



**APA**

AUSTRALIAN POWERLIFTING ALLIANCE

## **MEET DAY TECHNICAL GUIDE**

This document is maintained by the APA. Every effort has been made to ensure that the processes in this document are in line with the International Powerlifting Federation (IPF) [Technical Rules](#). Should there be any changes to the IPF Technical Rules or any significant discrepancy between the two documents, the most recent version of the IPF Technical Rules will take precedence.



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## MEET DAY TECHNICAL GUIDE

### INTRODUCTION

This guide provides comprehensive instructions for the technical aspects of managing Australian Powerlifting Alliance (APA) competitions, including setup and use of LiftingCast, operation of the technical (tech) desk, and best practices around live streaming. It is designed to assist meet directors, volunteers, and referees to run APA sanctioned events, including those who are new to the process.

### SECTION 1: LIFTINGCAST

#### OVERVIEW

LiftingCast is a web application used for managing powerlifting competitions. It enables real-time scoring, display of competition information including live streaming, and coordination between referees and the tech desk. For further information, refer to the LiftingCast [FAQ](#) and [instruction manual](#).

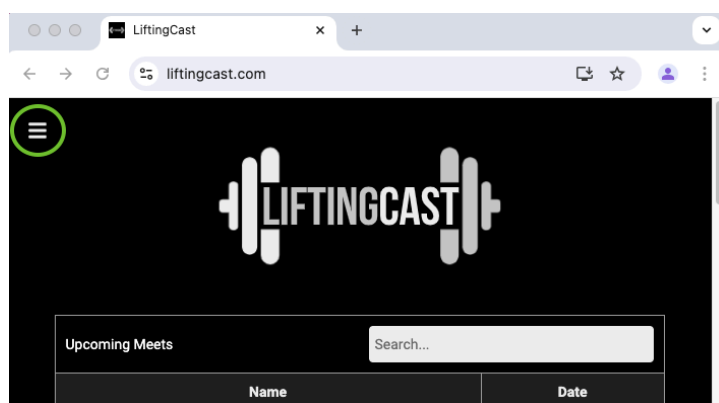
#### NAVIGATION

To navigate to the LiftingCast homepage:

1. Open a web browser (Google Chrome is recommended) and type in <https://liftingcast.com>

To open the menu:

1. Click on the 'hamburger' icon (three short horizontal lines) in the top left-hand corner of the screen:

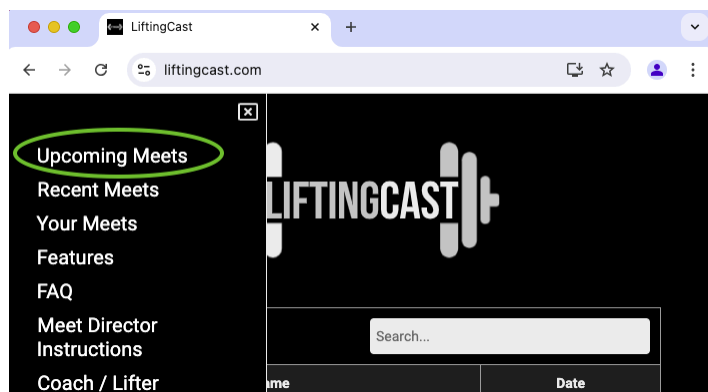


To navigate within the menu:

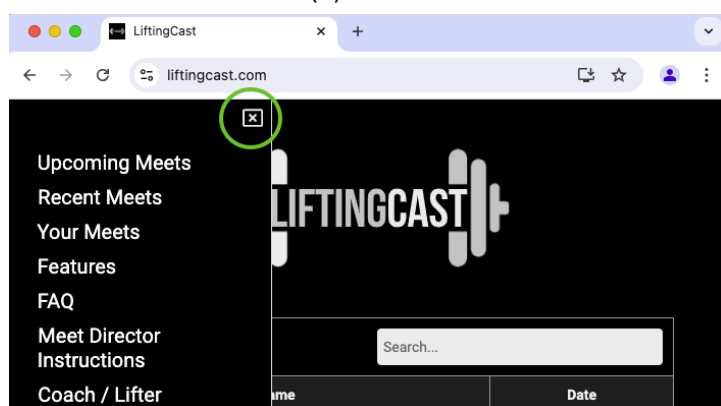
1. Click on the name of the section you want to navigate to, e.g. 'Upcoming Meets':



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2. Click the cross (x) icon to close the menu:



## PAID FEATURES

### THE CLOUD

LiftingCast can be used both online and offline. However, in order to gain access to the light system and allow for public viewing of the link, you must allow for cloud mode. You can toggle this by:

1. Within the menu, click on 'Setup'.
2. Click the 'Upload To The Cloud (Paid)' button.
3. You will be prompted to create a password for the competition.
  - a. Consider the following:
    - i. Easy for you to remember, but not too easy for others to guess e.g., a combination of the competition name, another characteristic, and the federation.
    - ii. Do not share this password with anyone other than those that must have access e.g., the meet director(s) and the referees **only**. Ensure the referees do not share the password.

Note: As the total cost for using LiftingCast is based on the number of lifters at the competition, you **do not need to pay for LiftingCast until the end of the event**. Ensure you pay the amount owing in a timely manner after the event has completed.



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### CREATING A NEW COMPETITION

1. On the homepage, scroll to the bottom of the page and click on the 'Create New Meet' button.
2. Fill in the required details:
  - a. Meet Name: Enter the full name of your competition.
  - b. Date Format: Choose your preferred date format (e.g., DD/MM/YYYY).
  - c. Meet Date: Select the date of your competition.
  - d. Units: Choose 'KG' for APA competitions.

Note: do not select 'APA' as this is a different federation with the same initials.

- e. Federation: Select 'IPF' from the dropdown.
  - f. Contact Email: Enter your email address.
3. Click 'Create Meet':

### Create New Meet

This will create a new meet stored locally in your browser. You can share your meet with others by uploading from the setup page.

Please read the FAQ and instructions. This app is currently under development and things may have changed since you last used the app.

**Meet Name \***

**Date Format \***

**Meet Date \***

**Units \***

**Federation \***

**Contact Email \***

### CONFIGURATION

After creating the meet, you should be taken directly to the Setup page. If not, you'll be able to find it by clicking on the name of your meet in the list under 'Your Meets (Available Offline).'



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Configure the following settings:

1. Show Link on Homepage:
  - a. Leave the 'Show Link On Homepage' checkbox unchecked until you have entered all your data and are ready to publish the competition. If the box is unchecked, nobody will be able to access the competition, so ensure it is checked prior to the start of the competition.
2. Allow lifters to enter rack heights (optional):
  - a. You can check this box and allow lifters/coaches to enter their rack heights via the link instead of printing a rack heights sheet, but it is not required.
  - b. If you do choose to do this you can also generate a QR code with the link and print it for handy access in the warm-up area/tech desk.
3. This is a Virtual meet:
  - a. Leave this box unchecked.
4. Use running total:
  - a. This is personal preference, however it does make it easier for the audience to follow the competition and generally is best to check.
5. Platforms:
  - a. For single-platform competitions, you can leave this as is.
  - b. For multi-platform competitions, click the '+' button to add platforms and name them (e.g., Platform 1, Platform 2).
6. Plate Configuration:
  - a. Enter the quantity of each plate denomination you'll have available on the platform.
  - b. Adjust the colours to match your actual plates if required – generally only the smaller plates will need adjusting. Choose a high brightness for each of the colours to ensure they stand out distinctly against the dark background to enable good visibility for the referees and spotters/loaders:

Plate	# of pairs	Color
50 KG	0	
25 KG	12	
20 KG	1	
15 KG	1	
10 KG	1	
5 KG	1	
2.5 KG	1	
2 KG	0	
1.5 KG	0	
1.25 KG	1	
1 KG	0	
0.5 KG	2	
0.25 KG	1	



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7. View Configuration (aka Display Settings):
  - a. Set the font colour and background colour for the display screens.
  - b. You can leave these as default if unsure.
  - c. Refer to the '[Display](#)' section for further information on setting up display screens.
8. Registration:
  - a. APA does not currently use LiftingCast for meet registration, so you can skip this whole section.

### IMPORTING DATA

There are two ways to add lifters and divisions to your meet, either via RevSport export/APA upload tool, or entering the data manually.

Note: Do not fill out the lifters' contact information such as phone number, street address, city, state or zip code. Ensure that you always handle all personal information according to the [APA Privacy Policy](#).

For both methods:

1. Within the menu, click on 'Import'.
2. You'll see three tabs: 'Import Divisions', 'Import Lifters' and 'Import Records'.

Note: 'Import Records' is only used at National and International competitions — you can safely ignore this tab.

To import the divisions and lifters via the RevSport export and APA upload method (recommended):

1. Export your list of lifters from RevSport:
  - a. Event > Event Reports.
  - b. Event attendance > Generate Report.
  - c. Select all for: Basic details, additional fields, and associated member details.
  - d. Leave the following sections as is:
    - i. Accreditation frameworks.
    - ii. Payment status.
    - iii. Registration type(s).
  - e. Under formatting options
    - i. Name formatting: First Last.
    - ii. Include registration information: Split out each registration individually.
  - f. File format: CSV.
  - g. Click 'Generate report':





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Filtering options

Payment status

(All) ▼

Registration type(s)

☐ Select all

☐ Classic 3-Lift ☐ Equipped 3-lift

☐ Classic Bench Only ☐ Equipped Bench Only

Formatting options

Name formatting

First Last ▼

Include registration information

Split out each registration individually ▼

File format \*

☒ CSV ☐ PDF

You can select up to 10 fields if exporting to PDF. Selecting more fields will generate the report as CSV.

Generate report

2. Upload the report just generated into the [APA web portal](#):
  - a. Click '**Choose file**'.
  - b. Select the date format that **matches your LiftingCast event**.
  - c. Include best lifter division?
    - i. For local competitions, select **No**. If you select yes, this will affect the medal count and provide incorrect numbers
    - ii. For competitions other than local, this is dependent on the arrangements relating to the medals for the competition
  - d. Include national records?
    - i. For local competitions, select **No** as records cannot be broken at local competitions.
    - ii. For competitions other than local, select either Yes or no depending on the nature of the competition.
  - e. Click '**generate liftingcast CSVs**'.
3. Extract the ZIP file that was created and downloaded.
4. Within the LiftingCast menu, click on 'Import'.
  - a. Import the 'liftingcast\_awards\_divisions' file via the 'select divisions file' button in the 'import divisions' tab.
  - b. **IMPORTANT:** Click on 'confirm import of divisions'.
  - c. Import the 'liftingcast\_lifters' file via the 'select lifters file' button in the 'import lifters' tab.



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- d. **IMPORTANT:** Click 'confirm import of lifters'.

If you would prefer to upload the divisions and lifters manually (hard mode, not recommended):

1. Click 'Download Template' in the top right corner to get the correct file format.
2. Open the template in a spreadsheet program (e.g., Microsoft Excel, Google Sheets)
3. Enter all your data into the templates.

Note: You will need to adjust the groups (flights), platforms and sessions to suit your competition. Ensure all data is entered correctly to avoid issues during the competition. Lot numbers should be created after the lifters have been labelled in their respective groups (flights). Refer to the ['Lifters'](#) section for further information about lot numbers.

### MEDAL COUNT

Lifting Cast automatically calculates how many medals you will need for your competition. Once all information has been imported and double checked for accuracy:

1. Within the menu, click on 'Setup'
2. Scroll to the bottom and locate the 'medal counts' box

### Medal Counts

This is the number of medals you could potentially have to give out based on your division config and registered lifters

1st:	16
2nd:	1
3rd:	0
4th:	0
5th:	0

### AWARDS DIVISIONS

Setting up awards divisions is crucial for the competition. Ensure all necessary divisions are set up **before** the competition day. Please note: If you followed the ['importing data'](#) section, you will not need to manually create Awards Divisions.

1. Within the menu, click on 'Awards Divisions'.
2. Click 'Generate Divisions' to create standard divisions:



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The screenshot shows a dark-themed interface with a header 'Competition Name' and a hamburger menu icon. Below the header are two buttons: 'Export Divisions' and 'Generate Divisions'. The 'Generate Divisions' button is circled in green. To the right of the buttons is a filter icon. Below the buttons is a table with two columns: 'Name' and 'Gender'. The 'Name' column has a plus icon in a circle, and the 'Gender' column has an upward arrow icon. The table body is empty.

3. Select the divisions you want to use in your competition. 'Guest' divisions are not usually required for local competitions.
4. Click 'Generate' to add the divisions to your meet:

The screenshot shows a dark-themed interface with a header 'You can use this division generator to create a division config based on your federation's standard divisions. This process always adds to your existing divisions.' Below the header are four columns of checkboxes. The first column has radio buttons for 'Powerlifting', 'Push / Pull', 'Squat Only', 'Bench Only', and 'Deadlift Only'. The second column has checkboxes for 'Male' and 'Female'. The third column has checkboxes for 'Raw' and 'Equipped'. The fourth column has checkboxes for 'Sub-Junior', 'Junior', 'Open', 'Master I', 'Master II', 'Master III', 'Master IV', and 'Guest'. Below the checkboxes is a line of text: 'About to generate 28 divisions and 232 weight class categories.' At the bottom right are two buttons: 'Cancel' and 'Generate'. The 'Generate' button is circled in green.

5. If necessary, you can click 'Generate' a second time to add additional divisions, e.g. if you have three-lift and single-lift (aka 'bench-only') competitors in the same competition.
6. The awards should be generated by division (both age category and weight class) for all local competitions and all national competitions except open championships.
7. Ensure the 'Score By' option is entered as by 'Total', not by 'IPF GL points' or any other method.
8. To create a custom division:
  - a. Click the plus (+) icon:



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Competition Name

Export Divisions Generate Divisions

	Name	Gender
	Men's Equipped Junior	Male

- b. Fill in the details (name, gender, equipment, scoring method, weight classes).

Note: The overall best lifter(s) by IPF GL points can be calculated from the results output at the end of the competition.

### DISPLAY

The LiftingCast Board is used to display the competition progress. When setting up the display using the settings options of the 'Board' menu, the following options should be selected as a minimum (all but IPF Pts should be selected by default):

- Lot
- Dead 1
- Body Wgt
- Dead 2
- Session
- Dead 3
- Flight
- Division
- Squat 1
- Weight Class
- Squat 2
- Total
- Squat 3
- Forecasted Total
- Bench 1
- IPF Pts (*must be selected manually*)
- Bench 2
- Place
- Bench 3
- Forecasted Place
- Subtotal



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Total	65	<input checked="" type="checkbox"/>
Forecasted Total	90	<input checked="" type="checkbox"/>
Wilks	65	<input type="checkbox"/>
Forecasted Wilks	90	<input type="checkbox"/>
Wilks/Age	75	<input type="checkbox"/>
Forecasted Wilks/Age	90	<input type="checkbox"/>
IPF Pts	75	<input checked="" type="checkbox"/>
Forecasted IPF Pts	90	<input type="checkbox"/>
IPF/Age Pts	75	<input type="checkbox"/>
Forecasted IPF/Age Pts	100	<input type="checkbox"/>

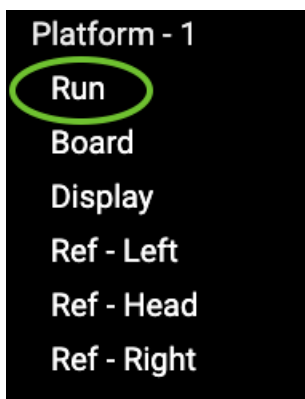
A screenshot of the options that can be selected in the Board display on LiftingCast. It is recommended to leave the 'Width' column at the default options, and to manually select 'IPF Pts'

Note: Refer to the '[Video Guides](#)' section for further information on how to customise the display options for your specific setup.

### TECH DESK

The technical (tech) desk manages the flow of the competition using LiftingCast. For detailed information on tech desk operation, refer to '[Section 2: Technical Desk](#)'. For meet directors, here is how to set up the tech desk on the day of competition:

1. Open LiftingCast on a computer at the tech desk.
2. Log in to your meet.
3. Within the menu, find the platform you created during setup –this is usually 'Platform -1' by default for a single platform competition.
4. Select 'Run' to access the competition management page:



5. Ensure all necessary equipment is connected and functioning:
  - a. Computer.
  - b. Display screens (for audience and loaders).



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- c. Referee tablets, phones, or other mobile devices.
6. Check the synchronisation status:
  1. Look for a small icon in the top right corner of the screen.
  2. If it's two white arrows, you're synced.
  3. If it's a red triangle, click it and enter the meet password to resync.
  4. If there is no icon at all, then your meet may not yet be live or not on the cloud.  
Check the settings in the 'Setup' menu to confirm that the meet is set up correctly.

## WEIGH-IN

During the weigh-in:

1. Within the menu, click 'Weigh-In Entry'.
2. For each lifter:
  - a. Find their name in the list.
  - b. Enter their exact body weight.

Note: If you can only enter the lifter's body weight but not their openers, their entry in the 'Lifters' menu is most likely incomplete. Go back to the 'Lifters' menu and ensure all lifter data including awards divisions, is correctly entered.

- c. Record their opening attempts for squat, bench, and deadlift.
- d. Enter rack and safety heights including racks in or out for squat and blocks for bench press if required.
  - i. To denote the squat rack height and rack requirements, use the format *rack height* followed by *rack position* (only if not out), e.g. 14, 16, 12in
    1. Almost all lifters default to having the racks out. Therefore it is much more efficient to only note when a lifter has opted to have the racks in.
    2. Some lifters who opt for racks in may prefer to have only one rack in. This can easily be noted as 12rin or 12lin, so that the spotters/loaders know which side to adjust.
    3. It is best to write out the full word 'in' to avoid confusion, as it can be very hard for the spotters and loaders to see just 'i' or 'l' on the LiftingCast display.
  - ii. To denote the safety height for bench press, use the format rack height/safety height e.g. 4/4, 6/3, 8/4.
    1. The minimum safety height should be determined by the Chief Referee, depending on the rack used as well as the weight class and age category, e.g. female junior lifters may be allowed safety height 3 but male open 120+ lifters may not. If unsure, check with the Chief Referee on the day.
  - iii. To denote that blocks are needed for bench press, use the format rack height/safety height block requirement e.g. 4/4B.



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If you have enabled QR code rack height submission:

1. Print the QR code and display it at weigh-in.
2. Lifters can scan this and enter their own rack heights.
  - a. Please note that you still must provide a method for lifters to enter their rack heights 'manually', using a paper rack heights sheet, both as a backup in case there are any technical issues with the QR code and also for lifters who are not able to navigate the LiftingCast interface.
  - b. It can be helpful to complete the first row of the paper rack heights sheet as an example and provide a minimum safety height as noted [above](#).
  - c. At national competitions, rack heights may only be entered 'manually', using a paper rack heights sheet. This is because lifters are required to sign the manual paper rack heights sheet as a verification that this is their submitted rack height, which can then be used as a source of evidence should there be any issues, for example if the jury (or referees in the absence of a jury) decides the safety height has been set too low, or the technical desk has made an error in entering the data, etc.

## LIFTERS

When there are 10 or more lifters in a session they may be split into groups, but grouping is mandatory if there are more than 14 lifters. Sessions can include one or multiple bodyweight categories. In single lift events, groups can have up to 20 lifters.

Note: The IPF rule book refers to 'groups' but LiftingCast refers to 'flights'. The terms are interchangeable and both may be used in this guide.

To organise lifters into groups:

1. Within the menu, click 'Lifters'.
2. Use the dropdown menu in the 'Flight' column to assign lifters to groups.

The screenshot shows the LiftingCast interface for a competition. At the top, there is a header with a menu icon and the text 'Competition Name'. Below this are two buttons: 'Export Lifters' and 'Generate Lot Numbers', followed by a filter icon. The main area is a table with columns: Name, Team, Lot, Platform, Session, and Flight. The first row of data shows 'Example McExample' in the Name column, a dropdown arrow in the Team column, '1' in the Lot column, '1' in the Platform column, '1' in the Session column, and a dropdown menu in the Flight column. The dropdown menu is open, showing options A, B, C, and D. Option A is selected and highlighted in pink. A green circle is drawn around the dropdown menu.

	Name	Team	Lot	Platform	Session	Flight
	Example McExample		1	1	1	A

3. Try to balance groups with even numbers of lifters if possible. This makes it much easier for the spotters/loaders and will make the competition run faster and more efficiently.



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- a. For local events, organise groups by gender/age division/weight class, so that the lifting order will go from lightest to heaviest weight lifted and lifters who will likely be attempting similar weights are grouped together.
- b. For national events, groups should be based on lifters' best totals from the past 12 months, with the lowest totals lifting in the first group.
4. Group order is alphabetical (i.e. lifting order will be A followed by B) which cannot be changed in LiftingCast, so name your groups accordingly.
5. You may manually assign lot numbers to each lifter, or click the 'Generate Lot Numbers' button at the top of the page so Lifting Cast can do this for you automatically.

To change the order within a group:

1. Click the column header 'Lot #' to sort by lot number.

The screenshot shows the LiftingCast interface for a competition. At the top, there is a header bar with a menu icon, the text 'Competition Name', and three buttons: 'Export Lifters', 'Generate Lot Numbers', and a filter icon. Below this is a table with five columns: a plus icon, 'Name', 'Team', 'Lot', and 'Platform'. The 'Lot' column header has an upward arrow icon and is circled in green. The first row of data shows 'Example McExample' in the Name column, a dropdown menu in the Team column, '1' in the Lot column, and another dropdown menu in the Platform column.

	Name	Team	Lot	Platform
+	Example McExample		1	

2. Manually adjust lot numbers if needed to change the order.

The screenshot shows the LiftingCast interface for a competition. At the top, there is a header bar with a menu icon, the text 'Competition Name', and three buttons: 'Export Lifters', 'Generate Lot Numbers', and a filter icon. Below this is a table with five columns: a plus icon, 'Name', 'Team', 'Lot', and 'Platform'. The first row of data shows 'Example McExample' in the Name column, a dropdown menu in the Team column, '2' in the Lot column, and another dropdown menu in the Platform column. The '2' in the Lot column is circled in green.

	Name	Team	Lot	Platform
+	Example McExample		2	

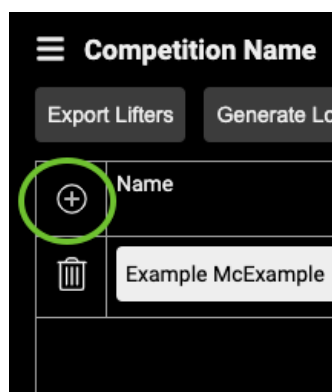
To add/delete lifters:

1. Click the plus (+) icon to add a lifter.

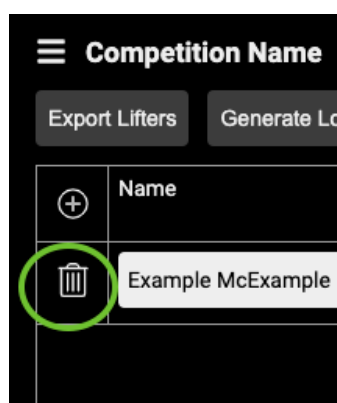




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2. Click the rubbish bin icon to delete a lifter.



Note: You may need to remove a lifter when they withdraw from the competition after you have completed your data entry. Otherwise this isn't often used, since you only upload the entered lifters into your competition.

## RUNNING THE COMPETITION

This is a basic overview. For further information on running the tech desk during the competition, refer to [Section 2. Tech Desk](#).

On the 'Run' page:

1. Enable autoscroll.
2. Ensure the correct group is displayed.
3. Click 'Select First Lifter' to begin the group.
4. The current lifter and attempt will be highlighted.
5. The competition can be operated manually (i.e., by the tech desk) or via the referees (most common):
  - a. If the tech desk is operating the competition:
    - i. When the MC has announced that the bar is loaded, click 'Start' to begin the 1-minute clock.
    - ii. After the attempt:



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1. Click the thumbs up (good lift) or thumbs down (no lift) button.
  - a. Or use keyboard shortcuts: 'G' for good lift, 'B' for no lift.
  - b. You will see that the time left for the lifter to submit their next attempt automatically reveals itself in the data entry box for the next attempt.
  - c. Note: If the tech desk manually moves to the next lifter, this will not clear the lights. The referees must clear the lights individually, without moving to the next lifter.
- b. If the referees are operating the competition, the above will be completed by the referees themselves. Please refer to the 'referees' section.
6. The system will automatically move to the next lifter.
7. Enter the next attempts as they're submitted by lifters/coaches.
  - a. Note: This must always be completed by the tech desk, regardless of whether the competition is run purely by the tech desk or by the referees.

Remember:

- Keep an eye on the 1-minute clock for attempt submissions.
- Use the 'Attempt Change' button if a lifter changes their attempt after the bar is loaded.

Platform 1 - Competition Name														
1:00.0		Auto Scroll ✓		Attempt Change		Bar & Collars Weight: 25kg		Timer Length: 1 min		0-30/30				
Name	Lot	Session	Flight	Squat 1	Squat 2	Squat 3	Squat Rack Height	Bench 1	Bench 2	Bench 3	Bench Rack Height	Dead 1	Dead 2	Dead 3
— Session 1 - Flight A														
Example McExample	1	1	A	100 ...			15	200 ...			5/5	300 ...		
				⬆ ⬇ ⬇ ⬆										
Another Lifter	2	1	A	120 ...			15L	120 ...			5/5	120 ...		
— Session 1 - Flight B														
Secondy Flight	4	1	B	50 ...			15L	60 ...			5/5B	70 ...		
Second Flighty	3	1	B					180 ...			5/5			

An overview of the 'Run' screen in LiftingCast. Note that the Auto Scroll button has been clicked (top left) and that the 'Select First Lifter' button has already been clicked ready to start the competition

## HANDLING ISSUES

If something goes wrong:

1. Click the three dots (...) next to a lifter's attempt.
2. You'll see options to:
  - a. Set as current attempt (if the wrong lifter is shown).
  - b. Move to end of round (for re-attempts).
  - c. Mark as good/bad (to correct a mistake).



## MEET DAY TECHNICAL GUIDE

d. Flag as a record attempt.

— Session 1 - Flight A			
Example McExample	1	1	A
Another Lifter	2	1	A
— Session 1 - Flight B			
Secondy Flight	4	1	B
Second Flighty	3	1	B

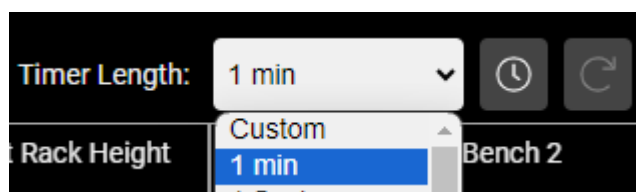
Options shown when you click on the three dots '...' next to a lifter's attempt. Note: This attempt was already active (indicated by the blue box) therefore the 'Set as current attempt' option is not shown.

If you need to pause the meet:

1. Click 'Reset' to stop the clock.
2. When ready to resume, click 'Start' to begin the clock again.

If you need to set a custom timer (eg. 10 or 20 minutes for the break period, or to give a lifter an additional rest in the event of a loading error) click on the down arrow on the 'Timer Length' box. When you are ready, click on the timer icon to start the timer.

Note: if the timer is already running you are unable to change the timer length until it has been reset.



Changing the timer length using the dropdown box. Start button (middle) and reset button (right).

## REFEREES

### CHIEF REFEREE

1. Access the 'Chief Referee' page on a tablet or mobile device.
2. You'll see the current lifter and attempt.

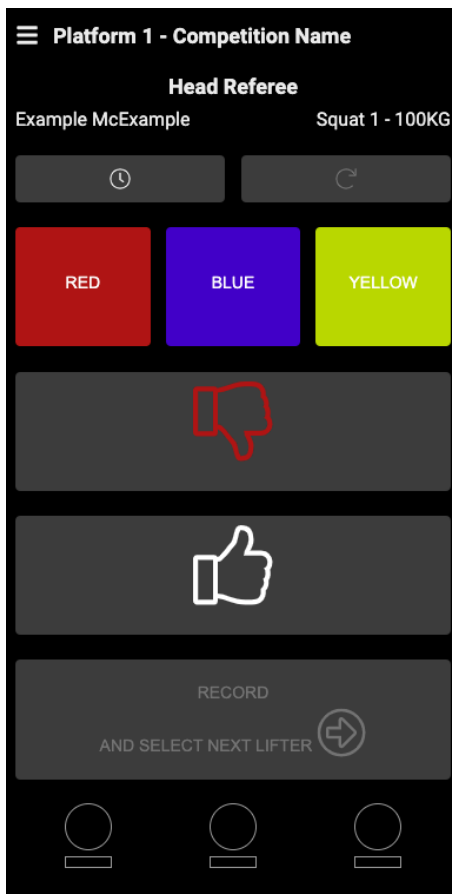


## MEET DAY TECHNICAL GUIDE

3. Use the 'Start' and 'Reset' buttons to control the clock.
4. After each attempt, select the appropriate icon for your decision:
  - a. Thumbs up for a good lift.
  - b. Thumbs down for a no lift (select the reason for the no lift).

Note: The only way to clear the lights is for the chief referee to record their decision and progress the competition. Errors due to miscommunication or confusion between tech desk and referees, such as the tech desk progressing the competition due to a delay by the chief referee, may lead to lifters being skipped.

5. Click 'Record and Select Next Lifter' to move to the next attempt.



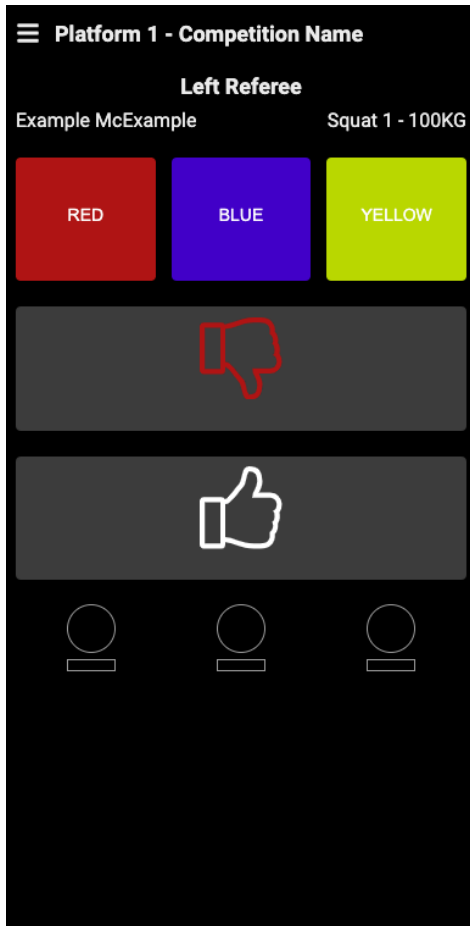
Chief (aka 'Head') referee screen.

### SIDE REFEREES

1. Access the 'Left Referee' or 'Right Referee' page on your device.
  - a. The 'left' and 'right' are as viewed when facing the platform from the front.
2. After each attempt, select the appropriate icon for your decision:
  - a. Thumbs up for a good lift.
  - b. Thumbs down for a no lift (select the reason for the no lift).
3. Submit your decision promptly after each attempt.



## MEET DAY TECHNICAL GUIDE



*Left referee screen.*

### POST-COMPETITION

After the competition:

1. Within the menu, click on 'Results'.
2. Review all results for accuracy.
3. Click 'Export (OpenPowerlifting format)' to download the results file.
4. Ensure the manual scoresheet has been completed correctly and signed by the referees. Totals and placings must be recorded.
5. Take a clear photo of the manual run sheet and include this in your email.
6. Email a photo or scan of the manual scoresheet as well as the downloaded results file to the [results coordinator](#).
7. Upload photos or scans of the drug testing consent forms to the appropriate Google Drive folder supplied to you.
8. The results coordinator will validate your results and confirm payment can be released or contact you if there are any issues.



## MEET DAY TECHNICAL GUIDE

9. Once the results are validated, you are free to dispose of all paperwork (e.g., manual score sheet, attempt cards etc.). **Do not dispose prior to confirmation that your results have been validated.**

### SCORESHEET

- You will receive the APA manual scoresheet via email in your meet director pack. Please make sure that the tech desk volunteers are aware of how to complete the manual scoresheet as well as how to use LiftingCast for digital scoring, including:
  - Entering attempts as the competition progresses.
  - Ensuring attempt cards are signed and handed in within the 60 seconds allowed (and what to do if an attempt card is not handed in within that time).
  - What attempts are allowed (i.e. not repeating a successful attempt or lowering from a previous attempt).
  - When and how attempts may be changed, including first attempts and third attempt deadlifts (or third attempt bench press for bench-only) and making sure this is clearly marked on the manual scoresheet.
  - How to mark an attempt as successful/unsuccessful.
  - Setting the timer for breaks.
  - Entering totals and placings as the competition is completed.

### RECORDS

This is applicable for national and special approved events only.

- Current APA national records and the APA record policy are available on the [APA website](#).
- Meet directors for national events are responsible for ensuring that the list of records is easily available for the tech desk and also that the tech desk volunteers are aware of the IPF technical rules regarding records.
- Please make sure that the tech desk notes any national records on the manual scoresheet with 'NR'.

### RECORD ATTEMPTS AND VALIDATION

This is a basic overview. Always refer to the full APA record policy on the [APA website](#) for information on records.

National record attempt information:

1. The attempt must be at least 0.5 kg more than the current record.
2. Record attempts can be in 0.5 kg increments (unlike regular attempts which must be in 2.5 kg increments).
3. The first lifter to successfully achieve the record holds it.
4. If a record is broken before the end of a flight, subsequent attempts may need adjustment.



## MEET DAY TECHNICAL GUIDE

### DIGITAL REFEREE LIGHTS

#### OVERVIEW

Digital Referee Lights (DRL) are a hardware and software system that interface with meet day software such as LiftingCast. While LiftingCast does include referee controls (refer to the [‘Referees’](#) section), they can be less user-friendly and less reliable than a DRL, as they require referees to be familiar with navigating LiftingCast, to use their own device (mobile, tablet, etc.), and are dependent on each device’s battery life and Wi-Fi and/or mobile network.

The DRL automates input of the referees’ decisions to LiftingCast. The referees push the buttons on their respective DRL controllers to indicate whether a lift was successful or not, and the DRL then interacts with the meet day software and displays appropriate graphics such as lights, lifter name, etc. on a monitor for the tech desk, lifters/coaches, and the audience.

The DRL also enables referees to:

- Start, stop, or reset the clock/timer based on the chief referee’s inputs to DRL.
- Reset the clock for the next lifter after each attempt.
- Turn on the indicator lights to display the referees’ decision of each lift outcome.
- Turn off the lights after a delay.
- Determine the next lifter.
- Update the current lifter to be the next lifter.

#### SQUAT DOBBINS

[SquatDobbins](#) has created a DRL that can be used as an interface with LiftingCast. The system uses a combination of hardware and software, including hand-held controllers, Raspberry Pi-based server, and display software. The system can be connected over a local area network (LAN) or Wi-Fi.

The APA has a SquatDobbins DRL system available for hire. If you would like to utilise this system, please contact the [competitions coordinator](#) to discuss. If you would like to purchase your own SquatDobbins DRL system, visit the DRL [purchase page](#).

For further information on how to use the SquatDobbins DRL system, refer to the [User Guide](#). There are also some helpful video guides on their YouTube channel for [setup](#) and [referee information](#).

#### VIDEO GUIDES

These videos have kindly been created by Chris Ross and are a helpful resource for using LiftingCast.



## MEET DAY TECHNICAL GUIDE

- [APA Desk I](#): How to navigate the 'run' page during a round (Please note: The referees will navigate the outcome of the lifts. The tech desk will need to input the attempts, navigate the timer, and override attempts if an error occurs).
- [APA Desk II](#): How to change the outcome (i.e., 'good' lift or 'no' lift) manually and change the timer to reflect the break.
- [APA Desk III](#): How to change an error of the lifter's details. Note: ignore the 4th attempt explanation as APA does not allow 4th attempts.
- [APA Desk IV](#): How to export the results (please export in OpenPowerlifting format).
- [APA Display I](#): Introduction of the 'Board' and 'Display' sections, and how they can be customised. Note: the audio cuts out part way through but this content is also covered in Display II and III.
- [APA Display II](#): Further explanation of customising the 'Board' and 'Display', including the 'run' area and best practices around screens for each part of a competition such as warm-up area, waiting area, platform display, etc.
- [APA Display III](#): Final recap of display options including optimising for small screens.
- [APA Referees I](#): How to mark a lift as a 'good lift' or 'no lift' from the referees' perspective.
- [APA Referees II](#): How to mark a lift as a 'good lift' or 'no lift' from the tech desk perspective
  - Note: It is important for the tech desk and Chief Referee to work together, so that only **one** person is verifying the lift.
- [APA Referees III](#): How to reset the timer.

## KEYBOARD SHORTCUTS

Using these can speed up your workflow:

- 'G': Mark attempt as good.
- 'B': Mark attempt as bad.
- 'S': Start the clock.
- 'R': Reset the clock.

## TROUBLESHOOTING

Common issues and solutions:

- Meet out of sync: Click the sync icon (top right) and enter the meet password.
- Skipped lifter: Use the 'Set as Current Attempt' option in the three-dot menu.
- Display not updating: Refresh the page or check internet connection.
- Wrong lifter order: Check and adjust lot numbers on the 'Lifters' page.

## GLOSSARY

- Flight: A group of lifters competing together.
- Attempt: Each individual lift (squat, bench press, or deadlift).





## MEET DAY TECHNICAL GUIDE

- Lot Number: A randomly assigned number determining lifting order.
- Platform: The designated area where lifting takes place.

### CONTACT

If you have any questions about how to set up or use meet day software after reading through this section, please contact the [competitions coordinator](#). For questions about managing results or records, please contact the [results coordinator](#).



## MEET DAY TECHNICAL GUIDE

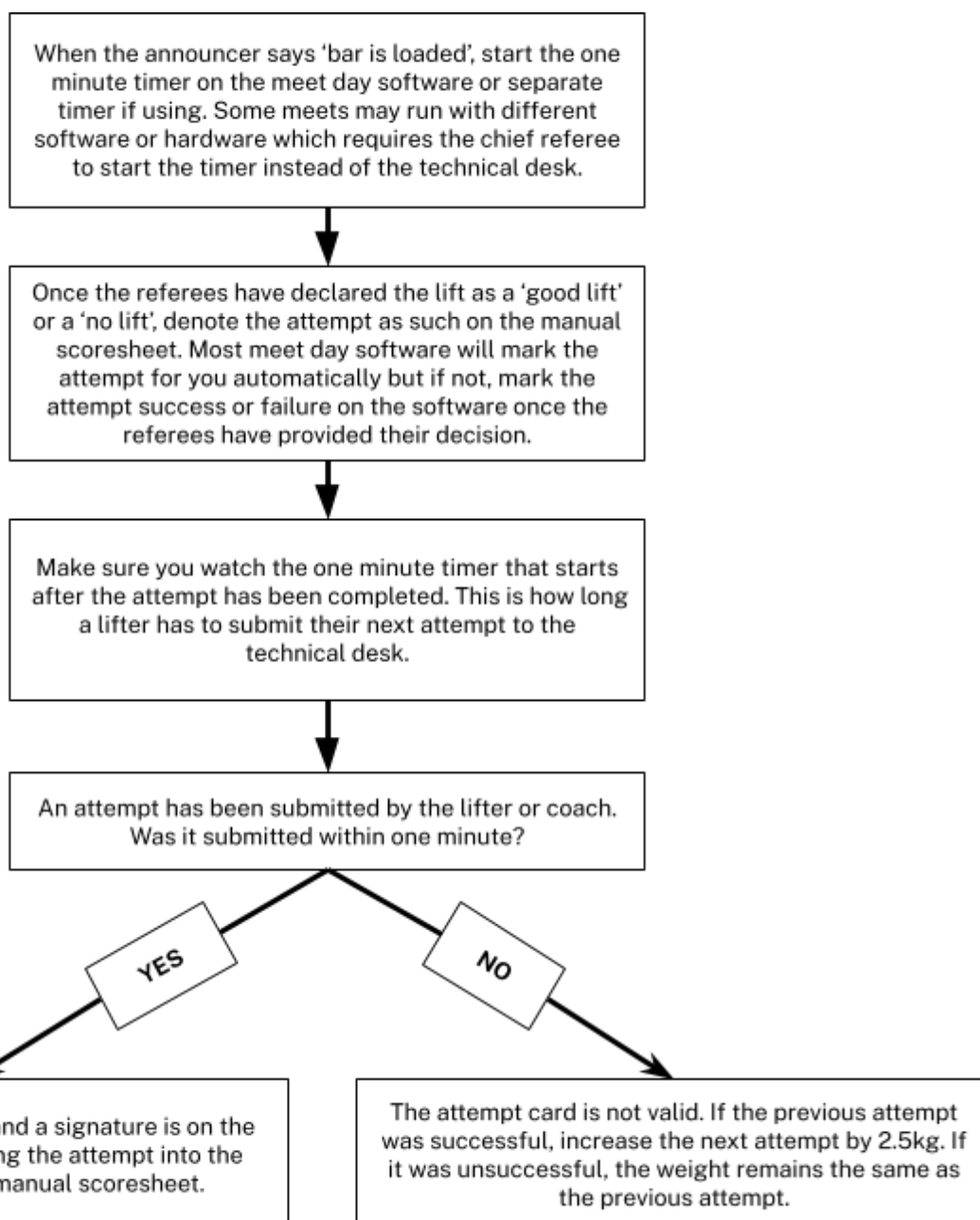
### SECTION 2: TECH DESK

#### OVERVIEW

This section is intended to be APA results- and records-specific, and provide detailed instructions for how to operate the technical (tech) desk, for all levels of experience.

For all rules of competition, refer to the latest version of the [IPF Technical Rules book](#). For information around national records, refer to the APA record policy, available on the [APA website](#). For further details on use of LiftingCast software, refer to [Section 1: LiftingCast](#).

#### SUMMARY





## MEET DAY TECHNICAL GUIDE

### PRIOR TO COMPETITION

1. Enter the weigh-in details into the meet software and manual scoresheet.
2. Ensure that all lifters have their first attempts, body weights, and rack heights correctly entered both in the meet software and on the manual scoresheet.
3. Accept any attempt cards for changes to first attempts prior to the commencement of lifting and make updates accordingly as required.

### NATIONAL CHAMPIONSHIP ONLY

1. Check the current national records and update the meet software and manual scoresheet to clearly note first attempts which will be above the current national record or equal to the current national standard.

### DURING COMPETITION

1. Run the timers for the competition including the one minute for the lifter to start their attempt, one minute from the completion of the attempt for them to submit their next attempt, 10 – 20 minutes for the break between disciplines depending on the number of groups lifting in each session, and any compensatory time for groups of fewer than six lifters or if a lifter is granted extra time due to an error.
2. Receive the attempt cards from the lifter.
3. Ensure the attempt card is signed, correctly completed, and has been handed in within one minute of the lifter's previous attempt. It is the sole responsibility of the lifter to submit attempts within the time limit.
4. Enter attempts into the meet software and manual scoresheet.
5. Mark each lift as failed or successful on the meet software and manual scoresheet when the referees' decision has been made. To mark an attempt as failed on the manual scoresheet, put a line through the entire square from the bottom left corner to the top right corner, so it can be clearly understood but without completely obscuring the weight attempted.
6. Some meet software may require you to confirm the decision and select the next lifter, whereas some will progress automatically. It should be evident from the software in use, but confirm with the meet director or other applicable official if unclear.
7. If a lifter wants to skip an attempt (i.e. they will not be coming out for their attempt, also known as 'scratching' or 'passing on' an attempt) and they have already submitted an attempt value, you can simply mark the attempt as unsuccessful. If the lifter wants to pass on an attempt and they have not submitted an attempt value, you can enter '0' for their attempt and the attempt will be skipped. You can also mark the '0' attempt as unsuccessful to make it clearer in the results.
8. As lifters complete their third deadlift attempts, their totals can be written on the manual scoresheet. Once a full group has finished all attempts, their placings can also be written on the manual scoresheet. This saves a significant amount of time at the end of the competition, ensuring presentations are not delayed.



## MEET DAY TECHNICAL GUIDE

### *NATIONAL CHAMPIONSHIP ONLY*

1. Update the current national record as it is broken using spare notepaper or a whiteboard and ensure all national records are clearly noted on the manual scoresheet using 'NR'.

### **POST-COMPETITION**

1. Ensure that all attempts are recorded on the manual scoresheet.
2. Ensure that all successful and unsuccessful attempts are clearly marked.
3. Ensure that totals and placings are recorded on both the manual and digital scoresheet.
4. Ensure that all referees have signed the manual scoresheet.
5. Provide the manual scoresheet to the MC and whoever will be presenting the medals for the presentation.

### **CHANGES TO ATTEMPTS**

#### *FIRST ATTEMPTS*

- Lifters are able to make one change to their first attempt of the squat, bench press, and/or deadlift. They can change the weight to be higher or lower than their attempt submitted at weigh in.
- First attempts may only be changed up to within three minutes before the start of the first round of that lift (for lifters in the first group) or up to within three attempts from the end of the previous group's last round of that lift (for those lifting in the second group).
- An announcement must be made providing notice of the deadline to submit attempt changes.

#### *SECOND ATTEMPTS*

- Lifters are not able to make any changes to their second attempts once submitted.

#### *THIRD ATTEMPTS*

- Lifters are not able to make any changes to their third squat and bench press attempts once submitted, unless the individual is competing in a bench-only division.
- Third deadlifts can be changed up until the announcer calls that the bar is loaded. Lifters can change their third attempt deadlift two times after the initial attempt is given in.
  - However, these changes are only permitted provided that 'bar is loaded' has not already been called by the speaker for their previously submitted attempt.
  - The same rule applies for individuals in the bench-only division for their third bench press attempt.
- If changes are made, this must be clearly marked on the manual scoresheet. Leave space in the third attempt box in case this occurs.



## MEET DAY TECHNICAL GUIDE

### LOT NUMBERS

- Each lifter is allocated a random lot number, which provides the order of weigh-in and also establishes the order of lifting throughout the competition when lifters request the same weights for their attempts.
- The meet day software will automatically sort the lifting order, including lifters attempting the same weight by lot number order, but careful attention does need to be paid to attempts submitted particularly for third attempt changes.

### PROGRESSION

The progression of the competition is as follows:

- Lifters provide their first attempts at weigh-in.
- Lifting within each round will order from lightest to heaviest attempt. If two lifters are attempting the same weight, the lifter with the lower lot number lifts first.
- At no time can the weight on the bar be lowered within a round.<sup>1</sup>
- Lifters may not repeat a successful attempt or lower the weight from a previous attempt.
- Lifters must submit their subsequent attempt within one minute of their previous attempt.
- Lifters may only submit attempts that are a multiple of 2.5 kg.<sup>2</sup>
- If two or more lifters achieve the same total, the lighter lifter ranks above the heavier lifter.
- If two lifters are the same bodyweight and achieve the same total at the end of the competition, the lifter achieving the total first will rank above the other lifter.<sup>3</sup>

### ERRORS

From time to time, errors may occur during the course of the competition.

- The chief referee will be solely responsible for decisions taken in the case of errors, and their decision should be given to the MC who will make the appropriate announcement.
- If in a round an attempt is unsuccessful due to an error such as a wrongly loaded bar, spotter error, or equipment failure or any other fault and through no fault of their own, the lifter will be granted a further attempt at the correct weight.
- The lifter must take their extra attempt at the end of the round except if the lift is a record attempt and/or during the third round of deadlifts and single-lift bench press, then the lifter must always follow themselves.
- Most meet software will allow you to move the lifter to the end of the round if required, otherwise you may be able to change the lifter's attempt to 0 kg temporarily which will remove them from the lifting order from that round.

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<sup>1</sup> The only exception is in the event of an error such as a bar misload, and subsequently a decision will be made by the chief referee. Even then it still can only be lowered at the end of the round, unless the attempt is a record attempt. Refer to the errors section.

<sup>2</sup> Except national record attempts. Refer to the APA record policy.

<sup>3</sup> The same rule applies for national records. Refer to the APA record policy for more information.



## MEET DAY TECHNICAL GUIDE

- If the lifter also happens to be the last lifter in the round, they shall be granted a three-minute rest prior to making their attempt, last but one in the round two minutes, last but two in the round one minute.
- In these cases where lifters are following themselves and given compensatory rest time, the bar will be loaded as soon as the new attempt is turned in. The timer will then be started and the lifter will have that time to begin their attempt.
- The compensatory time is added to the usual one minute to begin the attempt. You may need to set the timer to a different time depending on the instruction of the chief referee. If the meet software does not allow you to set a custom timer, you may be able to run multiple one-minute timers as required.
  - Lifters following themselves will have four minutes time placed on the clock, during which time the lifter can begin their attempt as soon as they are ready.
  - Lifters last but one in the round will be given three minutes, last but two in the round will be given two minutes, all others will be given the usual one minute to begin the attempt.

### EXAMPLES

#### EXAMPLE 1

- Two lifters are attempting a 150 kg squat.
- Lifter A is lot number 8, Lifter B is lot number 10. Who will lift first?
- Lifter A will attempt 150 kg first, followed by Lifter B.

#### EXAMPLE 2

- Lifter A has submitted 200 kg for their third deadlift attempt. Lifter B has submitted 205 kg for their third deadlift attempt.
- Lifter A is lot number 12, Lifter B is lot number 5.
- Lifter A completes their 200 kg attempt. Can Lifter B now decide to change their attempt to 200 kg?
- No, because the lot number still determines the order of lifting, and Lifter B's lot number is lower than Lifter A. Lifter B could however change their attempt to 202.5 kg as long as the MC has not yet announced that the bar is loaded for their attempt.

#### EXAMPLE 3

- Lifter A and Lifter B have the exact same body weight recorded at weigh in.
- Lifter A completes their third deadlift attempt before Lifter B, and they end up achieving the same total. How would you determine the results?
- Lifter A achieved the total first, so they would be ranked above Lifter B.

#### EXAMPLE 4

- The first group of lifters have almost finished their third round of squat attempts. There have been no announcements for first attempt changes for the second group.



## MEET DAY TECHNICAL GUIDE

- The announcer says 'the bar is loaded' for the third last lifter in that group . Can a lifter in the second group still submit a change for their first squat attempt?
- Yes, because while first attempts for the second group can usually only be changed up to within three attempts from the end of the previous group's last round of squat attempts, the announcer has not given proper notice and therefore an announcement authorising 'one minute left to make changes' or similar should be given for attempt changes to be submitted.

### AGE CATEGORIES

CATEGORY	CRITERIA
Sub-Junior	from the day they turn 14 and throughout the full calendar year in which they turn 18
Junior	from 1 January in the calendar year they turn 19 and throughout the full calendar year in which they turn 23
Open	from 1 January in the calendar year they turn 19 and upwards <sup>4</sup>
Master I	from 1 January in the calendar year they turn 40 and throughout the full calendar year in which they turn 49 years
Master II	from 1 January in the calendar year they turn 50 and throughout the full calendar year in which they turn 59
Master III	from 1 January in the calendar year they turn 60 and throughout the full calendar year in which they turn 69
Master IV	from 1 January in the calendar year they turn 70 and upwards

### BODYWEIGHT CATEGORIES

CATEGORY (MEN)	CRITERIA
53 kg class <sup>5</sup>	up to 53.0 kg
59 kg class	up to 59.0 kg
66 kg class	from 59.01 kg up to 66.0 kg
74 kg class	from 66.01 kg up to 74.0 kg
83 kg class	from 74.01 kg up to 83.0 kg
93 kg class	from 83.01 kg up to 93.0 kg

<sup>4</sup> For combined championships, Sub-Junior and Master III & IV lifters are not allowed to compete in the Open category.

<sup>5</sup> Sub-Junior & Junior only.



## MEET DAY TECHNICAL GUIDE

105 kg class	from 93.01 kg up to 105.0 kg
120 kg class	from 105.01 kg up to 120.0 kg
120+ kg class	from 120.01 kg upwards

<b>CATEGORY (WOMEN)</b>	<b>CRITERIA</b>
43 kg class <sup>6</sup>	up to 43.0 kg
47 kg class	up to 47.0 kg
52 kg class	from 47.01 kg up to 52.0 kg
57 kg class	from 52.01 kg up to 57.0 kg
63 kg class	from 57.01 kg up to 63.0 kg
69 kg class	from 63.01 kg up to 69.0 kg
76 kg class	from 69.01 kg up to 76.0 kg
84 kg class	from 76.01 kg up to 84.0 kg
84+ kg class	from 84.01 kg upwards

## CONTACT

If you have any questions about results or records after reading through this section, please contact the [results coordinator](#).

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<sup>6</sup> Sub-Junior & Junior only.





### SECTION 3: LIVE STREAMING

#### OVERVIEW

This section will help meet directors and volunteers set up and run a live stream for an APA competition. It provides tips and tricks for a better live stream experience, software and hardware recommendations, and ensures a consistently high quality is maintained across all APA livestreams.

This guide assumes a basic level of computer knowledge but doesn't require you to be a live stream expert to get started.

#### REQUIREMENTS

##### *RECOMMENDED*

- A PC / laptop / MacBook with a minimum of 8GB of RAM and a dual-core CPU — anything from 2018 onwards should be adequate.
- A camera — refer to 'recommended equipment', below.
- A tripod for the camera.
- A reliable internet connection — minimum of 4 Mbps upload speed.

##### *OPTIONAL*

For a better experience, consider adding:

- A commentator.
- A dedicated microphone for the commentator.
- A second camera for the commentator or additional angles.
- Good lighting.
- An Elgato Stream Deck (or similar) to control scenes via remote control.
- A capture card if using a DSLR or mirrorless camera.

#### WHAT MAKES A GOOD LIVE STREAM?

Here are some general aims for a high quality live stream:

1. Clear image
  - a. Avoid low bitrate, low resolution, and dropped frames.
  - b. Requires a basic computer, good camera, and good internet connection.
2. Clear audio
  - a. Use a commentator or a clear microphone picking up the MC.
  - b. Ensure good audio levels and minimal background noise.
3. An overlay
  - a. Show current lifter, lights, and other relevant information so that the audience can follow the progress of the competition.



## MEET DAY TECHNICAL GUIDE

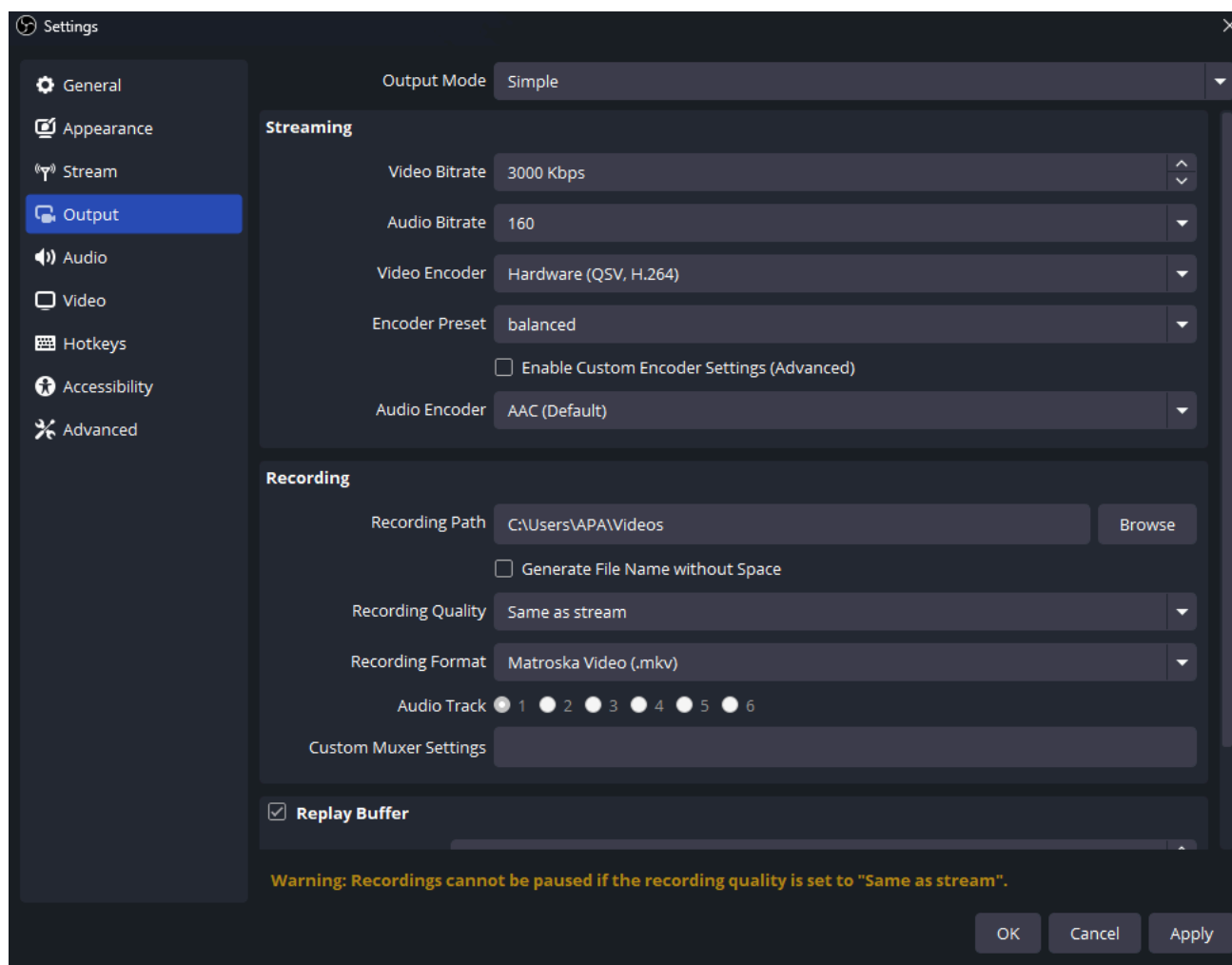
- b. Include the APA logo and any sponsor logos as required.
4. Camera angles
  - a. Primary angle is most important, typically from a 45-degree angle to the platform.
  - b. Multiple angles help keep viewers engaged (e.g., front view, side view).
5. Highlighting APA and IPF branding
  - a. Ensure APA and/or IPF branding is visible in the stream, either in the background and/or in the overlay as mentioned above.
6. Engaging commentary
  - a. Provide context, explain rules, and keep viewers informed about the competition progress.
7. Smooth transitions between lifts and sessions
  - a. Use scene transitions to maintain a professional look and to avoid viewers seeing 'back of house' such as setup and/or change of referees/spotters etc. during breaks.

## SOFTWARE

1. Download OBS (Open Broadcaster Software) from [the OBS website](#).
2. Setup OBS basics in the OBS 'Stream', 'Output' and 'Video' settings:
  - a. Stream Service: YouTube – RTMPS.
  - b. Stream Server: Primary YouTube Ingest Server.
  - c. Output Mode: Simple.
  - d. Video Bitrate: 3000 Kbps (adjust based on internet speed – a higher bitrate will have better image quality, but 3000 Kbps is generally sufficient for 1920x1080 streaming).
  - e. Audio Bitrate: 160 Kbps.
  - f. Base Resolution: 1920x1080.
  - g. Output Resolution: 1920x1080.
  - h. FPS: 30.
3. Adjust your computer settings:
  - a. Turn off battery saving / sleep mode.
  - b. If using a laptop, ensure the charger is plugged in to avoid the laptop battery dying suddenly while streaming.
  - c. Exit all unnecessary applications.
  - d. Pause automatic updates.
4. Check the upload speed at the venue using [www.speedtest.net](http://www.speedtest.net)
5. Test your stream before the competition day to ensure everything is working correctly.



## MEET DAY TECHNICAL GUIDE



The primary OBS settings will be in the 'Stream', 'Output' (shown) and 'Video' menus

### THE APA LIVE STREAM LOOK

Key elements of the APA Live Stream Look:

1. Camera angle
  - a. Place near the centre referee, up to 45 degrees from the front.
  - b. Ensure the lifter is not obscured by uprights or spotters.
2. Stream image quality
  - a. Aim for 1920x1080 resolution.
  - b. Consider lighting conditions to ensure clear visibility of lifters and weights. The light source should be in front of the lifter – i.e. you do not want excessive back or side lighting such as from a nearby window.
3. APA logo positioning
  - a. If you are using a standalone logo, it should be placed in the top left or right corner, offset by approximately 10px top and 15px side.
  - b. The logo should be scaled appropriately for visibility without obscuring the action.



## MEET DAY TECHNICAL GUIDE

### 4. Audio

- a. If possible, use a separate microphone for the commentator or MC. Refer to [‘Hardware’](#) for recommendations on equipment.
- b. Only use royalty-free music during breaks or introductions.
  - i. Royalty-free music sources:
    1. YouTube Audio Library ([www.youtube.com/audiolibrary](http://www.youtube.com/audiolibrary))
    2. Incompetech ([www.incompetech.com](http://www.incompetech.com))
    3. ensound ([www.bensound.com](http://www.bensound.com))
    4. Streambeats  
(<https://open.spotify.com/user/3goqul1qkj8a3ka2s0a07ptr>)
- c. Ensure a good balance between commentary and ambient sound from the competition such as cheering/audience.

### 5. Lower third

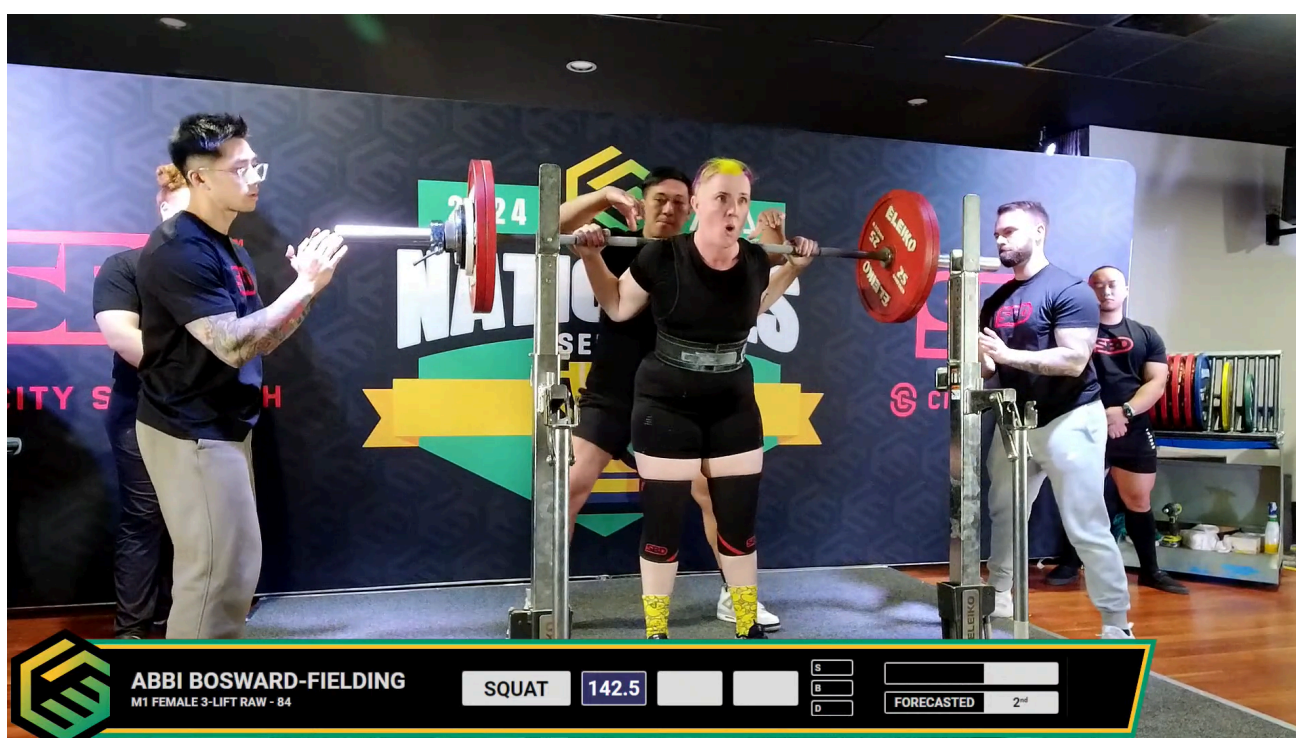
- a. Display lifter information in bottom left corner or centred under the platform.
- b. Include name, weight class, current attempt, and running total.

### 6. Scoreboard

- a. Display current standings periodically or in between flights.

### 7. Optional components:

- a. Link to live scoreboard via LiftingCast.
- b. Live replays.
- c. Scene transitions.
- d. Waiting scene for breaks or between sessions.
- e. Sponsor recognition slides or overlays (as applicable).



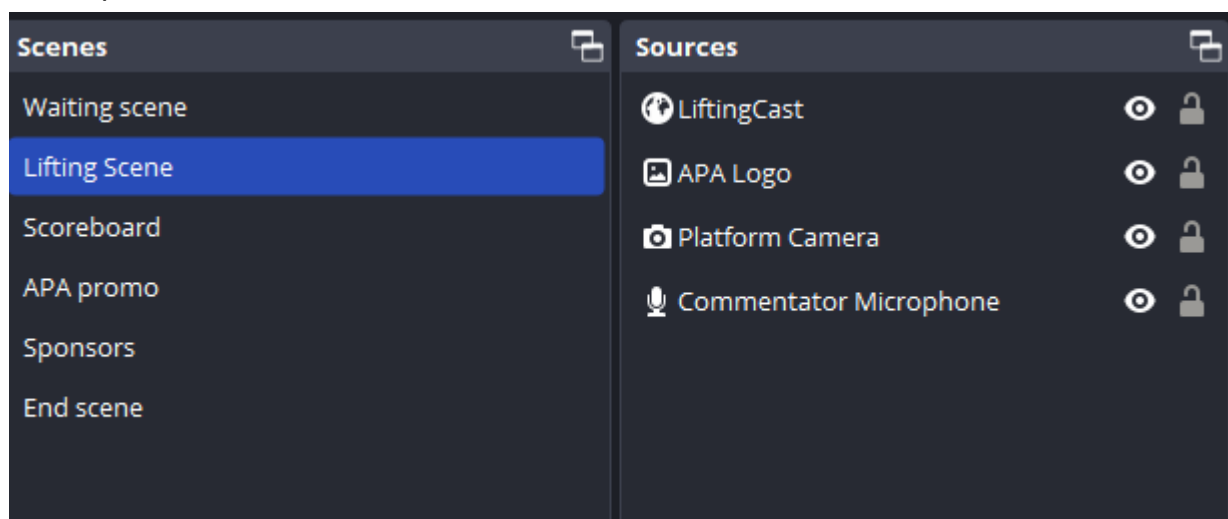


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*An example of a high quality stream. The camera is in the front quarter, the lifter is well lit from the front with no excessive shadows from the surrounding lighting. The APA logo is prominent and the lower third displays all the key information for the viewer to follow along with the competition.*

### SETTING UP OBS

1. Set up scenes:
  - a. Rename the default scene (in the bottom left of the OBS window)
  - b. Add additional scenes as needed (e.g., starting soon, waiting, lifting, scoreboard, sponsor recognition, ending).
2. Add sources to your lifting scene:
  - a. Video Capture Device (Camera).
  - b. Audio Capture Device (Commentator microphone).
  - c. Image Source (APA logo).
  - d. Image Source (Sponsor/gym/host logo).
  - e. Browser Source or Window Capture (livestream overlay with lifter information).
  - f. Text Source (for additional information or announcements).
3. Position and resize sources as needed.
4. Create a 'starting soon' scene for pre-stream and a 'thank you for watching' scene for post-stream.



*Example OBS scenes and sources setup showing example scenes that may be required, and sources that are required for the Lifting Scene*

### RUNNING THE LIVE STREAM

1. Ensure you have the correct stream key. If you are streaming to YouTube, you can enable the YouTube control panel OBS plugin to ensure you've got the correct key.
2. Start streaming and recording in OBS at least 15 minutes before the competition starts. Recording will take up hard drive space, but if there is an issue with the stream upload, a recorded copy can be uploaded at a later date.
3. Use the 'waiting' or 'starting soon' scene until the competition begins.



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4. Change scenes as needed during the competition.
5. Mute/hide sources when necessary (e.g., during breaks or technical issues).
6. Coordinate with the tech desk to ensure accurate lifter information is displayed if required.
7. Use scene transitions for a professional look when switching between cameras or information displays.
8. Display the scoreboard between flights or sessions.
9. End the stream with the 'thank you for watching' scene.

### COMMENTATING

These are some best practices and recommendations for live stream commentating:

- Introduce yourself and any co-commentators at the start of the stream.
- Provide context for the competition (e.g., qualifying event, special event e.g. volunteer cup, invitational, etc., local/national level).
- Explain the rules and lifting techniques for viewers who may be new to powerlifting.
- Discuss each lifter's background, previous achievements, and current standing in the competition.
- Avoid long silences, but don't feel the need to talk constantly and detract from the lifting. Aim for an even balance.
- Be impartial and respectful to all lifters, regardless of performance.
- Engage with viewers through the live chat if possible, answering questions and acknowledging comments.
- Provide updates on the overall competition standings and any notable performances or records.

### TROUBLESHOOTING

To avoid or correct common technical issues:

- Prepare a backup internet connection (e.g., mobile hotspot) in case of primary connection failure.
- Have a 'we'll be back soon' scene ready to display if needed, such as in case of a technical issue, referee or jury decision, or lifter injury.
- If the stream drops, restart it as soon as possible and inform viewers through social media channels if required.
- Keep communication open with the APA technical team for quick problem-solving.
- Have backup equipment (e.g., spare cables, power banks, batteries) on hand.

### POST-COMPETITION

#### RECOMMENDED

- End the stream with a 'thank you for watching' screen or similar and the final scoreboard/placings.
- Clean, charge, and properly store all equipment as required.



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### OPTIONAL

- Save and backup the recorded footage.
- Provide the APA with any highlights or notable moments from the stream for marketing purposes.
- Gather feedback from viewers and the APA team for future improvements.

### HARDWARE

This is a list of recommended hardware that has been tried and tested by the APA and fits the technical specifications for high quality live streaming. It is not however mandatory for meet directors to use these stores, brands, or items only.

Where possible, we have provided purchase links for reliable, cost-effective retailers, however please note these are recommendations only. Get in touch if you need any extra recommendations, or if we can provide you with any further information.

### COMPUTER

- I7 or equivalent laptop or PC with dedicated graphics card and at least 16GB of RAM.
- Good WiFi or network connection. A 4G or 5G dongle may be a suitable alternative if there is no appropriate WiFi connection.
- Plenty of USB ports.

### CAPTURE CARDS

Single angle:

- Main camera:
  - Elgato camlink or HD60X — [purchase link](#)
- Secondary camera (replay):
  - Cheap HDMI capture card — [purchase link](#)

Multiangle:

- Main Cameras:
  - Atem Mini Pro — [purchase link](#)

If you are running a PC instead of laptop:

- Elgato PCI-E capture card — [purchase link](#)

If you are running a PC with 4 cameras:

- Elgato Cam Link Pro — [purchase link](#)

### CAMERA

Basic:

- Go Pro from Series 5 Black edition onward
- Logitech C922 Pro Stream Webcam
- Razer Kiyo Pro

Higher quality:

- Panasonic Lumix SH5II (recommended)
- Sony Alpha a6400





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- Insta360 Link gimbal webcam

Note: A media kit is required for most newer cameras to allow for the HDMI output. Ensure you check the specifications of your camera, as you may require a micro HDMI to regular HDMI cable to allow you to connect to the capture card.

Avoid:

- DSLR cameras are popular but we do not recommend using them for a full meet as many models overheat.

Note: 4K streaming is not required. Only run your camera in 1080 P, ideally at 60 FPS if your computer/connection can handle it – 60FPS uses double the bandwidth than 30P and places a much higher strain on the camera, computer, and network connection meaning it is more likely to result in dropped frames and a poorer viewer experience overall.

### MICROPHONE

USB microphones:

- Blue Yeti X
- Rode NT-USB Mini
- Audiotecnica AT2020

XLR microphones (require audio interface):

- Rode Pod Microphone with the spring mounted arms — [purchase link](#)
- Shure SM58

### AUDIO

Interface:

- Rodecaster Pro or Duo OR
- Any USB 2.0 channel audio interface

### LIGHTING

Key light:

- Elgato Key Light Air

Fill light:

- Neewer 660 LED Video Light

### STREAM DECK

A stream deck is optional, but useful for controlling scenes and sources and can make it easier for volunteers to jump in and run the live stream without requiring technical expertise.

Recommended:

- Elgato Stream Deck or Stream Deck Mini

### MISCELLANEOUS

Hardware:

- Screens for display





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- Either projector-style or TV:
  - Preferably hard-wired with HDMI as cables are less likely to fail, but you can also screen mirror depending on the reliability of your WiFi.
  - You could also set up a dedicated internal network to use for screen mirroring using a router or switch.
- The absolute minimum required number of screens is three:
  - Audience
  - Platform (spotters/loaders and referees)
  - Warm-up area
- The ideal is as many as you can possibly have!
  - One for each side of the platform so that spotters/loaders and referees can see easily without having to look across the platform.
  - Two or more for the audience so that they can easily follow the progress of the competition.
  - Two or more for the warm-up area so that coaches/lifters don't need to crowd around one screen.
  - One or more for the waiting area (if separate to the warm-up area) so that coaches/lifters can follow the progress of competition.
- MC Microphone:
  - Preferably hard wired rather than requiring batteries. Ensure you position the MC's chair and speaker system so that there is no audio 'feedback' (a shrill screeching sound) between the microphone and the speakers.
- Speaker/sound system:
  - Must connect to the MC microphone and be clear for the referees, spotters/loaders, audience, and waiting area.
  - Optionally, you can also place speakers in the warm-up area so that it is easier for coaches/lifters to follow the progress of the competition.
- Cables:
  - Power boards.
  - Power extension cords.
  - HDMI cables (10m if possible).

## VIDEO GUIDES

These videos have kindly been created by Evan McCloy and are a helpful resource for using OBS and general live streaming tips.

- [Live Stream Setup](#): How to set up a live stream using OBS.
- [Instant Replay](#): How to add an instant replay using OBS.

## CONTACT

If you have any questions about how to set up a live stream after reading through this section, please contact the [competitions coordinator](#).



## MEET DAY TECHNICAL GUIDE

### VERSION HISTORY

VERSION	DATE	AUTHOR	CHANGES	APPROVED BY
1.0	21/03/2024	Rosie Wilson & Adwoah Hammond	Technical desk guide document created and added process flowchart	APA Board of Directors
1.1	22/03/2024	Rosie Wilson	Added duties, rules of competition, and records sections	APA Board of Directors
1.2	14/05/2024	Rosie Wilson	Created separate record policy and moved records section	APA Board of Directors
2.1	13/05/2024	Ben Ihle	Meet day software draft document created	
2.2	22/08/2024	Rosie Wilson	Updated formatting, added version control, sections, and index, added process	
2.3	25/08/2024	Adwoah Hammond	Added images, updated layout, added sections for cloud and other information	
2.4	28/08/2024	Rosie Wilson	Updated images, added navigation section	
2.5	30/08/2024	Rosie Wilson	Added images, updated formatting, added links	
2.6	03/09/2024	Rosie Wilson	Added live stream section, incorporated meet day software and technical desk guides	
2.7	05/09/2024	Rosie Wilson	Added images, content, and links	
2.8	09/09/2024	Rosie Wilson	Added live stream content and Digital Referee Lights section including SquatDobbins	
2.9	22/09/2024	Rosie Wilson	Updated content and submitted for review	
2.10	20/11/2024	Adwoah Hammond	Included 'Medal Count' section and added information to the Awards Division section	



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2.11	26/03/2025	Adwoah Hammond	Updates to the LiftingCast Tool instructions
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