BERCHTOLD®

TELETOM®

EQUIPMENT MANAGEMENT SYSTEM
4 & 6 Series

Pre-Install Manual

stryker®

TELETOM® Equipment Management System

4 and 6 Series PRE-INSTALL MANUAL 700000231

Related Publications:

- Installation Manual 700000240
- Operator Manual 700000230
- Service & Parts Manual 700000232

Equipment is not for use in the presence of a flammable anesthetic mixture with air or oxygen or nitrous oxide.

Equipment is suitable for use in the following environmental conditions:
50 – 89 degree F, 10 - 75% RH

CONTACT

Technical Service

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Publication History

This publication describes the equipment as of the issue date listed below. BERCHTOLD reserves the right to make changes in design or specifications at any time without notice. If any difference is found between the equipment received and the components or assemblies described in this publication contact:

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Revision	Issue Date	Description
01	01/2012	Initial Release, ECO 21683
02	08/2014	Technical update, ECO 21762 Revised weights and moments, formatting update, image updates

Symbols Used in This Manual

Warnings

The symbols in this manual indicate important types of warnings. To prevent accidents, injuries, and property damage, observe all warning notices and exercise extreme caution.

⚠DANGER

Indicates an immediately dangerous situation that, if not avoided, **will result in death or serious bodily injury**.

⚠WARNING

Indicates a possibly dangerous situation that, if not avoided, **can result in death or serious bodily injury.**

⚠CAUTION

Indicates a possibly dangerous situation that, if not avoided, **can result in moderate or minor injuries**.

⚠DAMAGE

Indicates a possibly dangerous situation that, if not avoided, **can result in damage to property**.

Special Safety Warning

⚠DANGER

Risk of death from electrical current

Indicates life-threatening situations resulting from electrical current. Disregarding the safety notice **can result in serious injury or death**. Work may be performed only by electrical technicians.

Tips and Recommendations

NOTICE

Highlights information that may be helpful for efficient, trouble-free operation.

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1 Introduction

This TELETOM® Pre-Install Manual is intended for use by technical professionals, installation and service personnel (e.g., architects, structural engineers, contractors, electricians, and pipe fitters) involved in the specification, design, and construction of the installation site.

The safety instructions stated in this TELETOM® Pre-Install Manual do not include the specific precautions and safety instructions for Operator use. Special precautions must be observed by all operators when placing equipment on the TELETOM® platforms and when moving the TELETOM® about the room. Refer to the TELETOM® Operator Manual (700000230) for important operational instructions.

The safety instructions in this TELETOM® Pre-Install Manual are solely provided as a summary. Installation and service personnel are responsible for following the most stringent industry safety practices to prevent personal injury, damage to equipment, or damage to the structure on which equipment is installed.

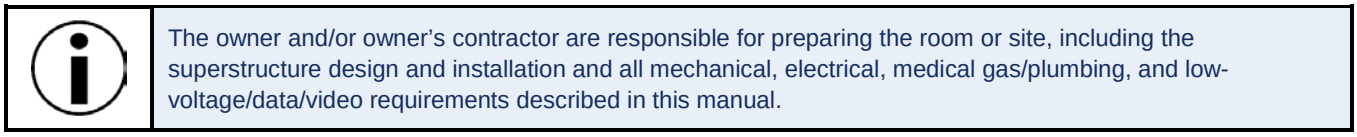
The safety instructions in this TELETOM® Pre-Install Manual cover items specific to the TELETOM® standard equipment. For safety requirements related to servicing optional components (e.g., TeleVac2® Smoke Evacuation System, CHROMOPHARE® Surgical Lights, or electric brakes), refer to the manuals provided with the equipment.

Technicians will use the TELETOM® Operator Manual as a reference when orienting operators after the equipment is installed and checked out.

1.1 Equipment Overview

This TELETOM® Pre-Install Manual provides a new TELETOM® Equipment Management System owner with the following information needed to prepare a site for equipment installation:

- Section 3 - Site Readiness: Owner‘s Checklist
- Section 4 - BERCHTOLD and Owner Responsibilities and Pre-installation requirements for basic TELETOM® equipment and optional features/equipment
- Sections 4.4 to 6 - Structural, mechanical, electrical, medical gas/piping and low-voltage/data/video requirements of the site to ensure proper installation of TELETOM® and related products



Factory-trained BERCHTOLD personnel will install the TELETOM® on the superstructure. Once installation is complete, the owner and/or owner’s contractor are responsible for making the final electrical, plumbing, low-voltage/data, and video connections. These final connections must be made before BERCHTOLD personnel leave the site so that the equipment can be thoroughly tested and accurately adjusted.

2 Safety

This section of the TELETOM® Pre-Install Manual provides an overview of all important safety information for optimal, personal protection and safe, trouble-free operation.

Non-compliance with the installation and safety instructions in this TELETOM® Pre-Install Manual may result in considerable danger.

The procedures described in this TELETOM® Pre-Install Manual will be performed by the owner and/or owner's contractor; therefore, the owner is responsible for ensuring that these and other appropriate safety precautions are followed.

2.1 General Warnings and Cautions

⚠WARNING

1. **Use proper lifting equipment and procedures**. Loaded shipping pallets are heavy and can cause injury to people or damage to the equipment if not handled properly.
2. **Do not attach items to the TELETOM® superstructure** unless approved by the structural engineer or mechanical contractor (e.g., sprinkler pipes, electrical conduit, utility piping, or duct work). Additional attachments have the potential to load the structure and allow the TELETOM® to drift in a way that can cause personal injury or damage.

⚠DANGER

1. **Live electrical circuits can cause injury or death**. To prevent work on live electrical circuits, lock out and tag out power supplies.
2. **Live plumbing lines can cause injury or death**. To prevent work on pressurized portions of the lines, lock out and tag out supplies.
3. **Drifting of the equipment can cause injury or death**.

⚠CAUTION

Store TELETOM® components out of the elements and away from dust, debris, and moisture to protect them from damage. Failure to protect the components could lead to damage that will prevent proper installation and service performance.

⚠DAMAGE

The owner and/or owner's contractor have final responsibility for the strength and rigidity of the superstructure or of securing the BERCHTOLD IntegraMount™ Superstructure System to the building. IntegraMount™ excluded, BERCHTOLD does not warrant or certify superstructure designs. An inadequate superstructure will affect the ability of the TELETOM® unit to perform in the manner intended. An inadequate superstructure design can also result in damage to the equipment. Equipment warranty service charges related to an inadequate superstructure design or installation are at the owner's expense.

2.2 Intended Use

The TELETOM® is designed and constructed exclusively for the use described in this TELETOM® Pre-Install Manual.

The TELETOM® is designed for use in operating rooms, medical treatment rooms, intensive care units, or any area of a medical facility that requires a ceiling-mounted device to supply power, medical gases, and data-communication services.

The TELETOM® is designed to be used in rooms that have been constructed to meet National Fire Protection Association (NFPA) 70, 2011, National Electrical Code, NFPA 99, Standard for Health Care Facilities.

⚠WARNING

Danger if not used as intended. Dangerous situations can occur any time the TELETOM® is used for purposes beyond, or other than those intended. Therefore:

1. Use the TELETOM® only as intended.
2. Strictly adhere to all specifications in this TELETOM® Pre-Install Manual.
3. Only BERCHTOLD personnel or technicians expressly authorized by BERCHTOLD may install, modify, or repair the TELETOM®.

THE FOLLOWING PARTICULAR USES ARE PROHIBITED:

1. Do not operate in areas where there is danger of explosion; **the TELETOM® is a potential source of ignition**.
2. Do not operate with damaged components.
3. Do not hang objects from the horizontal arms, spring arms, or service pod.

Claims of any kind due to damage resulting from improper use are excluded. The operator is solely responsible for damages resulting from improper use.

2.3 Personal Protective Equipment

To minimize health risks, users of the TELETOM® must wear appropriate personal protective equipment while working.

- Always wear the required protective equipment for the given task in accordance with the facility policies and procedures.
- Observe instructions posted in the work area regarding personal protective equipment.

Protective Equipment for Special Tasks. Certain tasks that require special protective equipment are discussed in the appropriate sections of this TELETOM® Pre-Install Manual. The special protective equipment covered is:

Safety Goggles: protect the eyes from projectiles and fluids

Figure 2-1: Safety Goggles

2.4 Specific Risks

2.4.1 Electrical Safety

⚠WARNING

Always use caution when working on electrical systems.

The owner and/or owner's contractor is responsible for running electrical power from the building supply to the electrical Outlet Box mounted on the TELETOM® flange, and making the filed wiring connections using the terminal strips and ground buss bar.

Observe the following Electrical Safety Procedures:

- Do not perform any diagnostic or service procedure on the building's electrical supply; this is the building owner's responsibility.
- Know the electrical power rating of the unit being worked on.
- Use properly rated voltmeter/multi-meter test equipment.
- Grip electrical test-probe leads only by their insulated handles.
- Do not attempt repairs on any live electrical circuits; Use lock-out, tag-out procedures before servicing any electrical component.
- Install or replace wiring only with the appropriate AWG size wire(s).
- Do not override or by-pass fuses.
- Ensure that numbered outlets are wired to the appropriate circuit.
- Do not reroute or rewire circuits in a way that will allow operators to connect excess loads on the circuit.

2.4.2 Electrical Current

The label below indicates an electrical current warning.

⚠DANGER

Only skilled electricians and trained, skilled personnel may work with electrical components inside the ceiling cover or service pod.

2.4.3 Medical gases

Use properly rated gauges for the pressures and gases involved.

⚠WARNING

1. Always use caution when working on pressurized systems.
2. Application of incorrect medical gases can be fatal; Medical gas outlets are keyed to the specific gas type.
3. Prior to connection, verify that the gas line or accessory has the same gas-type marking as the gas outlet.
4. Do not attempt to defeat or force any type of gas line or accessory into an outlet.
5. Contact BERCHTOLD service or other personnel trained in medical-gas outlet maintenance.

3 Site Readiness: Owner‘s Checklist

It is **CRITICAL** that all relevant items be completed before the scheduled installation date:

- ☐ Contact Information: BERCHTOLD has been provided all contact/fax numbers and email addresses needed for shipping and receiving
- ☐ Site visitation requirements: BERCHTOLD has been notified about any required safety training classes, hospital ID/badge requirements, parking instructions, and union requirements.
- ☐ The access point for receiving equipment is clear, allowing enough room for large, full size semi-truck/trailer as well as room to off load via lift gate if required.
- ☐ If required, floor protection is installed from delivery location to installation area as needed/required by the owner and/or owner’s contractor.
- ☐ All needed elevators, doorways, and hallways are ready-to-use and wide enough for movement of equipment from the delivery/storage area to installation location. The dimensions of the crate will be provided by BERCHTOLD.
- ☐ The mounting site is prepared; ceiling superstructures are built in accordance with BERCHTOLD pre-installation manual specifications, and the ceiling superstructures are adequate to support the weight, moment, and rotation specifications of the equipment.
- ☐ The room is clear; all other equipment, material, and any other trades working at time of installation have been removed.
- ☐ The room is properly lit for the installation by means of temporary or permanent fixtures; lighting should not conflict with the installation and movement of equipment.
- ☐ The environment is dust free; protecting equipment via visqueen is the owner and/or owner’s contractor‘s responsibility.
- ☐ Electrical circuits are provided and gases are piped (for TELETOM® Power Boom installations) per BERCHTOLD pre-installation manual specifications. See section 6 for Medical Gas/Plumbing Requirements.
- ☐ The access to dumpster for trash removal is clear; dumpster or drop off location must be supplied by owner and/or owner’s contractor and accessible via pallet jack.
- ☐ Storage facilities for equipment containers must be available prior to installation.

If a return trip is required due to incomplete items, BERCHTOLD reserves the right to bill the owner at the normal service rate.

4 Responsibilities

4.1 BERCHTOLD Responsibilities

BERCHTOLD personnel install each TELETOM® on ceiling support superstructures designed and constructed by the owner and/or on a BERCHTOLD-supplied IntegraMount™ Superstructure System.

Generally, the owner must design, supply, and install all components above the finished ceiling. These components include the supporting superstructure, electrical/low-voltage/data/video conduits, and medical gas/plumbing supply lines.

BERCHTOLD supplies the following components to the owner and/or owner's contractor for pre-installation:

- Equipment Configuration Drawings
- TELETOM® mounting plate (excluding IntegraMount™ Superstructure Systems)
- Medical gas risers/bridge(s)
- TeleVac2® Smoke Evacuation System and Light Combination Junction Box (Optional)

BERCHTOLD supplies the following components to the owner and/or owner's contractor with each TELETOM®:

- TELETOM® Outlet Box for branch circuit field wiring connections

	BERCHTOLD will not be responsible for the superstructure design or the materials used. For questions, contact BERCHTOLD Technical Services at 800-243-5135, Option 2.

4.2 Owner Responsibilities

	⚠DAMAGE
	The owner and/or owner's contractor has final responsibility for the strength and rigidity of the superstructure, or for securing the BERCHTOLD-supplied IntegraMount™ Superstructure System to the building. BERCHTOLD does not warrant or certify superstructure designs with the exception of the supplied IntegraMount™ Superstructure System. An inadequate superstructure will affect the ability of BERCHTOLD products to perform in the manner intended. An inadequate superstructure design can also result in damage to the equipment. Equipment warranty service charges related to an inadequate superstructure design or installation are at the owner's expense.

To function safely and effectively, the TELETOM® requires installation on a strong and rigid superstructure above the ceiling. An installed unit must support large weights and moments, and must meet stringent rotational criteria. BERCHTOLD strongly recommends that the owner consult a structural engineer prior to designing and installing the superstructure.

The owner and/or owner's consulting structural engineer must verify the following to ensure a safe and satisfactory installation:

- The building structure must be capable of supporting the required loads (see Section 4.4.1).
- The building structure must be capable of supporting any additional loading (e.g., earthquakes) required by local building codes.
- All electrical and medical gas designs and installations must meet appropriate code requirements.

4.2.1 Superstructure Design and Construction

While in service, even the slightest deviation of the TELETOM® mounting plate out of the required horizontal plane, can cause the TELETOM® to drift. To prevent this, the BERCHTOLD-supplied mounting plate must be properly installed in a horizontal plane (± 0.1 degree), with the studs pointing down. The superstructure must also be rigid enough to prevent the mounting plate from rotating more than 0.1 degree when the specified design load is applied.

The design and construction recommendations in this TELETOM® Pre-Install Manual cover one of many alternatives that can be used. Factors such as building structure (e.g., concrete, steel, brick, etc.), the amount of space available above the finished ceiling, obstructions within the ceiling cavity, owner restrictions (e.g., welding within the ceiling cavity), economics, and contractor preferences may require different approaches to the design and installation of TELETOM® superstructures.

	The bottom of the TELETOM® mounting plate must be recessed 2.5-inch, ± .125-inch above the finished ceiling—with the exception of the IntegraMount™ Superstructure System which is designed with a 6-inch recess.

4.2.2 Required Access Panel

The owner and/or owner's contractor is responsible for providing/installing the required ceiling access panel that meets the following criteria:

- At least 18 x 18-inches wide
- Within 12-inches of the TELETOM® ceiling cover
- Must be located on the Outlet Box cut-out side of the mounting plate (see Section 5)

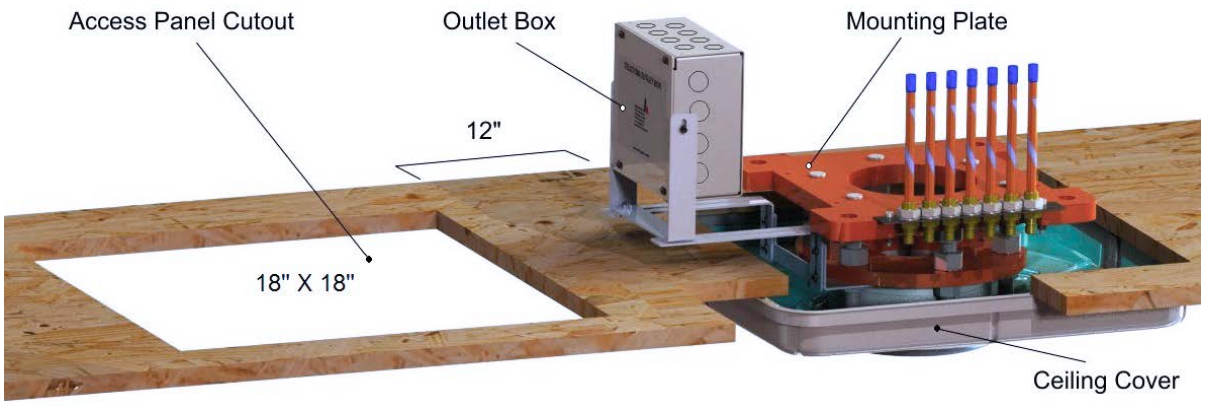


Figure 4-1: Access Panel in Ceiling

4.2.3 Wiring

The owner and/or owner's contractor must install the branch circuit wiring and conduit between the breaker panel and the TELETOM®'s Outlet Box. Refer to the Equipment Configuration Drawings for the type and quantity of circuits required.

After installation of the TELETOM® is complete, the owner and/or owner's contractor must make the final electrical connections to the equipment. See Section 5 for wiring and circuit information.

4.2.4 Low-Voltage/Data Cables

The owner and/or owner's contractor must install the low-voltage/data cables between the supply and the TELETOM®. Refer to the Equipment Configuration Drawings for the type and quantity of cables required.

After installation of the TELETOM® is complete, the owner and/or owner's contractor must make the final low-voltage/data connections to the equipment. See Section 5 for wiring and cabling information.

4.2.5 Video

The owner and/or owner's contractor must install the video cables between a supply and the TELETOM®. Refer to the Equipment Configuration Drawings for the type and quantity of cables required.

After installation of the TELETOM® is complete, the owner and/or owner's contractor must make the final video connections to the equipment. See Section 5 for cabling information.

4.2.6 TeleVac2® Smoke Evacuation System

When the TeleVac2® Smoke Evacuation System option is ordered, the TELETOM® units will come equipped with a TeleVac2® control panel, filter, and port. The TeleVac2® motor draws 12 Amps at startup and requires a separate 120 VAC, 50/60Hz power supply. Power connections are to an ON/OFF dual pole switch provided for service disconnect. Each TeleVac2® system installed must have its own power supply.

4.2.6.1 TeleVac2® Installation

The owner and/or owner's contractor must mount the TeleVac2® motor in the ceiling cavity, provide and connect a power supply, and connect the flexible tubing between the TELETOM® unit and the TeleVac2® motor.

1. The TeleVac2® motor housing must be mounted above the finished ceiling and within 114-inch (2.9m) of the TELETOM® mounting plate.
    - The unit weighs approximately 12 pounds (5.5 kg).
    - The unit is a 10-inch (254 mm) X 10-inch (254 mm) X 8.5-inch (216 mm).
    - Four mounting holes are provided on 9-inch (229 mm) centers top-to-bottom and side-to-side.
2. The unit should be mounted in an accessible location.
3. A connection to the building's air exchange system is at the owner's option:
    - If allowed by local code, exhaust is filtered (20 µm HEPA Filter) and venting to plenum may be permissible is effective enough to allow venting to the plenum.
    - The vacuum/blower motor in the PSU is capable of the 90+ CFM by itself. When 25 feet of 1-inch hose run through the TELETOM® is added and the UPPA filter attached at the far end with 6 feet of 7/8-inch hose attached to the filter itself, the flow rate at the distal end of the 7/8-inch hose is ~ 25-28 CFM.

The contractor shall check local codes which may require venting to exhaust ducting or outside the building.

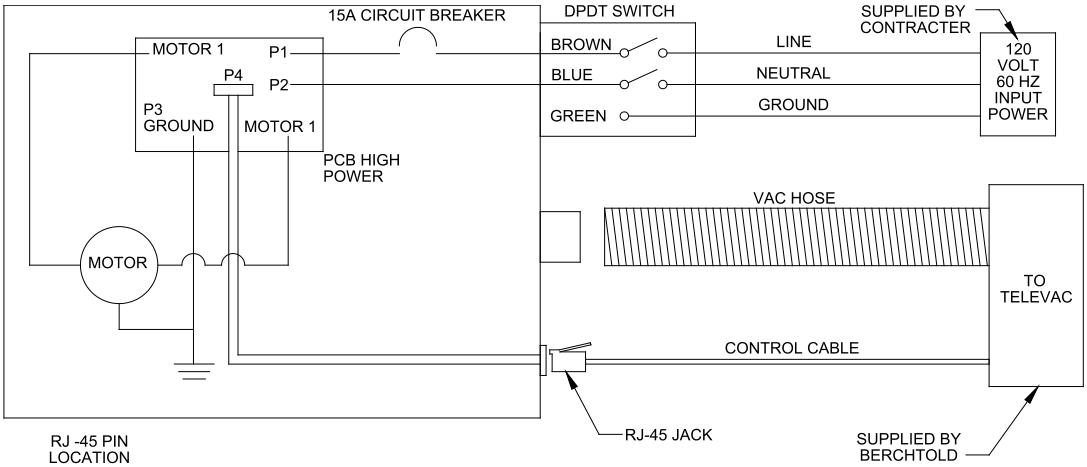
4.2.6.2 TeleVac2® Vacuum Motor

The owner and/or owner's contractor must mount the TeleVac2® vacuum motor in the ceiling cavity. BERCHTOLD does not provide the installation fasteners for the TeleVac2® motor.

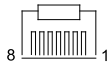
Figure 4-2: TeleVac2® Vacuum Motor below shows the components that must be accessible during and after installation.

Figure 4-2: TeleVac2® Vacuum Motor

1. Select an accessible location for the TeleVac2® vacuum motor housing.
   - The motor must be located within 114-inch (2.9 m) of the TELETOM® mounting plate.
2. Use the provided mounting holes and pads to secure the TeleVac2® vacuum motor housing to a structural element.
3. Run a power supply line from the mains supply to the Outlet Box on the TeleVac2® vacuum motor housing.
   - Figure 4-3: TeleVac2® Wiring Requirements below shows the power requirements and wiring schematic for the TeleVac2® System.
4. Connect the power supply to the appropriate terminals on the ON/OFF double pole switch.
5. Connect the TeleVac2® control cable wires to the appropriate motor and power supply wires.
6. Connect the flexible tubing to the vacuum intake on the back of the motor housing and route the tubing to the TELETOM® mounting plate location (for later connection to the TELETOM® unit).
7. If desired, connect a 3-inch (76 mm) flexible hose to the exhaust port and to the air exchange system plenum, or to the exterior of the building, depending on local building code requirements.



RJ -45 PIN LOCATION



PIN#	COLOR
1	Brown
2	Blue
3	Yellow
4	Green
5	Red
6	Black
7	Orange
8	Grey

POWER REQUIREMENTS

Input Power: 120 VAC, 15 AMPS, 60 Hz

Power Consumption: 12 AMP @ startup | 9 AMP @ 100% power

Flow: Max flow setting: >70 CFM w/ 1" hose
Exhaust flow - 3" outlet rate: 90 CFM motor only | 25-28 CFM w/ hose & filter

Motor: Motor size 1-1/4 hp

Noise Level: less than 40 dBa

Figure 4-3: TeleVac2® Wiring Requirements

4.2.7 Medical Gas and Vacuum Piping

The owner and/or owner's contractor must install the medical gas piping between the main gas supply and the TELETOM®, including brazing the pipes to the BERCHTOLD supplied gas or vacuum risers. Refer to the Equipment Configuration Drawings for the type and quantity of gases required.

The medical gas risers must be installed and tested according to NFPA 99 and any local codes prior to installation of the TELETOM®.

After installation of the TELETOM® is complete, the owner and/or owner's contractor must make the final gas connections to the equipment.

See Section 6: Medical Gas/Plumbing Requirements for more information.

4.2.8 Testing

The owner and/or owner's contractor must test and certify all system components before installation of the TELETOM® is scheduled.

Testing and certification must include the following:

- Superstructure
- Electrical wiring
- Gas piping to NFPA 99

4.3 Shipping, Handling, and Storage

4.3.1 Pre-Installation Components

BERCHTOLD ships the mounting plate, medical gas risers/bridge(s), the TELETOM® Combination Junction Box (optional) and the TeleVac2® Smoke Evacuation System (optional) in advance of the other TELETOM® equipment and accessories.

All pre-installation components should be delivered to the owner and/or owner's contractor for installation as soon as they are received.

4.3.2 TELETOM® Equipment

TELETOM® equipment should be properly handled and stored to avoid personal injury or damage to the components.

⚠WARNING

Loaded shipping pallets weigh more than **400 pounds** and can cause injury to people or damage to equipment if not handled properly. **Use proper lifting equipment and procedures**.

⚠CAUTION

Store the TELETOM® components out of the elements and away from dust, debris and excess moisture to protect them from damage. Failure to protect the components could lead to damage that will prevent proper installation and performance in service.

BERCHTOLD ships TELETOM® components via LTL truck or moving van in specially constructed reinforced packaging. The equipment and its packaging require a narrow pallet jack to be available upon arrival. Handle and store the equipment properly to avoid injury to personnel or damage to the components.

Boxes are to be opened only by BERCHTOLD personnel, and are labeled as such. Any missing components resulting from unauthorized entry into the boxes are the responsibility of the owner and will be invoiced with a change order.

4.4 Structural Requirements

This section provides information required by the Engineer of Records (EOR) to design the superstructure for the TELETOM® Equipment Management System.

The illustrations are suggestions for the EOR to design the superstructure. The design and materials used are at the discretion of the EOR and based upon specific site requirements.

BERCHTOLD cannot be responsible for the superstructure designs or the materials used. For questions regarding pre-installation requirements for any TELETOM®, contact BERCHTOLD Technical Services at 800-243-5135, Option 2.

4.4.1 Superstructure Design Loads

See the Site Readiness: Owner‘s Checklist in Section 3 and Responsibilities in Section 4 for a description of the owner’s design and construction responsibilities.

⚠CAUTION

The owner and/or owner’s contractor has final responsibility for the strength and rigidity of the superstructure, or securing the BERCHTOLD-supplied IntegraMount™ Superstructure System to the building. BERCHTOLD does not warrant or certify superstructure designs with the exception of the supplied IntegraMount™ Superstructure System.

An inadequate superstructure will affect the ability of BERCHTOLD products to perform in the manner intended. An inadequate superstructure design can also result in damage to the equipment.

Equipment warranty service charges related to an inadequate superstructure design or installation are at the owner’s expense.

4.4.2 Weight and Design Specifications

Weights and Moments. The superstructure must be designed to the weights and moments shown in the table below which lists the heaviest unit and the highest rotational moment.

The installed weights and moments shown in the table below include the TELETOM® components and payload.

Table 4-1: Design Weight and Moments

TELETOM® Type	Maximum Weight (lb/kg)	Maximum Moment (ft-lb) (N·m)
Single Mount	1,100 / 498	5,650 / 7,660
Tandem Mount	2,200 / 997	11,300 / 15,320

Mounting Plate. The BERCHTOLD-supplied mounting plate must:

- Be installed in a horizontal plane (± 0.1 degree) with the studs pointing down.
- Be installed so that the bottom of the mounting plate is recessed 2.5-inch above the finished ceiling.
- Be installed on a superstructure that is rigid enough to prevent the mounting plate from rotating more than 0.1 degree when the specified design load is applied.

Ceiling Access Panel. The owner and/or owner's contractor is responsible for providing/installing a required ceiling access panel on the same side as the TELETOM® Outlet Box. The access panel needs to be:

- At least 18 x 18 inches wide.
- Within 12-inches of the TELETOM® ceiling cover. Must be located on Outlet Box cut-out side of the mounting plate (see Section 5).

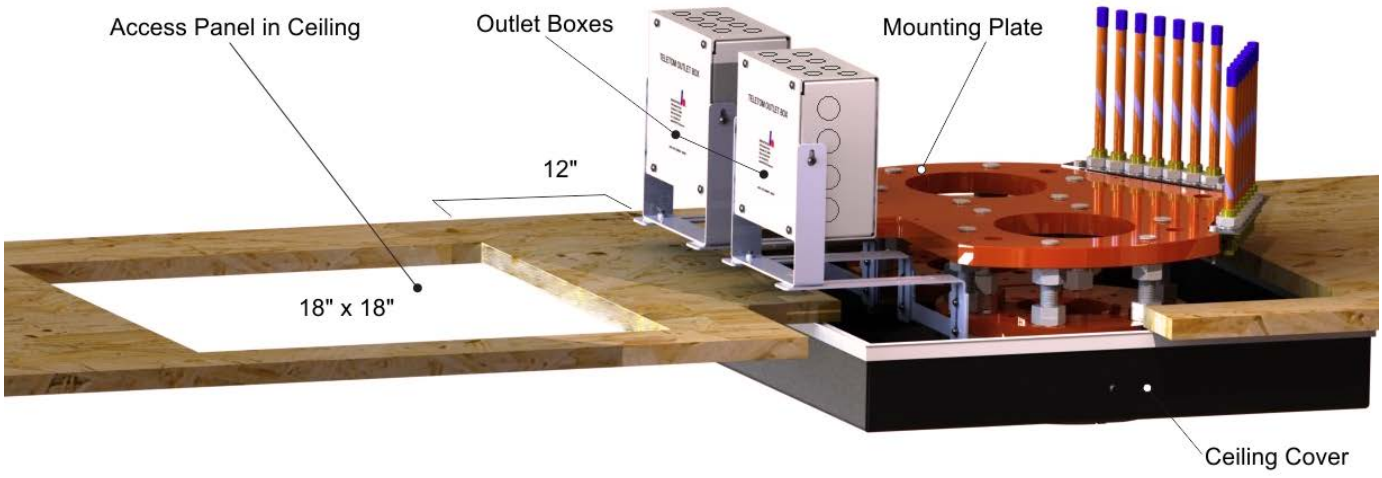


Figure 4-4: Example of Access Panel in Ceiling

4.4.3 IntegraMount™ Superstructure System Option

The BERCHTOLD IntegraMount™ Superstructure System is NOT part of the TELETOM® system and is not covered by the UL listing or this manual. Information on the IntegraMount™ is provided in this manual to assist owners who have selected to use the IntegraMount™ as their mounting structure.

BERCHTOLD's all-in-one structural solution is designed to resolve the challenges faced by healthcare construction professionals when sourcing versatile, affordable, safe mounting solutions above the ceiling. The IntegraMount™ Superstructure System is pre-engineered for all BERCHTOLD equipment, including lights, TELETOM®, video/power equipment, and flat-panel mounts.

Figure 4-5: IntegraMount™ Superstructure System

The compact design makes it the ideal option to fit in crowded interstitial spaces and allows for easy work-around for other infrastructure requirements, such as HVAC and MEP.

The IntegraMount™ also serves as a single contact point for ancillary electrical boxes, gas manifolds, and inlet/outlets. The required owner-supplied access panel in the finished ceiling provides bio-meds and facility maintenance staff with easy access to all electrical boxes, TeleVac2® Smoke Evacuation System motor, and gas risers, thereby minimizing repair or service-maintenance time.

⚠CAUTION

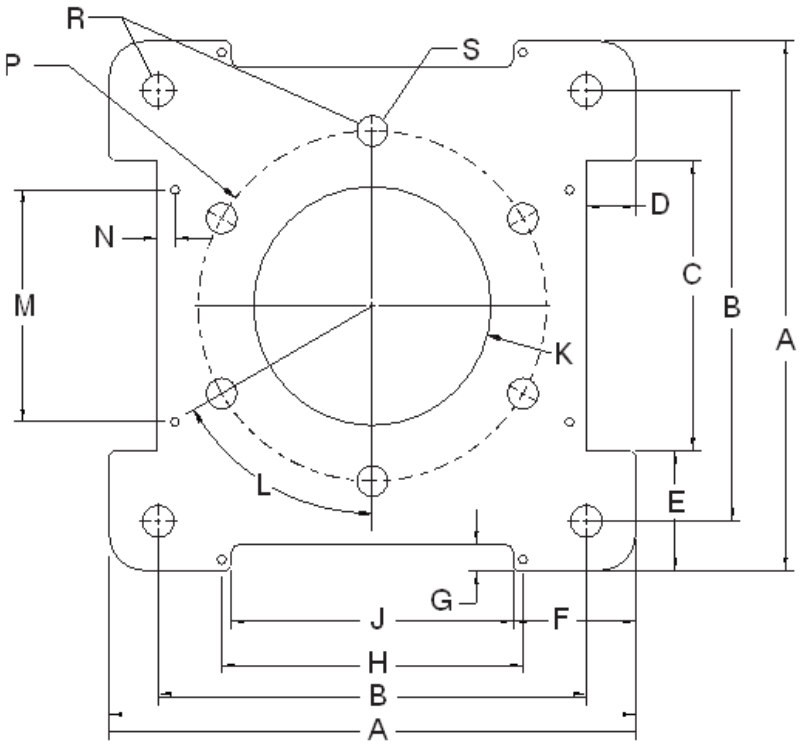
Do not attach anything (e.g., sprinkler pipes, electrical conduit, utility piping or duct work) to the IntegraMount™ Superstructure System. Additional attachments may throw the TELETOM's alignment and rotational balance out of kilter, which can cause the equipment to malfunction or to drift in a way that may cause injury.

The IntegraMount™ Superstructure System is designed to accommodate future redesigns of the room and equipment additions without the need to renovate the entire space. The IntegraMount™ can simply be moved if the room is redesigned. If the equipment load requirements change, the IntegraMount™ can easily be refitted with a mounting adapter kit to accommodate tandem mounts or additional equipment management systems.

Table 4-2: IntegraMount™ Superstructure System Features and Benefits

Features	Benefits
Slim Design	• Minimizes intrusion within interstitial space. • Foot Print less than 24-inch x 24-inch. • Easy to install mechanicals around. • Decreases the cost of installing mechanicals.
Variable Heights	• Customized to fit interstitial space. • Interstitial height range from 18-inch to 78-inch.
Versatile	• Will support any BERCHTOLD product.
Easy Installation	• Ready to install . • Standardizes the installation. • Shipped pre-assembled and ready to install.
Conformable	• Upgradable from single to tandem. • Bolts to site prepared by contractor. • Can be relocated if room design changes.
Peripherals	• Can mount peripherals onto unit. • Houses electrical box and gas manifolds. • Facilitates maintenance and trouble shooting. • Eliminates need to find a “home” for peripherals within the room(s).

4.4.4 TELETOM® Single Mounting Plate



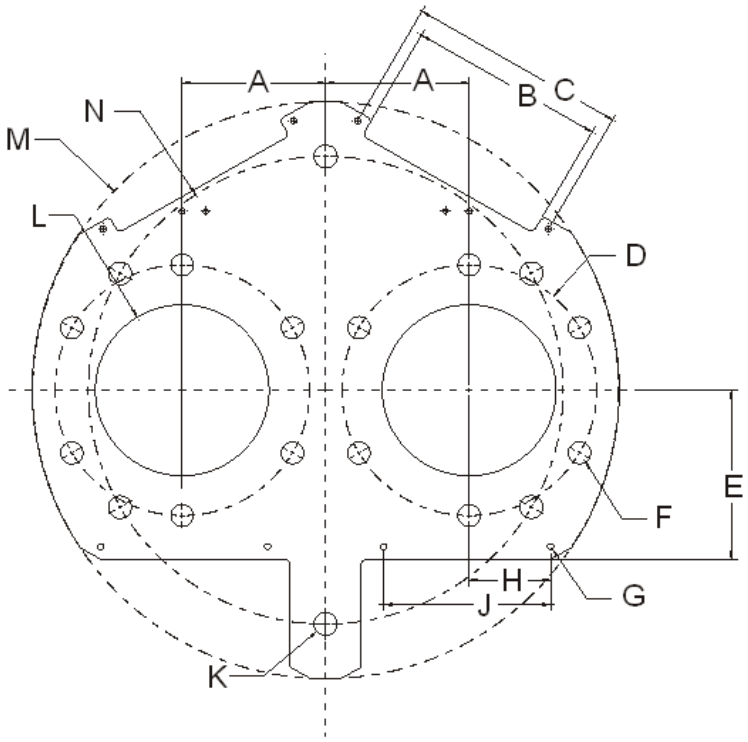
Legend:

A	=	15” (381mm)
B	=	12.2” (310mm)
C	=	8.27” (210mm)
D	=	1.37” (35mm)
E	=	3.37” (85.7mm)
F	=	3.48” (88.5mm)
G	=	0.75” (19mm)
H	=	8.58” (218mm)
J	=	8” (204mm)
K	=	Ø 6.77” (Ø 172mm)
L	=	60°
M	=	6.5” (165mm)
N	=	0.5” (12.7mm)
P	=	Ø10” (Ø252mm) B.C
R	=	Ø0.875” (Ø22.2mm)
S	=	Ø0.875” (Ø22.2mm) Threaded Rod

Figure 4-6: TELETOM® Single Mounting Plate

Refer to Section 4.4.2 for weights and moments when designing a TELETOM® single-mount superstructure.

4.4.5 TELETOM® Tandem Mount Plate



Legend:

A=5.6” (142mm)
B=7.67” (195mm)
C=8.58” (218mm)
D=Ø10” (Ø252mm) B.C.
E=6.69” (170mm)
F=Ø0.75” (Ø19.4mm) with all thread rods and bolts installed
G= Ø0.25”(Ø6.35mm)
H=3.15” (80.5mm)
J=6.5” (165mm)
K=Ø0.91” (Ø23mm)
L=Ø6.77” (Ø172mm)
M=Ø22.83” (Ø580mm) Mounting Plate Envelope
N=Ø18.50” (Ø470mm) B.C.

Figure 4-7: TELETOM® Tandem Mount Plate

Tandem Plate not applicable in California.

⚠CAUTION

Ensure that the tandem structure is mounted in the proper orientation by referring to the Equipment Configuration Drawings specifically related to the project.

Refer to Section 4.4.2 for weights and moments when designing a TELETOM® tandem-mount superstructure.

4.4.6 Medical Gas Valve Bridge Mounting, Ceiling Cover Envelope, and Access Panel

The TELETOM® owner and/or owner's contractor must:

- Ensure that the ceiling opening will accommodate the mounting plate and any and all accessories installed on it.

A pre-installation inspection before the finished ceiling is installed may allow the detection of potential interferences with the TELETOM® installation and permits for easy layout changes.

Owners typically order multiple TELETOM® equipment management systems to be installed in separate rooms/areas for different purposes. Each of these systems may be differently equipped, requiring different numbers and optional components.

It is important that the mounting requirements for each installation be evaluated individually.

⚠CAUTION

The owner and/or owner's contractor must ensure that non- TELETOM® components do not come within 1/2-inch of the TELETOM® ceiling cover boundary. Such components include:

- Lighting fixtures
- HVAC
- Sprinkler system heads
- Speakers
- Fire/smoke detector systems

The following sections discuss optional components that may be used during installation. Consult the Equipment Configuration Drawings related to the project to determine which accessories will be included with the unit.

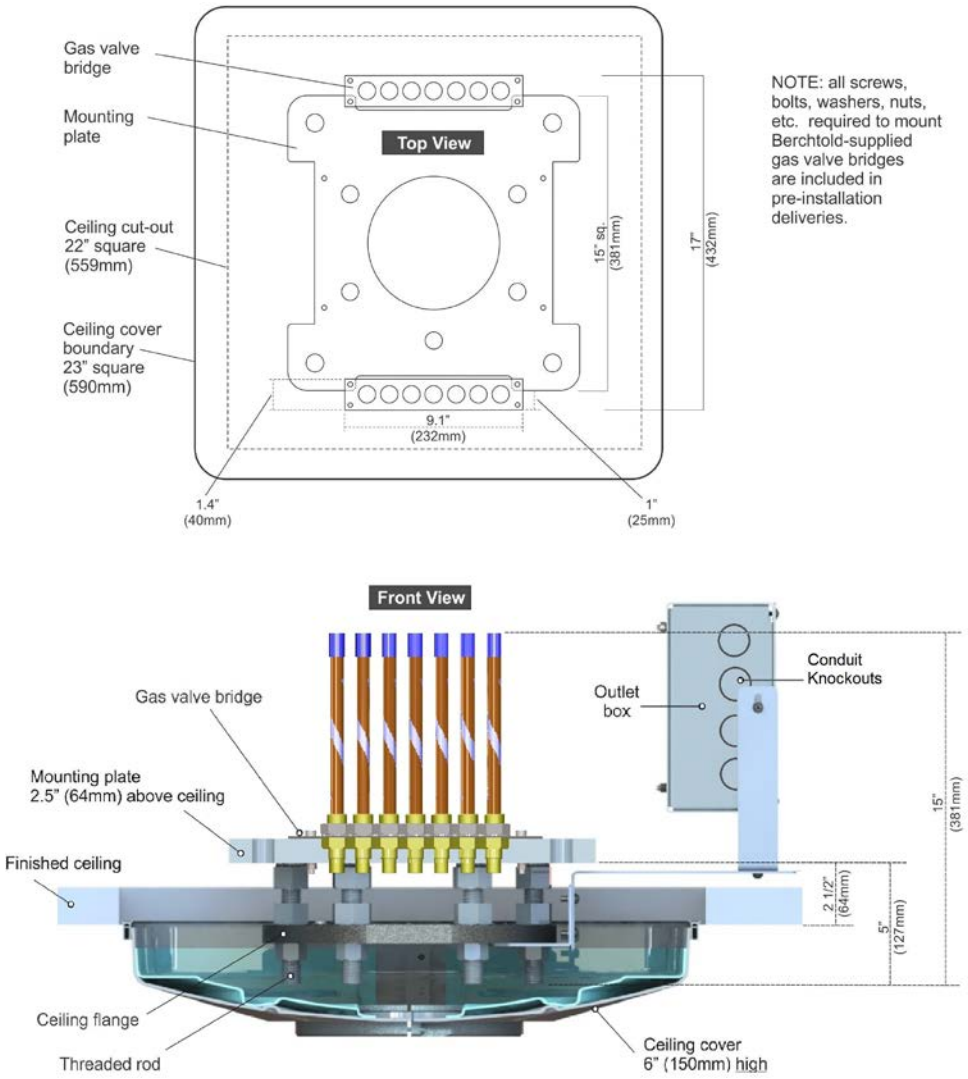


Figure 4-8: TELETOM® Single Mount Plate and Gas Valve Bridge

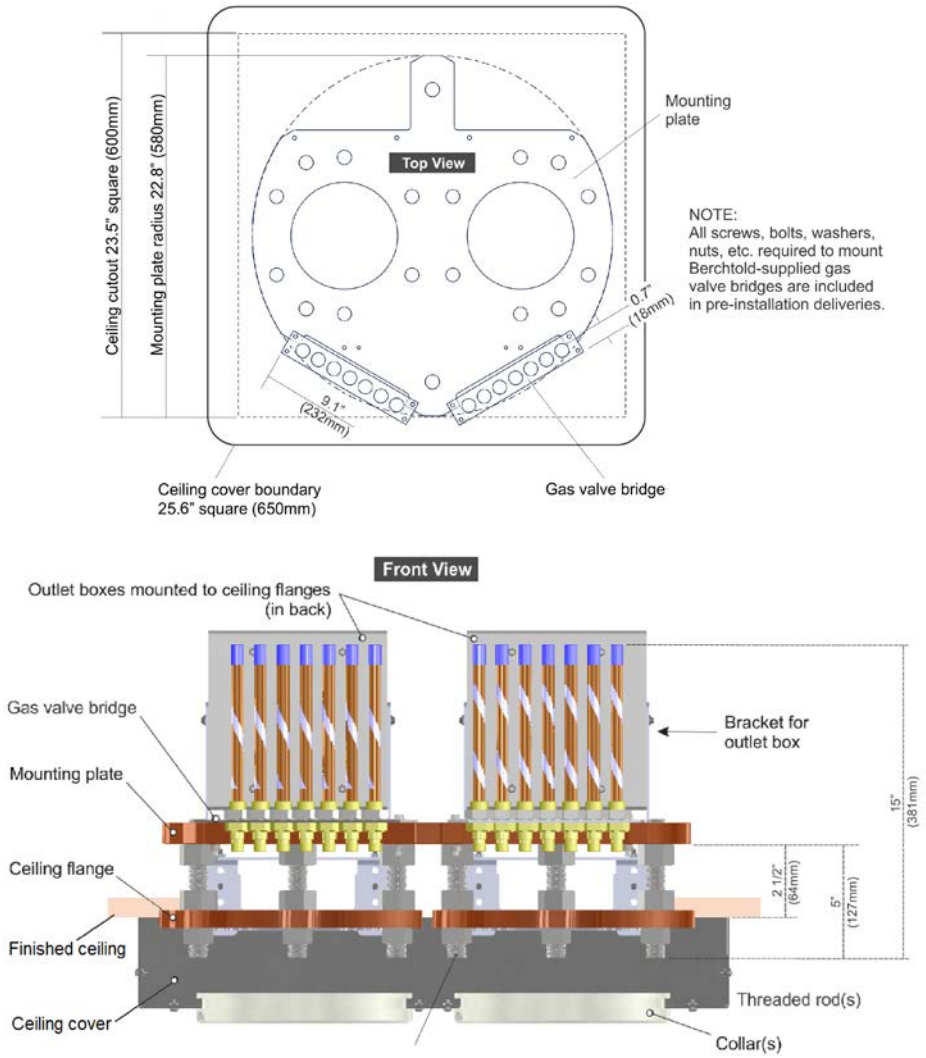


Figure 4-9: TELETOM® Tandem Mount Plate and Gas Valve Bridge

	⚠CAUTION
	Ensure that the tandem structure is mounted in the proper orientation by referring to the Equipment Configuration Drawings specifically related to the project.

	Tandem Plate not applicable in California.

5 Electrical Requirements

The owner and/or owner's electrical contractor must provide and install branch circuit wiring from the panels to the TELETOM® in code-complaint conduit, terminating at the BERCHTOLD-supplied TELETOM® Outlet box for field wiring connection. All of the TELETOM® electrical circuits terminate in screw type connectors within the TELETOM® Outlet box, which is secured to the TELETOM®'s flange plate to provide a redundant ground path.

If a TELETOM® combination is equipped with a light, the DC power circuit and lighting control cabling (CAN bus) will originate in the TELETOM® Combination Junction Box (lights). The DC power circuit and the lighting control cabling (CAN bus) will terminate in the TELETOM® Combination Junction Box.

Low-voltage/data and video cables will be run from points designated by the owner and/or owner's contractor, or third party Integration Company to designated outlets on the TELETOM®.

	All low-voltage/data and video cable is required to run through flexible conduit located within the TELETOM®.

The owner and/or owner's contractor is responsible for ensuring that all installed electrical, low-voltage/data, and video components comply with applicable electrical codes and that all wiring and conduit runs described for the specific installation are completed before the product can be installed.

For technical questions, contact BERCHTOLD Technical Service at 800-243-5135, Option 2.

5.1 Field Wiring

Each TELETOM® unit may include one or more Outlet Boxes for filed wiring connections. Refer to the Equipment Configuration Drawings for the type and quantity of circuits required.

	Refer to the order specifications to determine the TELETOM® electrical components and options supplied for the unit(s).

5.1.1 Electrical Outlet Box

BERCHTOLD provides one or more electrical Outlet Boxes. The Outlet Boxes are secured to the flange plate for a redundant ground path.

- Each Outlet Box is marked with the type of branch circuit inside the box: Emergency or Normal Power and either isolated or non-isolated.

	The owner and/or owner's contractor is responsible for final terminations.

- Each Outlet Box contains wiring terminals and a ground buss bar. The TELETOM® wiring is secured on the output side of each terminal, and the field wiring needs to be secured to the input side. The buss bar is common to input and output. The torque requirements for the terminal strips and the ground buss bar are specified on the Outlet Box.

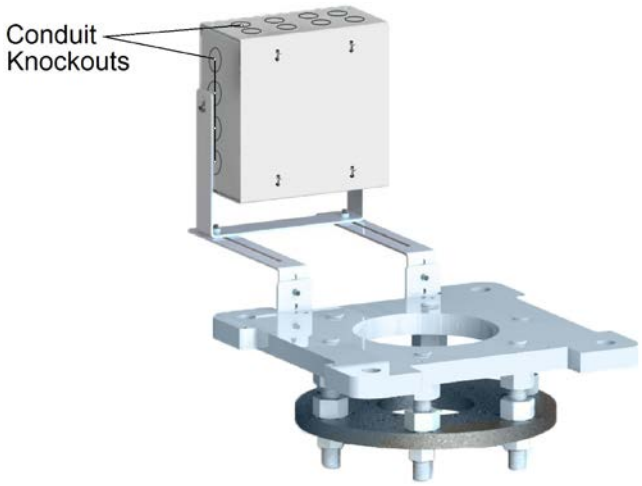


Figure 5-1: Outlet Box on Single Mounting Plate

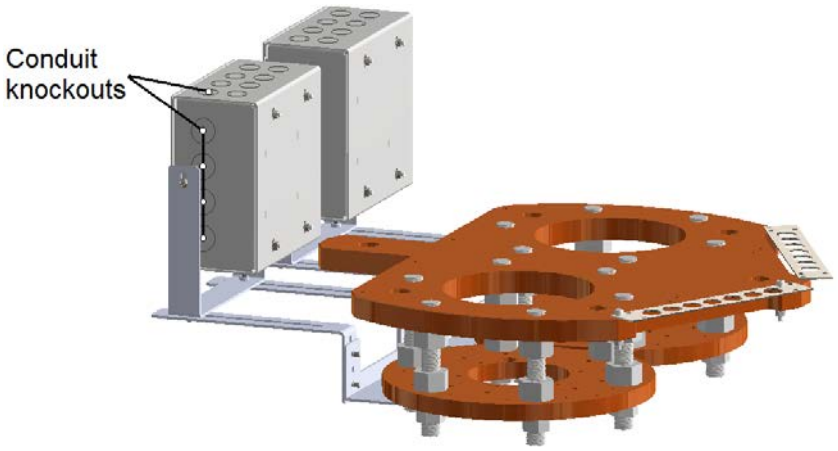


Figure 5-2: Outlet Boxes on Tandem Mounting Plate

⚠WARNING

If the Outlet Boxes are loose or not secured to the flange plate, stop the installation and secure the boxes, as they are part of the system's redundant grounding path.

TELETOM®s intended for installation with the IntegraMount™ Superstructure System will be shipped with the Outlet box electrically connected, but the conduit will be disconnected for transport.

5.2 Owner/Contractor Electrical Responsibilities

5.2.1 High-Voltage Conduit

The contractor is responsible for running code-compliant conduit from the breaker panel to the electrical Junction Box. The number of branch circuits is included in the customer order file. The Berchtold-supplied Outlet Box contains knockouts for ½-inch, ¾-inch, and 1-inch conduit.

5.2.2 High-Voltage Circuit Connections

The TELETOM® equipment management system, which includes the arm systems and service module, UL listed (E343738) to meet NFPA 70 (2011 NEC), UL guide KEZR, Prefabricated Headwalls and Medical Supply Units, and UL Guide KEXS (E352032), Isolated Power Systems to UL 1047. Both are also listed to UL 60601-1 2nd Ed, Medical Electrical Equipment, Class I type B.

The branch-circuit wiring inside the TELETOM® is separated and grounded in accordance with the NEC. The arm systems and service module together are classified as a redundant ground.

The Outlet Box secured to the product ceiling flange provides the redundant grounding path from the branch circuit conduit and must not be removed.

Standard 120VAC isolated branch-circuit wiring will always be 12AWG stranded copper wiring with striped Orange and Brown with XHHW-rated insulation.

120VAC non-isolated branch-circuit wiring will always be 12AWG stranded copper wiring with black and white THHN-rated insulation.

According to the NEC, branch circuits from the emergency system and branch circuits from the normal system must be separated, as must isolated branch circuits and non-isolated branch circuits. If a TELETOM® contains multiple types of branch circuits, they must remain separated throughout the run to their respective panels.

The branch circuit field connections are made after the TELETOM® is installed. The Outlet Boxes can be accessed via the required panel in the ceiling. The electrical contractor needs to run the proper branch circuit wires via conduit to the appropriate Outlet Box, and secure the conduit to the Outlet Box.

⚠WARNING

The branch circuit conduit must be secured to the Outlet Box using conduit connectors listed for grounding as they are part of the system's redundant grounding path.

Be sure that the appropriate branch circuits are run to the proper Outlet Boxes to avoid mixing normal and emergency system branch circuit wiring and isolated and non-isolated branch circuit wiring if the TELETOM® is wired with multiple types of circuits.

Inside the Outlet Box, the circuit wires are labeled for connection to the incoming branch circuit, and the safety ground wires must be secured to the buss bar. After inserting the branch circuit wires into the terminals and the ground wires into buss bar, tighten the wires to the torque value specified on the Outlet Box label.

5.2.3 Low-Voltage Electrical Requirements

5.2.3.1 National Fire Protection Association 70, 2011 and 2008

NFPA 70, 2011 and 2008 versions, section 517.80, specifies that class 2 and 3 low voltage wiring do not need to meet the grounding (517.13) and mechanical protection (517.30), or to be enclosed in raceways. The Standard TELETOM® is designed to the 2011 code, thus the standard version; the low voltage tubing will exit the TELETOM® to a length of 3 feet.

The flexible tubing is intended for 3rd party telephone, data, video, and other applications. The cabling for the low-voltage devices and connections is routed through an electrically isolated compartment in the service module. Running these cables to the termination location and termination in the facility is the responsibility of the owner, the owner's contractor, or a low-voltage component supplier.

The tubing may be empty for on-site installation of cables in the field. For applications where low-voltage cables will be installed in the field, the owner, the owner's contractor, or a low-voltage component supplier is responsible for pulling the cables through the TELETOM®, running these cables to the termination location, and termination in the facility.

BERCHTOLD personnel are required to be on site for internal service module access.

5.2.3.2 National Fire Protection Association 70, 2005 and Prior

NFPA 70, 2005 and prior versions, section 517.80, does not specify that class 2 and 3 low voltage wiring do not need to meet the grounding (517.13) and mechanical protection (517.30), or to be enclosed in raceways; thus they need to be in raceways.

TELETOMs® ordered to meet 20056 and prior codes will be shipped with the low-voltage tubing terminated in Outlet Boxes like those illustrated in Figure 5-1: Outlet Box on Single Mounting Plate and Figure 5-2: Outlet Boxes on Tandem Mounting Plate. The difference is that the Outlet Box will not contain a buss bar and terminal blocks.

If the tubing contains cables for third-party telephone, data, video, and other applications, it will normally exit the box and be strapped to the TELETOM® due to the volume being larger than that of the box. The box cover will be off and strapped to the TELETOM® for installation at a later time.

The owner and/or owner's contractor, or a low-voltage component supplier is responsible for bringing code-complaint conduit to the Outlet Box, pulling the cables through the conduit to the termination location, and termination in the facility.

The tubing may be empty for on-site installation of cables in the field. For applications where low-voltage cables will be installed in the field, the owner, the owner's contractor, or a low-voltage component supplier is responsible for bringing code complaint conduit to the Outlet Box, pulling the cables through the conduit to the termination location, and termination in the facility.

BERCHTOLD personnel are required to be on site for internal service.

5.3 Electrical Power Outlets

- The TELETOM® service module may carry multiple hospital-grade receptacles.
- Standard receptacles are rated at 20 Amps, but other ratings can be supplied if specified.
- Receptacles are wired together in groups.
- There are a maximum of 3 receptacles per circuit and a maximum of 12 circuits per TELETOM® unit.

	See the Equipment Configuration Drawings for specifics.

5.4 TELETOM® Motor, Brake, and Internal Power Requirements

	Brake systems should be on emergency power but are not required to be on isolated power systems (check local code requirements).

(Not associated with electrical power outlets)

- The owner must supply power to the TELETOM®.
- Power must be 120 VAC 50/60 Hz from a dedicated source.

5.4.1 Duty Cycle of Brakes and Motor

Brakes: 16 percent duty cycle
Time rating | Max 5 min. “ON” | 31.25 min. “OFF”

Motor: Time rating | Max 25 sec. “ON” | 300 sec. “OFF”

5.5 BERCHTOLD Parts Requirement

Use only original BERCHTOLD parts which can be purchased from authorized dealers or directly from BERCHTOLD.

	**⚠WARNING**
	Risk of injury if incorrect parts used. Incorrect or defective parts can cause damage, malfunction, or complete failure of the product, and may compromise safety.

6 Medical Gas/Plumbing Requirements

BERCHTOLD supplies a medical gas riser for installation on the TELETOM® mounting plate. The riser includes:

- Valve bridge(s)
- Diameter Index Safety System (DISS) connections with single check valves for positive pressure gases
- Testing caps

A compressed air riser with ¼-inch NTP fitting is available for installation on the valve bridge if requested. It must be attached to the mounting plate and facility gas lines before installation of the equipment can begin.

Medical gases are delivered through the TELETOM® via medical grade hoses. All hoses are NFPA compliant.

Medical gas risers comply with NFPA 99 Section 5 - 2005. They are shipped in advance of the TELETOM® equipment and must be attached to the mounting plate before installation of the equipment can begin.

6.1 Medical Gas Riser Installation

6.1.1 Single Option

- Medical gas risers are to be mounted on the bridge(s).
- Valve bridges are to be mounted in appropriate locations on the TELETOM® mounting plate.
- If two bridges are required, they must be mounted directly opposite each other on the single mounting plate as seen in Figure 6-1, as determined by the mating holes. When only one bridge is needed, it can be mounted on either side.

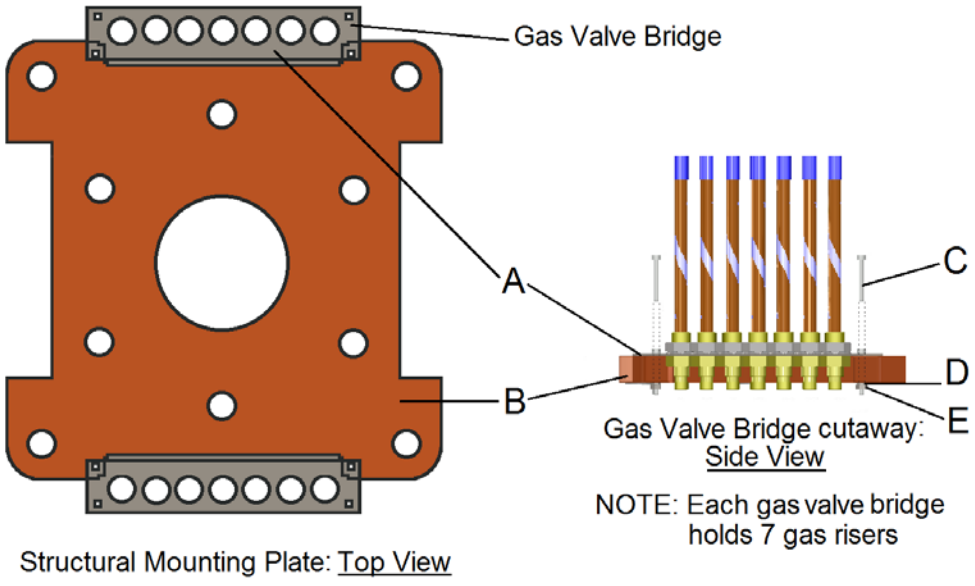


Figure 6-1: Medical Gas Riser Connection to TELETOM® Mounting Plate

6.1.2 Tandem Option

The Tandem option is available in a 14-gas-valve riser configuration. Installation screws, washer, and nuts are shipped with the valve bridge(s).

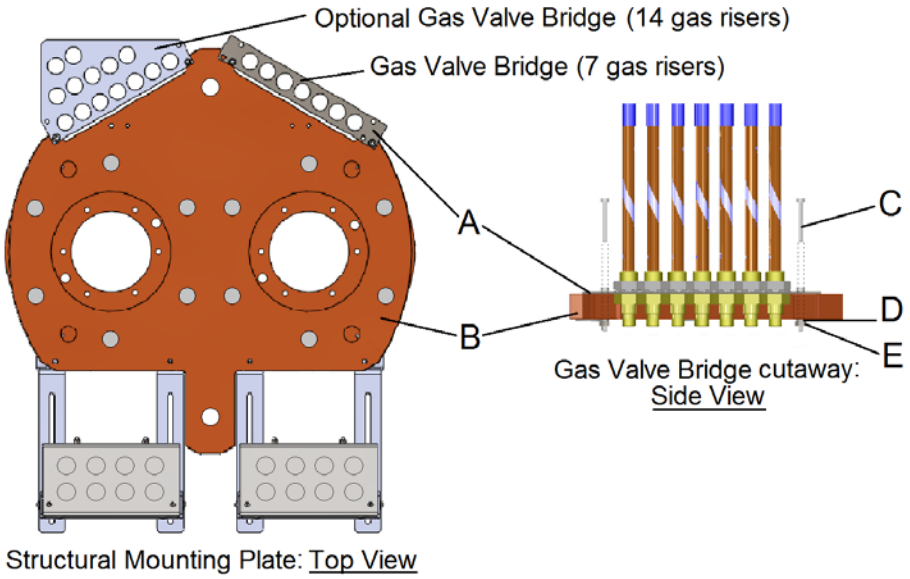


Figure 6-2: 14-Gas-Valve Riser

	Medical gas risers are 8-inch high with ½-inch outside diameter.

6.1.3 Securing the Bridge to the Mounting Plate

1. Place the bridge (#1) on top of the mounting plate and align to the mating holes.
2. Insert a bolt (#2) through each hole of the gas valve bridge and mating holes in the mounting plate, and secure with a washer (#3) and nut (#4).

TELETOM® equipped medical gas tubing will be attached to the supply side of the medical gas risers when installation is complete.

	The medical gas valve bridge must be mounted in the area intended.

6.2 Owner Pre-installation Medical Gas Riser Requirements

After installation of the TELETOM® is complete, the owner and/or owner's contractor must make the final gas connections to the equipment.

The owner must pipe the medical gases from the building supply to the TELETOM® medical gas riser location prior to installation of the TELETOM® equipment.

- Piping must be completed according to local and national code requirements.
- Test results must be made available to BERCHTOLD installers.

7 Terms of Use

7.1 Limited Liability

All specifications and notices in this manual were compiled using best practices and regulations, the current state of technology, and BERCHTOLD's many years of experience and knowledge.

The manufacturer assumes no liability for damages resulting from:

- Non-compliance with the operating instructions
- Improper operation
- Work performed by untrained personnel
- Unauthorized modifications
- Technical changes
- Installation of non-approved spare parts
- Performance of unauthorized installation and maintenance work

Explanations and illustrations in this manual may deviate from the actual product delivered for special models, additional options, or the latest technical changes.

All obligations are applicable as agreed to in the delivery contract, the general terms and conditions, the manufacturer's delivery terms, and any regulations legally valid at the time the contract was concluded.

BERCHTOLD reserves the right to make technical modifications to improve and further develop the products.

7.2 Warranty

Warranty provisions and general terms and conditions can be found on and downloaded from the BERCHTOLD website:

http://www.berchtoldusa.com/contact-us.

7.3 Copyright

The Pre-Install Manual should be treated as confidential to and for the exclusive use of persons handling the equipment. This manual may not be transferred to third parties without written approval from BERCHTOLD.

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7.4 Customer Service

For technical questions, contact BERCHTOLD Technical Service at 800-243-5135, Option 2.

To contact BERCHTOLD via web, visit:

http://www.berchtoldusa.com/contact-us

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Phone: 843-569-6100
Phone: 800-243-5135
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E-Mail Info@berchtold.biz

7.5 Regulatory Information

The device is UL listed (E343738) to meet NFPA 70 (2011 NEC), UL guide KEZR, Prefabricated Headwalls and Medical Supply Units, and UL Guide KEXS (E352032), Isolated Power Systems to UL 1047. Both are also listed to UL 60601-1 2nd Ed, Medical Electrical Equipment, Class I type B.

For over 90 years, BERCHTOLD has been a world leader in the design and manufacture of quality medical equipment. With our focus on improving patient outcomes, we deliver best in class products, experienced planning and project management and service with a personal touch. We measure our success by the quality of our customer and employee relationships.

Our products and services ...

- CHROMOPHARE® surgical and examination lights
- ChromoVision® video and camera systems
- ChromoView monitor arms
- TELETOM® equipment management systems
- OPERON® surgical tables including a full range of accessories
- SUPERSUITE® custom surgical environments
- ByDesign™ surgical room design software
- Design, consulting, project management and customer support
- Factory trained service and installation support
- ORICS® COMMUNICATION SYSTEMS
  (this product available outside of the USA)
- IntegraMount™ construction mounting solution

We invite your inquiry and the opportunity to assist in the planning, design and installation of your next clinical environment.

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