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Installer Standards and Orientation

At ZoboTV, we set the bar higher than our competitors. We have a reputation as a professional, efficient, and highly knowledgeable company. Our installers are our “ambassadors” in the field. It is your job to reinforce this reputation, and to project the right image to our customers. We have high expectations of our installation team because we know they are up to the task. We are like a football team, and enter into every job with a game plan. We hustle and get the job done right. What follows are the installer expectations and guidelines:

- Be on time. If you’re going to be late, call your supervisor. Failure to do so will result in dismissal.
- Dress appropriately. Blue jeans are fine, but no holes are allowed. Low hanging cargo pants and jewelry are also not allowed.
- Any facial hair must be trimmed and well groomed.
- Your lead technician is your boss. He is in charge on the jobsite. If he is not satisfied with your performance he can recommend dismissal.
- You’re expected to be polite and courteous to ZoboTV customers.
- Never disparage in front of customer. Never make negative comments about ZoboTV, salespeople, our competitors, etc. Always remain positive.
- Ask permission before using customer’s bathroom

Your performance will be evaluated at regular intervals. With a positive review comes higher pay and advancement opportunities. You will be evaluated at the following times:

- 2 weeks after hire date by lead technician and supervisor:
  ➢ to determine your progress.
- 2 months after hire date by supervisor:
  ➢ to determine eligibility for full assistant technician position.
  ➢ to approve pay raise to assistant technician level.
- 1 year after hire date by supervisor:
  ➢ to determine eligibility for lead technician position.
  ➢ To approve pay raise to lead technician level.

Our company believes in team effort and giving 110% to get the job done right. Installers who demonstrate their desire to succeed in this effort will be rewarded. You are now a part of an elite group of home theater enthusiasts. Will the right work ethic and attitude, you will succeed in your goals and ours.

Welcome to the team!!!
**Installer Training Schedule**

- **Week 1:**
  - **Day 1:**
    - Home Theater 101
    - Showroom tour
    - Equipment Orientation
    - System connection review
    - Zobo wiring standards
    - Study Installation Script
  - **Day 2:**
    - Verbal Exam on Installation Script
    - Wire termination training
    - Projector mount assembly
    - Study Installation Script
    - Study Installation Checklist
    - Study Plasma Installation Procedure
    - Study Front Projection Installation Procedure
  - **Day 3:**
    - Verbal Exam on Installation Script & Checklist
    - First day assisting installation team in the field
  - **Day 4 and 5:**
    - Assist installation team in the field

- **Week 2:**
  - **Day 1 – 4:**
    - Assist installation team in the field
  - **Day 5:**
    - Performance review
    - Assist installation team in the field

- **Week 3 – 8:**
  - Assist installation team in the field
  - **End of Week 8:**
    - Formal review by supervisor for elevation to full Assistant Installer status
ZoboTV Installer Advancement Requirements

Lead 3

1) Qualified to Train All Levels of Technicians
2) Ability to Hookup and Configure all OFE Equipment
3) Ability to Completely Program the MX-350, 850, and 3000 Remotes from Scratch
4) Perfect Customer Feedback for Past 90 Days
5) Ability to Completely Hookup Multiroom/Multisource Systems
6) Ability to Perform Full Video Calibration
7) Extensive Troubleshooting Ability (Single/Multiroom, etc)
8) Ability to Manage All Customer Service Issues

Lead 2

1) Ability to Perform all MX-350 & MX-850 Programming from Scratch
2) Ability to Hook Up and Program a Multiroom/Multisource Whole-Home Audio System
3) Ability to Complete all Installs with Minimal Assistance
4) Ability to Hookup and Calibrate OFE Peripherals
5) Qualified to Train Lead 1 Technician

Lead 1

1) Ability to Perform all Typical MX-350 & MX-850 Programming
2) Must Know all ZoboTV Procedures
3) Ability to Perform all Retro/Multiroom Wiring
4) Ability to Perform all Equipment Calibration
5) Must be Able to Perform all Audio and Video (DVD) Calibrations
6) Must Ensure that Helper Adheres to all Policies
7) Ability to Hook Up a Multiroom Single Source System
8) Qualified to Train Helper Technician

Helper 2

1) Ability to Complete Attic or Crawl Wiring with Minimal or No Assistance
2) Additional 120 Days Experience Past Probationary Perion
3) Ability to Assist Lead Technician in all Wire Pulling
4) Ability to Make all Custom Wiring
5) Ability to Terminate Multiroom Audio
6) Know the Front Projector Installation Procedure
7) Know the Plasma Installation Procedure

Helper 1

1) 60 Days Experience
2) Basic Understanding of Zobo Wire Pulling Standards
3) Follow Directions from Lead Technician
4) Adhere to Zobo Policies
5) Must Be Able to Carry 120 with Assistance
<table>
<thead>
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<th>Tools to be Provided by Technician</th>
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<tbody>
<tr>
<td>1. Hammer</td>
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<tr>
<td>2. 10 in 1 Screwdriver &amp; Tips</td>
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<tr>
<td>3. Razor Knife</td>
</tr>
<tr>
<td>4. Inspection Mirror</td>
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<tr>
<td>5. Hacksaw (Optional)</td>
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<tr>
<td>6. Side Cutting Pliers</td>
</tr>
<tr>
<td>7. Wire Striping Tool</td>
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<tr>
<td>8. Stud Finder</td>
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<tr>
<td>9. Tape Measure</td>
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<tr>
<td>10. Mini Mag Light</td>
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<tr>
<td>11. ¼” Socket Adapter for Drill</td>
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<tr>
<td>12. 3/8” Socket Adapter for Drill</td>
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<tr>
<td>13. Phillips Head Screwdriver Set</td>
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<tr>
<td>14. Flat Head Screwdriver Set</td>
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<tr>
<td>15. Drywall Saw</td>
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<tr>
<td>16. Allen Wrench Set</td>
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<tr>
<td>17. 6” Level</td>
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<tr>
<td>18. Diagonal Cutters</td>
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<tr>
<td>19. Needle Nose Pliers</td>
</tr>
<tr>
<td>20. Tweaker</td>
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</table>
LEAD TECH Role & Responsibilities

Zobo installation crew arrives at the job site during the promised 1-hour arrival window and parks truck in the street.

LEAD will have a tape measure, pencil and clipboard with the job’s Picking List.

LEAD will have blue booties in hand and be ready to put them.

LEAD knocks on the door, steps back and smiles.

NOTE: If the salesperson is setting up the job, then he/she will assume the role of the LEAD during the walk through.

“Good Morning Mr./Mrs. _______. My name is [first name] and this is [first name]. We are from Zobo and are here to install your new home entertainment (or theater) system.”

PAUSE … wait to be invited into the home.

Put on blue booties after stepping into the foyer.

LEAD may want to break the ice with a comment like: “We appreciate you allowing us to start this early in the morning.” Then say:

“Ma’am (or Sir), we are going to need a few minutes of your time before we begin. We need you to show us where you would like the system installed, and we need to ensure we have a clear path to that room.

“To get started, will you show us the door you would like us to use?”

During the walk from the designated door to the installation location, the LEAD must look for the following:

✓ Is there a clear path for moving the components and furniture into the house?

TECH 2 Role & Responsibilities

TECH 2 will have blue masking tape and duffel bag containing the drop cloths, tool/equipment blanket, and neoprene mats.

TECH 2 will have blue booties in hand and be ready to put them.

TECH 2 stands two steps behind the LEAD and smiles.

Put on blue booties after stepping into the foyer.
Will the furniture and TV fit through the door(s), around corners, and up the staircase?

LEAD may need to use the tape measure and furniture dimensions (listed on the Picking List) to ensure everything will fit.

Are there fragile items, such as vases, lamps, or pictures, that need to be moved? If so, the LEAD must ask:

“To ensure these (pointing to grandma’s ashes) do not get damaged, may we move them?”

If the answer is “yes”, then the follow-up question is “Where should we place them?”

If the answer is “no”, then the follow-up question is “Will you move them for us?”

Once in the room, LEAD and customer must identify the SS Main and/or film screen location as well as the position of any seating.

For front projection packages, the location of the projector mount will be determined by the projector’s throw distance and film screen size (see Projector Throw Distance Matrix on clipboard).

“Mr. (or Mrs.) __________, as you saw at the store, the projector needs to be ___ feet from the film screen. This means your first row of seating will be here. Therefore, we will need to place your rear surround sound speakers here.”

The “here” will be determined by these factors: 1) attic access, 2) crawl space access, 3) feasibility of running wires under carpet, and 4) running wire along baseboard.

“Mr. Customer, we are all set. We will be here ___ to ___ hours (depends on job). When we are finished we will need 15 minutes of your time to demonstrate how the system works.

“Will you and your wife (husband) be here at that time?”

Wait for Answer … “Great! If you don’t have any other questions, we’re going to get started.

“May we park in your driveway?”

TECH 2 notes locations where the fragile items need to be moved.

TECH 2 also notes original location(s) to ensure all items are returned to their proper location at the end of the installation.

TECH 2 marks speaker locations with blue tape.

TECH 2 confirms access to cable TV/ satellite jacks and power.
LEAD lays out tool/equipment blanket as well as the drop cloth at Surround Sound Main (SS Main).

LEAD moves any fragile items (noted earlier) out of the walkway to the exterior door.

LEAD rolls out neoprene mats (or paper) from the SS Main to the designated entrance to the home, then removes blue booties.

LEAD moves the truck into the driveway (with customer's approval).

LEAD carries in the following items and holds door open for TECH 2:

- Tool bag with drill
- Glow rods

Places LOAD 2 on the tools/equipment blanket.

TECH 2 lays out drop clothes at surround sound speaker locations.

TECH 2 moves any fragile items (noted earlier) out of the walkway to the exterior door.

TECH 2 rolls out neoprene mats (or paper) from the SS Main to the designated entrance to the home, then removes blue booties.

TECH 2 stands in driveway and directs LEAD if he is backing in the truck.

TECH 2 opens the back of the truck and carries in the following items:

- Speaker Wire
- In-wall/In-ceiling Speakers

Places LOAD 2 on the tools/equipment blanket.

INSTALLATIONS WITH A CRAWL SPACE

LEAD verifies feasibility of marked SS Main and speaker locations with the assistance of TECH 2.

LEAD brings the 4’ ladder in from the truck.

LEAD puts on safety glasses.

LEAD cuts in speaker holes, drills holes (with verification of TECH 2), and fishes wire.

LEAD installs rear speakers.

TECH 2 goes to truck and puts on crawl suit and miner’s light. He carries the Crawl Tool Bag and rubber boots to the crawl space entrance. The rubber boots may be left at the entrance if crawl space is not muddy.

TECH 2 goes under house to verify SS Main and speaker locations.

TECH 2 pulls wire back to SS Main and staples wire. Ensures all video and speaker wires cross power wires at 90 degree angles.

TECH 2 returns to truck and takes off crawl suit [and rubber boots] then puts Crawl Tool Bag back into place.

TECH 2 brings in plasma bracket or projector mount (except on DEN jobs), vacuum cleaner, and 4’ level.
LEAD dresses SS Main.

LEAD carries out drill bits and glow rods.

**INSTALLATIONS WITH ATTIC SPACE**
(Same as procedure above)

**INSTALLATION WITH NO ATTIC OR CRAWL**
(Same as procedure above)

---

LEAD helps place lower section of cabinet on loading gate and carries it in with a shoulder dolly.

The cabinet console will be placed 2 feet in front of the SS MAIN. Fold the shoulder dolly and place it on the equipment blanket – make sure to leave room for equipment.

Follow LEVELING PROCEDURE.

LEAD goes back to truck with level.

LEAD carries in receiver, DVD player, and digital cable box, if applicable.

LEAD unpacks surge freezer bag and the speaker wire bag behind console.

LEAD hooks up equipment per Zobo Procedures.

Bugs are connected to RF receiver in order (1-6) from top to bottom or left to right.

LEAD places the speaker wires over the front of the cabinet and places the video wires through the hole in the console.

---

TECH 2 puts sheetrock cut outs in trash bag, vacuums thoroughly, folds drop cloths, and applies magic wipe at each location. The drop cloths are put in the carry bag.

TECH 2 carries out drop cloth and wire.

**INSTALLATIONS WITH ATTIC SPACE**
(Same as procedure above, except TECH 2 puts on blue footies when working in the attic insulation.)

**INSTALLATION WITH NO ATTIC OR CRAWL**
(Same as procedure above except TECH 2 gets Nice Duct from truck and begins installation.)

---

TECH 2 helps place lower section of cabinet on loading gate and carries it in with a shoulder dolly.

The cabinet console will be placed 2 feet in front of the SS MAIN. Fold the shoulder dolly and place it on the equipment blanket – make sure to leave room for equipment.

Follow LEVELING PROCEDURE.

TECH 2 goes back to truck with shoulder dollies.

TECH 2 carries in powered subwoofer and surge protection.

TECH 2 unboxes each piece of equipment, writes its serial number on the front cover of the corresponding manual, and slides in front of cabinet.

TECH 2 writes down the serial number of the old cable box (if applicable) as well as the new cable box.

TECH 2 puts manuals in folder, then puts wrapping in trash bag and Styrofoam back in box. Puts empty boxes next the stairs.

TECH 2 puts bugs on equipment using Zots, adds a bead of silicon to the bugs, and puts leads back in cabinet.

TECH 2 takes tape off of the DVD tray and puts remotes on the left of each device in the cabinet.
BOTH move console against the wall.

BOTH verify cabinet is still level.

LEAD goes to truck and brings hutch parts into the house (probably 2 trips).

BOTH assemble the hutch on the floor in front of the console.

LEAD pulls the speaker wire through the holes in assembled hutch and ties the wires in a loop so they will not fall back through the holes.

BOTH lift hutch on top of the console.

LEAD goes to truck and brings back the gift DVD.

LEAD makes sure all doors are level and shut, and makes adjustments as needed.

LEAD installs cabinet speakers in hutch (if applicable).

BOTH go to truck and unbox the TV.

BOTH carry in TV and place it part-way in the cabinet.

LEAD hooks up video cables to TV. Drop power cord in slot in back of hutch.

LEAD test remote control and functionality of the overall system.

INSTALLATION OF SEATING
BOTH go to the truck and bring in seating in packing blankets. Each piece will be put into place before the next piece is brought in.

If recliners, LEAD sits in recliners and works the reclining mechanism 5 times.

LEAD runs automatic acoustic calibration.

LEAD tweaks remote and does video calibration.

LEAD demos system to customer and presents the customer with the free Eagles DVD.

LEAD enthusiastically thanks customer for business.

BOTH move console against the wall.

BOTH verify cabinet is still level.

TECH 2 goes to truck and brings hutch parts into the house (probably 2 trips).

BOTH assemble the hutch on the floor in front of the console.

BOTH lift hutch on top of the console.

TECH 2 goes to truck and gets cabinet speakers (if applicable), and places them on equipment blanket.

TECH 2 helps LEAD make adjustments to hutch as needed.

BOTH go to truck and unbox the TV.

BOTH carry in TV and place it part-way in the cabinet.

TECH 2 pulls TV power cord into subwoofer opening and plug into surge protector.

TECH 2 installs stuffing around subwoofer.

TECH 2 cleans up speaker boxes, then takes trash and 4’ ladder back to truck.

INSTALLATION OF SEATING
BOTH go to the truck and bring in seating in packing blankets. Each piece will be put into place before the next piece is brought in.

If recliners, LEAD sits in recliners and works the reclining mechanism 5 times.

TECH 2 calls in Time Warner activation, if applicable.

TECH 2 does final clean and wipe down.
**Installation Final Checklist**

**Cabinetry**
- Leveled
- Doors open and close properly
- Cabinetry is wiped down and dust-free

**Components Properly Connected**
- DVD player & HD cable box connected via digital coax (audio) cables and component video cables
- Satellite connected by Toslink audio cable and component video cables
- Receiver connected to TV via component video cable
- Optional: HDMI/DVI cables connected from sources (DVD players, HD satellite/cable boxes) directly to TV
- AM and FM antennas connected
- MRA system controller and sources connected via analog audio cables

**Surge Suppression**
- All CATV or SAT feeds run through surge suppressor
- Satellite phone line run through surge suppressor
- All devices plugged into surge suppressor
- Surge suppressor properly mounted, if applicable

**Receiver Calibration & Radio Pre-sets**
- All available AM/FM stations programmed in pre-sets
- Speaker calibration completed (MCACC for Elite)
- Rattles and buzzing eliminated

**Receiver DSP Modes**
- DVD Input – Dolby Digital for 5.1 Systems (Dolby Digital EX for 7.1 Systems)
- TV/SAT Input – Dolby Digital for 5.1 Systems (Dolby Digital EX for 7.1 Systems)
- TUNER – 5-Channel Stereo for 5.1 Systems (7-Channel Stereo for 7.1 Systems)
- CD Input – 5-Channel Stereo for 5.1 Systems (7-Channel Stereo for 7.1 Systems)
- CD-R/Tape Input – 5-Channel Stereo for 5.1 Systems (7-Channel Stereo for 7.1 Systems)
- DVR/VCR Input – ProLogic II
- VIDEO 1 Input – TBD based on Source
- VIDEO 2 Input – TBD based on Source

**DVD Player Setup**
- Audio Output set to Dolby Digital and bitstream (PCM should never be used)
- DTS enabled
- Video Output set for 16:9 aspect ratio
- Progressive Scan set to “On”

**Digital Cable or Satellite Box Setup**
- Output formats sets to 480p, 720p and 1080i
- TV format set to 16:9
- Output options for 4:3 set to Stretch or Sidebars (Based on customer preference)
- Set Recording & Playback Audio Levels to 100 (TimeWarner DVR Settings Menu)

**Video Calibration**
- Projector focused using test pattern
- Keystone adjustments completed
- Video calibration completed
  1. Brightness
  2. Contrast
  3. Tint
  4. Color
  5. Brightness and contrast rechecked

**Remote Control Setup**
- Unnecessary buttons or pages deleted/hidden
- All buttons tested
- Program 2 Favorites for music channel chosen by the customer
- Macros and page jumps tested
- IR Ports assigned to specific devices
- IR blaster turned off in remote control programming
- IR emitters installed with silicon
- RF receiver mounted
- RF frequency changed to a clear channel & tested (Channel F by default; never on Channel 0)

**Cleanliness**
- Construction debris removed
- Packing material & boxes has been removed (Customers asked if they would like to keep the receiver & DVD player boxes)
- All areas vacuumed
- Finger prints and smudges wiped off all walls, ceilings, electronics & furniture
- Customer’s furnishings restored to original positions

**Final Demonstration**
- Customer given remote control demonstration
- Customer is given cheese cloth and instructed on proper screen cleaning
- Customer is given complimentary DVD and sales person’s business card
- Customer told to call the sales person for customer service; if not available, call the store
- Customer is thanked for his/her business
<table>
<thead>
<tr>
<th>Projector</th>
<th>92&quot; Screen</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
</tr>
<tr>
<td>Sony VPL-HS51</td>
<td>9.3 Ft</td>
</tr>
<tr>
<td>Hitachi PJ-TX100</td>
<td>9.1 Ft</td>
</tr>
<tr>
<td>SharpVision XV-Z2000</td>
<td>8.4 Ft</td>
</tr>
<tr>
<td>SharpVision XV-Z12000U</td>
<td>12.7 Ft</td>
</tr>
</tbody>
</table>
Cabinet Installation and Leveling Procedure

1. Bring in console section:
   a. Lead and assistant technician carry console section into customer’s house and place it 2 feet out from wall at SS Main location.

2. Level console:
   a. Adjust feet to below edge of base.
   b. Open ALL doors.
   c. Set 4 foot level on top of console (left to right).
   d. Adjust console feet by using hex key in slots on inside front corner of left and right cabinet until level left to right.
   e. Set 4 foot level on top of console (front to back).
   f. If bubble is close to center and doors latch, stop here regardless of if it is perfectly leveled and proceed to step “p”.
   g. Adjust console feet by using hex key in slots on inside back corners of left and right cabinet until level front to back.
   h. Recheck left to right level and adjust accordingly.
   i. Set 4 foot level on top of console (front right corner to back left corner).
   j. Check door catch fit periodically.
   k. Adjust console feet by using hex key in slots until level.
   l. Set 4 foot level on top of console (front left corner to back right corner).
   m. Adjust console feet by using hex key in slots until level.
   n. Recheck left to right level and adjust accordingly.
   o. Recheck front to back level and adjust accordingly.
   p. Confirm that doors open and close properly.
   q. Wipe down inside of console.

3. Place equipment in console and make connections:
   a. Ensure all necessary TV cables (component video, etc) are draped over top of console.

4. Move console back against the wall

5. Bring hutch in from truck:
   a. Place (DO NOT SLIDE) on top of console and line up back edge with rear of console.
   b. Center hutch (left to right) on console.
   c. Bolt down hutch if it has doors.
   d. Confirm that doors open and close properly.
   e. Wipe down inside of hutch.

6. Place (DO NOT SLIDE) TV in hutch:
   a. Center TV in opening.
   b. Connect all necessary cables.
Plasma Installation Procedure
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- **Installation Over Fireplace**
  - Step 1: Mark studs, mantle header board, and purlins with painters tape
  - Step 2: Find center of mantle
  - Step 3: Place laser level above plasma location and project laser down along center line of wall
  - Step 4: Measure plasma, mount, and center channel height off of mantle
  - Step 5: Measure and mark front speaker locations
  - Step 6: Measure and mark mount
  - Step 7: Measure and mark power and video cut-ins
  - Step 8: Measure and mark nose plate cut-in
  - Step 9: Cut out speakers, power, video, and nose plate cut-ins
  - Step 10: Drill all necessary holes in studs above fireplace
  - Step 11: Pull all wires
  - Step 12: Install plasma mount
  - Step 13: Trim out power and video outlets behind plasma
  - Step 14: Install speakers
  - Step 15: Hang plasma

- **Installation Over Console (43” Elite with 31” High Console)**
  - Step 1: Mark studs, purlins, etc with painters tape
  - Step 2: Find center of wall
  - Step 3: Place laser level above plasma location and project laser down along center line of wall
  - Step 4: Measure plasma, mount, and center channel height off console
  - Step 5: Measure and mark front speaker locations
  - Step 6: Measure and mark mount
  - Step 7: Measure and mark power and video cut-ins
  - Step 8: Measure and mark nose plate cut-ins
  - Step 9: Cut out speakers, power, video, and nose plate cut-ins
  - Step 10: Drill all necessary holes in studs
  - Step 11: Pull all wires
  - Step 12: Install plasma mount
  - Step 13: Trim out power and video outlets behind plasma
  - Step 14: Install Speakers
  - Step 15: Hang plasma
Plasma Mounting Procedure

A. Installation Over Fireplace (43” Elite):
   1. Mark studs, mantle header boards, and purlins with painters tape.
   2. Find center of mantle.
   3. Place laser level above plasma location and project laser down along center line of wall
   4. Measure plasma, mount, & center channel height off mantle:
      a) Center channel below plasma:
         1. Measure 2 – 4 inches from mantle for bottom of center channel speaker, taking mantle header board into account (it may need to be notched/cut out when speaker opening is cut in). Make a light mark and label it “c”
         2. Measure or fold center speaker template in half to find horizontal center
         3. Line up speaker template on top of mark from step 1 and center using laser line
         4. Level template and secure with 2 drywall screws
         5. Use carpenters pencil to lightly mark around the edge of the template
         6. Measure 4 inches above center channel outline, make a light mark and label “p” for plasma height off mantle
         7. Measure 3 ½” up from bottom of plasma and mark “m” for mount
         8. Measure 13 1/8th” up from bottom of plasma and mark “pc” for plasma center
      b) Center Channel above plasma
         1. Measure 1 – 2 inches above mantle, make a light mark and label “p” for bottom of plasma
         2. Measure 3 ½” up from bottom of plasma and mark “m” for mount
         3. Measure 13 1/8th” up from bottom of plasma and mark “pc” for plasma center
         4. Measure 26 ¼” up from bottom of plasma and mark “p” for top of plasma
         5. Measure and place a mark 4 inches above top of plasma mark
         6. Measure or fold center speaker template in half to find horizontal center
         7. Line up speaker template on top of mark from step 4 and center using laser line
8. Level speaker template & secure with 2 drywall screws
9. Use carpenters pencil to lightly mark around the edge of the template

5. Measure and mark front speaker locations:
   a) Measure 25 ¾” out from laser line on left and right side, lightly mark, and label “s” for front channel speakers (these will be the inside edge of each speaker – Installers may have to adjust accordingly to account for studs).
   b) Move laser line to left side and project line along plasma center line (pc) from step 4
   c) Measure or fold speaker templates in half to find vertical center
   d) Line up speaker templates with marks from step “a” and center using laser line
   e) Level speaker templates and secure with drywall screws
   f) Use carpenters pencil to lightly mark around the edge of each template

6. Measure and mark mount:
   a) Place plasma mount on wall & line up with mark “m” from step 4, then line up with available studs (keeping mount as close to center as possible)
   b) Level the mount
   c) Installer 2 holds mount in place while Installer 1 marks holes for lag bolts & outlines the inside edges of the mount for power and video cut-in box locations
   d) Place mount to the side

7. Measure and mark power and video cut-ins:
   a) Place power cut-in box on wall beneath upper arm on the mount, taking stud locations into account (note: power outlet should be placed on opposite side of the mount to the direction of the wire run – i.e. if equipment is being placed to the left of the fireplace, the power outlet should be placed on the right side of the mount)
   b) Use carpenters pencil to lightly mark around the edge of the power cut-in box
   c) Place video cut-in on wall beneath upper arm on the other side of the mount, taking stud locations into account
   d) Use carpenters pencil to lightly mark around the edge of the video cut-in box

8. Measure and mark nose plate cut-in:
   a) Place double-gang cut-in on wall behind console location, ensuring placement is between studs
   b) Level and mark cut-in on wall
9. Cut out speakers, power, video, and nose plate cut-ins:
   a) Using drywall saw, cut out drywall for center & front channel
      speakers, as well as power, video, and nose plate cut-ins
      (speakers may require notching/cutting out of studs)

10. Drill all necessary holes in studs above fireplace:
    a) Drill 3/8” hole in stud between speaker cut-in and mount for
       speaker on opposite side of the mount to the wire run (i.e. if the
       equipment is being placed to the left of the fireplace, drill hole in
       stud for front right speaker).
    b) Drill 2 holes in stud between power box cut-in and video link
       cut-in:
       1. 3/8” hole for speaker wire from step “a”
       2. 3/8” hole for power (Romex)
    c) Drill 3 holes through stud between video link cut-in and other
       front channel speaker:
       1. 1” hole for power (Romex)
       2. 1” hole for center channel and front channel
       3. 1” hole for video link
    d) If nose plate cut in from step 9-a is one stud bay over from the
       front channel speaker (i.e. NOT in the same stud bay):
       1. Drill one 1” hole in stud separating the two stud bays
       2. Drill a second 1” hole directly underneath previous hole
       3. Connect the two to create one large oval hole

11. Pull all wires:
    a) Pull wiring for speaker on opposite side of the mount to the wire
       run (i.e. if the equipment is being placed to the left of the
       fireplace, pull wire for right front speaker) from speaker cut in
       through stud hole drilled in step 10-a and out through power box
       cut-in, label wire as the appropriate speaker, then pull enough to
       reach equipment location & cut wire
    b) Pull Romex and speaker wire through holes drilled in step 10-b,
       out through video link cut-in, then pull enough Romex to reach
       equipment location & cut wire
    c) Pull speaker wire up through center channel cut-in and out
       through video link cut-in, mark wire as “center”, then pull
       enough to reach equipment location & cut wire
    d) Pull Romex, 2 speaker wires, and video link through stud holes
       drilled in step 10-c and out through front channel speaker cut-in
       on same side as video link cut-in
    e) Pull all wiring through nose plate cut-in:
       1. If nose plate is in same stud bay as speaker:
          a. Fish glow rod up through nose plate cut-in and out
             through speaker cut-in.
b. Secure video link, power, and 2 speaker wires to glow rod
c. Secure an additional speaker wire to glow rod and mark it as the remaining front channel speaker
d. Pull glow rod with wiring attached down and out of nose plate cut-in
e. Pull enough of the speaker wire from step d to match the length of other wires, then cut at speaker location
f. Attach nose plate

2. If nose plate cut-in is in one stud bay over
   a. Fish glow rod up through nose plate cut-in
   b. Use hook to grab glow rod end through oval hole drilled in step 10-d and pull it out through speaker cut-in
c. Secure video link, power, and 2 speaker wires to glow rod
d. Secure an additional speaker wire to glow rod and mark it as the remaining front channel speaker (leave wire connected to wire box until it is pulled)
e. Pull glow rod with wire attached down and out of nose plate cut-in
f. Pull enough of the speaker wire from step d to match the length of other wires, then cut at speaker location
g. Attach nose plate

12. Install plasma mount:
   a) Install mounting brackets on back of plasma
   b) Place mount on wall and line up with mark “m” from step 6
   c) Level the mount, then double check its alignment
d) Installer 2 holds mount in place while Installer 1 drives one lag bolt into stud
e) Check that the mount is still level and adjust as necessary
f) Installer 1 drives remaining lag bolts into mount

13. Trim out power and video outlets behind plasma:
   a) Install power box and kit in power cut-in
   b) Install video cut-in
c) Strip needed RG59 video link cables & attach BNC connectors
14. Install speakers:
   a) Connect positive and negative wire to the back of center channel speaker
   b) Place speaker in proper cut out, check with level, and adjust as necessary
   c) When speaker is level, tighten screws until secure
   d) Repeat steps a through c for each front channel speaker

15. Hang plasma:
   a) Connect plasma’s power cord to outlet on wall
   b) Move power cord & video link wiring to the side and hook behind lower arm of mount
   c) Flip power switch on bottom of plasma to the “on” position
   d) Lift plasma and lower onto mount, ensuring the brackets hook onto upper and lower arm of mount
   e) Connect power cord to plasma
   f) Connect video link BNC connectors to appropriate inputs on bottom of plasma (component/composite video, etc)
   g) Conceal all wiring behind plasma

B. Installation Over Console (43” Elite with 31” High Console):
1. Mark studs, purlins, etc with painters tape
2. Find center of wall
3. Place laser level above plasma location and project laser down along center line of wall
4. Measure plasma, mount, & center channel height off console:
   a) Measure 35” from floor for bottom of center channel speaker. Make a light mark and label it “c”
   b) Measure or fold center speaker template in half to find horizontal center
   c) Line up speaker template on top of mark from step 3 and center using laser line
   d) Level the template & secure with 2 drywall screws
   e) Use a carpenters pencil to lightly mark around speaker template, then remove template
   f) Measure 4” from top of center channel speaker outline. Make a light mark and measure “p” for bottom of plasma
   g) Measure 3 1/2” up from bottom of plasma and mark “m” for bottom of mount
   h) Measure 13 1/8th” up from bottom of plasma and mark “pc” for plasma center
5. Measure & mark front speaker locations:
   a) Measure 25 ¾” out from laser line on left and right side, lightly mark, and label “s” for front channel speakers (these will be the inside edge of each speaker – Installers may have to adjust accordingly to account for studs)
   b) Move laser line to left side and project line along plasma center line (pc) from step 4
   c) Measure or fold speaker templates in half to find vertical center
   d) Line up speaker templates on marks from step “b” and center using laser line
   e) Level the templates & secure with drywall screws
   f) Use a carpenters pencil to lightly mark around speaker templates, then remove templates

6. Measure and mark mount:
   a) Place plasma mount on wall & line up with mark “m” from step 4-g, then line up with available studs (keeping mount as close to center as possible).
   b) Level the mount
   c) Installer 2 holds mount in place while Installer 1 marks holes for lag bolts & outlines the inside edges of the mount for power and video cut-in box locations
   d) Place mount to the side

7. Measure and mark power and video cut-ins:
   a) Place power cut-in box on wall beneath upper arm of the mount, taking stud locations into account
   b) Use carpenters pencil to lightly mark around the edge of the power cut-in box
   c) Place video cut-in on wall beneath upper arm on the other side of the mount, taking stud locations into account
   d) Use carpenters pencil to lightly mark around the edge of the video cut-in box

8. Measure and mark nose plate cut-in:
   a) Place double-gang cut-in on wall behind console location, directly underneath plasma (ensuring placement is between studs
   b) Level and mark cut-in on wall

9. Cut out speakers, power, video, and nose plate cut-ins:
   a) Using drywall saw, cut out drywall for center & front channel speakers, as well power, video, and nose plate cut-ins (speakers may require notching/cutting out of studs)
10. Drill all necessary holes in studs:
   a) Drill 3/8” holes in studs separating each front channel speaker from the stud bay where the nose plate cut-in is located
   b) If a stud separates either the power or video cut-in from the nose plate stud bay, drill a 3/8” hole for the power (Romex) wire or 1” hole for the video link
   c) If a purlin separates the wire runs from the nose plate, either:
      1. If the purlins is up high, near or behind the plasma, cut a hole directly behind the mounting bracket’s main plate that is large enough to allow the use of the drill to cut a hole large enough for all the wiring
      2. If the purlin is down low, near the nose plate cut-in, use the drill to cut a hole up through the purlin using the pre-existing nose plate cut-in. Then fish a glow rod up and through the power or video cut-ins

11. Pull all wires:
   a) Using holes drilled in step 10, pull front/center channel speaker wires, power (Romex), and video feeds across and down the stud bay where the nose plate cut-in is located
   b) Pull all wires out through cut-in (label wires for each speaker for later reference), then attach nose plate

12. Install plasma mount:
   a) Install mounting brackets on back of plasma
   b) Place mount on wall and line up with mark “m” from step 6
   c) Level the mount, then double check its alignment
   d) Installer 2 holds mount in place while Installer 1 drives one lag bolt into stud
   e) Check that the mount is still level and adjust as necessary
   f) Installer 1 drives remaining lag bolts into mount

13. Trim out power and video outlets behind plasma:
   a) Install power box and kit in power cut-in
   b) Install video cut-in
   c) Strip needed RG59 video link cables & attach BNC connectors

14. Install speakers:
   a) Connect positive and negative wire to the back of center channel speaker
   b) Place speaker in proper cut out, check with level, and adjust as necessary
   c) When speaker is level, tighten screws until secure
   d) Repeat steps a through c for each front channel speaker
15. Hang plasma:
   a) Connect plasma’s power cord to outlet on wall
   b) Move power cord & video link wiring to the side and hook behind lower arm of mount
   c) Flip power switch on bottom of plasma to the “on” position
   d) Lift plasma and lower onto mount, ensuring the brackets hook onto upper and lower arm of mount
   e) Connect power cord to plasma
   f) Connect video link BNC connectors to appropriate inputs on bottom of plasma (component/composite video, etc)
   g) Conceal all wiring behind plasma
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Front Projection Installation Procedure

A. Screen and Speaker Installation (in-wall speakers) with SCREEN INNOVATIONS PROJECTION SCREEN:

1. Mark studs and purlins with painters tape.

2. Find center of wall.

3. Place laser level above screen location and project laser down along center line of wall.

4. Measure screen, mounting bracket, & center channel height off floor:
   a) Center channel below screen:
      1. Measure 24 inches from floor for bottom of center channel speaker.
      2. Measure or fold center speaker template in half to find horizontal center.
      3. Line up speaker template on top of mark from step 1 and center using laser line.
      4. Level template and secure with 2 drywall screws.
      5. Use carpenters pencil to lightly mark around the edge of the template.
      6. Measure 4 inches above center channel outline, make a light mark and label “ps” for projection screen height off floor.
      7. Measure 50 3/4” up from mark made in step 6 and mark “ps” for top of projection screen.
      8. Measure 1 ¼ ” down from top of projection screen and mark “m” for mounting bracket.
      9. Measure 25 3/8” down from top of projection screen and mark “sc” for screen center.
   
   b) Center Channel above screen:
      1. Measure 3 feet above floor, make a light mark and label “ps” for bottom of projection screen.
      2. Measure 50 3/4” up from mark made in step 1 and mark “ps” for top of projection screen.
      3. Measure 1 1/4” down from top of projection screen and mark “m” for mounting bracket.
      4. Measure 25 3/8” down from top of projection screen and mark “sc” for screen center.
      5. Measure and place a mark 4 inches above top of projection screen mark from step 2.
      6. Measure or fold center speaker template in half to find horizontal center.
      7. Line up speaker template on top of mark from step 4 and center using laser line.
      8. Level speaker template & secure with 2 drywall screws.
9. Use carpenters pencil to lightly mark around the edge of the template

5. Measure and mark front speaker locations:
   a) Measure 43” out from laser line on left and right side, lightly mark, and label “s” for front channel speakers (these will be the inside edge of each speaker – Installers may have to adjust accordingly to account for studs).
   b) Move laser level to left side and project line along projection screen center line (sc) from step 4
   c) Measure or fold speaker templates in half to find vertical center
   d) Line up speaker templates with marks from step “a” and center using laser line
   e) Level speaker templates and secure with drywall screws
   f) Use carpenters pencil to lightly mark around the edge of each template

6. Measure and mark rear speaker locations:
   a) Find center of back wall
   b) Place laser level at top of wall and project laser down along center line
   c) Measure 43” out from laser line of left and right side, lightly mark, and label “s” for rear channel speakers (these will be the inside edge of each speaker – Installers may have to adjust accordingly to account for studs & other wall restrictions)
   d) Measure 53 3/8” up from the floor at right rear speaker location, and mark “sc” for speaker center
   e) Place laser level to the left of mark from step d and project along speaker center line (sc)
   f) Measure or fold speaker template in half to find vertical center
   g) Line up speaker templates with marks from step “c” and center using laser line
   h) Level speaker template and secure with drywall screws
   i) Use carpenters pencil to lightly mark around the edge of each template

7. Measure and mount horizontal mounting bracket:
   a) Place horizontal wall mounting bracket (supporting lip with C notch on top) on wall & line up the bottom with mark “m” from step 4, then line up with available studs (keeping mount as close to center as possible)
   b) Level the mount
   c) Installer 2 holds mount in place while Installer 1 drives 4 screws (included with screen) into available studs (use anchors where studs are not available)
   d) Check that bracket is still level, and adjust as necessary
8. Measure and mark nose plate cut-in:
   a) Mark stud and purlin locations behind console/equipment location with painters tape
   b) Place double-gang cut-in on wall, ensuring placement is between studs and there are no purlins above location in stud bay
   c) Level and mark cut-in on wall

9. Cut out speakers and nose plate cut-ins:
   a) Using drywall saw, cut out drywall for center, front, and rear channel speakers, as well as the nose plate cut-in (speakers may require notching/cutting out of studs)

10. Drill all necessary holes in studs/purlins:
    a) Installer 2 proceeds to attic space above room
    b) Installer 2 drills 3/8” hole in header board at the top of each stud bay where a speaker is located
    c) Installer 2 drills 2 holes in header board at top of stud bay where the nose plate cut-in is located:
        1. 1” hole for speaker wires
        2. 1” hole for video link and power (Romex)

11. Pull speaker wires:
    a) Installer 2 drops a glow rod down from attic space through 3/8” hole into a speaker stud bay
    b) Installer 1 marks speaker wire end as the appropriate speaker, then secures wire to glow rod
    c) Installer 2 pull glow rod back up into attic space
    d) Installer 2 pulls enough speaker wire up through hole to drop down to equipment location, then Installer 1 cuts wire
    e) Repeat steps a – d for each speaker location
    f) Installer 2 secures speaker wires to glow rod and drops it down through a ¾” hole drilled into nose plate stud bay in step 10-c
    g) Installer 1 pulls wire out through nose plate cut-in

12. Assemble screen:
    a) Place the flat sides of the frame face down on the floor
    b) Line up the steel dowels of the vertical frame component
    c) Slide the corners together until tightly fitted
    d) Starting in one corner, place the ½” metal screws, with washers, through the corner brackets (6 screws for each corner)
    e) Unroll the screen material, with the front projection side face down, centering the screen material over the back of the frame on all sides
    f) Place, but do not screw in, the vertical brace, (as shown in diagram C) on the frame while the screen material is still loose (this ensures that the frame stays completely square during the screen installation process)
g) Using a mallet or hammer, tap the T-line into the channel on the frame. Follow the direction of the red arrows for T-line insertion while pressing the screen material into the channel. Pull the loose slack out of the material as the T-line is inserted. If there is a wrinkle or loose material, pull a small portion of the T-line out of the channel and pull the material tight while re-inserting the T-line.

h) Remove the vertical support brace

13. Install speakers:
   a) Connect positive and negative wire to the back of center channel speaker
   b) Place speaker in proper cut out, check with level, and adjust as necessary
   c) When speaker is level, tighten screws until secure
   d) Repeat steps a through c for each speaker

14. Hang screen:
   a) Hang the vertical support brace in the center notch of the horizontal mounting bracket and, using the supplied drywall screws, secure it to the wall at the top and bottom
   b) Place the screen on top of the horizontal mounting bracket until the teeth slip into their designated tracks
   c) Place the bottom of the frame into the vertical support brace
   d) Slide the screen left or right to center it on the wall
   e) Using the self tapping metal screw, secure the bottom of the screen frame to the vertical support brace

B. Projector Installation:

1. Find center of ceiling (centered on screen), proper throw distance, and mark with painters tape:
   a) Reference projector manual and sales rep for projector throw distance

2. Install tube section of mount
   a) Determine which direction joists are running (parallel or perpendicular to screen)
   b) Mark nearest joist that conforms to projector throw distance requirements with painters tape (if no suitable joist exists, use anchors at location marked during step 1-a)
   c) Install tube section of mount to joist or anchors using provided bolts (Note – ensure end of tube with holes is facing downward

3. Measure and mark power and video cut-ins:
   a) Place power cut-in box on ceiling slightly behind and to the side of the mount tube, taking joist locations into account
   b) Use carpenters pencil to lightly mark around the edge of the power cut-in box
c) Place video cut-in on ceiling slightly behind and to the other side of the mount tube, taking joist locations into account

d) Use carpenters pencil to lightly mark around the edge of the video cut-in

4. Cut out power and video cut-ins:
   a) Use a drywall saw to cut out the power and video boxes
   b) Be sure to insert the boxes into the cut outs to confirm fit (some minor adjustments to the holes may be required)

5. Pull power (Romex) and video wiring:
   a) Installer 2 proceeds to attic space above room
   b) Installer 1 hands Romex up to Installer 2 through power box cut-in
   c) Installer 1 hands video link bundle to Installer 2 through video box cut-in
   d) Installer 2 secures Romex and video bundle wires to glow rod and drops it down through remaining 1” hole drilled into nose plate stud bay in step 10-c
   e) Installer 1 pulls glow rod and wire out through nose plate cut-in
   f) Installer 1 attaches nose plate

6. Trim out power and video outlets:
   a) Install power box and kit in power cut-in
   b) Install video cut-in
   c) Strip needed RG59 video link cables & attach RCA connectors

7. Install mounting hardware on projector:
   a) Place the projector upside down on the floor
   b) Line up three of the attachment arms (solid side facing up) with available screw holes on projector
   c) Use included screws (and 2 spacers) to attach each arm to the projector (do not tighten down yet)
   d) Use hex key to tighten bolt on top of circular mounting plate (the bolt securing the mounting plate to the plastic joint piece)
   e) Place circular mounting plate on top of attachment arms, then line up larger screw holes in arms with slots in mounting plate
   f) Secure mounting plate to attachment arms using included screws

8. Hang projector:
   a) Line up 2 bolts plastic joint on the circular mounting plate with holes in tube installed in step 2-a
   b) Insert plastic joint into tube until bolts click into place
   c) Use included hex key to tighten the 2 bolts in a counter-clockwise direction to secure the projector to the tube