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Related documents

The following documents are also available:

- T3 Room Recommendations Guide 119076
- Maintenance Guide: 78-19801
- Cable Schematics: 78-19798
- Room Installation Guide: 78-19802
- Quick User Reference Guide: 78-19804
- Document Camera Assembly Guide: 78-19800
- Ceiling Lights Assembly Guide: 78-19799
- System Assembly Guide: 78-19803

With the exception of the Room Recommendations Guide all of these documents are supplied with the Systems they describe. Should you nevertheless need any of these documents, contact your Cisco partner.

Updates by May 2011

- Minor clarifications to remove possible ambiguities. Drawings updated to show a third row of ceiling lights.

Updates by August 2010

- New way of installing the LED lights behind the glass panes.
- The lattice construction description and associated drawings have been updated reflect the LED installation procedure.
- List of materials needed for lattice construction, including the amount of insulation needed, has been included.
- Tips on laying the (now optional) carpet tiles have been added.
- Wall panel thickness is now 13 mm (used to be 12.5 mm).
- Ceiling lights installation has now been moved to a separate document.
- Document camera installation has now been moved to a separate document.

- Extra sets of acoustic panels have now been added to the sidewalls, replacing earlier panels to improve the perceived acoustics of the room.

Updates by November 2009:

- The door requirements description has been changed.
- The lattice construction description and associated drawings have been updated to accommodate space for LEDs.
- List of materials needed for lattice construction, including the amount of insulation needed, has been included.
- The glass pane installation description has been revised. This includes the description of where to attach the rubber moulding D-profile along the black aluminium profiles to prevent stray light from emitting from the gap between the glass pane and the wall.
- LED type description now includes new type.
- Document camera cabling description has been added/improved.
- Rendering of the room.
- Rendering of lattice structure.
- Door matters.
- Lattice structure allowing space for LEDs.
- Document camera cable considerations.
- Wall lattice construction—Inner dimensions.
- Door matters and lattice structure.
- Illustration of panels types supplied now includes the adaption panel (1200 x 280 [mm]) to be inserted above the door.
- Drawing showing how to mount the upper profiles onto the lattice.
- Drawings showing glass panes and LED mounting.
- Main lighting drawing.
Planning / initial steps

Included in the Cisco TelePresence System Immersive Room Package

- T3 Glass wall accessories
- T3 Glass walls
- T3 LED lights
- T3 Wall panels assembly
- T3 Wall panel corner assembly
- T3 Border and profile assembly
- T3 Main lighting
- Carpet tiles package (optional)
- Gloves and safety glasses for use when handling the glass panes

Not included in the Cisco TelePresence System Immersive Room Package

- Wall lattice construction materials: 80 studs of 48 mm × 73 mm, each with a length of 2.40 m, corresponding to approximately 80 studs of 1⅛ × 2½, each with a length of 8.
- Entrance door
- Rockwool® or similar insulation material 7 m² of Rockwool or similar, thickness 50 mm, corresponding to approximately 75 square feet of 2” insulation.
- Make sure the insulation material thickness does not exceed the thickness of the lattice construction. Otherwise the mounting of the wooden panels will not be possible.
- Safety glasses for wearing when handling the glass panes.

Suggested Workflow

Preparing your room:

- Electricity 2 days
- HVAC 3 days
- Walls w/wooden structure 1 week
- Ceiling 1 day

Cisco Immersive Room:

- Glass panes 1 day
- Wood panels 2-3 days
- Carpet 1 day
- Lighting 2 days

Special tools required

- Saw for gypsum with integrated dust extraction
- Measuring band in [mm] (millimeters) would be handy for the critical dimensions.

Before you start

We strongly recommend that you start your planning with a meeting. Make sure you include all the people needed:

- Project manager and assistant(s)
- Carpenters, painters, electricians, mechanical engineer
- HVAC (heating, ventilation, air conditioning) specialists
- IT personnel
- Architect

It is of vital importance that all parties agree on who is going to do what and when, before you start to install the system.

Room Size

<table>
<thead>
<tr>
<th>Room Dimensions</th>
<th>Minimum</th>
<th>Optimal / Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>4630 mm</td>
<td>4880 mm</td>
</tr>
<tr>
<td>Width</td>
<td>6815 mm</td>
<td>7195 mm</td>
</tr>
<tr>
<td>Height</td>
<td>2400 mm</td>
<td>2650 mm</td>
</tr>
</tbody>
</table>

Wall finish

- All four walls should be painted white, semimatte.
- The finish should be flat and without holes, but need not be totally perfect.
- Make sure no cables end up being visible behind the blue wall.
- No holes must be made higher up and no wall outlets must be mounted higher up than 10 cm (4”) above the floor.

Above: Defining the terms depth, width and height. Note that room dimensions refer to an empty room before T3 specific walls and ceiling have been mounted.

Tip! More on room size can be found in the document Cisco TelePresence System T3 Room Recommendations.

Tip! You may want to consult the document Cisco TelePresence System T3 Room Recommendations for the requirements on:

- Heating, ventilation and air-conditioning
- Electrical Outputs
- LAN Outputs
- Ceiling
About the Wall lattice construction

Before the panels can be mounted, you will need to build the wall lattice structure.

**Note!** The items for this are not included. Suitable materials should be sourced locally.

**Observe the following:**

- We recommend that you start by determining the vertical center line of the front and rear walls. The light opening for the blue glass should then be positioned symmetrically about this line.

**Note!** Light opening dimensions are critical dimensions needed for perfect fitting of the glass panels! See the following page for details!

- The vertical studs must **not** go all the way up to the ceiling. They must stop at the highest horizontal cross member.

- The upper cross members must not let light through, i.e. there must be no gap between the white walls and the inner surface of the cross members (where the walnut panels shall be attached).

  **Note!** Failure to do so will cause visible stripes of light on the white walls above the glass panels.

- The distance from the front of the wall panels/glass wall, to the inner wall should be approximately:
  - 14 cm (5 3/8”) in the front and rear
  - 8.5 cm (3 7/8”) in the sides

These distances are due to the need for sufficient space for the LED lights behind the blue glass walls and for sufficient space for the acoustic perforated panels on the side walls.

- Some rooms have floors that are not entirely level. This means that the height to the ceiling may vary about the room.

  **When taking measurements of the room always use the lowermost point of the floor as your reference plane!**

  This may force you to cut the baseboard somewhat in some places, but the result will look far better than if the baseboard fails to go all the way down to the floor.

**Wall lattice construction materials:**

- 80 studs of 48mm × 73mm, each with a length of 2.40 m corresponding to approximately 80 studs of 1 5/8” × 2 7/8”, each with a length of 8’

**Rockwool® or similar insulation material:**

- 7 m² of Rockwool® or similar, thickness 50 mm corresponding to approximately 75 square feet of 2” insulation
Door location (I)

The door is not a part of the Cisco TelePresence System Immersive Room package. The minimum door opening is 99 cm (39"") fitting a 98 cm door. The maximum door opening is 121 cm (47½"") fitting a 120 cm door. The door should open outwards. Failure to comply with this may conflict with regulations and codes requiring that wheelchair access to the room shall not be obstructed.

Light opening for the door: 990 mm × 2080 mm, corresponding to 39" × 82". If you choose to use a door with other dimensions, the light opening size should reflect this.

1 cm = 10 mm = 2/5"

Local codes may dictate that an emergency power switch is installed to enable total system switch-off. Wherever applicable, the emergency power switch should be located outside the room, adjacent to the entrance.

At the same time—on the inside, adjacent to the exit—there shall be a sign with the following text:

Full System Power Cutoff Switch is located on the outside of this room. For emergency use only!
Door location (II)

- Door and door frame should be painted black. Suggested RAL color, if possible, is “Verkehrsschwarz 9017 9017 silk matte”. Otherwise semi matte black will do.
- The door frame should be mounted flush with the inside walnut panel!
- A taller door will require that you cut the upper panel.
- A lower door will require extra framing—paint this black.

Examples: optimal door height / taller door height

Note! If the actual door dimensions or location diverges from the recommended dimensions and location, panel adaptions can be made in the indicated areas.
We recommend that you start building the lattice structure by determining the vertical center line of the front and rear walls.

The blue glass panes shall be mounted symmetrically about this center line.

As indicated in the above drawing, a spacing of 1 mm (1⁄25") is required on the far right and the far left edges of the glass panes.

This means that the total width of the light opening is as stated in the above drawing.

The light opening dimensions for the glass panes are critical and care should be taken to ensure sufficient accuracy!

The distance from the front of the wall panes/glass wall, to the inner wall should be approximately:

- 14 cm (5 1⁄2") in the front and rear
- 8.5 cm (3 1⁄4") in the sides

The upper cross members must not let light through, i.e. there must be no gap between the white walls and the inner surface of the cross members (where the walnut panels shall be attached).

**Note!** Failure to do so will cause visible stripes of light on the white walls above the glass panes.
Document camera cable considerations

As an option, the system may include a document camera suspended from the ceiling above the table. The cabling from this camera will be connected to the system.

Ideally, a 10 cm (4") diameter suitable conduit designed to accommodate the document camera cabling should have been inserted behind the white wall to prevent it from becoming visible through the blue glass panels. The conduit needs to be that wide in order to make cable threading easy where the conduit bends.

See the separate document “Room Recommendations” for more on this matter.

If insertion of the conduit behind the white wall was not possible to implement, the conduit will have been positioned as shown.

Doc Cam can be located across any of the table locations if dictated by existing ceiling services.
Inner dimensions (I)

This drawing shows the crucial internal dimensions for the optimal room.

- Inside wall nut panels dimensions
- Distance between construction lattices
- Thickness of walnut panels + profile fixings.

If the room is larger than this the wooden panels will fail to cover the walls. Larger rooms will require a lattice structure thickness sufficient to cope with this.

If the room is smaller the wooden panels will need to be adjusted and cut. As a last resort you may consider a lattice structure with less thickness. That will affect the properties of the acoustic panels and may also affect the perceived color of the blue panes.
Inner dimensions (II)

Wall lattice construction materials:
- 80 studs of 48 mm x 73 mm, each with a length of 2.40 m, corresponding to approximately 80 studs of 1½” x 2¾”, each with a length of 8’

Rockwool® or similar insulation material:
- 7 m² of Rockwool® or similar, thickness 50 mm, corresponding to approximately 75 square feet of 2” insulation
Inner dimensions (III)

- Maximum height: 85 [3\(\frac{1}{2}\)]
- Centerline
- Area for insulation boards
- Suspended ceiling
- Optimal/maximum room height
- 2650 [104\(\frac{1}{2}\)]
- 3597 [141\(\frac{1}{2}\)]
- 3352 [132\(\frac{1}{2}\)]
- 2972 [117\(\frac{1}{2}\)]

**NB!** Only behind system.

- Cable conduit for Document Camera. Conduit end close to floor. Minimum conduit diameter: 100 mm 4”
- 4 x Built-in outlets
- 2 x built-in LAN

- Hardwire outlet for LED Lights 
  Length: 1500 mm 59”

Lattice construction is shown as viewed from within the room.
Insert Rockwool® or similar in the areas marked. This is where the acoustic perforated panels are to be attached.

Make sure the insulation material thickness does not exceed the thickness of the lattice construction. Otherwise the installation of the wooden panels will not be possible.

**Note!** The carpet tiles package is an optional part of the immersive room package.

Start in the corner closest to the entrance door.
The wooden panels

**Note:** These items are included in the Immersive Room Package.

**What to unpack:** Unpack the three boxes marked
- T3 Wall panels assembly
- T3 Wall panel corner assembly
- T3 Border and profile assembly

**Box contents:**
- The box marked “T3 Wall panels assembly” contains aluminum baseboards (not shown), in addition to the items shown to the right.
- The box marked “T3 Wall panel corner assembly” contains corner baseboards (not shown), in addition to the items shown to the bottom right.
- The box marked “T3 Border and profile assembly” contains border lists, in addition to the five kinds of profiles shown in the upper rightmost Fig.

**Caution:** It is of utmost importance that you start with the corners.

The below elements are located in the box marked “T3 Wall panels assembly”:

- 8 pcs Wall Panel
  - 980 × 280 × 13 [mm]
- 24 pcs Wall Panel
  - 980 × 490 × 13 [mm]
- 1 pc Wall Panel
  - 1200 × 280 × 13 [mm]
- 4 pcs Wall Panel
  - 980 × 490 × 13 [mm]
  - Acoustic
- 8 pcs Wall Panel
  - 1480 × 280 × 13 [mm]
  - Acoustic

The below elements are located in the box marked “T3 Wall panel corner assembly”:

- 2 pcs Wall Panel Bend
  - 914 × 280 × 13 [mm]
- 8 pcs Wall Panel Bend
  - 914 × 490 × 13 [mm]

The below elements are located in the box marked “T3 Border and profile assembly”:

- 2 pcs Wall Panel Bend
  - 1354 × 280 × 13 [mm]
- 8 pcs Wall Panel Bend
  - 1354 × 490 × 13 [mm]

Profiles contained in the “T3 Border and profile assembly” package.

**Tools needed**

- Integrated dust extraction
- Back of Wood Panel
- Aluminum Profile
- Saw for Gypsum with guide rail

All rooms regardless of size will require that at least some panels are cut to measure. An arrangement like this may be of great help if you need to cut close to the bend.
When applying the panels observe the distances and spaces to be applied.

Do as follows:
1. Start at the bottom and build your way up.
2. Fasten the profile E vertically on the lattice next to the glass walls (it will constitute the border between the wooden panels and the glass walls).
3. Continue by cutting the profile A in appropriate lengths (from the edge of the corner profile in one corner to the edge of the corner profile at the start of the next corner).
4. Fasten the lowermost profile A as shown below.
5. Place the wooden panel in level position. The E profile must have been attached in beforehand (see the previous page for more on this).

6. Insert profile C (466 mm) in the vertical slots between the panels and bend profile C (370 mm) in the slotted curve. These will need to be cut to fit.

7. Then cut profile B in the same manner as you did with profile A and attach the profile as shown. Continue with more panels.

Note! Be sure to cut panels with the backside up, in order to minimize the risk of damaging the front of the panels.

8. The profile D is to be used at the top of the topmost panel while profile A is to be used below the perforated acoustic panels above the glass panes.

The profiles mounted on top of the topmost panels should be fastened to the top lattice by means of screws.
9. Apply the perforated panels as outlined (indicated by the red rectangles). Make sure the insulation material has been inserted before the perforated panels are applied.

10. Attach the aluminum base boards to the lowest profile A around the whole room. The front of the baseboards shall be indented 5 mm from the front of the panels.

11. Cut holes in the aluminium base boards behind the system to provide entrance for the cables.

The blue walls and the LED lights

The blue glass panes and the LED lights to be mounted behind the panes are included in the Immersive Room Package.

There are two blue walls altogether, one behind the participants (behind the chairs) and one behind the system.

What to unpack: Unpack the two boxes marked
- T3 Glass wall Accessories
- T3 Glass walls

Tip: Wear gloves and safety glasses at all times when handling the glass panes.

Caution! The glass panes should be handled by authorized personnel only.

Caution! Glass panes should always be stored in upright position.

Caution! The weight of the entire glass pane should never rest on just one corner.
Box contents

- The box marked “T3 Glass wall Accessories” contains the following items:
  - In addition, the box contains a rubber moulding D-profile 8×8 with tape, as well as the screws and nuts required.

- The box marked “T3 Glass walls” contains the following items:
  - 8 glass panes, each consisting of 9 mm (5⁄16") glass, with the dimensions of 1964 mm × 1480 mm (6' 5 3⁄8" × 4' 10 1⁄4") and with a weight of 65 kg (142 lbs) per pane.
  - The glass panes are to be mounted with aluminum profiles, fastened with brackets, joint brackets and adjusting screws and nuts. Brackets are fastened with M5 screws.

Do as follows:

1. Mount the upper profiles to the lattice.

2. Adjust so that the upper profile holding the glass will be flush with the vertical black side profile (the one closest to the panes).

3. Mount the angle brackets onto the lower profile (drill holes for the M5 screws in this profile). This will fix the distance between the wall and the lower profile. Where to attach these angle brackets is outlined in the Fig to the right. Finally mount the feet.

**Note!** It is of utmost importance that the distance between the profiles is 7-8 mm (¼") more than the glass panel length (height when mounted). Otherwise you will not be able to mount the panels!
Note! Lamps must be installed by qualified personnel only. Local regulations and requirements may apply.

4. Now unpack the box marked “T3 LED module assembly”
5. Mount the LED lights as shown above and below:

Putting the LED lamps correctly on top of the brackets.

LED organisation for Philips eW Graze Powercore
6 x jumper cables (jumper cables and leader cable supplied by Cisco)

6. Carefully unpack the glass panes. You may have to use a sharp knife to remove imperfections along the edges. Wipe the glass clean, if needed. Wear gloves at all times to avoid leaving stains on the panes. Glass panes must always be stored in an upright position.

Caution! The weight of the glass pane should never rest on just one corner.

Note! The glass panes should be mounted with the matte side inwards (i.e. into the room).

7. Place a glass pane in one of the two middle positions (use the profile as basis for alignment).

The glass panes installation will require a minimum of two persons. Insert the glass panes into the profiles by lifting the glass so that the top of the glass touches the surface of the top profile. Then slowly sink the glass into the groove of the bottom profile.

8. Remove the protection tape from two of the spacers and mount them on the glass pane edge as shown below:

9. Place the second pane in the other middle position.

10. Mount four more spacers as shown below. Exact position is not critical.

11. If space permits, attach the rubber moulding D-profile along the black aluminium profiles to prevent stray light from emitting from the gap between the glass pane and the wall.

12. Mount the two remaining glass panes.

13. Remove all six spacers.

14. Give the panes a gentle push. If this produces a rattling sound, adjust the feet below the panes to fasten. If there is an uneven spacing between the glass panes then adjust the feet until the spacing between two glass panes becomes uniform. The bottom of the glass panes will then not be level.
Color charts

These are the colors used in the Cisco Telepresence System T3 Immersive room package.