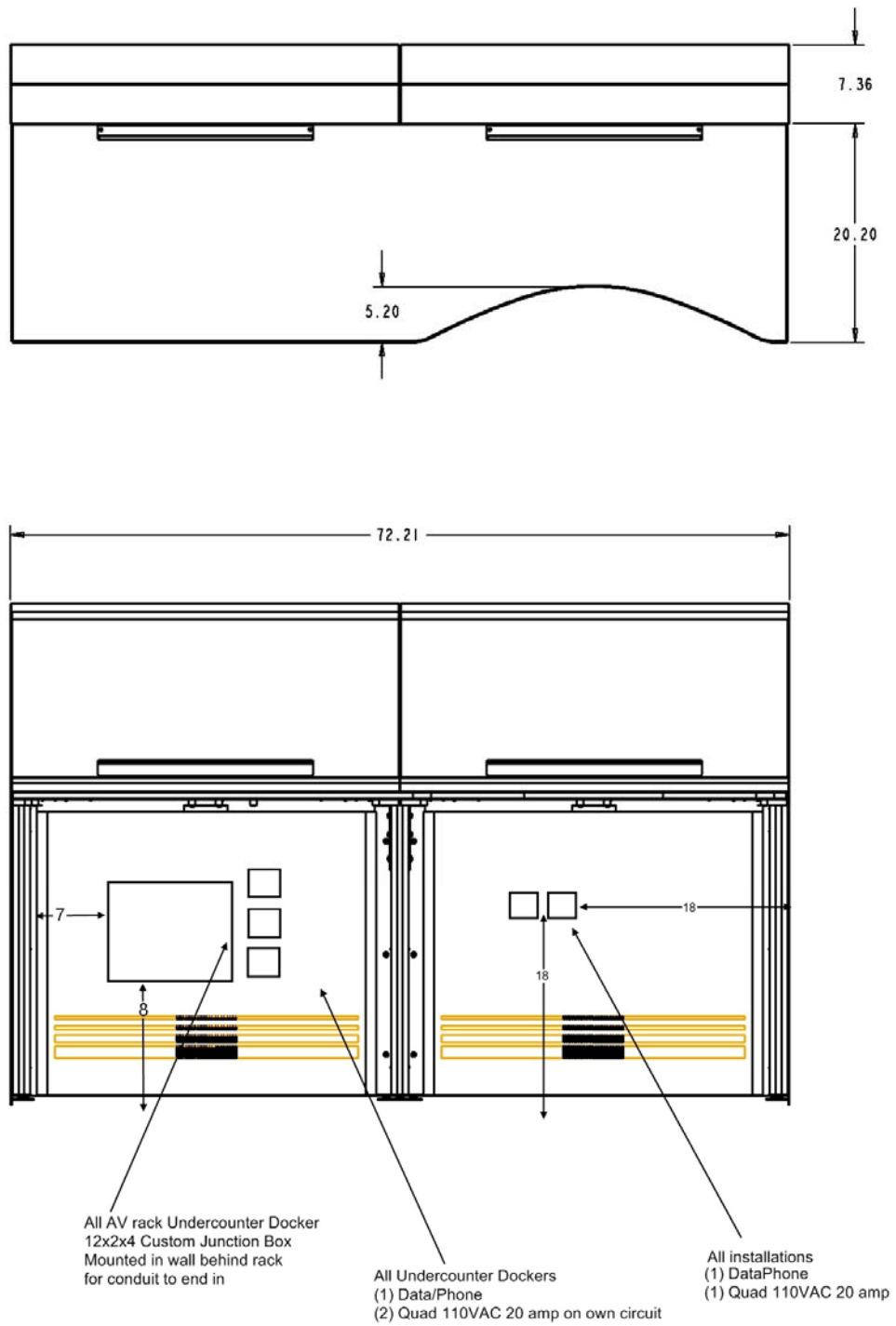
Linear 60 inch Left Facing Documentation Station



Linear 60 inch Right Facing Documentation Station



Linear 72 inch Left Facing Documentation Station



Linear 72 inch Right Facing Documentation Station

4.9.3 Console Documentation Station

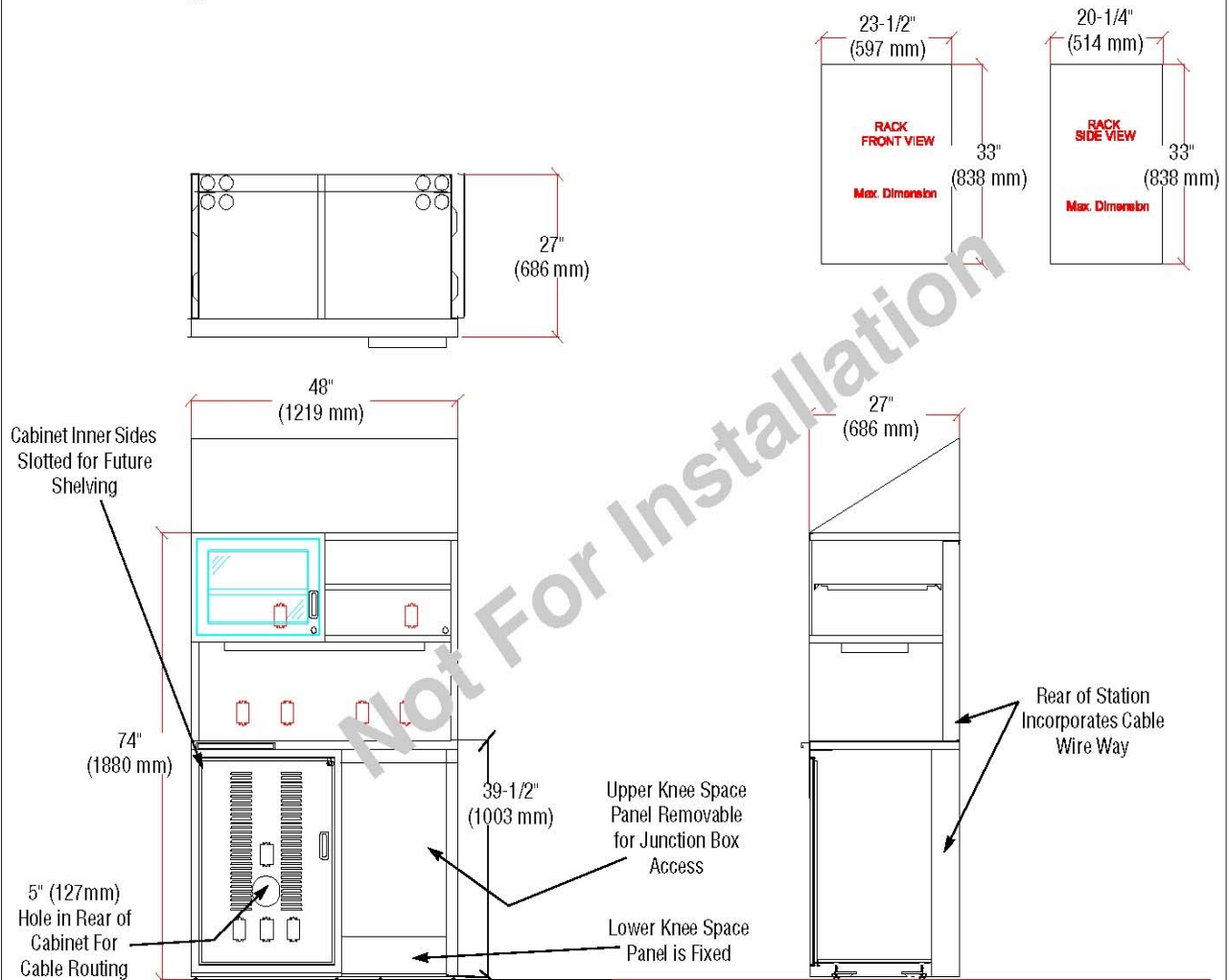


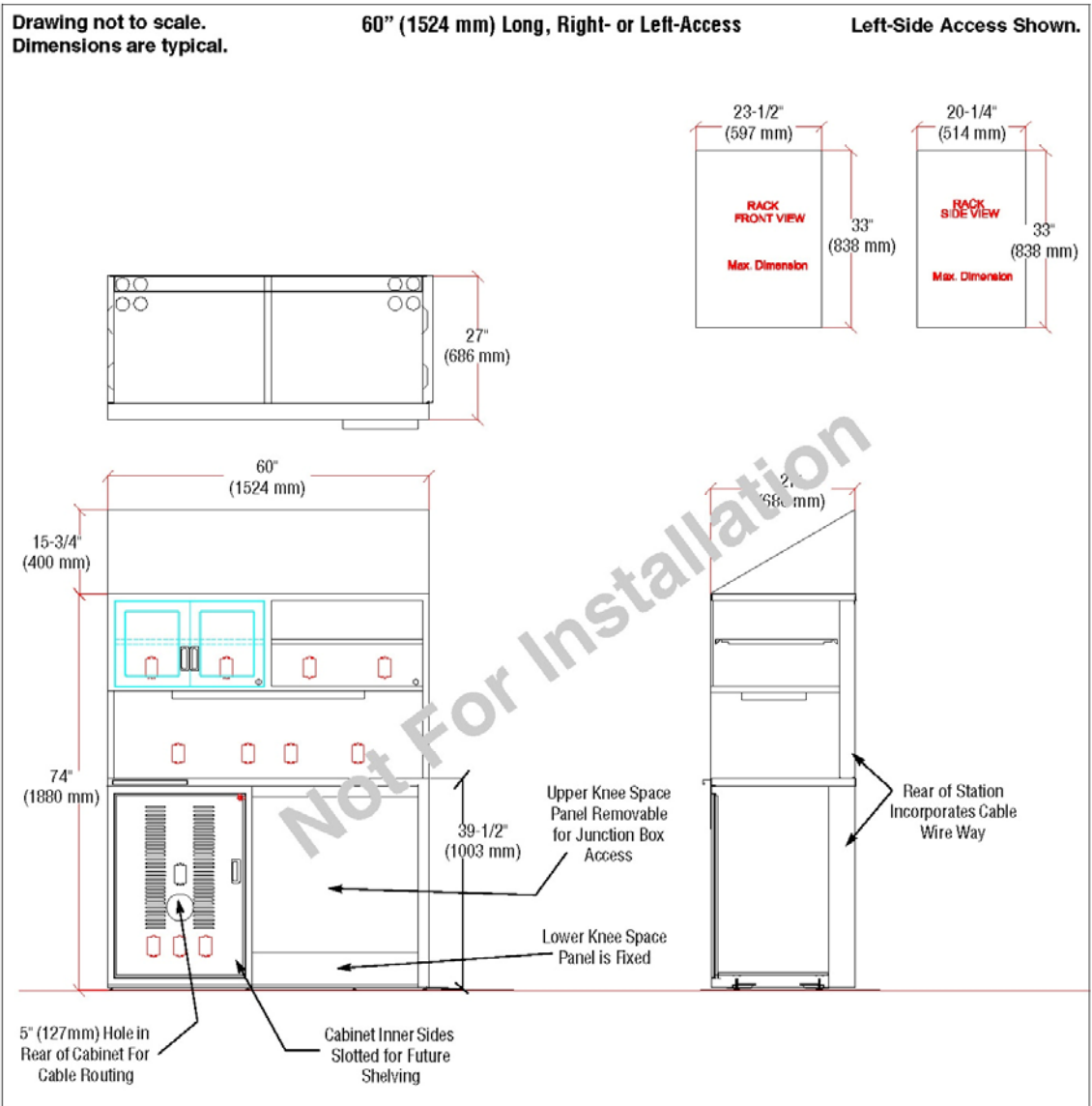
- This documentation station is installed flush to the existing wall. To ensure proper installation, wall and floor must meet at 90 degrees and must be free of finish woodwork or trim.
- The Console Documentation Stations are supplied with removable knockouts to accommodate electrical power, telephone and computer networking receptacles (receptacles supplied by the customer).
- Customer supplied junction box must be located behind lower removable knee space panel.
- Power input for task light 120VAC (wiring supplied by customer)
- Sloped top is either removable or spot welded in place. This must be specified at time of order.

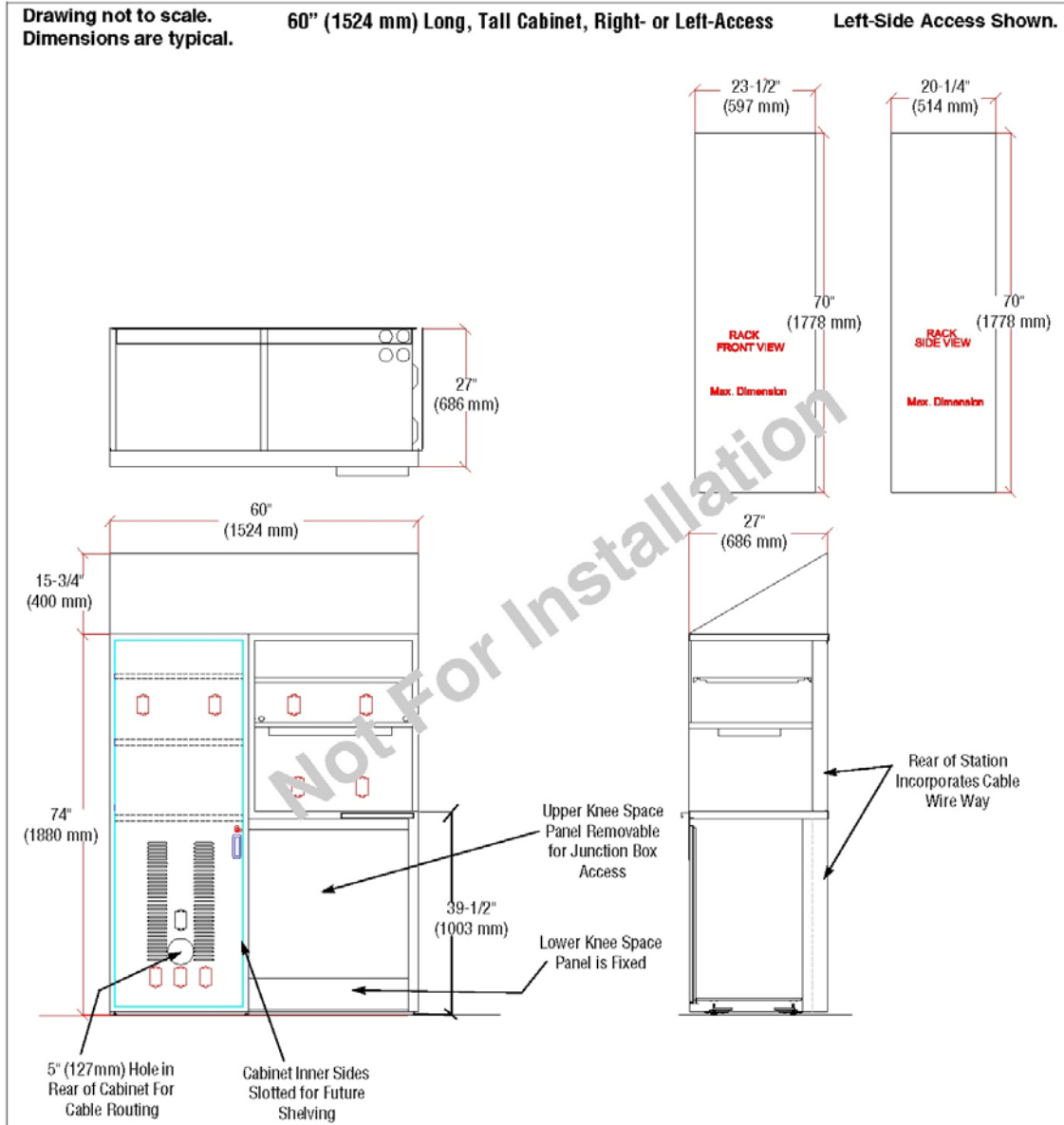
**Drawing not to scale.
Dimensions are typical.**

48" (1219 mm) Long, Right- or Left-Access

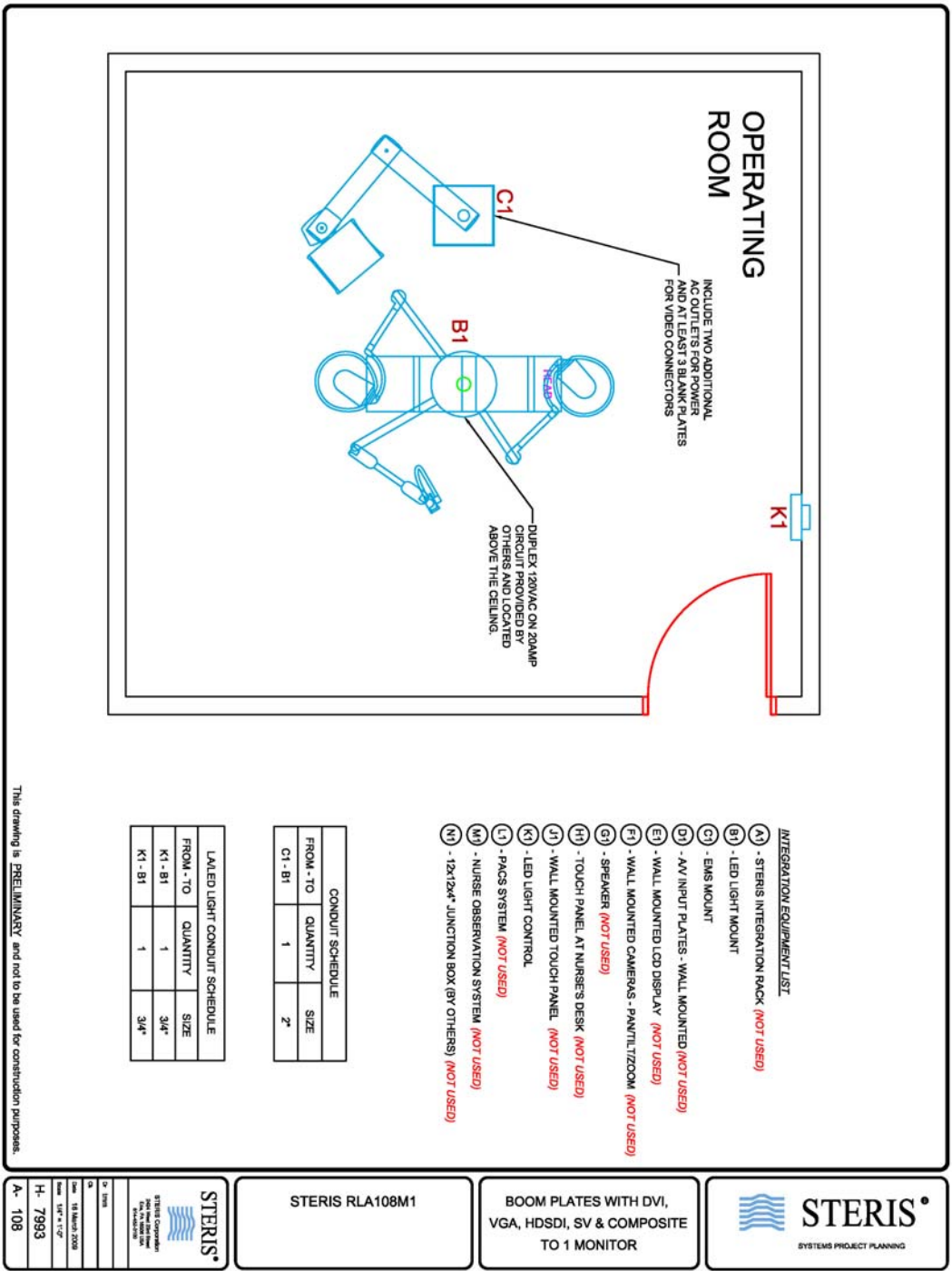
Left-Side Access Shown.



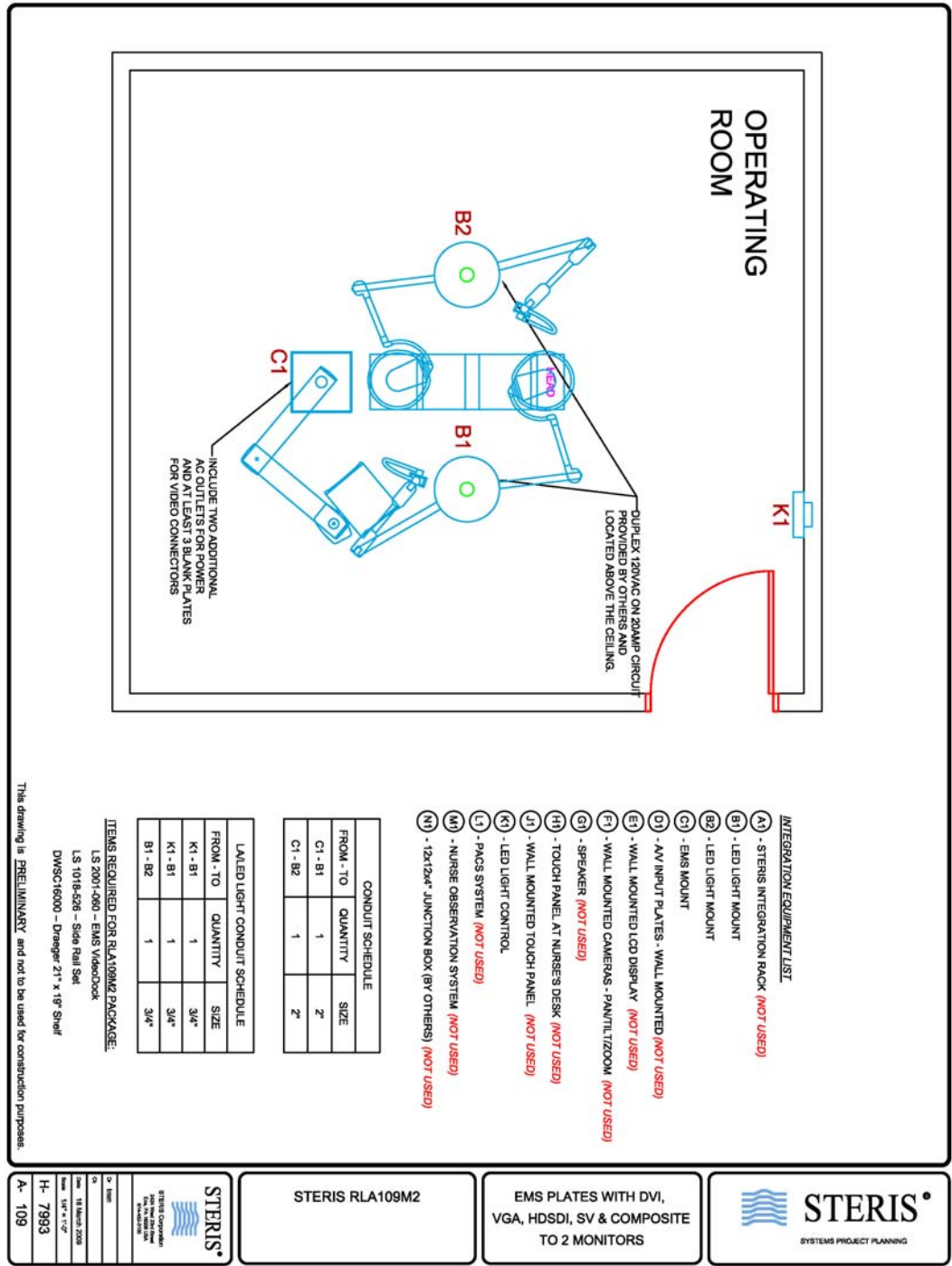




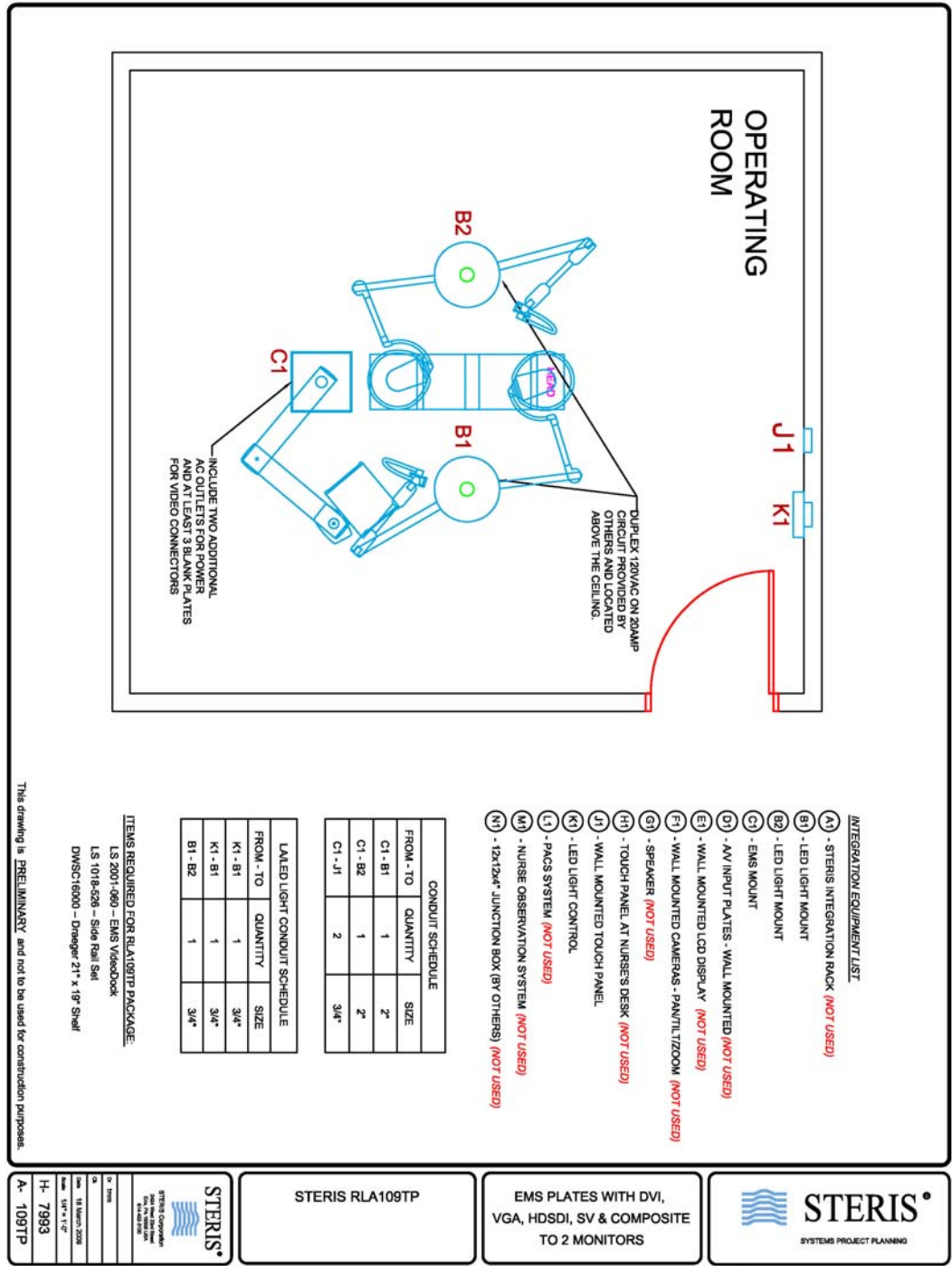
4.10.2 RLA108M1



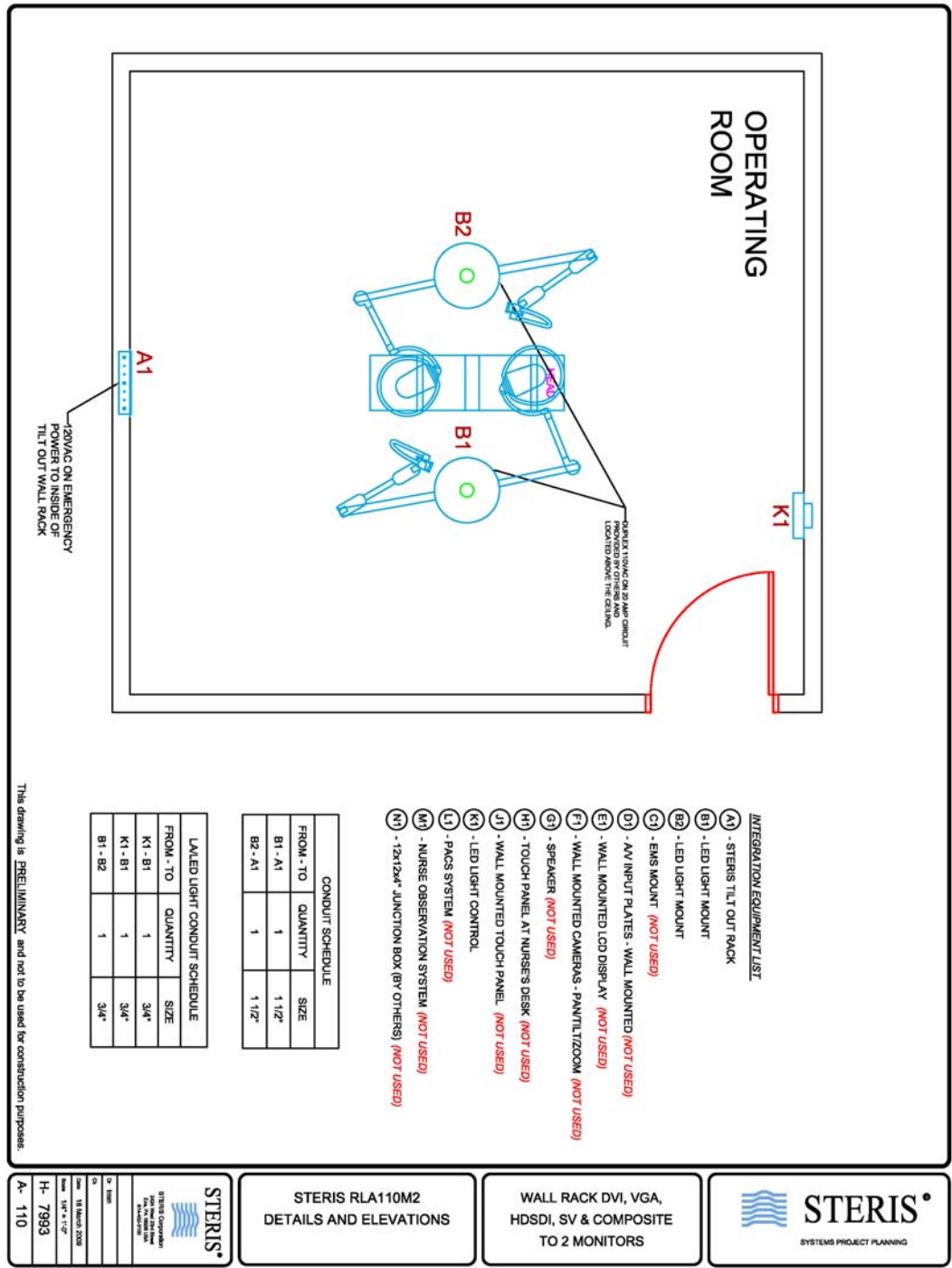
4.10.3 RLM109M2



4.10.4 RLA109TP



4.10.5 RLA110M2



4.10.8 RLA510M2

