LEICA ICON ICS50 · INDUSTRY GUIDE

Residential Cabinets Guide

Kitchens, baths and built-ins, measured as built for cabinet design. Use with the iCS50 General Guide.



SPEEDtemplate

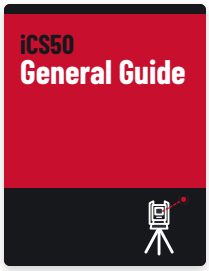
RESIDENTIAL CABINETS GUIDE

EDITION 1.0 · OCTOBER 2026

HOW THE BOOKS WORK

Three books. Each has one job.

The **General Guide** says how. The **Industry Guide** says what. The **Industry Workbook** makes it stick.



How the iCS50 works

For every crew in every trade: setup, measuring, planes, moving the iCS50, editing, layers and export.

USE IT
Read Sections 1 and 3 before onboarding. After that, look things up when you need them.

KEEP IT
In the iCS50 case. One per shop.

THIS BOOK

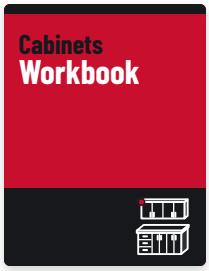


What to capture in the industry

What changes on a kitchen, a cabinet room, a millwork floor, a stair or a boat: what to capture, where to set up, the exact taps, the checks and the hand-off.

USE IT
Before the first job, then on every job, next to the General Guide.

KEEP IT
In the case, with the General Guide. One per shop, per industry.



Learn it by doing it

A self-paced course in the industry: six lessons with the real iCS50, three real jobs, a final project and SPEEDtemplate certification.

USE IT
After onboarding. Once, in order. Write in it.

KEEP IT
With the operator. One per operator.

Which book do I open?

THE QUESTION	OPEN
How do I set up, measure, move the iCS50 or export a DXF?	General Guide
What do I capture on this job, and what does the shop need back?	Industry Guide
I am new, or I want to get certified.	Industry Workbook
Something is not working.	General Guide, Troubleshooting. Then call 919-676-2244.

NOTE When the General Guide and an Industry Guide say different things, the Industry Guide wins for that industry. The website always has the latest version of every book.

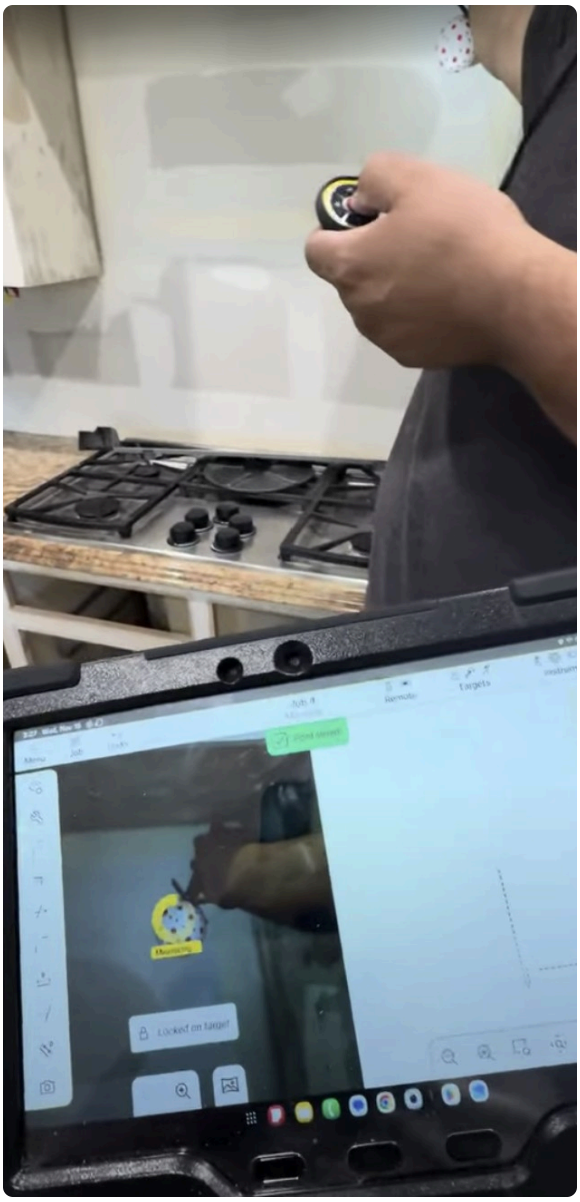
What a great cabinet measure looks like

This guide covers what changes when the job is cabinetry. Everything else, from setup to export, is in the iCS50 General Guide. Keep the two together.

What the designer needs back

- [ ] Every wall that gets cabinets, as built: real length, bow, plumb and corner angle
- [ ] The floor line along every cabinet wall, and the floor high point
- [ ] The ceiling line, soffits and bulkheads, for uppers, tall units and crown
- [ ] Windows and doors with their casing, sill and head heights
- [ ] Plumbing, gas and electrical in the cabinet zone, located to the wall
- [ ] Hood duct, vents, registers and anything else the boxes must clear
- [ ] Appliance openings, with the spec sheets on the job
- [ ] Every wall lettered, in one drawing, with photos in SPEEDfolder

TIP New construction: measure after drywall, before flooring if you can. Remodel: measure before demo for design, then verify after demo before the order goes in.



A remodel: capturing the wall behind the range. The tablet confirms the iCS50 is locked on to the VPen.

RESIDENTIAL CABINETS

Cabinet questions, answered

The questions cabinet shops and designers ask most.

How accurate is it?

The VPen is accurate to 1 mm (about 1/32 in) within 33 ft (10 m).

Will it show a wall that is out of plumb or a floor that isn't level?

Yes. Top and bottom points at both ends of every wall give the lean, and a floor line with a point every 2 ft gives the high point.

How many setups does a kitchen take?

Usually one, from the open side of the room. A wall the iCS50 can't see: V-Targets first, then a second setup in the same drawing.

Can I do the whole house in one job?

Yes. Chain V-Targets through the doorways and keep every room in one drawing, each wall on its own plane.

What does the designer get?

A 2D DXF with every wall as an elevation, a 3D DXF of the room, and a Shop Sheet PDF. Photos are already on the job in SPEEDfolder.

Does it work with our cabinet software?

Most cabinet design software imports DXF. Ask the designer for the units and layer names they want, and build them into the job template.

Old cabinets still in?

Measure what you can see for the quote. The final measure comes after the tear-out.

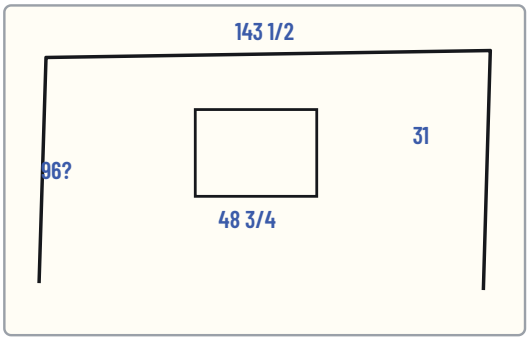
Who on my crew should run it?

The installer or measurer who knows how the boxes go in. The iCS50 is the only new part, and onboarding covers it.

Tape and sketch vs the iCS50

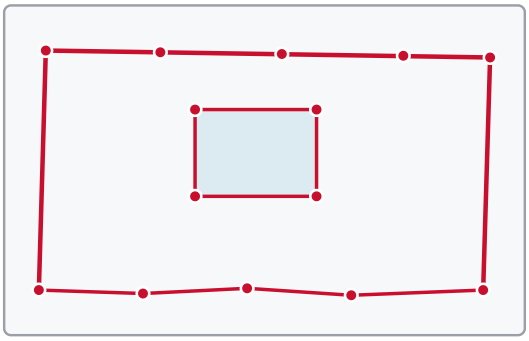
Most rooms are still measured with a tape, a level and a sketch, then redrawn in the office. Here is what changes.

TAPE AND A SKETCH



One height, one tape, redrawn later.

THE iCS50



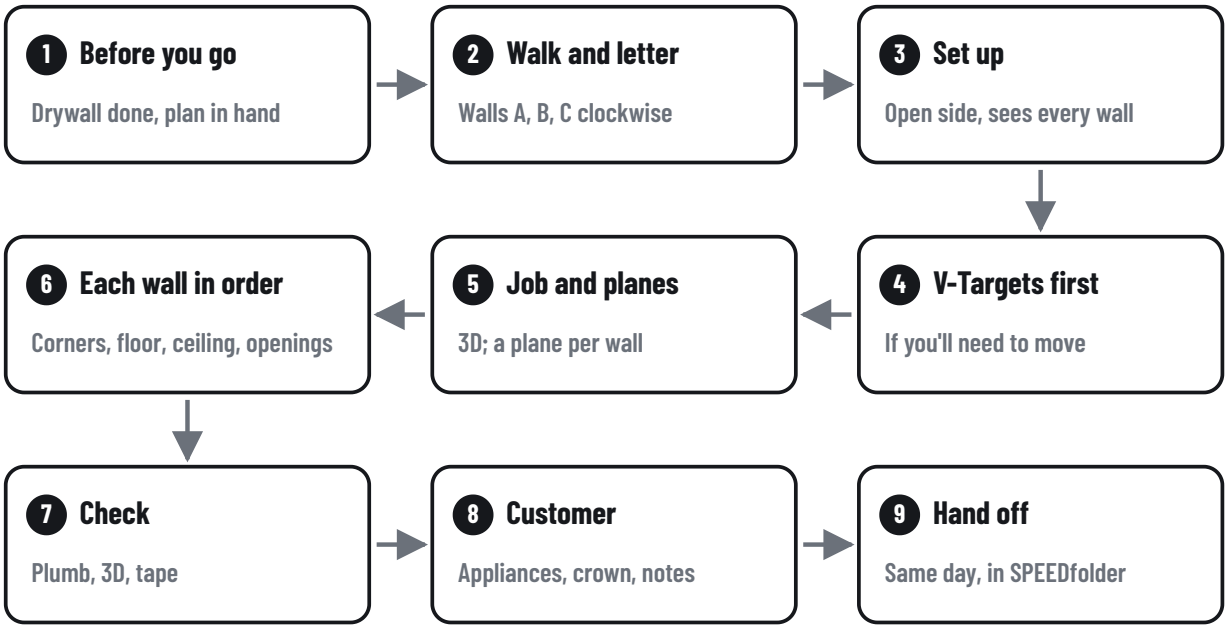
Every wall as built, in a file.

TAPE AND SKETCH	WHERE IT GOES WRONG	THE ICS50
Wall length at one height	A bowed wall reads short or long	Corners top and bottom, a floor and ceiling line
Floor high point found with a level	One reading, easy to miss	A point every 2 ft; High/Low Points
Plumb from a level, if at all	Uppers and tall units fight the wall	Top and bottom points at both ends
Corners assumed square	Blind corners and fillers come out wrong	Both walls plus Intersect
Outlets and stubs: two tape readings each	One reading wrong, one hole in the wrong place	One Point, located to the wall and the floor
Sketch redrawn in the office	A second step, another place for errors	2D and 3D DXF the same day

RESIDENTIAL CABINETS

Measure day, start to finish

The same nine steps on every room.



Before you go

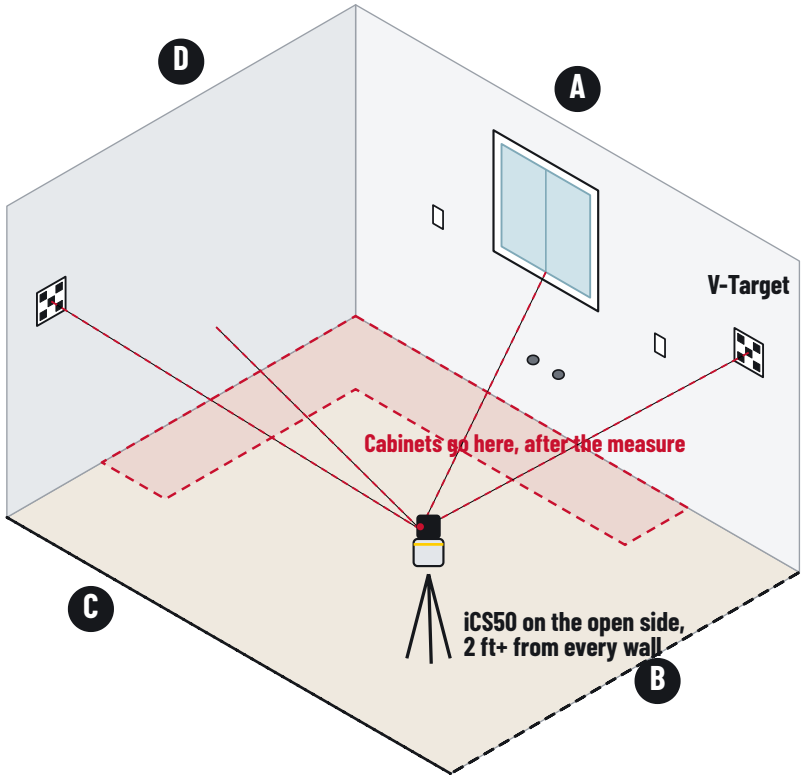
- [ ] Drywall up and finished; flooring in, or its thickness known
- [ ] The plan or the designer's questions, if there are any
- [ ] Appliance list with model numbers, if chosen
- [ ] iCS50, tablet and remote charged; V-Targets in the case

Walk and letter the walls

- Walk every room that gets cabinets.
- Letter the walls clockwise: A, B, C. Planes, photos and notes all use the letters.
- Decide where the iCS50 stands, and whether a second setup is needed.

Job setup

Letter the walls first. Every plane, photo and note uses the same letters.



Walls lettered clockwise, seen from above. The room is measured before the cabinets go in. The iCS50 sits on the open side where it sees every cabinet wall. V-Targets go on walls that won't move, in case the iCS50 has to.

Job type

IF THE JOB HAS...	START AS
Base and upper cabinets on flat walls	3D, then a 2D Vertical plane per wall
An island or peninsula	Add a 2D Horizontal plane for the floor plan
Curved walls or a bay window	3D, and trace the curve
Not sure	3D. It keeps every option open.

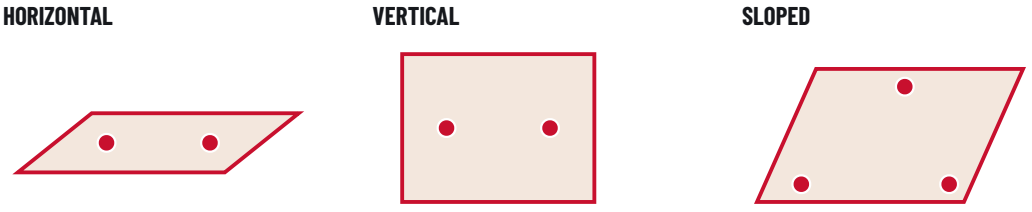
Planes and names

- One **2D Vertical** plane per lettered wall, start points on that wall, in Point mode.
- Name each plane by its letter: "Wall A", "Wall B".
- A **Horizontal** plane about 6 in off the floor gives the designer the floor plan.
- Set up more than 2 ft from every wall you'll measure. Place V-Targets before you start, not halfway through (GENERAL GUIDE: SECTION 8).

On the iCS50: starting the job

The exact taps, in order. Menu names as they appear in iCON trades.

TASK	ON THE ICS50	TIP
New job	Home › **Quick Start**, or a new job from the shop's **job template**	Name it for the customer and the room
Job type	**3D**, then a vertical plane per wall	An island: add a horizontal plane
Wall plane	**New plane** (Setup tools) › **Vertical**: two points on the wall, far apart	Name it by its letter: Wall A
Floor plan	**New plane** › **Horizontal**: two points	For islands and peninsulas
Target	**Targets › VPen**; far points with **Any Surface › Laser**	Switch any time
Layer	Tap **Layers** and activate one: Walls, Openings, Electrical, Plumbing	At least one active layer
What to draw	**Measuring settings**, under Measure: Point, Line or Polyline	Polyline for floor and ceiling lines
Photos as you go	Measuring settings: **Capture photo** on	Tag them by wall letter
Take a point	Tap **Measure**, or the Measure button on the remote	Hold Measure with the VPen to Trace



Two points.
Tops, bars, sills, hearths.

Two points.
Splash walls, end panels, faces.

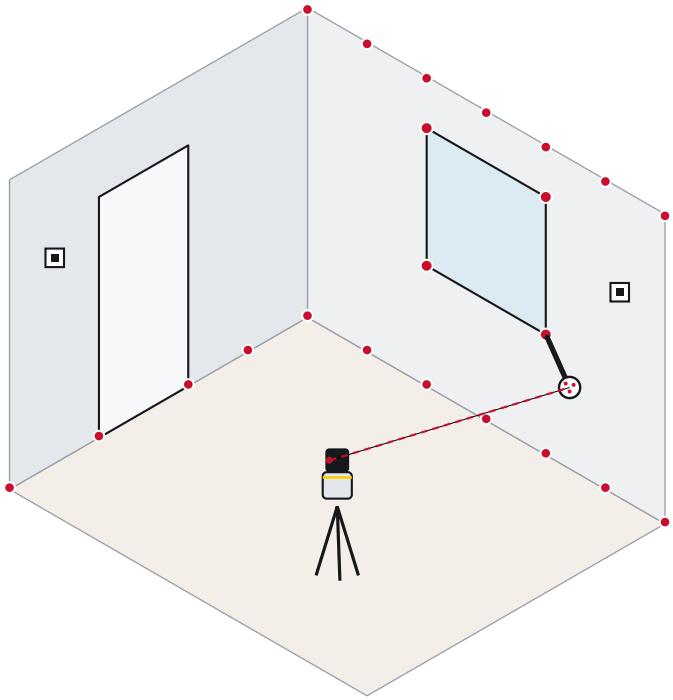
Three points.
Anything that leans.

Three kinds of plane. A vertical plane is plumb; the lean shows in the points you take on it.

Planes for every room

Pick the planes before the first point.

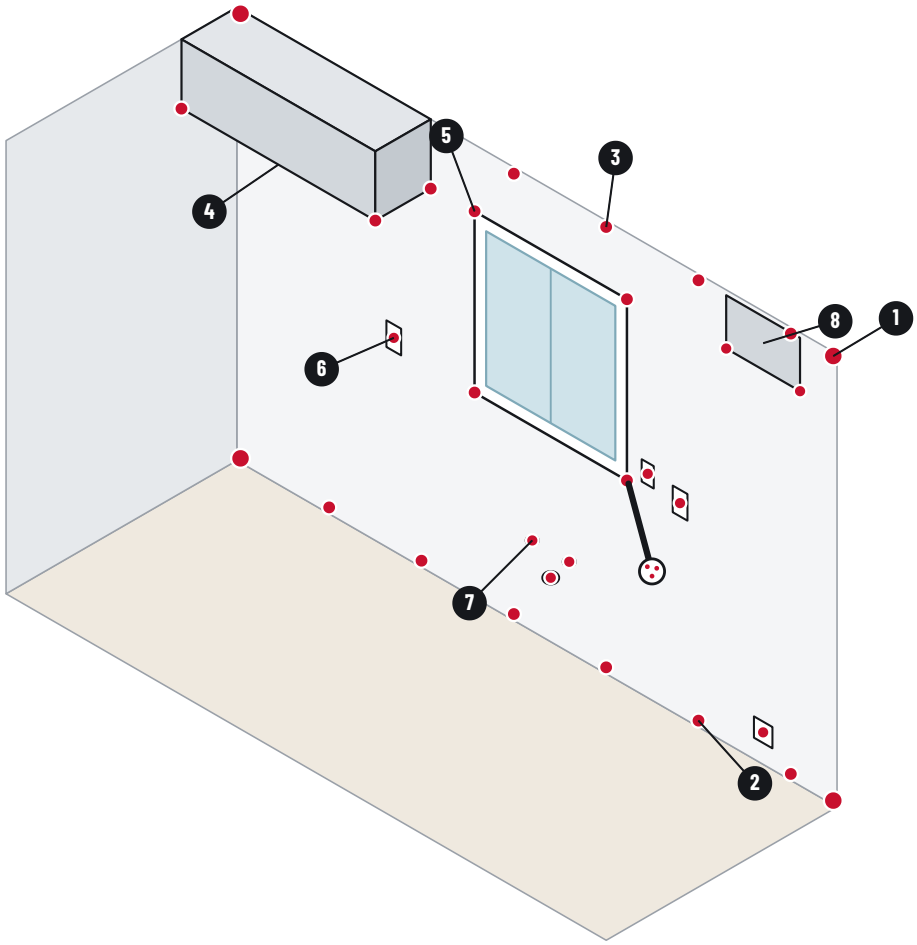
ROOM OR PART	PLANES
Kitchen walls	A vertical plane per lettered wall
Island or peninsula	A horizontal plane for the floor plan
Bay window or curved wall	3D, unprojected; trace the curve
Sloped ceiling, attic knee wall	A sloped plane from three points
Bath, laundry, closet	A vertical plane per wall, same as the kitchen
Built-ins by a fireplace	A vertical plane for the chimney breast and each side wall



One room, measured. Floor and ceiling points along each wall, window corners, V-Targets on the walls.

Each wall, every time

Work every lettered wall in the same order and nothing gets missed. Each dot is a point to take.



Wall A, before the cabinets. The numbers match the list below. Each red dot is a point to take.

1 Corners and length
Both corners, top and bottom. VPen in the corner, or points on both walls and Intersect.

2 Floor line
A point every 2 ft along the base of the wall. The high point sets the cabinets.

3 Ceiling line
A point every 2 ft. Uppers, tall units and crown all depend on it.

4 Soffits and bulkheads
Bottom and face corners, and where they end.

5 Windows and doors
Outside corners of the casing, the sill and the head.

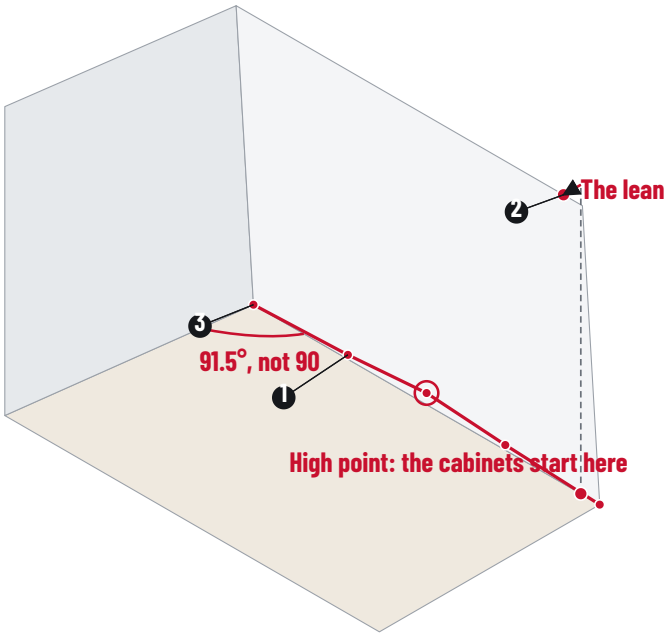
6 Outlets and switches
Center of each box, as a Point.

7 Plumbing and gas
Center of every supply, drain and gas stub.

8 Hood duct and range outlet
Duct opening corners, range outlet, anything the boxes must clear.

Floor, plumb and square

A tape reads a length. The iCS50 shows how the room really sits, before the boxes are built.



Three checks on every cabinet wall. 1 the floor line and its high point. 2 plumb. 3 square. Exaggerated to show the idea; real rooms are out by fractions of an inch, which is exactly what makes cabinets fight the wall.

Floor

- Take the floor line on every cabinet wall, a point every 2 ft.
- Under an island, run **Measure › High/Low Points** on the floor.
- Write the high point and the biggest dip on the measure record.

Ceiling

- Ceiling line every 2 ft, and the height at each end of every run.
- High ceilings: the VPen on the Sky Reach pole, or a ladder.

Plumb

- Top and bottom points at both ends of every wall that gets uppers or tall cabinets.
- The difference is how far the wall leans. Note it for scribe and fillers.

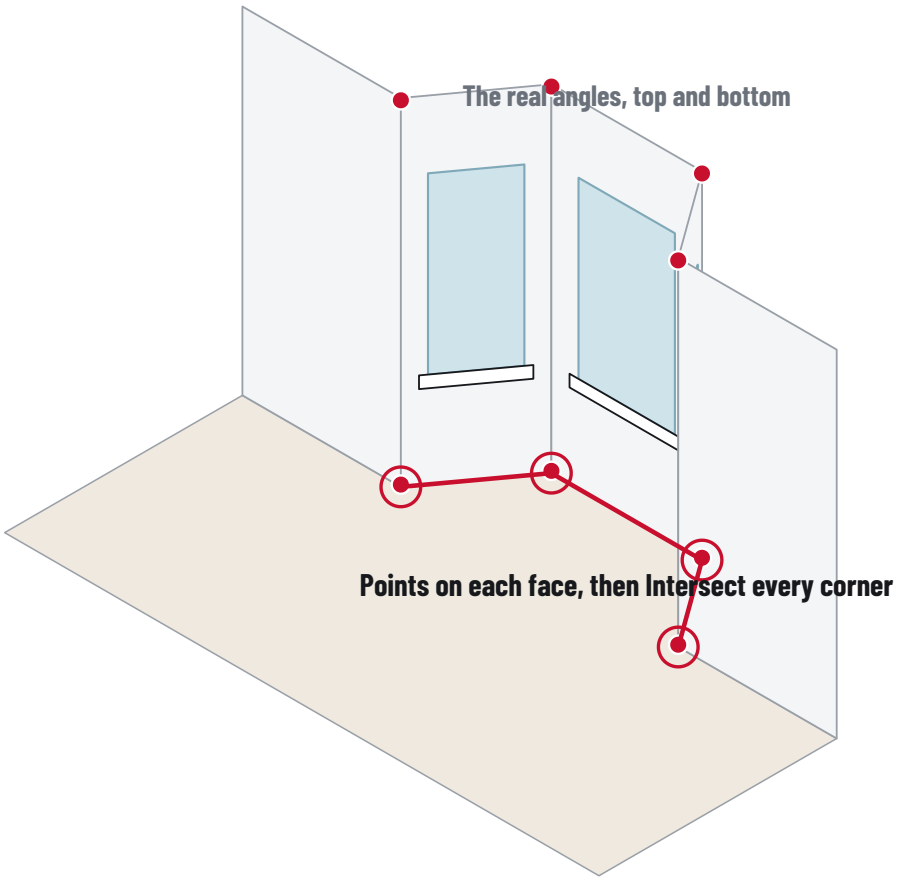
Square

- Points on both walls near every corner, then **Edit › Intersect**.
- **Edit › Hidden Corner** shows a diagonal corner both ways.

TIP Tell the customer or the builder about a bad floor or a leaning wall while you're still on site.

Bay windows and curved walls

Angles you can't guess and curves you can't tape.



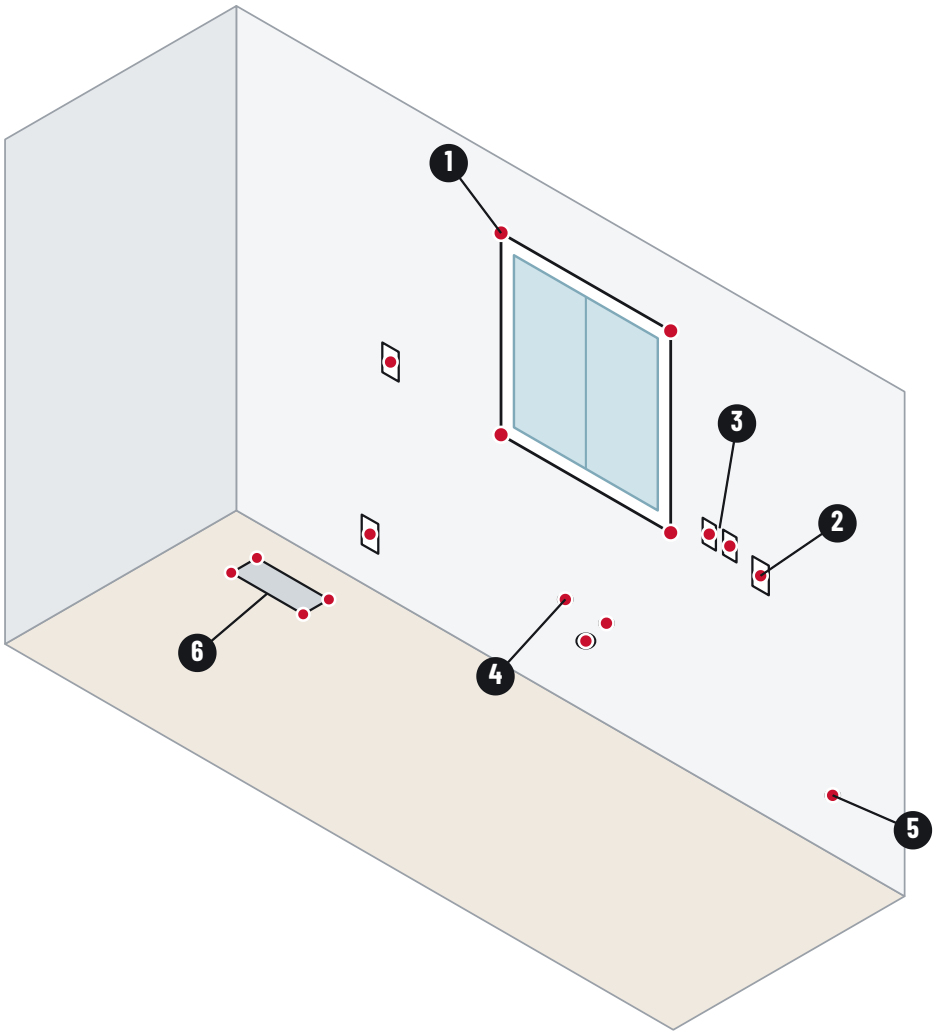
A bay window, before the window seat and cabinets.

1. **Bay:** points on each face, then **Edit › Intersect** at every corner. The real angles, not 45 or 30.
2. Window casing on each face, sill and head heights.
3. **Curved wall:** a 3D job, unprojected. Hold Measure and trace along the wall at floor and at ceiling.
4. **Edit › Smooth** to true arcs, with the radius on the drawing.

TIP Window seats and bench boxes in a bay: capture the floor line and the sill on every face.

Utilities and openings

One Point per box or stub, located to the wall and the floor at once.



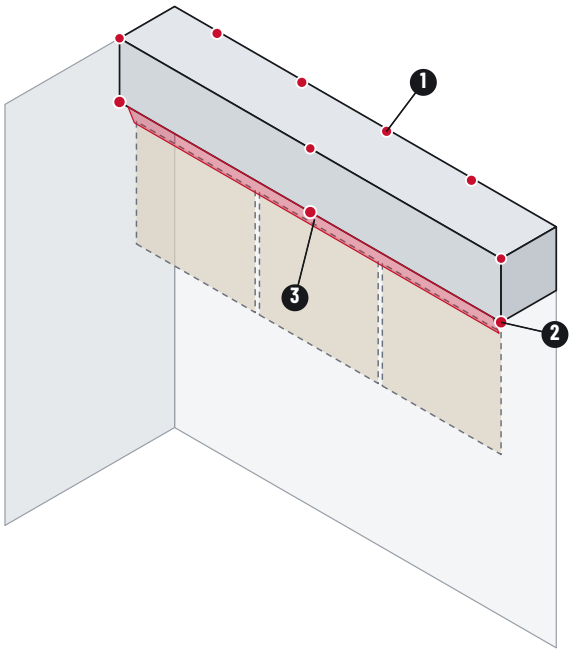
A cabinet wall, before the cabinets. The numbers match the list.

1. **Window**
   Outside corners of the casing; sill and head
2. **Outlets**
   A Point on each box center
3. **Switches**
   A Point on the center
4. **Plumbing**
   Supply and drain stubs, a Point on each
5. **Gas**
   The stub or valve
6. **Vents and registers**
   Corners of each

NOTE Put each kind on its own layer: Electrical, Plumbing, Openings. The designer sees what is where without a call.

Ceilings, soffits and crown

Uppers, tall units and crown all depend on a ceiling that is rarely level.

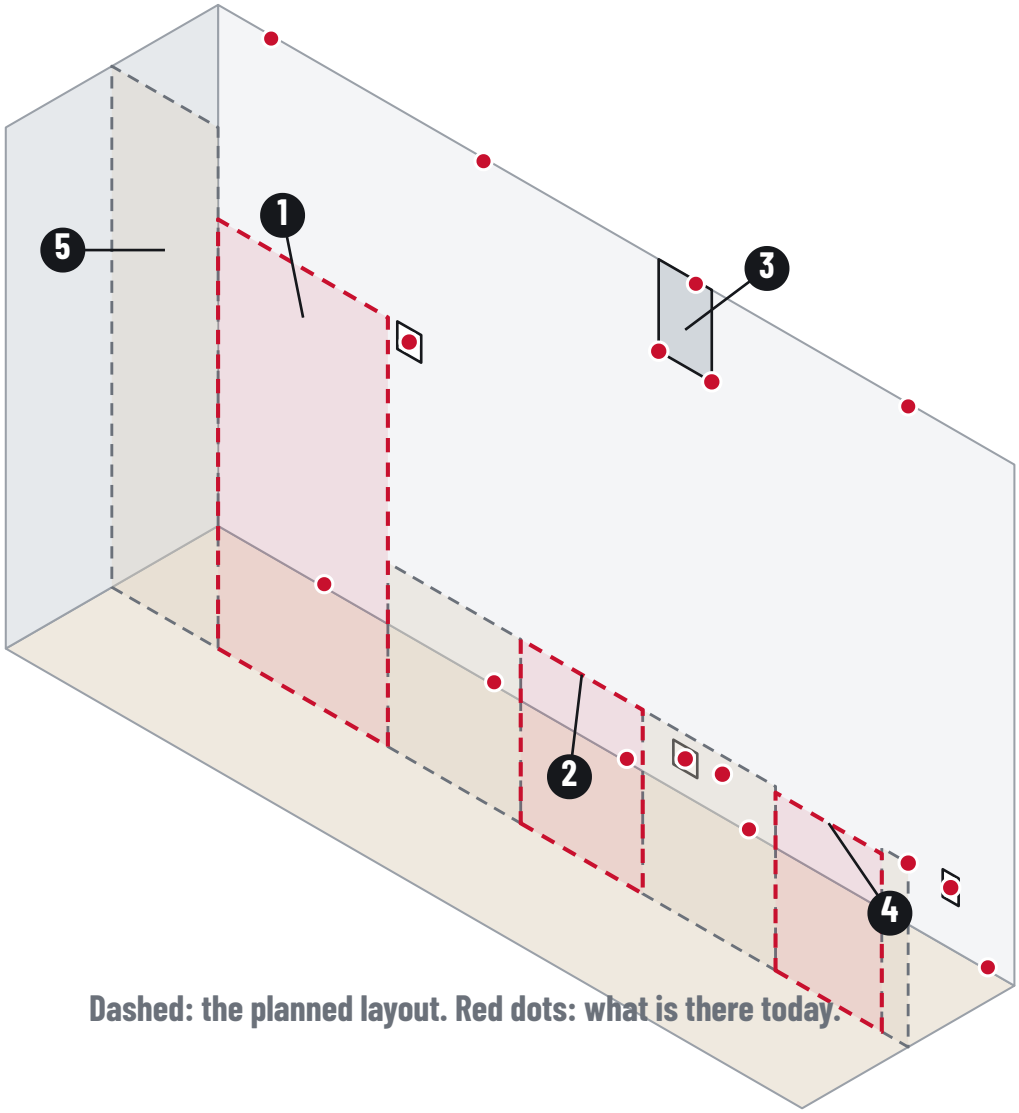


A soffit over the cabinet wall. 1 ceiling line. 2 soffit bottom and face. 3 the gap the crown or scribe must fill. Dashed: the uppers to come.

1. Ceiling line along every cabinet wall, a point every 2 ft.
2. Soffits and bulkheads: bottom corners, face corners, and where they end.
3. Ceiling height at each end of every run, on the measure record.
4. High ceilings: the VPen on the **Sky Reach pole**, or a ladder.
5. Ceiling-height uppers or crown: note it on the record.

Appliances and tall units

The opening is set by the appliance. The spec sheet is what makes it right.



Dashed: the planned layout. Red dots: what is there today.

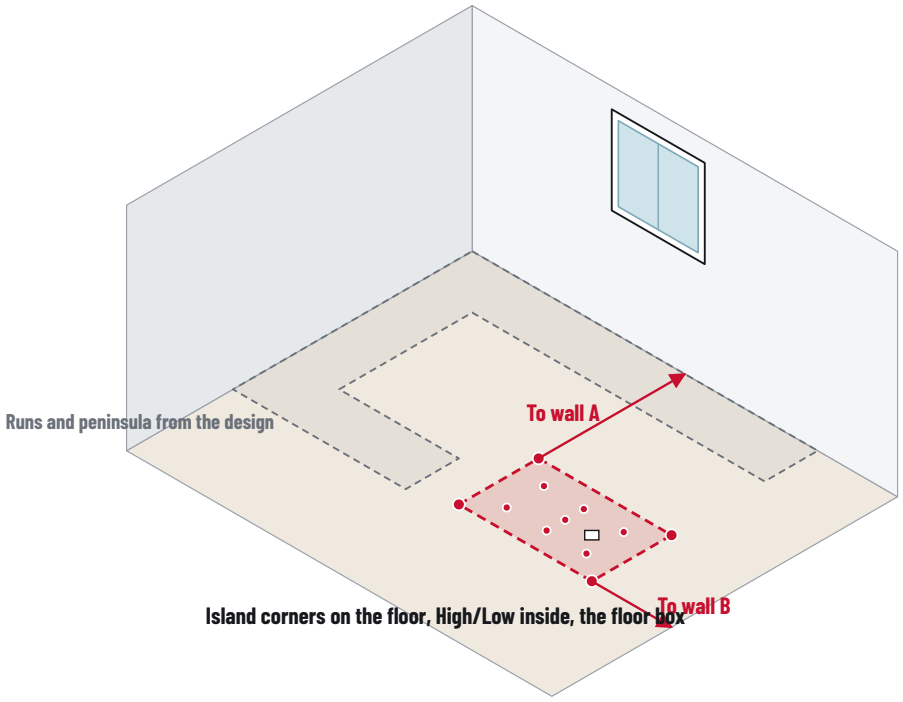
A cooking wall, before the cabinets. 1 fridge opening. 2 range. 3 hood and duct. 4 dishwasher. 5 tall pantry to the ceiling.

- Both sides of every appliance opening, floor to top.
- Hood duct, the wall it goes through, and the ceiling above.
- Tall units: the ceiling line over them, and plumb on the wall behind.

SPECS Model numbers and spec sheets on the job before the designer starts. No spec, no opening.

Islands and peninsulas

An island has no wall to measure from. Tie it to the room.



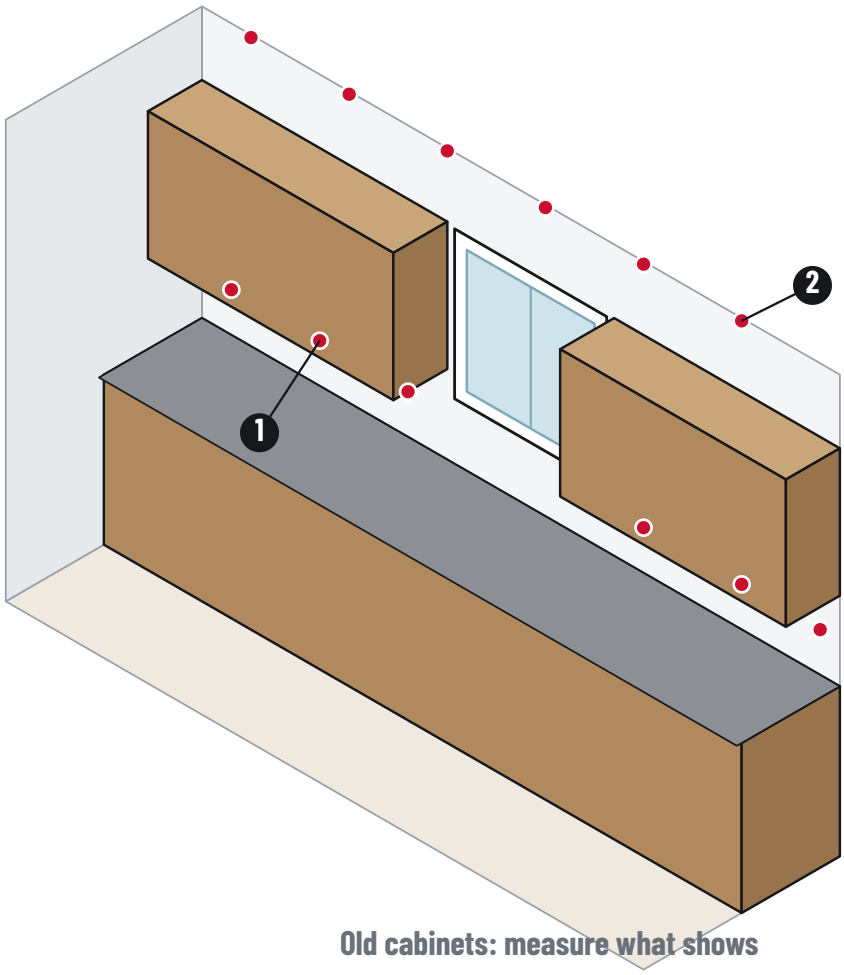
The island, marked out on the floor. Tied to two walls, with the floor checked under it.

1. A horizontal plane for the floor plan.
2. The island's position from at least two walls, as Points on the floor.
3. Floor line under the island: **Measure › High/Low Points**.
4. Floor boxes, outlets and plumbing in the slab or floor, as Points.

- Seating side and overhang: on the measure record.
- Aisle widths between the island and each run come straight off the drawing.

Remodels: old cabinets still in

Measure for the quote now; measure for the build after the tear-out.



Before the tear-out. 1 the wall between the old uppers and base. 2 the ceiling line above.

For the quote

- Capture what you can see: corners, the wall between, the ceiling, windows.
- Note the old layout and appliances in photos.
- Mark the job: a quote measure, not the build measure.

For the build

- After the tear-out and any drywall repair.
- The full measure: floor line, ceiling line, plumb, utilities.
- Utilities often move in a remodel: capture them where they ended up.

REMODELS Never build from a measure taken with the old cabinets in.

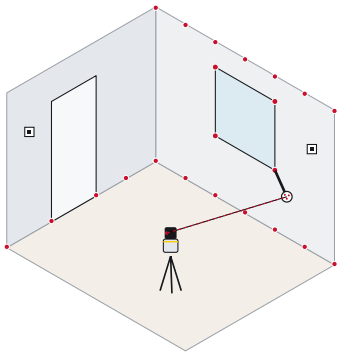
Best methods for cabinets

FOR	USE	WHY
Wall length and corners	VPen in the corner, or both walls plus Intersect	True corners and angles, not an assumed 90°
Floor and ceiling lines	VPen Polyline, a point every 2 ft	Shows the high point and the dips at a glance
Outlets, stubs, switches	VPen, Point on the center	Located to the wall and the floor in one step
Window and door casing	VPen, Point on each outside corner	Casing width and reveal for filler and trim
Far or high points	Any Surface: Laser	Quick shots without walking there
Bay windows, curved walls	Trace, then Edit › Smooth › Lines & Arcs	Clean arcs with radius dimensions
An island from a plan size	Create › Rectangle B+H	Type the size, tap to place, rotate to fit

Openings and utilities

- ☐ Doors: swing direction and casing, so uppers and tall units clear
- ☐ HVAC registers and returns in the floor or the toe-kick zone
- ☐ Water heater, panel, cleanouts or anything that needs access
- ☐ Recessed lights near the uppers or crown
- ☐ Under-cabinet light or outlet boxes already roughed in

SPECS Get the **appliance spec sheets** (model numbers, cutout and clearance sizes) and attach them to the job in SPEEDfolder. The iCS50 captures the opening, not the appliance going into it.



On the job. Floor and ceiling lines, window corners, V-Targets on the walls.

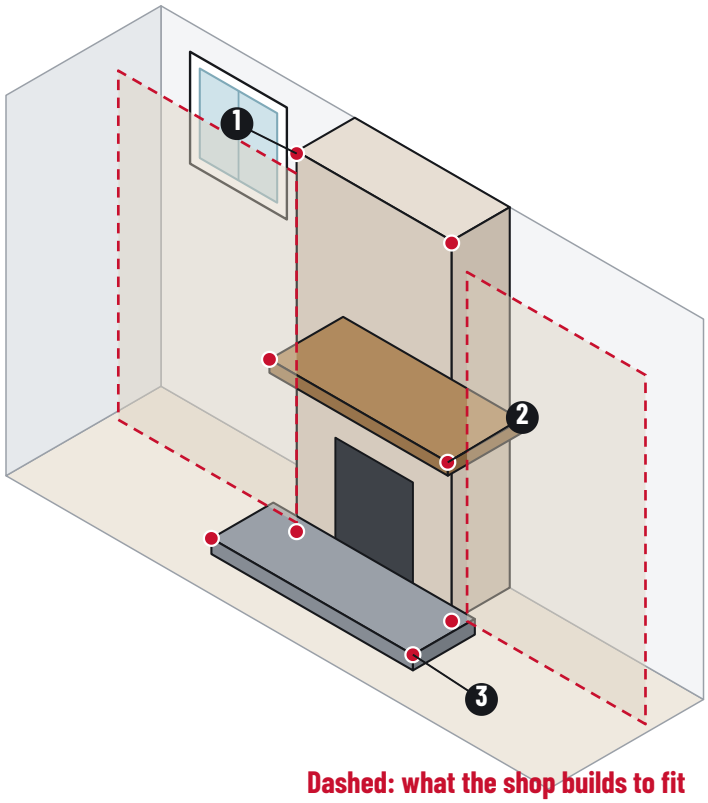
On the iCS50: capturing each wall

Which tool for which point.

TASK	ON THE ICS50	TIP
Corners	VPen in the corner, or two walls then **Edit › Intersect**	The real angle
Floor line	**Polyline**, a point every 2 ft	The high point sets the cabinets
Ceiling line	**Polyline**, a point every 2 ft	Sky Reach pole for high ceilings
Plumb	A **Point** top and bottom at both ends of the wall	The lean, in the file
Outlets, stubs, switches	**Point** on the center	Located to wall and floor at once
Window and door casing	**Point** on each outside corner	Sill and head heights too
Curved wall	Hold **Measure** to Trace; **Edit › Smooth**	In 3D, unprojected
Island from a size	**Create › Rectangle**	Then place it
Floor flatness	**Measure › High/Low Points**	Shims before the boxes go in
Far or high points	**Targets › Any Surface › Laser**	Never into a corner
A check dimension	**Create › Linear Dimension**, or **Measure › Distance**	Against a tape
Another room	**New Setup › V-Targets**	Green means it found its place

Built-ins beyond the kitchen

Same method, different rooms. Letter the walls, plane per wall, floor and ceiling lines.



Built-ins beside a fireplace. Capture the chimney breast, the mantel and the hearth, not just the walls. The dashed boxes are what the shop will build to fit.

Bathrooms and vanities

- [ ] Plumbing stubs and valve heights
- [ ] Mirror, light and medicine cabinet locations
- [ ] Toilet and tub edges the vanity sits beside

Closets and pantries

- [ ] All walls and the door opening, with casing
- [ ] Shelf heights the customer wants, on the record
- [ ] Attic hatches, lights and anything overhead

Laundry and mudrooms

- [ ] Washer and dryer hookups, vent and drain
- [ ] Bench and locker walls, floor to ceiling
- [ ] Door swings into the space

Fireplaces and media walls

- [ ] Masonry face, mantel and hearth
- [ ] TV, speaker and outlet locations
- [ ] Window trim beside the built-ins

Common mistakes on cabinet jobs

MISTAKE	WHAT HAPPENS	FIX
Floor line at one point only	Base cabinets don't sit level, or toe-kicks gap	A point every 2 ft; record the high point
Ceiling at one point only	Tall units or crown hit the ceiling	Ceiling line every 2 ft along the run
No plumb check	Uppers and tall units fight the wall	Top and bottom points at both ends of every wall
Assuming square corners	Blind corners and fillers come out wrong	Both walls plus Intersect at every corner
Walls not lettered	Designer can't match the drawing to the photos	Letter the walls; name planes and tag photos the same
Measuring before drywall	Every dimension is off by the board	Measure after drywall; verify after demo on remodels
Missing a utility	A box ends up on a stub or a register	Capture every stub, outlet and register in the cabinet zone
No appliance specs	The opening is wrong for the appliance	Spec sheets attached in SPEEDfolder before leaving
Point labels left on	The designer can't read the DXF	All three label toggles off before export
Wrong units	Everything comes in the wrong size	Menu › Settings › Units matches the designer

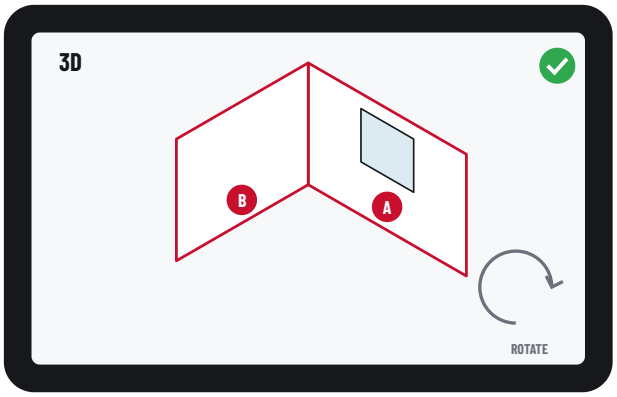
Before you leave the house

- [ ] Every lettered wall and every corner captured
- [ ] Floor and ceiling lines on every cabinet wall
- [ ] Measure record filled in and signed
- [ ] Appliance specs and photos in SPEEDfolder

Check it before you leave

The designer draws from this file. The cheapest fix is the one made on site.

1. **Look in 3D**: every lettered wall where it is in the room.
2. **Measure record**: floor high point, worst plumb, ceiling heights.
3. **Tape check**: **Measure › Distance** on two or three walls, against a tape.
4. Every outlet, stub and opening captured.
5. Photos tagged by wall letter.



The 3D check. Every wall, lettered, where it really is.

With the customer

- Appliances and model numbers.
- Crown, ceiling-height uppers, light rail.
- Anything moving: plumbing, a window, a wall.

NOTE The measure record and photos go on the job. The designer should never need to call.

Export for the designer

Which format

FORMAT	USE IT FOR
2D DXF	Every wall flat, side by side: the elevations the designer draws on
3D DXF	The whole room in 3D, curved walls, checking how walls relate
Shop Sheet (PDF)	A dimensioned page per wall for the salesperson and the customer
Photos and specs	Already on the job in SPEEDfolder, tagged by wall

Most cabinet design software imports DXF. Ask the designer which format, units and layer names they want before the first job, and build that into the job template.

TIP Send your first few cabinet exports to SPEEDtemplate support for a quick review before the designer builds from them.

Cabinet layer plan

LAYER	FOR
Walls	As-built wall lines
Floor line	Floor along each wall
Ceiling	Ceiling, soffits, bulkheads
Openings	Doors, windows, casing
Electrical	Outlets, switches, range outlet
Plumbing / gas	Supply, drain and gas stubs
HVAC	Duct, registers, returns
Appliances	Openings and clearances
Notes	Wall letters and text

Match names and colors to the designer's standard and build them into the job template (GENERAL GUIDE: SECTION 10).

Hand it off in SPEEDfolder

On the job
The DXF and Shop Sheet go to the cloud from the house. No thumb drives, no emailing files.

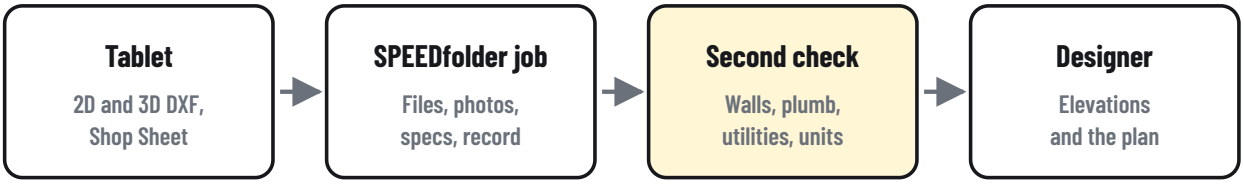
By wall
Photos tagged A, B, C to match the planes, so the designer never guesses which wall is which.

One link
Text the designer or the builder the job link. No app, no account, no password.

WATCH: EXPORTING

Hand-off to the designer

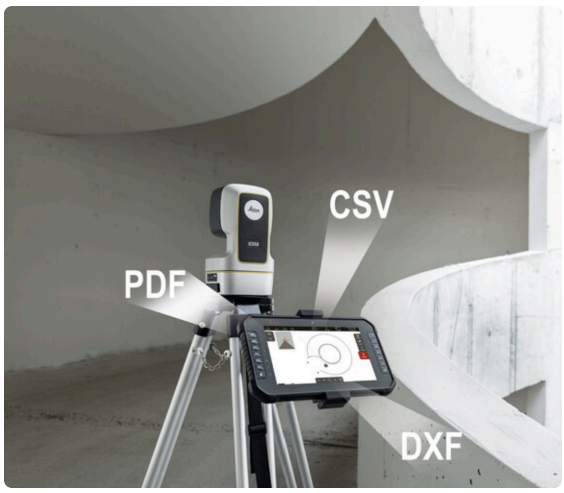
The measure is done when the designer can draw without a call.



1. Export before you leave: **2D DXF** for elevations, **3D DXF** for the room.
2. Everything on the job in **SPEEDfolder**: files, photos, specs and the measure record.
3. Name the file the designer's way: customer, room.
4. Keep the job on the tablet until the cabinets are in.

The second check

- [ ] Every lettered wall has a plane
- [ ] Floor and ceiling lines on every wall
- [ ] Utilities on their layers
- [ ] Units match the design software
- [ ] Labels off



One capture, every format the designer needs: DXF, PDF and CSV.

Measure record

Fill this in on site. Take a photo of this page and save it to the job in SPEEDfolder.

Customer _____ **Address** _____

Rooms measured _____ **Walls lettered** _____

New build or remodel _____ **Ceiling height (low / high)** _____

Floor high point (wall) _____ **Worst out of plumb (wall)** _____

Flooring under cabinets? _____ **Appliances and models** _____

Crown or ceiling-height uppers? _____ **Designer / due date** _____

Notes

_____

_____

_____

Customer signature _____ **Measured by / date** _____

Photo shot list

- ☐ Each room from the doorway
- ☐ Each lettered wall, straight on
- ☐ Every corner, floor to ceiling
- ☐ Plumbing, gas and electrical, close up
- ☐ Windows and doors with trim
- ☐ Soffits, ducts and registers
- ☐ Appliances and their labels
- ☐ Damage before work starts (tag Before)

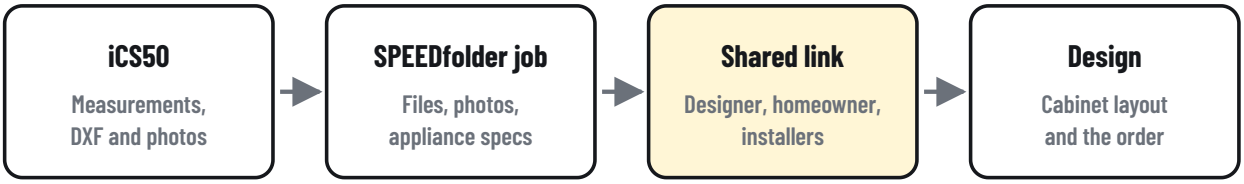
Cabinets quick reference

Keep this page with the iCS50.

STEP	DO THIS
Before	Drywall done; appliance list; V-Targets in the case
Letter	Walls A, B, C clockwise; planes, photos and notes use the letters
Setup	Open side of the room, 2 ft clear, out of the walkway
Job	3D, a vertical plane per wall (two points); horizontal for the floor plan
Each wall	Corners, floor line and ceiling line every 2 ft, plumb top and bottom
Openings	Casing corners, sill and head
Utilities	A Point on every box, stub, valve and vent
Soffits	Bottom and face corners; ceiling height at each end of every run
Curves and bays	Intersect bay corners; trace curves, then Smooth
Check	3D view, measure record, Distance against a tape
Export	2D DXF elevations, 3D DXF, Shop Sheet. Labels off
Stuck?	SPEEDtemplate support: 919-676-2244, support@fifthgeartech.com

Run the job on SPEEDfolder

No job system yet? SPEEDfolder comes with the iCS50 and is already on the tablet. One place for every kitchen, bath and built-in.

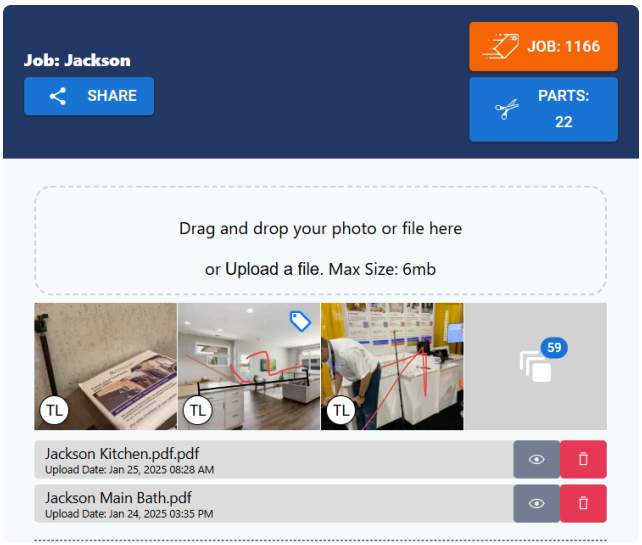


What goes on the job

- One job per customer and address: the DXF, photos, appliance and plumbing specs, and notes.
- Photos tagged by room and wall, so the designer finds the wall they need.
- Anything to fix before install, like an outlet in the wrong place, tagged **Issue**.
- The office sees each photo as it is taken.

Who sees it

- Text a job link to the designer, the homeowner or the install crew. It opens in any browser: no app, no account, no password.
- No charge per user. Add the whole crew.



A job in SPEEDfolder: files, photos and events in one place.

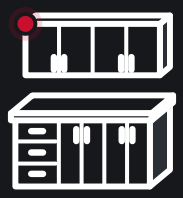
NOTE SPEEDfolder runs the job, not the money. Quotes and invoices stay in the shop's own system.

TIP SPEEDfolder is included with the iCS50. Call SPEEDtemplate support to set it up: 919-676-2244.

WATCH: EXPORT TO SPEEDFOLDER

SCAN: SPEEDTEMPLATE.COM

SPEEDtemplate RESIDENTIAL CABINETS GUIDE



Need a hand on a residential cabinets job?

919-676-2244

support@fifthgeartech.com

GENERAL GUIDE
How the iCS50 works

INDUSTRY GUIDE
What to capture in the industry

INDUSTRY WORKBOOK
Learn it by doing it

Leica GEOSYSTEMS

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