

Using ICATS

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Getting Started

Quick Start

This guide gets you from **power on** to **running your first drill** in just a few minutes.

If you can see the table clearly and have a keyboard connected, you're ready.

What you need

- Projector powered and focused
- Keyboard connected to ICATS
- Pool table clear of balls

Step-by-step: your first drill

Power on ICATS

Turn on power to the ICATS system.

After boot, you'll see the ICATS logo briefly, followed by the **last drill you used** (or a blank table).

Open the File Manager

Press **1** (lowercase L) to open the File Manager.

Navigate to a drill

Use the mouse or trackpad to open:

Drills → ICA → Starter Module

Load the drill

Double-click a drill file (for example, *Transition 2_ML.drl*).

The layout will immediately appear on the table.

Verify orientation

Make sure the layout is readable from your shooting position.

If needed, flip the layout using `h` or `v`.

Start practicing

Place the balls as shown and begin shooting the drill.

Essential shortcuts (memorize these)

| Key | Action |
|-------|---|
| l | Open File Manager (load drills) |
| ↑ / ↓ | Next / previous drill in current folder |
| g | Toggle table grid |
| A | Show / hide Aiming Ball |
| b | Blank projector display (shoot without visuals) |
| ? | Show all shortcut keys |

Shutdown matters (read this once)

Do NOT just unplug power

Improper shutdown can corrupt the SD card and prevent ICATS from booting.

To shut down safely:

1. Right-click on an empty area of the table
2. Click **Quit** → **Shutdown**
3. Wait ~10 seconds until the green LED stops flashing
4. Then remove power (or leave it powered but shut down)

What's next

- Learn how to **load and organize drills** in more detail
- Understand the **File Manager** so you're not hunting for content
- Get comfortable with **shortcut keys** (this is how ICATS is meant to be used)

Proceed to **Loading Drills** or **File Manager Basics**.

First Session

Your first session should be boring on purpose: **same drill, repeated reps, one small adjustment at a time**.

This builds consistency fast and prevents “random practice” that feels busy but doesn’t improve much.

Goal for Session 1

Load one drill, shoot it for 10–15 minutes, and leave with one clear thing to improve.

Session script (do this)

Power on and load one drill

Load a drill from: **Drills** → **ICA** → **Starter Module** (If you need help, use **1** to open File Manager.)

Shoot 10 attempts the same way

Set the balls exactly as shown and shoot the same shot 10 times. Don’t change speed/spin wildly yet — you’re establishing a baseline.

Make ONE adjustment

Pick one variable and adjust it slightly — for example:

- aim line / alignment cue you're using
- speed (a little softer or firmer)
- tip position (a half-tip difference)

Shoot 10 more attempts

Shoot the exact same drill again with that one adjustment.

Record the result

Write down:

- what you changed
- what improved (or got worse)
- what you'll try next time

Shut down safely

Use **Quit** → **Shutdown** and wait for the green LED to stop flashing before removing power.

Helpful keys during a session

| Key | Action |
|-------|---|
| ↑ / ↓ | Next / previous drill in the current folder |
| A | Show / hide Aiming Ball (if you want to figure it out yourself) |
| b | Blank the display while you shoot (press any key to return) |
| g | Toggle grid (helps with consistent ball placement) |
| ? | Show full shortcut list |

Don't do this on Session 1

Common beginner mistakes

- Switching drills every 2 minutes
- Changing speed, spin, and aim all at once (you learn nothing)
- Practicing only "favorite shots" and avoiding weak ones

Related topics

- [Quick Start](#)
- [Shutdown, Restart, Reset](#)
- [Loading Drills](#)

Shutdown, Restart, Reset

When something isn't working, **do the least aggressive thing that solves the problem.**

Most ICATS issues are fixed by a proper shutdown or restart. Hard power removal should be rare.

Read this once — it matters

Removing power without a proper shutdown can corrupt the SD card and prevent ICATS from booting.

This is the **most common cause** of serious system failures.

Normal shutdown (preferred)

Use this whenever ICATS is responsive.

Open the Quit menu

Right-click on an empty area of the table to open the main menu.

Shut down ICATS



Select **Quit** → **Shutdown**.

Wait for shutdown to complete

Wait about 10 seconds until the **green LED stops flashing**.

Remove power (optional)

Once the green LED has stopped, it is safe to turn off or unplug power.

If you don't plan to move the system, it is fine to leave ICATS powered but shut down.

Restart (use if something is stuck)

Use a restart if:

- The UI is frozen
- A projector or input device didn't initialize correctly
- The display is incorrect after a layout change

Attempt a normal shutdown first

Follow the steps above if the menus are still responsive.

Cycle power

After shutdown completes, turn power off, wait 5 seconds, then turn power back on.

After restart, ICATS will load the last drill you were using.

Forced power-off (last resort)

Only use this if:

- The screen is completely frozen
- Menus will not open
- The system does not respond to input

Use sparingly

Forced power-off increases the risk of SD card corruption.

Do not make this a habit.

Remove power

Turn off or unplug power without using the shutdown menu.

Wait before restoring power

Leave power off for at least 10 seconds.

Restart and observe

Restore power and watch the boot process carefully.

If forced power-off is needed repeatedly, something else is wrong (see below).

If problems keep happening

Repeated freezes or failed boots usually indicate:

- Improper projector mounting or alignment
- Unstable power
- Overheating
- Corrupted SD card

At that point:

- Stop forcing restarts
 - Document what you're seeing
 - Contact ICA support with details
-

Related topics

- [Quick Start](#)
- [Loading Drills](#)
- [File Manager Basics](#)

Updates and New Modules

ICATS updates keep your system current by installing new software versions and downloading any drill modules your system is authorized to use.

Updates are normally simple, but it's important to understand **when they occur automatically** and **how to start one manually when needed**.

Automatic Updates (Most Common)

Under normal circumstances, ICATS will notify you of available updates **when the system starts**.

- If an update is available, you will be prompted to approve it (Y / N)

- Approving the update installs:
 - Program updates
 - Any newly authorized drill modules

This is the recommended and most common update method.

Manual Updates (When You Should Use Them)

In some cases, you may need to initiate an update manually. Common reasons include:

- You purchased a new module
- ICA support asked you to update
- You believe your system is not current

How to manually update ICATS

1. Right-click on an open area of the table
2. Click **Settings**
3. Click **Update**

ICATS will then check for available updates and download anything your system is authorized to receive.

Two-Phase Updates (Important)

Occasionally, an update happens in **two steps**:

1. **Program update** (ICATS software itself)
2. **Content update** (drills and modules)

If this occurs:

- You may be asked **twice** to approve an update

- This is normal behavior

Do not interrupt the process.

Module Authorization

Only modules your ICATS system is authorized for will be downloaded.

Examples include:

- Target Practice
- Statistics
- Pattern Breakdown modules

If you believe you are missing a module you purchased:

- Run a manual update
 - Confirm your system completes the update successfully
-

When *Not* to Use Forced Update (U)

The shortcut key **U** forces an update and is primarily intended for:

- ICA support troubleshooting
- Exceptional cases

For normal use, **Settings** → **Update** is preferred and faster.

Common Questions

“I ran an update but nothing changed.”

If no updates were available, ICATS will simply continue running the current version.

“Why didn’t my new drills appear?”

Confirm:

- The purchase was completed
- You approved the update prompt
- The update finished without interruption

If needed, run a manual update again.

Related Topics

- [Shortcut Keys Reference](#)
Learn what the **U** key does and when to use it.
- [Loading Drills](#)
Where updated and newly downloaded drills appear.
- [File Manager: Copy, Delete, Rename, Favorites](#)
Organize and manage new drills after updates.
- [Drill Types: ICA, Image, and Hybrid](#)
Understand how newly downloaded drills behave when loaded.
- [Aiming Ball: How to Read It](#)
Learn how guidance elements in updated drills should be interpreted.

Using ICATS

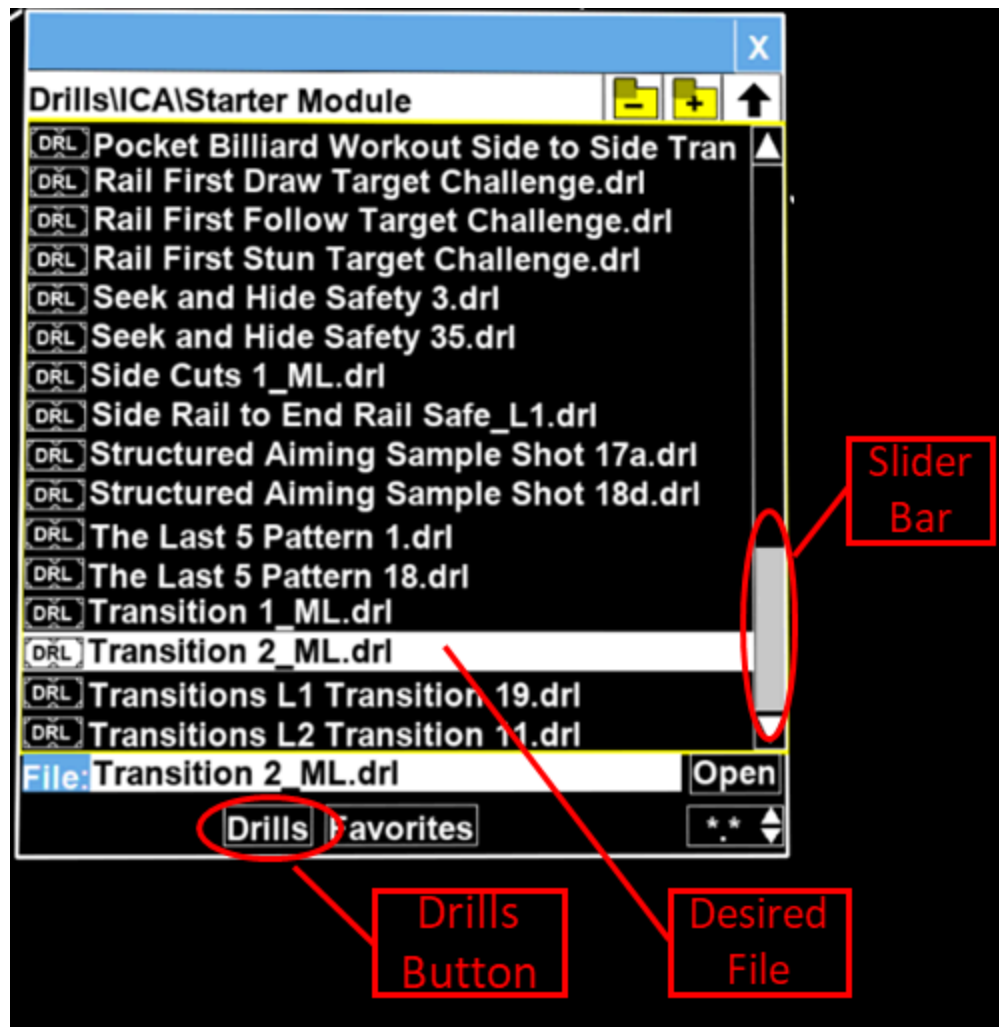
Loading Drills

Nearly everything you do in ICATS starts by loading a drill. This page shows the **fast, reliable way** to find drills and move through them during a session.

Open the File Manager

Open File Manager

Press **l** (lowercase L) to open the File Manager.



Navigate folders

Use the mouse or trackpad to open folders. ICA drills are typically found under: Drills → ICA

Load a drill

Select a drill file

Click once to preview a drill file.

Load it

Double-click the file, or press Enter. The drill will immediately appear on the table.

Verify the overlay

Confirm the layout orientation and scale look correct before placing balls.

Move through drills efficiently

Once a drill is loaded, you don't need to reopen the File Manager every time.

| Key | Action |
|-------|---|
| ↑ / ↓ | Next / previous drill in the current folder |
| Esc | Close File Manager or dialogs |
| 1 | Reopen File Manager |

This lets you:

- Repeat similar drills back-to-back
 - Progress through a module in order
 - Avoid breaking focus during practice
-

Common problems (and quick fixes)

Drill didn't load?

- Press `Esc` to close dialogs, then try again
- Make sure you actually selected a `.drl` file, not a folder
- If arrow keys don't change drills, the File Manager may still be open — close it first

Orientation looks wrong

Use `h` or `v` to flip the layout so it matches your shooting position.

Good habits while learning

- Keep a **small set of drills** you repeat often
- Don't jump between folders every few minutes
- Use arrow keys to stay in rhythm during a session

Consistency beats variety early on.

Related topics

- [Quick Start](#)
- [First Session](#)
- [File Manager Basics](#)
- [Shortcut Keys](#)

Drill Types: ICA, Image, and Hybrid

Not all drills behave the same in ICATS.

The **type of drill determines what you can move, edit, rotate, and save.**

If something doesn't behave the way you expect, the drill type is the first thing to check.

ICA Drills (.drl) — Fully Editable (Recommended)

ICA drills are the native ICATS format and provide full functionality.

Use ICA drills when you want:

- True 2.25" balls
- Fully editable layouts
- All ICATS features to work as designed

What you can do

- Move, add, or remove balls
- Edit targets, aiming balls, text boxes, and lines
- Flip layouts with keyboard shortcuts:
 - **h** → horizontal flip
 - **v** → vertical flip

Bottom line

If you want full ICATS behavior, use ICA (.drl) drills.

Image Drills (.jpg / .png) — Fixed Background

Image drills are static images displayed on the table.

Think of an image drill as **cloth printed with a diagram.**

What ICATS does

- Removes the rails from the image
- Scales and aligns the table surface
- Displays the image as a fixed background

What you can do

- Rotate the image 180°
 - Menu → **Table** → **Image** → **Rotate**

What you *cannot* do

- Move balls that are part of the image
- Resize or edit targets in the image
- Change lines or annotations in the image

Important

- Balls in image drills may **not** be true 2.25"
- Image drills are intentionally non-editable

If something won't move, check whether the drill is an Image drill.

Hybrid Drills — Image + ICA Elements

A **Hybrid drill** combines:

- A fixed **image** background
- Editable **ICA elements layered on top**

This allows partial editing.

What you can do

- Edit ICA elements (balls, targets, aiming balls, text boxes)

- Leave the image untouched

What you cannot do

- Edit the underlying image itself

Hybrid drills are common when adapting diagrams from books, videos, or screenshots.

ADVANCED: Understanding Rotation, Flips, and Gotchas

Why Hybrid Drills Can Be Confusing

Hybrid drills contain **two independent layers**:

1. The image layer
2. The ICA elements layer

Keyboard flips (**h** , **v**) affect **only ICA elements**, not the image.

Correctly Rotating a Hybrid Drill (180°)

To rotate *both* layers so the entire drill appears rotated:

1. Rotate the image
 - Menu → Table → Image → Rotate
2. Flip the ICA elements
 - Press **h**
 - Press **v**

This produces a true 180° rotation of the entire drill.

Why this matters

- Useful in tight rooms

- Necessary when projector mounting forces reversed orientation

Image Requirements (for Imported Images)

For best results, imported images should:

- Show only the table surface (approx. 2:1 aspect ratio)
- Have rails of equal width (if present)

Poorly formatted images may scale incorrectly.

Quick Comparison

| Feature | ICA (.drl) | Image (.jpg/.png) | Hybrid |
|---|------------|-------------------|-------------------|
| True 2.25" balls | ✓ | ✗ | ⚠ image-dependent |
| Move balls | ✓ | ✗ | ✓ (ICA only) |
| Edit targets | ✓ | ✗ | ✓ (ICA only) |
| Flip with <code>h</code> / <code>v</code> | ✓ | ✗ | ICA only |
| Rotate image | ✗ | ✓ | ✓ |
| Fully editable | ✓ | ✗ | ⚠ partial |

If Something Doesn't Work as Expected

Ask yourself:

1. What type of drill is this?
2. Is the behavior coming from the image layer or ICA elements?
3. Do I need to rotate the image, flip the ICA elements, or both?

Understanding drill types will save time and frustration—and lets ICATS work the way it was designed to.

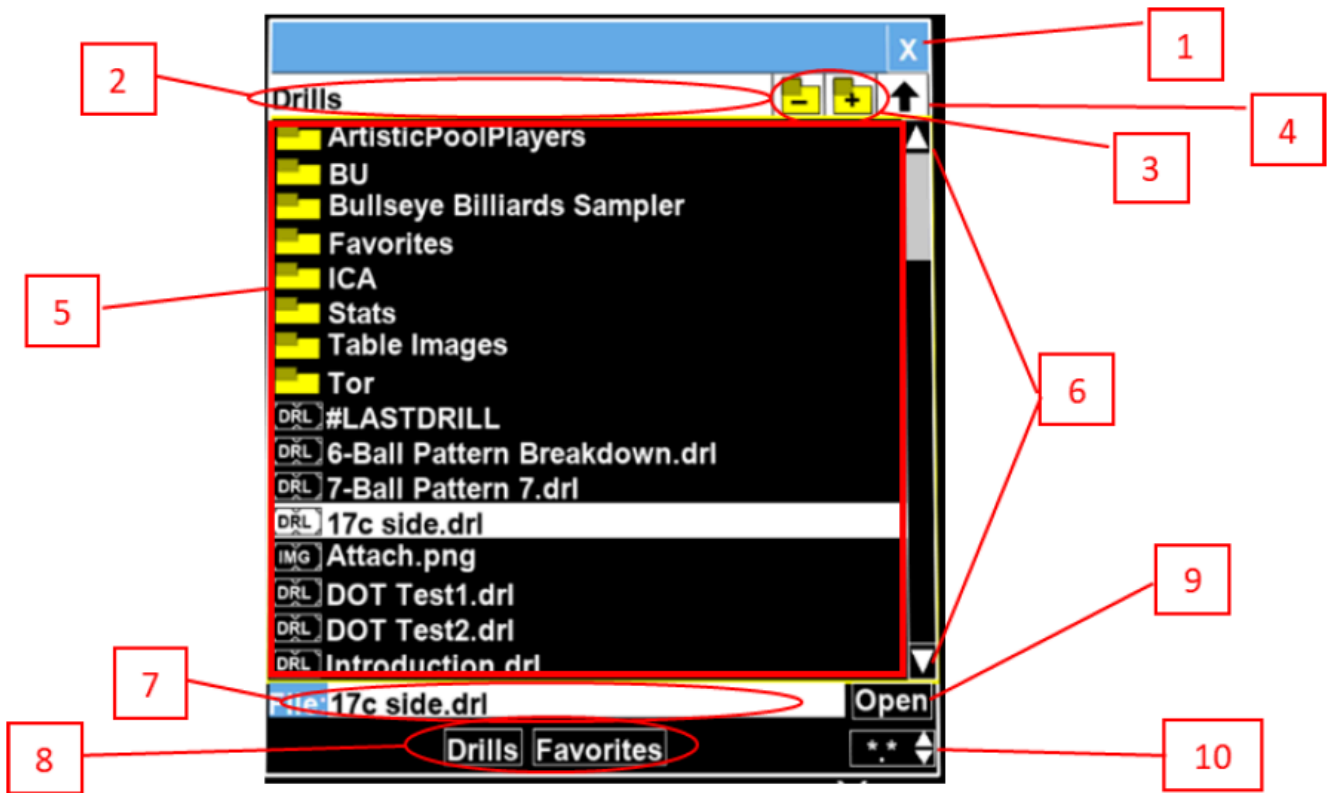
Related Topics

- [File Manager: Copy, Delete, Rename, Favorites](#)
Learn how different drill files are organized and managed on ICATS.
- [Loading Drills](#)
Step-by-step instructions for loading ICA, image, and hybrid drills.
- [Shortcut Keys Reference](#)
Keyboard shortcuts for flipping, rotating, and navigating drills quickly.
- [Common Visual Aids](#)
Understand ghost balls, tangent lines, and cut angles used in drills.
- [Updates and New Modules](#)
How new drills and purchased modules are downloaded to your system.

File Manager

The File Manager is the central hub for ICATS content. You use it to **browse folders, load drills, and move efficiently through a practice session.**

Once you understand the File Manager, everything else in ICATS becomes easier.



The ICATS File Manager with numbered interface elements.

| Element | Purpose |
|---------|---|
| 1 | Close – Left-click the “X” to close the File Manager. |
| 2 | Directory Bar – Shows the name of the current folder. The File Window (Element 5) lists all folders and files inside this folder. |
| 3 | Add / Delete Folder – Left-click the plus icon to create a new folder. Left-click the minus icon to delete the selected folder. A folder must be empty before it can be deleted. |
| 4 | Up One Folder – Left-click the up-arrow to move to the parent folder. The Drills folder is the top-level folder. |
| 5 | File Window – Displays all folders and files in the current folder. Folders appear first, followed by files. File icons indicate the file type: <ul style="list-style-type: none"> • DRL – ICA drill file (can be loaded and displayed) • IMG – Image file (JPG or PNG) that can be loaded as a drill or used as a target • ??? – File type not recognized by ICATS and cannot be loaded |
| 6 | Scroll Controls – Left-click the up or down arrows to scroll one line at a time. Left-click or click-and-drag the slider bar to scroll faster. |
| 7 | File Entry Box – Shows the selected file name. When saving a drill, left-click this box and type the new file name. |
| 8 | Folder Shortcut Buttons – Provide one-click access to common folders. Left-click Drills or Favorites to jump directly to that folder. A USB button (not shown) appears when a USB drive is plugged into ICATS. |
| 9 | Open / Save Button – After selecting a file or folder, left-click Open to open it. When the Save menu is active, this button changes to Save . |
| 10 | File Type Filter – Controls which files are shown in the File Window: <ul style="list-style-type: none"> • *.* – show all files • DRL – show drill files only • IMG – show JPG and PNG image files |

Open the File Manager

Open File Manager

Press **l** (lowercase L) to open the File Manager at any time.

The File Manager opens as a floating window on top of the table display.

How content is organized

ICATS content is organized into folders. Each folder contains related drills or modules.

Common top-level folders include:

- **Drills** — Practice layouts and training modules
- **Media** — Images or reference material (if installed)
- **User** — Drills you've created or modified

Within **Drills**, ICA-created content is typically found under:

Drills → ICA → Starter Module

Load a drill from the File Manager

Select a drill

Click once to highlight a drill file.

Load it

Double-click the file, or press **Enter** .

The drill will immediately appear on the table.

Once a drill is loaded, you can close the File Manager and focus on shooting.

Move through drills without reopening File Manager

After loading a drill from a folder, ICATS remembers that folder.

| Key | Action |
|-------|---|
| ↑ / ↓ | Load next / previous drill in the same folder |
| Esc | Close File Manager or dialogs |
| 1 | Reopen File Manager |

This lets you work through a module in order without breaking your rhythm.

Common mistakes (and fixes)

Arrow keys don't change drills

Arrow keys only work when the File Manager is closed.

Press Esc to close it, then try again.

I don't see my drill

Make sure you're looking in the correct folder.

User-created drills are stored under **User**, not **Drills** → **ICA**.

Good habits

- Keep a small set of drills you revisit often
 - Don't dig through folders mid-session unless you're intentionally changing focus
 - Use arrow keys to stay in flow once a drill is loaded
-

Related topics

- [Loading Drills](#)
- [First Session](#)
- [Shortcut Keys](#)

File Manager: Copy, Delete, Rename, Favorites

The File Manager is how you navigate folders, load drills, save drills, and manage your files. If you learn **file selection** and **right-click menus**, you can do almost everything you need without frustration.

Open the File Manager

You can open the File Manager in two ways:

Keyboard shortcuts (fastest)

- Press **l** (lowercase L) to open **Load**
- Press **s** to open **Save**

Main menu

1. Right-click on an open area of the table to open the main menu

2. Click **Load** or **Save**

File Manager layout (what you're looking at)

Key elements you'll see in the File Manager:

1. **Close** — Click the **x** to close the File Manager
2. **Directory Bar** — Shows the current folder path
3. **Add/Delete Folder** —
 - **+** creates a new folder
 - **-** deletes the selected folder (**folder must be empty**)
4. **Up One Folder** — Moves to the parent folder (the **Drills** folder is the top level)
5. **File Window** — Shows folders first, then files. File icons indicate type:
 - **DRL** — ICA drill file (loadable)
 - **IMG** — image file (JPG/PNG loadable as a drill or target)
 - **???** — unknown file type (not loadable)
6. **Scroll controls** —
 - Click triangles to move one line
 - Drag the slider to scroll faster
7. **File Entry box** —
 - Shows the selected filename
 - When saving: click the box, then type the new file name
8. **Folder shortcut buttons** — One-click access to key folders:
 - **Drills**
 - **Favorites**
 - **USB** (appears only when a USB drive is plugged in)
9. **Open / Save button** —

- **Open** loads a selected file (or opens a folder)
- **Save** appears when launched via `S`

10. **File Type Filter** — Filters what appears in the file window:

- `*.*` (all files)
 - `DRL` (only drills)
 - `IMG` (only JPG/PNG)
-

Selecting files (single and multiple)

Most file operations (copy, move, delete) require selecting one or more files first.

Select one file

- Left-click the file once to preview it.

Select multiple files (two methods)

Method A — Select individual files

- Hold `Ctrl`
- Left-click each file you want

Use this when the files are not adjacent.

Method B — Select a contiguous block

1. Left-click the first file
2. Scroll to the last file
3. Hold `Shift` and left-click the last file

Everything from the first to the last file becomes selected.

Copy, Move, Paste (Cut/Copy/Paste)

1. Select one or more files
2. **Right-click** on one of the selected files
3. Choose **Cut** (move) or **Copy**
4. Navigate to the destination folder
5. Right-click in the File Window and select **Paste**

That's it — you've copied or moved files into the new location.

Delete files (no undo)

1. Select one or more files
2. Right-click on one of the selected files
3. Click **Delete**

Warning: there is no undo for delete. Make sure your selection is correct before deleting.

Rename a file (single file only)

Rename works on **one file only**.

- If you have multiple files selected, the Rename option will not appear.

To rename:

1. Select a single file
2. Right-click the file
3. A filename box appears
4. Use backspace and left/right arrows to edit the name
5. Click **OK**

Favorites (quick access to drills you're working on)

The Favorites folder is a convenience folder for drills you're actively using.

Add a drill to Favorites

1. Load a drill from any folder (not Favorites)
2. Press **F**
3. That drill is added to **Favorites**

Remove a drill from Favorites

1. Load the drill **from Favorites**
2. Press **F** again
3. That drill is removed from **Favorites**

Favorites is intended as a working set — keep active drills there, remove them when you're done.

Common mistakes

- “Why can't I delete this folder?”
The folder must be **empty** before it can be deleted.
- “Why don't I see Rename?”
You selected multiple files. Rename only works on **one file**.
- “Why can't I load this file?”
Files marked **???** are not recognized by ICATS and cannot be loaded.
- “Where's the USB folder?”
The USB shortcut appears only when a USB drive is plugged into ICATS.

Related Topics

- [Drill Types: ICA, Image, and Hybrid](#)
Understand why different files behave differently when loaded.
- [Shortcut Keys Reference](#)
Learn the fastest ways to load, save, and navigate drills.
- [Loading Drills](#)
Step-by-step instructions for loading drills from folders.
- [Updates and New Modules](#)
How new drills and purchased modules are downloaded.
- [Common Visual Aids](#)
Learn how to read ghost balls, tangent lines, and cut angles.

Power Features

Common Visual Aids

Many ICATS drills include visual aids that explain **how a shot works**, not just where to aim. These aids help you understand contact points, cue ball paths, and cut angles so you can execute shots more consistently.

Not every drill uses every visual aid.

Ghost Ball

A **Ghost Ball** shows where the cue ball must contact the object ball to make the shot.

- Displayed as a **yellow ball** attached to the object ball
- Represents the cue ball's center at the moment of impact
- Indicates the exact contact point required for pocketing

If you are unfamiliar with the Ghost Ball concept, it is worth reviewing basic explanations of ghost-ball aiming; ICATS uses the same standard interpretation.

Tangent Line

The **Tangent Line** shows the expected cue ball path **after contact**, assuming a stun shot (no top or bottom spin at impact).

- Displayed as a **yellow line** extending from the ghost ball
- Represents the natural cue ball direction with center-ball hit

How spin affects the tangent line

- **Follow (top spin):** cue ball travels *above/right* of the tangent line
- **Draw (bottom spin):** cue ball travels *below/left* of the tangent line

Understanding the tangent line helps predict cue ball position and plan shape for the next shot.

Cut Angle

Some drills display a **cut angle number** along the line from the cue ball to the object ball.

- 0° = straight-in shot
- Larger numbers indicate thinner cuts
- Values near 89° represent extremely thin cuts

The cut angle provides a quantitative way to compare shot difficulty and recognize patterns across drills.

Important Notes

- Not all drills include all visual aids
 - Some drills intentionally omit aids to encourage independent analysis
 - Visual aids show **idealized geometry**
 - Table conditions, cloth, balls, and stroke can alter results
 - Use visual aids as **guidance**, not absolute guarantees
-

Related Topics

- [Aiming Ball: How to Read It](#)
Learn how speed and spin guidance works alongside these visual aids.

- [Drill Types: ICA, Image, and Hybrid](#)
Understand which drills allow visual aids to be edited or toggled.
- [Shortcut Keys Reference](#)
Keyboard shortcuts that affect visibility of guidance elements.
- [Loading Drills](#)
How drills containing visual aids are loaded and navigated.
- [File Manager: Copy, Delete, Rename, Favorites](#)
Organize and manage drills that use visual aids.

Aiming Ball: How to Read It

The **Aiming Ball (ABall)** provides guidance on **how to strike the cue ball** to achieve the intended result shown in a drill. It communicates two things:

1. **Stroke speed**
2. **Tip position (spin and follow/draw)**

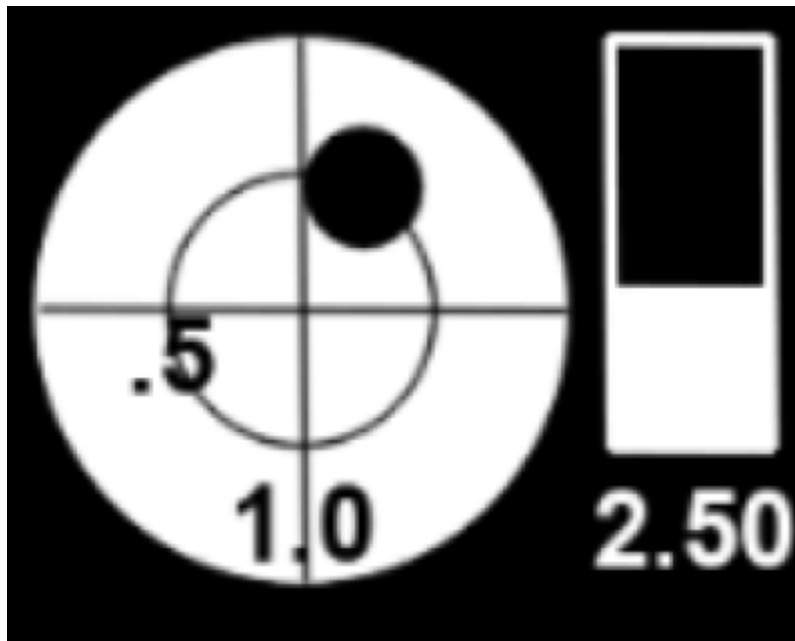


Figure: The ICATS Aiming ball.

(1/2 tip of right English, 1 tip of follow, speed of 2-1/2 tablelengths)

The Aiming Ball is a teaching aid. It is meant to **guide execution**, not replace decision-making.

What the Aiming Ball Represents

An Aiming Ball shows:

- Where to strike the cue ball
- How hard to hit the shot

Different equipment and strokes may produce slightly different results, but following the Aiming Ball guidance will help you execute the shot **as the drill designer intended**.

Speed Indicator

The speed indicator shows the **recommended cue ball speed** for the shot.

- Speed is shown on a numeric scale from **0.25 (very soft)** to **6 (very hard)**
- A speed of **1** corresponds to **one table length**
- A speed of **2** is roughly a typical lag shot (down-table and back)
- Many drills rely on speed control for correct cue ball position

Speed Control drills are provided to help you calibrate your stroke to your table and equipment.

Tip Indicator (Spin and Follow/Draw)

The tip indicator shows **where to strike the cue ball**.

There are two supported display formats.

X / Y Format (Default)

- **X value** → left/right English (side spin)
- **Y value** → follow or draw (top/bottom spin)
- Values are shown in **tips**

Example:

- `X = 0.5` → half tip of right English
 - `Y = 1.0` → one tip of follow
-

Clock Format (Optional)

The Clock format represents tip position using:

- **O'clock position**
- **Number of tips**

This format can be selected in **Settings** → **Aiming Ball Style**.

Both formats represent the same information; choose the one that is easier for you to visualize.

Showing and Hiding the Aiming Ball

- Press **A** to toggle the visibility of the Aiming Ball
 - Hiding the Aiming Ball is useful if you want to:
 - Analyze the shot on your own
 - Test your understanding before checking guidance
-

Important Usage Notes

- Not all drills include an Aiming Ball
 - Some drills intentionally omit the Aiming Ball to encourage problem-solving
 - When **Statistics** is active, the intended speed/spin may be captured for analysis
 - The Aiming Ball does **not** account for every equipment or cloth variation — it is guidance, not a guarantee
-

Related Topics

- [Common Visual Aids](#)
Learn how ghost balls, tangent lines, and cut angles work with the Aiming Ball.
- [Shortcut Keys Reference](#)
Keyboard shortcuts for showing and hiding the Aiming Ball.
- [Drill Types: ICA, Image, and Hybrid](#)
Understand which drills support editable Aiming Balls.
- [Updates and New Modules](#)
How new drills and updated guidance are delivered to your system.

- [File Manager: Copy, Delete, Rename, Favorites](#)

Organize and manage drills that include Aiming Ball guidance.

Aiming Ball

The Aiming Ball is a **visual alignment reference**, not a crutch.

Used correctly, it helps you confirm setup and consistency — then gets out of the way.

What the Aiming Ball shows

The Aiming Ball indicates:

- Where the cue ball should be contacted
- The intended initial direction of the cue ball


It does **not**:

- Guarantee the shot will be made
- Account for stroke errors, speed errors, or unintended spin

Think of it as a **setup check**, not an aiming system.

Turn the Aiming Ball on or off

Toggle the Aiming Ball

Press  to show or hide the Aiming Ball.

Most players turn it on briefly, then turn it off before shooting.

A recommended way to use it

Set up the shot

Get down on the shot using your normal pre-shot routine.

Check alignment

Toggle the Aiming Ball on and confirm your cue alignment matches the reference.

Turn it off

Press again and shoot the shot without the visual aid.

This trains your eye and body to recognize correct alignment on their own.

When the Aiming Ball is most useful

- New table or new projector mounting
 - After calibration or room changes
 - When working on **repeatability**, not creativity
 - When diagnosing why a shot is being missed consistently
-

Common mistakes

Don't aim through the Aiming Ball

Leaving the Aiming Ball on for every shot can prevent real learning.
If you never turn it off, you're practicing dependency — not skill.

Misses with the Aiming Ball on

If shots miss even when alignment looks correct, the issue is usually:

- stroke delivery
- speed control
- unintended spin

The Aiming Ball is doing its job — it's ruling out alignment as the problem.

Pair it with these tools

- Use the **grid** (**g**) for consistent ball placement
- Use **blank display** (**b**) to remove all visuals while shooting
- Combine with **repeat drills** to isolate alignment errors

Related topics

- [First Session](#)
- [Shortcut Keys](#)
- [Pattern Breakdown](#)

Pattern Breakdown

Pattern Breakdown is a feature in ICATS for **demonstrating and practicing run-outs**. A run-out is a sequence of shots where you must pocket each ball and land in a small position zone to continue the run. Pattern Breakdown walks you through the run **shot-by-shot**.

Included with ICATS

Pattern Breakdown tools are part of the base ICATS system (you can create your own run-out drills). ICA also sells professionally designed Pattern Breakdown modules.



The Pattern Ball (PBall)

Pattern Breakdown uses the ICATS **Pattern Ball (PBall)**:

- A hybrid of a cue ball and aiming ball
- Shows **tip position and stroke speed** (how to strike the cue ball)
- Is **4 balls in size**, making it a practical target for your leave
- Any drill containing **numbered PBalls** can be processed as a Pattern Breakdown drill

How to run a Pattern Breakdown drill

Pattern Breakdown is driven primarily by the arrow keys:

-  = next shot
-  = previous shot


Load a Pattern Breakdown drill

Load a drill that contains numbered PBalls (either an ICA drill/module or one you created).


Step 1: Full pattern overview

The initial view shows the full run-out: all object balls, PBalls, and track lines. This gives you the big picture (it may look "busy" at first).


Step 2: Object balls only (optional analysis)

Press  once to show only the object balls (no guidance). This is your chance to analyze the table yourself.

Step 3+: Shot-by-shot guidance

Each press of  advances to the next shot: the current PBall/shot path, the current object ball, and the next PBall target for position. Balls from completed shots are removed as you advance.

Final shot and loop

When you reach the last shot, only the final PBall and object ball are shown. Make the shot (don't scratch). Press  again to return to the full-pattern overview.

What counts as "good position"

Pattern drills are designed with **some margin for error**:

- If you land on the PBall (4× ball size), you can still typically reach the next landing zone
 - You may need to adjust the indicated cueing slightly if your leave isn't perfect
-

Related topics

- [Aiming Ball](#)
- [Shortcut Keys](#)

Text Boxes and QR

Text Boxes and QR codes let you **communicate instructions at the table** without stopping the session to explain or remember details.

Used well, they reduce mental load and keep practice moving.

What they're for (and what they're not)

Text Boxes and QR codes are good for:

- Short reminders ("Soft speed", "Inside english")
- One key focus per drill
- Linking to a quick reference or video

They are **not** meant for:

- Long explanations
- Full lesson content
- Replacing an instructor or written material

Rule of thumb

If it takes more than one glance to read, it's too much text.

Text Boxes: how to use them effectively

Text Boxes place short instructions directly on the table display.

Good examples

- "Soft speed"
- "Max follow"
- "Land above the side pocket"
- "Center-ball only"
- Lists of steps

Keep text **short, specific, and action-oriented**.

QR codes: when to use them

QR codes are useful when:

- You want optional detail without cluttering the screen
- Players may want help *before or after* shooting
- You're linking to:
 - a short setup video
 - a reference diagram
 - a written explanation

Players can scan the code during a break, not mid-shot.

Design tip

QR codes work best when placed near the edge of the table, not near the shot itself.

A recommended workflow

Add one Text Box

Include a single instruction that captures the main intent of the drill.

Add a QR code if needed

Link to supporting material for players who want more context.

Leave everything else off

The table should still look clean and readable at a glance.

This keeps the focus on shooting, not reading.

Common mistakes

Overloading the display

Too many Text Boxes or QR codes create visual noise and slow learning.
If players stop to read, you've gone too far.

Where this feature shines

- League practice with minimal explanation
- Solo sessions where you want reminders without notes

- Shared drills where the intent must be clear to others
-

Related topics

- [Aiming Ball](#)
- [Pattern Breakdown](#)
- [First Session](#)

Add-ons

Target Practice

Target Practice (TP) is an add-on for ICATS that turns practice into **repeatable, measurable reps**.

Each shot has a clear goal:

1. **Make the object ball**, and
2. **Land the cue ball on one of the target zones** (usually 1 of 9) for that shot.

This is “shot + position” training with instant clarity: you either got the leave or you didn’t.

What Target Practice includes

Target Practice is driven by a database of:

- cue ball positions
- object ball positions
- pocket selection
- target positions

This produces **1800+ base layouts** (shots), which you can select using filters.

TP can also include **Solution layouts**: ICA-created examples showing speed/spin and intended cue-ball path.

The basic workflow

Pick a shot set using filters

Filter shots based on what you want to train (distance, cut angle, pocket, etc.).

Run reps

For each layout: pocket the object ball and land the cue ball on the displayed target.

Repeat until consistent

Stay in one filter set long enough to learn something (don't bounce around every rep).

When to use Base vs Solution layouts

Base Layouts

Base layouts are the raw shots (cue ball, object ball, pocket, targets). Use these when you want to figure it out yourself.

Solution Layouts

Solutions add guidance (aiming ball / track line and cueing intent) and can be filtered by traits like follow/draw, english, rails, speed, difficulty, stop/stun. Use these to learn how to play the leave on purpose.

Best use cases

- Accuracy + cue-ball control (the main point)
 - Warmups (tight filters, easy targets)
 - Competitive sets (same filters for everyone)
 - Fix a weakness (choose the cut angles / distances you miss)
-

Common mistakes

What trips people up

- Filtering too broadly (you get random difficulty swings)
 - Changing speed/spin constantly (no learning signal)
 - Treating TP like “make it or miss it” — the *target leave* is the real training
-

A good starting filter (simple, effective)

Start with an easy set to build control:

- medium cue-ball to object-ball distance
- medium cut angles
- one pocket

Once you're landing targets reliably, tighten the filter (harder angles or longer distance).

Related topics

- [First Session](#)

- [Loading Drills](#)
- [Shortcut Keys](#)

Statistics

Statistics ("Stats") is an ICATS add-on that lets you **capture results from practice sessions using virtually any ICA drill**, then review drill-by-drill performance and use **Filters** to identify the shots you should work on next.

What Stats does

- Analyzes the current drill and assigns it to a supported **category** (Aiming, Transition, Pattern, etc.) so it can capture the right results for that drill type.
 - Lets you **record results during a workout** (using the Scoring flow) and then review **Results** for the drill.
 - Provides a **Filters** tab that analyzes all your captured results and generates a list of drills/shots where your goals aren't being met (i.e., your "homework").
-

A practical workflow

Start Stats, then load your first drill

Stats is designed to be used during real practice: start Stats, navigate to your drill, then run reps and score as you go.

Set Max Attempts (how many reps per shot)

In the Setup menu, set **Max Attempts** (1–10). A setting around 5 is often a good default, but adjust based on the drill category and how long each rep takes.

Run the workout and capture scoring

Shoot reps, then record results through the Stats scoring flow. Different drill categories capture different result types (e.g., Aim, Speed/Spin/English, Scratch, Distance Off Target, etc.).

Review Results for the current drill

Use Results to see how you're doing on that drill (and if you use date filters, results reflect only that date range).

Use Filters to find your “homework”

Filters can analyze your entire database of captured results and produce a list of shots/drills where performance goals aren't being met. You can open those drills directly from the filter results.

Multi-user (great for instructors or shared systems)

Stats supports **multiple users** so results can be captured and analyzed separately. When Stats launches, you select the user (or create a new one).

Export your data

From the Setup menu you can export:

- CSV "flat file" for Excel or other tools
 - SQL tables for deeper analysis in an external database
-

Important notes

Editing drills can invalidate stats

If you've recorded stats for a drill, changing and saving that drill can make previous stats misleading. Stats warns you when saving; consider saving with a new name if changes are significant.

Some keys are disabled while Stats is active

While Stats is active, some shortcut keys (e.g., Balls/Tools editing) are disabled to prevent accidental drill edits; many other useful keys still work (like **b** to blank the display).

How to get value fast

- Track one category for a week (e.g., Aiming or Transition), then use Filters to identify the worst-performing shots.
 - Change one thing at a time (speed, spin, alignment, lighting) and let the numbers tell you if it worked.
-

Related topics

- Target Practice
- Loading Drills
- Shortcut Keys

Reference

Shortcut Keys Reference

Shortcut keys are the **fastest and preferred way** to use ICATS.

Most common operations require only a **single key press**, without opening menus.

At any time, press **?** on your keyboard to display the **current, authoritative list** of shortcuts on your system.

Table Shortcuts

These shortcuts affect the **entire table or current drill**.

| Key | Function |
|-----|--|
| d | Display the current drill name |
| g | Toggle the table grid on/off |
| G | Toggle snap-to grid on/off |
| C | Clear the table |
| h | Horizontally flip all ICA elements |
| v | Vertically flip all ICA elements |
| ↑ | Load next drill in the current folder |
| ↓ | Load previous drill in the current folder |
| L | Launch File Manager (Load) |
| S | Launch File Manager (Save) |
| D | Change text direction for ICA elements |
| A | Toggle visibility of the Aiming Ball |
| T | Launch Target Practice add-on (requires purchase) |
| S | Launch Statistics add-on (requires purchase) |

Notes

- Flip shortcuts (**h** , **v**) affect **ICA elements only**, not image backgrounds.
- Table images must be rotated using **Menu → Table → Image → Rotate**.

Balls Shortcuts

These shortcuts add, remove, or randomize balls on the table.

| Key | Function |
|---------------------|---|
| r | Randomize positions of balls currently on the table |
| R | Clear table and randomize balls 1–9 |
| Ctrl + r | Clear table and randomize all 15 balls |
| 0 | Add a cue ball |
| 1 – 9 | Toggle object balls 1–9 |
| Ctrl + 0 – Ctrl + 5 | Toggle object balls 10–15 |

System Shortcuts

These shortcuts control ICATS system-level behavior.

| Key | Function |
|-----|--|
| ? | Display the full, up-to-date shortcut list |
| U | Force program and content update |
| Q | Quit ICATS and show the Linux desktop |
| b | Blank the projector display (press any key to restore) |
| F | Add/remove current drill from Favorites |

Notes

- U may be requested by ICA support, but **Settings** → **Update** is usually preferred.
- b is useful during shooting to temporarily remove visual aids.
- Favorites behavior depends on whether the drill was loaded from the Favorites folder.

Important Usage Notes

- Shortcut availability may vary depending on context (e.g., Stats active).
- Some shortcuts are disabled while **Statistics** is running to prevent accidental edits.
- The **?** key is always the source of truth for your installed version.

If a shortcut doesn't behave as expected, confirm:

1. The drill type (ICA vs Image vs Hybrid)
 2. Whether a modal tool (Stats, Target Practice) is active
-

Related Topics

- [File Manager: Copy, Delete, Rename, Favorites](#)
Learn how drills are loaded, saved, and organized.
- [Drill Types: ICA, Image, and Hybrid](#)
Understand which shortcuts apply to which types of drills.
- [Loading Drills](#)
Step-by-step instructions for navigating and loading drills.
- [Aiming Ball: How to Read It](#)
Learn how aiming ball visibility and guidance works.
- [Updates and New Modules](#)
How new features and drills are delivered to your system.