Rules - IdBL

IASCA's IdBL format is a competition that measures the maximum sound pressure level (SPL) generated from an automotive sound system.

It's all about how loud you can get!

IASCA's SPL formats have no bearing on the perceived sonic qualities of acoustically accurate music and sound reproduction, it is a challenge of scientific proportion.

*Competing in **IASCA IdBL** is designed to be fair and fun. We designed it that way for you, so go out and have a great time at an **IASCA IdBL** competition today!*

GENERAL RULES - SPL FORMATS (Classification)

***IASCA* SPL FORMATS** and their Divisions and Classes are designed to give all competitors, from newcomers to local competitors and seasoned veterans, a “place to play”.

IASCA classifies all SPL format competitors by four criteria;
Vehicle type
Amount of square inches of subwoofer cone area
Level of modifications to the vehicle
Amount of equipment in the vehicle.

Once classified, competitors compete against others with similar systems to achieve their highest possible SPL score. The competitor with the highest score in their Class is the winner. .

“Why classify competitors by square inches of subwoofer cone area?”

Because there are so many different types, shapes and sizes of subwoofers available on the market today, this format allows a competitor to compete against another with approximately the same “amount” of subwoofer cone area. Oftentimes you’ll hear of a competitor running two 12 inch subwoofers competing against someone who has two 15 inch subwoofers; hardly an even match. By using the square inches of subwoofer cone area formula, a competitor with two 12 inch subwoofers would compete against another competitor who may be running either two 12 inch subs themselves, or three 10 inch subs, or one 15 inch sub; not someone with two 15 inch subs.

“Why classify by vehicle type?”

Certain vehicle types are more conducive to achieving higher SPL levels, because of their physical size or design. A person with a minivan, SUV or hatchback (for example) can build a much larger subwoofer enclosure and use bigger amplifiers simply because they have the space to do so. This isn’t fair to those who may own a sedan, or pickup truck.

Vehicle types play a much bigger role in the entry level Divisions, as “new” competitors may not have the experience that veteran competitors do about these vehicle types. Therefore, entry level Divisions and Classes are designed to give the newcomer an equal advantage so they can be competitive.

“Why classify by vehicle modifications?”

It has been proven that certain modifications to a vehicle can enhance SPL performance, so classes are based on the level of modifications to a vehicle for that purpose.

“Why classify by amount of equipment?”

Veteran competitors know that increasing the amount of batteries or amplifiers can give them a decided advantage in competition. So, in order to give new members of our sport a chance to be competitive, some lower classes have equipment limitations in power and amount, creating a level playing field for all member types.

GENERAL RULES - SPL FORMATS FAQs

"How do I calculate how much subwoofer cone area I have in my system?"

There are different methods for calculating cone area, depending on the shape of the subwoofer. For round subwoofers, the formula for calculating cone area is *Radius squared times Pi (3.141593).* For square subwoofers, simply multiply two connecting sides for the total square inches per sub.

Round subwoofer example: Take a ten inch round subwoofer; the radius of all subwoofers is half the diameter, so the radius of a ten inch subwoofer would be 5 inches; the radius squared would be 5 times 5 which equals 25. 25 times Pi (3.141593) equals 78.5. And there you have it; the total cone area of a ten inch subwoofer is 78.5 square inches.

Once you know the amount of square inches of subwoofer cone area you have for each size of sub you have, simply multiply that by the amount of subwoofers you have in your vehicle and you'll get the total cone area for your vehicle.

"Where do I measure my subwoofer from?"

To calculate the amount of square inches of subwoofer cone area, measure the subwoofer from the edge of the basket to the same point on the exact opposite side of the woofer (see figure 1A below). ***NOTE***: If necessary, Judges will measure the diameter of the woofer basket (basket edge to basket edge) to determine woofer size and use the chart below to determine total cone area. If there is a dispute as to the woofer size, the burden of proof falls to the competitor; judges may request that a woofer be removed from its mounting position for proper measurement; if a competitor refuses to remove the woofer, size determination will be at the Judge's discretion.

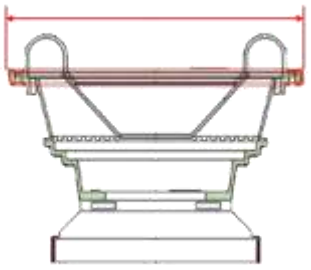

Figure 1A

Round Speaker Conversion Chart

	Speaker Diameter							
SPEAKER SIZE	5.25	6	6.5	8	10	12	15	18
Speaker Qty.	Total Square Inches							
1	21.64	28.27	33.17	50.24	78.54	113.08	176.71	254.34
2	43.28	56.54	66.33	100.48	157.08	226.16	353.41	508.68
3	64.92	84.81	99.49	150.72	235..62	339.24	530.13	763.02
4	86.56	113.08	132.65	200.96	314.16	452.32	706.84	1017.36
5	108.20	141.35	165.81	251.20	392.70	565.40	883.55	1271.70
6	129.84	169.62	198.97	301.44	471.24	678.48	1060.26	1526.04
7	151.48	197.89	232.13	351.68	549.78	791.56	1236.97	1780.38
8	173.12	226.16	265.29	401.92	628.32	904.64	1413.68	2034.72
9	194.76	254.43	298.45	452.16	706.50	1017.72	1590.39	2289.06
10	216.40	282.70	331.61	502.40	785.40	1130.80	1767.10	2543.40
11	238.04	310.97	364.77	552.64	863.94	1243.88	1943.81	2797.74
12	259.68	339.24	397.93	602.88	942.48	1356.96	2120.52	3052.08

DIVISIONS	CLASS	CONE AREA LIMITATION (Sq. in.)	WALLS ALLOWED?	MAX AMPS	FUSING REQUIRED?	MAX POWER FOR CLASS (CLAMPED)	CLAMPED IN COMPETITION?	WOOFER / AMP LOCATION	INTERIOR MODS ALLOWED?	BATTERIES	BATTERY SIZE (Max cu. In. per battery)	CAPACITORS (Max)	ALTERNATORS	MAX VOLTAGE ALLOWED	MAX POWER WIRE SIZE	MAX POWER WIRE RUNS	SPONSORSHIP/SUPPORT ALLOWED?
TRUNK/PICKUP	1	1 - 240	No	1 amp/pair	No*	2,000	Yes	Cargo area	No	Unltd	Unltd	Unltd	1	15.5V	Unltd.	Unltd.	Yes
	2	1 - 480	No	1 amp/sub	No*	4,000	Yes	Cargo area	No	Unltd	Unltd	Unltd	1	15.5V	Unltd.	Unltd.	Yes
	3	1 - 860	No	Unltd.	No*	6,000	Yes	Cargo area	Yes	Unltd	Unltd	Unltd	1	15.5V	Unltd.	Unltd.	Yes
HATCHBACK/SUV/MINIVAN	1	1 - 240	No	1 amp/pair	No*	2,000	Yes	Cargo area	No	Unltd	Unltd	Unltd	1	15.5V	Unltd.	Unltd.	Yes
	2	1 - 480	No	1 amp/sub	No*	4,000	Yes	Cargo area	No	Unltd	Unltd	Unltd	1	15.5V	Unltd.	Unltd.	Yes
	3	1 - 860	No	Unltd.	No*	6,000	Yes	Cargo area	Yes	Unltd	Unltd	Unltd	1	15.5V	Unltd.	Unltd.	Yes
ADVANCED NO WALL	1	1-510	No	Unltd.	No*	Unltd.	No	Behind B pillar	Yes	Unltd.	Unltd.	Unltd.	Unltd.	15.5v	Unltd.	Unltd.	Yes
	2	510+.	No	Unltd.	No*	Unltd.	No	Behind B pillar	Yes	Unltd.	Unltd.	Unltd.	Unltd.	18V	Unltd.	Unltd.	Yes
ADVANCED	1	1 - 510	Yes	Unltd.	No*	Unltd.	No	Behind B pillar	Yes	Unltd.	Unltd.	Unltd.	Unltd.	18V	Unltd.	Unltd.	Yes
	2	511 - 1120	Yes	Unltd.	No*	Unltd.	No	Behind B pillar	Yes	Unltd.	Unltd.	Unltd.	Unltd.	18V	Unltd.	Unltd.	Yes
	3	1121+	Yes	Unltd.	No*	Unltd.	No	Behind B pillar	Yes	Unltd.	Unltd.	Unltd.	Unltd.	18V	Unltd.	Unltd.	Yes
ULTIMATE		Unltd.	Yes	Unltd.	No*	Unltd.	No	Behind B pillar	Yes	Unltd.	Unltd.	Unltd.	Unltd.	18V	Unltd.	Unltd.	Yes
OPTIONAL																	
STREET (First year competitors)		1 - 240	No	1 amp/pair	No*	1,000	Yes	Cargo area	No	1	Unltd	10 farads	1	15.5V	Unltd.	Unltd.	No

FOR REFERENCE ONLY - FOR COMPLETE DETAILS OF THE RULES, REFER TO THE IASCA IdBL RULE BOOK

IdBL Competition is broken down into 5 Divisions, encompassing 12 classes and one optional division.

The first two Divisions are based on vehicle type, with three classes each. This allows for different levels of modifications and equipment to be used.

The Advanced No Wall and Advanced Divisions are for competitors with greater amounts of equipment and higher levels of modifications to their vehicles and systems.

The Ultimate Division is an all out, no holds barred SPL competition where it becomes more about the system than it does the vehicle.

The chart on this page gives you an overview of the Divisions and Classes, with a general view of the limitations per class.

Use this chart as a ***guide only***; it does not specify some details in each class. For a more detailed description of class breakdown, refer to the rules in this book.

GENERAL RULES - SPL FORMATS (IdBL)

1. ***ANY RULE, ITEM or MODIFICATION NOT COVERED*** within the pages of this rule book, for any Division or Class, ***will be deemed illegal in IASCA competition, no exceptions.***
2. ***IASCA strongly recommends*** that all wiring be fused at the power source; in the lower IdBL classes, fusing is required. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.
3. If a vehicle's system is capable of ***exceeding 160 dB***, competitors ***must operate*** the sound system from ***outside of the vehicle.*** Failure or refusal to do so subjects the competitor to a score of zero or disqualification without recourse. **IASCA** will not permit any competitor to be inside of a vehicle that could register over 160db, with or without hearing protection.
4. Competitors in any Division or Class with a vehicle system **not exceeding 160dB**, who choose to operate their sound system from inside the vehicle during SPL testing, ***must wear approved hearing protection***. **IASCA** always recommends operating an SPL competition system from outside of the vehicle in every situation. Competitors who choose to operate the sound system from inside the vehicle do so at their own risk and IASCA is not liable for any physical harm that may come to a competitor while competing, including but not limited to hearing damage.
5. Only one (1) person (the competitor or assigned co-pilot) is allowed to be sitting inside the vehicle during testing, no exceptions. Competitors operating their sound system from inside the vehicle while competing must operate the system from the standard driver's seat seating position. Competitors must be seated as if they were driving the vehicle; no other seating position is acceptable.
6. The frequency cap for ***IdBL*** competition is set at 100 Hz.
7. The sound system in the vehicle must be powered by the vehicle's charging system and batteries **only.** External power supplies, trailers, or chargers may not be attached to the vehicle during testing.
8. There are specific power input voltage limitations per Division; please refer to the individual Division rules for specific voltage limitations. During testing, ***IASCA*** Certified judges may elect to connect a voltmeter to the vehicle's electrical system to ensure compliance with this rule. *It is the competitor's responsibility* to ensure that easy access is available to power connections so that judges can connect the voltmeter safely and in a timely fashion. Failure to allow judges to connect a voltmeter to the vehicle's electrical system during testing could result in a score of zero (0), or disqualification from the competition.
9. All batteries in the vehicle should be connected to the vehicle's charging system. Batteries in the vehicle that are not connected to the vehicle's charging system, or any system equipment, will not be counted as long as the competitor can prove they are not connected to any part of the vehicle/system and the Judge can confirm this.
10. Vehicles with cracked or broken windshields will be allowed to compete in ***IdBL*** events ***if*** the cracks are covered with a protective material (e.g. duct tape) to eliminate any chances of the glass breaking out of its mounting. Tape may also be used to secure windshields or windows for safety purposes and is up to the judge's discretion.
11. The use of compressed air, explosive devices or gases etc. is not allowed.
12. Vehicles must be either driven or pushed manually into the competition lanes, they cannot be brought into the lanes on a trailer, or pushed or towed by another vehicle.
13. Maximum allowed engine rpm in competition while in the lanes is 2,000 rpm. Competitors may run at 2,000 rpm or lower and must attempt to maintain the engine rpm at 2,000 or less if at all possible. Competitors will not be penalized if they exceed that range in an unintentional short burst during the run. NOTE: Should the competitor continually exceed the rpm range in continuous short bursts, or a continued long burst, and the judge believes it to be intentional, the competitor could receive a score of zero for the run, regardless of what score they achieved.
14. ***If the vehicle is running during testing, the parking brake must be set***. If the parking brake cannot be set, the competitor must use wheel chocks under the vehicle's tires to ensure the safety of everyone around the vehicle, or shut the vehicle off during testing.
15. Driver and passenger doors must have a flexible gasket seal between the door and doorjambs (door frame) to provide a safe routing of the measuring device cable, protecting it from being cut or pinched. In certain cases, alternative protection devices will be allowed at the Head judge's discretion. In all cases, the measuring device cable provided by the ***IASCA*** judge must not pass through any connection devices that are mounted in or on the vehicle.
16. Competitors are not allowed to have any panels, covers or tinting blocking the view to the inside of the vehicle during testing. Window tinting is acceptable, so long as it does not impede the judge's view of any component of the measuring equipment.
17. Nothing may interfere with the proper positioning of the sensor or the sensor jig, or block any path to position the sensor or the jig.

GENERAL RULES - SPL FORMATS (IdBL)

18. All OEM panels and components in the vehicle must remain in their factory mounted location unless specified in the Class rules (e.g. rear deck trim panels, door panels, headliners, dashboards, seats, seat belts, etc.). All OEM factory seals and gaskets must be in place on all functional panels, including but not limited to; doors, trunk, hatches, glass, etc. **Exception:** Panels that are designed to be removable ***without the use of tools***, such as a hatchback cargo cover, can be removed. Any issues regarding the intent of the manufacturer with an item will be decided by event officials and their decision will be final.
19. For older vehicles where the OEM factory replacements may not be available, an aftermarket equivalent may be used in its place. If an aftermarket equivalent is used, competitors must notify the IASCA Officials at the event as to its use. The IASCA Officials will inspect the equivalent to determine if it is used for that purpose, or for the purpose of increasing SPL.
20. Barriers or partitions between driver and passenger compartments are not allowed. No modification designed to divide the passenger compartment from the driver's compartment above the top of the vehicle's dashboard (Ultimate Division) and/or console (All other Divisions) is acceptable.
21. The equipment reproducing the program material must be commercially available through standard retail channels. This includes, but is not limited to, amplifiers, speakers/subwoofers, CD head units, processors, batteries, capacitors and wiring. If a piece of equipment is in question, it will be at the discretion of the event Head Judge to allow its use or not. Modifications to equipment are allowed in certain Divisions; refer to the criteria for each Division to establish what is allowed.
22. **Subwoofer Wall (1)-** Any subwoofer enclosure exceeding 25 inches in height, ***inclusive of any and all equipment attached to the enclosure***, will be considered a subwoofer "wall" in the vehicle. Determination of enclosure height will be taken by measuring from the floor of the area where the enclosure is located to its highest point from the floor, inclusive of any equipment attached to it. *This includes any "supports" or "legs" that prop up the enclosure and any components attached to the enclosure (amplifiers, subwoofer basket/surround, power distribution block, etc.).* If any part of an enclosure utilizes an area lower than the floor of the OEM cargo area (such as a spare tire well or section of floor where a backseat was present), the 25 inch height measurement will be taken from the lowest point of the enclosure. ***EXCEPTION:*** Enclosures that ***slightly*** exceed the 25 inch height rule (within 0.25" to 0.5") may not be considered a wall ***IF*** in the judge's discretion, the increase in height was not intended for the purpose of increasing SPL.
23. **Subwoofer Wall (2)- *PICKUP TRUCKS*** that have an *enclosure in the interior compartment of the vehicle* (not the bed of the truck) will be classified as "no wall" vehicles, as long as the enclosure, including all equipment attached, does not sit higher than the lowest point of the rear window (The 25" rule does not apply here). ***Pickup trucks*** with "*cut throughs"* through either the rear cab wall or through the back window will be considered *as a wall,* whether the enclosure is taller than 25 inches or not.
24. **Regular cab, extended (king) cab and crew cab trucks** that ***do not*** have a "cut through" from the bed to the cab. These vehicles are the only vehicles where equipment and enclosures are allowed to be mounted in the passenger compartment of the vehicle. There are certain guidelines for competitors with these vehicles; **REGULAR CAB TRUCKS** (Compact and Full Size trucks) - The cargo area is considered as the area directly behind the seating in the vehicle and the subwoofer enclosure must be mounted behind the seats. The seats must be able to lock into upright position. Internal brackets may be removed to help facilitate the installation of equipment or enclosure as long as any exposed metal is covered with OEM like fabric, such as carpet. **EXTENDED (KING) AND CREW CAB TRUCKS** (Compact and Full Size) - The cargo area is considered as the area behind the B pillar and the subwoofer enclosure must be mounted behind the B pillar. The enclosure cannot impede the full operation of the front seat and seat travel must remain intact. Rear seating and internal brackets may be removed to help facilitate the installation of equipment or enclosure as long as any exposed metal is covered with OEM like fabric, such as carpet. ***Specialty Trucks*** - Specialty trucks such as the Chevrolet Avalanche, El Camino, Honda Ridgeline, etc. are not exempt from this rule; if an enclosure completely blocks and seals off the opening between the cab and bed of the vehicle, it will be considered as a cut-through.
25. ***PICKUP TRUCKS* - Equipment other than subwoofers/enclosures -** competitors may mount other equipment, such as amplifiers, batteries, etc. in the bed of the truck if they so choose. Equipment is not required to be covered, however it is recommended that it is for protection from the elements.
26. ***SUV's and Minivans*** - The cargo area is considered as the area directly behind the second row of seating in the vehicle. If the vehicle is equipped with a third row (or more) of seating, it will not affect the positioning of the enclosure so long as the enclosure remains behind the second row of seating. Third row (or more) seating only may be removed from the vehicle for competition, but the second row seating must remain intact and securely fastened in the vehicle (emulates a 4-5 passenger vehicle).

GENERAL RULES - SPL FORMATS (IdBL)

27. Competitors in all Divisions and Classes may use specific items to cover or tie down external components on the outside of the vehicle, in order to reduce those components from rattling (e.g. roof racks, license plates, rear spoilers, etc...). Items that may be used to reduce rattling are: blankets, bungee cords, rope and similar items. Items that cannot be used are such items that weigh an excessive amount that could potentially increase SPL, such as cement blocks, filled water bottles, batteries, wood boxes and the like.
28. Competitors in all Divisions and Classes (except in the IdBL Ultimate Division) are **not allowed** to add additional items to the interior of the vehicle in order to decrease cabin volume for the purpose of increasing SPL.
29. Any items in the interior of the vehicle (in all Classes, no exceptions) **must** be solidly attached to the inside of the vehicle and designed to remain in the vehicle, while competing or not. Therefore, items similar to those listed in the rule above, such as cement blocks, wooden boxes, water jugs and the like cannot be placed in the vehicle prior to competing or while in the judging lanes. If any these items are built in to the installation of the system and have been mounted solidly, they will deemed acceptable only after inspection from the Head judge.
30. All panels of the vehicle (hood, doors, trunk/hatch, sunroof, windows, tonneau covers, truck caps, toppers, etc..) ***must be closed during testing*** for the duration of the SPL run (30 seconds). At no time during the SPL run can any panel be opened until the SPL run is complete. Failure to comply with this rule may result in a score of zero (0) for that run. **Exception:** Certain vehicles that have their source units mounted in or behind panels, so as to allow operation of the system from outside the vehicle, may be exempt provided the open panel does not allow airflow to the inside (or venting to the outside) of the vehicle during testing. The competitor must advise the Head judge of this before competing and prove to the judge that the interior compartment remains sealed.
31. The Head Judge has the right to require any competitor to tear down their vehicle and/or system for the purpose of rules compliance. Refusal to do so may result in a score of zero (0) and loss of position, or possible disqualification.
32. In classes where the front seats may be removed for testing, the driver's seat must remain in the vehicle when being moved into the competition lanes for safety reasons. Once in the lanes, the seat may be removed.
33. All OEM factory windows in the vehicle designed by the manufacturer to be operational, must be able to fully function as the manufacturer intended them to and nothing can impede their proper operation. OEM glass may not be replaced with any transparent substitute material, unless specified in the rules for the class.
34. ***CAPACITORS AND "SUPER CAPS" -*** **Capacitors -** Standard capacitors and "super caps" are both rated in farad count will be counted as such to the maximum allowed farad rating for the class. ***NOTE* - "Super Caps"**, or Super Capacitors when used in a bank, will be counted no different than a regular capacitor (farad rating), however a "bank" of six (6) super caps will be considered as one (1) battery and will also fall under the battery limitation rule for the class. If there is more than one "bank" of six (6) super caps connected to the system, each "bank" of super caps will be considered as another battery.
35. **SOFTWARE - Competitors must play *music only* from approved commercially available media.** IASCA considers CD as its main media format for use in competition; alternate media (such as MP3) may also be used in competition. Test tones or full range music are allowed in all IdBL classes.
36. **The following source units are acceptable for competition -** CD source (head) units, iPods, tablets, MP3 & Zune players, DAT, mini disc, hard drives.
37. **AMPLIFIERS -** One amplifier means that all amplifier components must be encased within one heatsink. "Strapping" multiple amplifiers together as "one" is not considered as one amplifier.
38. All OEM factory windows in the vehicle designed by the manufacturer to be operational, must be able to fully function as the manufacturer intended them to and nothing can impede their proper operation. OEM glass may not be replaced with any transparent substitute material. **Exception -** Advanced Division vehicles from the B pillar back and Ultimate Division vehicles are exempt from this rule.
39. Vehicles equipped with OEM factory "fold down" rear seats may be folded down during testing; however, the seat must maintain full functionality and nothing may impede its proper operation.
40. All wires, including but not limited to, speaker wires, power wires, RCAs, etc., must be easily accessible by the judges for measurement, clamping and verification purposes.
41. Aftermarket and/or custom center consoles are allowed in *IdBL* competition, but said console/s must be securely mounted and functional. "Functional" means that the console must provide storage for accessories and/or house functional electronic equipment. If in the opinion of the *IASCA* official, the console is designed for the purpose of increasing SPL, they may reclassify the competitor to a higher Division. Any aftermarket or custom console installed in a Class 1, 2 or 3 vehicle cannot extend in height past the bottom of the steering wheel. In the case of vehicles equipped with tilt steering, the steering wheel will be positioned perpendicular to the steering column to take the measurement. ***Exception -*** Advanced and Ultimate Division vehicles are exempt from this rule.

GENERAL RULES - SPL FORMATS (IdBL)

42. Vehicles that are ***not*** allowed to compete in IdBL in the Street Division or Trunk/Pickup, Hatchback/Wagon and SUV/ Minivan classes include, but are not limited to; limousines, conversion vans, ambulances, buses, delivery trucks and/ or vans (cube vans), motorhomes, armored cars and/or any other vehicle that has been built or modified by someone other than an automobile manufacturer. If there is a question as to the legality of a vehicle in # 1 Class, the decision will fall to the ***IASCA*** Head Office and that decision will be final. If a vehicle in question attends an event to participate, the event officials are instructed to allow the vehicle to compete and after the event, send the information to the ***IASCA*** Head Office to be reviewed for the decision. If the vehicle is found to be illegal for competition in the class, it will be reclassified and the competitor, officials and event host will be notified immediately. Vehicle and competitor positioning and CAP points will be adjusted for that event.
43. No additional brackets or holders may be attached to the vehicle in any way, or anywhere, on the vehicle, for the purpose of housing additional equipment of any type. The complete vehicle (exterior and interior) must maintain its OEM factory look.
44. Full range speakers added to the sound system for sound quality purposes only are allowed within the vehicle interior forward of the B pillar. Speakers forward of the B pillar installed for the purpose of increasing SPL are not.
45. All openings to the interior of the vehicle must have some form of gasket or seal to eliminate any chance of venting to the outside of the vehicle during testing.
46. For purposes of clarification, an “average sized adult” is considered as a 5 foot, 9 inch tall (176 centimeters) person weighing 180 pounds (67 kilograms).
47. Commercially available (sold in retail environment as a complete product with warranty) lithium batteries are fully legal in **IASCA** competition. Other lithium batteries purchased in individual pieces with no warranty and/or support (AKA, DIY lithium) must implement the following, and must be visible to the judging staff:
    - External casing to prevent individual cell movement as well as provide protection from shorts across terminals.
    - Secured within vehicle to prevent assembly movement (like all batteries).
    - Active cell balancing circuit(s). Passive cell balancing is insufficient.
49. All equipment must be safely and securely mounted.

COMPETITION PROCEDURES

IN THE COMPETITION LANE

1. ***COMPETITORS MUST BE READY TO COMPETE WHEN CALLED UPON.*** IASCA Officials (Judges) will use their best efforts to notify competitors when they are scheduled in the competition lane; three notifications will be given to the competitor. If a competitor is not ready when called into the lanes and does not report to an IdBL Official, they will receive a score of zero for that run.
2. The competitor has **three (3) minutes** from the time the measuring device is positioned in the vehicle to prepare their vehicle for competition. If a competitor is not prepared and ready to compete within that 3 minute time frame, they will be given a warning by the Judge that they are exceeding the time limit. If it's found that a competitor is abusing the time frame privilege, *whether intentional or not,* the event Head Judge has the ability to penalize the competitor by assigning a **score of zero (0)** for that run.
3. A maximum of six (6) additional people are allowed to hold down the vehicle during testing. These additional people must have both feet on the ground at all times during testing with the exception of adjusting or moving for better feet position or balance (feet do NOT have to be flat on the ground but person(s) should be balanced on the ground and not on the vehicle), and cannot block the view between the meter judge and the competitor, or the measuring device. Having a person or additional persons sitting on top of, or inside, the vehicle during testing is **not** allowed. Competitor may elect to sit on their vehicle if they wish, but only if the competitor has signed the hold harmless waver located on the official IASCA score sheet.
4. Only one team member is allowed to operate the system during the competition run.
5. Once the competitor is ready to compete, they **must notify the Head Judge** that they are ready by either verbal communication (if outside the vehicle), a "thumbs up" sign or honking the horn, signifying that they are ready.
6. Once the competitor notifies the Head Judge that they are ready, the Head Judge will begin the countdown and signal the competitor by raising their hand in the air with all five fingers extended. A "5-4-3-2-1, fingers to fist" countdown will indicate to the competitor that the countdown has begun. When the Head Judge points at the competitor after the countdown, this indicates that the 30 second timer has started; the competitor then has that time in which to achieve their highest SPL score. At the 10 seconds left mark, the Head Judge will lift their arm half way with a closed fist; at the 5 seconds left mark, the Head Judge will extend his fingers from the fist and begin a "5-4-3-2 -1 fingers to fist" countdown, indicating the last 5 seconds of the run. Once the run is complete, the Head Judge will do a sweeping, flat hand gesture and a "thumbs up" to indicate the run is over and official. If the Head Judge uses a flat hand sweeping gesture but does not give a "thumbs up" at any time during the run, this will indicate to the competitor that the run is over and that there is an issue that has to be dealt with. The Head Judge will then confer with the other judges and the competitor in regards to the potential issue.
7. **It is the competitor's responsibility to ensure that they have a clear view of the Head Judge, while in the competition lane.** They are responsible to ensure that nothing interferes with their view of the Head Judge before, during, and after the run; this includes team members, manufacturer representatives, press, podiums, equipment, the vehicle or any part of the vehicle (doors, panels, etc.).
8. **During the competition run,** all panels in or on the vehicle must be, and remain, securely closed and latched for the duration of the competition run. The Inspection Judge will complete a final "walk around" of the vehicle to confirm that all panels are securely latched and closed. If at anytime during the 30 seconds of the competition run a vehicle's panel comes loose, opens or is opened, the run will be disallowed and the competitor will receive a score of zero for that run, no exceptions.
9. **During the competition run,** all equipment in or on the vehicle must be, and remain, secured in place and comply with the rules of the class for the duration of the 30 second competition run. If at anytime during the 30 second competition run a piece of equipment does not comply with the rules for the class for any reason, the run will be disallowed and the competitor will receive a score of zero for that run, no exceptions.
10. Once the run is complete, the competitor has **three (3) minutes** to remove the vehicle from the competition lane from the time the measuring device is removed from the vehicle. If the competitor's vehicle is not moving out of the competition lane within that 3 minute time frame, the run may be disallowed and they could receive a **score of zero (0)** for the run.

IASCA CLASS RECORD PROCEDURES for IdBL COMPETITION

Starting in 2016, IdBL will post National Records for each IASCA participating country. As each country has specific geographic and topological advantages and disadvantages, a record in one country cannot be accurately measured against another country. Therefore, each country will have an "IdBL National Records" page outlining scores from each country participating.

IdBL records are set annually and do not carry over from one year to the next. All standard procedures apply for an ***IdBL*** Record Event as they do in regular event competition, however there are a few additions.

IASCA/IdBL* Records** are achieved by a competitor exceeding the highest recorded score in their class as of that date, in their country, twice consecutively during regulation runs at a sanctioned ***IdBL World Record Event. The lower of the two Record breaking scores will be considered the new official ***IdBL*** National Record for that country. Records can only be set at events where an ***IASCA*** Certified ***IdBL*** Record Official is present.

Upon breaking the record in the first run, the competitor's vehicle will be moved aside and inspected by ***IASCA*** officials, to confirm that it complies with all rules and regulations in the competitor's Division/Class.

Prior to inspection, *no one can touch the vehicle***, except *IASCA* officials.** Once the inspection is complete, the officials will validate the vehicle and notify the competitor. The competitor has until they are called up for their next run to prepare the vehicle for the second run (charge batteries, etc…). If the competitor "backs up" their first run with a second score equal to or higher than their first run, ***IASCA*** officials as previously described will re-inspect the vehicle. Once the re-inspection is complete and everything is in order, the record will be official and will be recorded as such.

NOTE: National Record attempts can only be recorded on an approved Official ***IASCA*** meter. An ***IASCA Certified*** IdBL Record Judge must be present during the run to officiate and all rules and procedures must be **strictly** adhered to. Any violation of any ***IdBL*** rule, regulation, policy or procedure will result in disqualification of the record.

An ***IASCA*** Certified IdBL Record Judge must be present to officiate any ***IdBL*** Record Event. Each Certified National Record Judge owns an ***IASCA*** approved meter, which is registered to them. These meters are the only meters approved to certify ***IdBL*** National Records. If an ***IdBL*** National Record is broken, it is the responsibility of the Head Judge (***IASCA*** Record IdBL Certified Judge) to notify the ***IASCA*** Worldwide Inc. head office.

All *IASCA IdBL* Record Event Hosts and Affiliates must verify the competitor's **full name, address, competitor's membership number, vehicle and equipment information** and submit the information to the IASCA Head Office for the Record to be official.

FOR ANY IdBL RECORD TO BE OFFICIAL

This procedure must be strictly adhered to for any record to be official; any variation from this procedure, regardless of who is officiating the event, could be cause for the record not being recognized by IASCA Worldwide.

- All vehicles/competitors vying for a record attempt must be properly classified.
- The vehicle classification must be visually recorded by IASCA staff with either photos or video, showing all equipment and pointing out all areas inspected during the classification process. The images must show the IdBL Record Judge performing the classification.
- A classification form must be completed and signed by the IdBL Record Judge to ensure accuracy.
- Once classified, the IdBL Record runs must be video recorded in their entirety, showing the vehicle, the competitor and the screen of the meter.
- Photos of vehicle voltage are required.
- Once the runs are complete and the IdBL Record has been set, all video and photographic evidence must be submitted to the IASCA Worldwide Head Office, along with the completed classification form, at the time the results are submitted.
- Failure to provide any of the video or photographic evidence, or proper documentation will nullify the record. The score will appear on the website, but will show as an unofficial score.

IASCA CLASS RECORD PROCEDURES for IdBL COMPETITION

WORLD RECORD JUDGING PROCEDURE

Judging Team – The ***IdBL*** Judging Team will consist of a minimum of 2 (two) judges; the World Record Certified Judge (Head Judge) who will be in charge of operating the official meter and an Inspection Judge. Additional judges are allowed; they may take over some of the duties of the Inspection Judge as approved by the Head Judge, but are not necessary to validate an ***IdBL*** World Record attempt.

Time Frame to achieve a World Record – In order for an ***IdBL*** World Record to be official, a competitor must beat the current the World Record score twice during regulation runs; the record must be broken within two regulation runs. ***IdBL*** World Records must be set during regulation runs (the allowed number of runs for that event); in the case of an event that allows only one run, **one (1) additional run** will be approved for the purpose of attempting the World Record, no more.

If an ***IdBL*** World Record is broken, the three (3) minute time frame for teardown may be extended to allow the competitor time for photo opportunities or other celebratory items. The time extension is at the discretion of the ***IdBL*** Certified World Record Judge or the event Head Judge.

Breakdowns for competitors attempting an *IdBL* World Record– In the case of a breakdown, **it is the competitor's responsibility** to notify the IdBL Head Judge **immediately** of the breakdown, especially if additional time is required to repair the breakdown. If the repairs cannot be completed during the regulation specified time frame, the competitor can request an extension of the time frame from the IdBL Head Judge **only** and they **may** grant the extension based on the situation. The maximum extension an IdBL Head Judge can grant will be **fifteen (15) minutes, no exceptions.** If the repairs cannot be completed within that extension, the competitor will not be allowed to run.

Competitors and their vehicles must comply with all the rules and regulations set forth in the ***IASCA/IdBL*** rulebook and must maintain compliance throughout the competition runs. Any infraction of the rules will automatically rescind any ***IdBL*** World Record set. If an infraction is discovered after the event at any time, the competitor's score (and World Record) can and will be revoked.

MEMBERSHIPS

- Any competitor/vehicle attempting to set an IdBL Record ***must*** have an IASCA Worldwide Competitor Membership; the membership will outline all the vehicle and equipment details. This membership is a global membership and only issued by the IASCA Worldwide Head Office in the USA. National memberships from an IASCA Affiliate country are not valid for IdBL Records. Memberships can be purchased online at iasca.com.
- Each membership must fully outline the vehicle and its information (serial number, license/tag number, etc.), as well as list all equipment used in the IdBL Record attempt.
- Memberships must be purchased prior to any IdBL Record attempts and cannot be purchased afterwards.

EVENTS

NOTE: The average ***IdBL*** event usually offers two runs, however it is at the discretion of the event host. Due to the high volume of competitors at some events, some event hosts may only have time to offer one run; please check with the event host before going to an event to verify how many ***IdBL*** runs they will be offering.

BREAKDOWNS

As unfortunate as they are, breakdowns do happen. We at ***IASCA*** understand this and that's why we have developed a policy for this contingency; we want to offer our competitors as much opportunity as possible to rectify the situation and continue competing.

If a competitor experiences a breakdown while in the lane **prior** to being tested, they will be directed to remove their vehicle from the lane and will be allowed 10 minutes to repair the problem. If the competitor repairs the problem in the time allotted, they will be allowed to compete without penalty. However, if the competitor cannot repair the problem within the time allotted, they will receive a score of zero for that run. They have until they are called up for their final run to repair the problem and bring their vehicle into the judging lane.

TIEBREAKERS

A tie score is determined by two competitors achieving the same score after **two (2)** runs. **Example:** Competitor A scores 149.9 dB in their first run and 150.0 dB in their second run. Competitor B scores 150.0 dB in their first run and 149.7 dB in their second run. Both competitors achieved a high score of 150.0 dB after their two runs and are therefore tied. Once all regulation runs are completed, the competitors that are tied will return to the judging lane for a "tiebreaker" run. Both competitors will then be judged and the competitor with the highest score in the tiebreaker run will be declared the winner and be awarded the higher position in the standings, regardless of the previous scores. **If the tie is not broken after two tiebreaker runs, *IASCA*** will award duplicate placing for the tied competitors. The results of a tiebreaker can only affect the positions below the tied competitors. **If one of the tied competitors fails to appear for their tiebreaker run/s,** they forfeit the position they are competing for.

COMPETING IN MULTIPLE DIVISIONS/CLASSES, CHANGING DIVISIONS/CLASSES

Competitors who wish to change the Division or Class they compete in must request this change in writing to the IASCA office for approval. The competitor must meet all criteria for the Division or Class they want to change to.

An ***IdBL*** competitor may move **up** or **down** in Division or Class during the competition season and maintain the points they have accrued, as long as they accrue a minimum of **50%** of their points in their new Division/Class during the season. Once the competitor moves to the new Division/Class, they can no longer accrue any points in the old Division or Class that they used to compete in.

If a competitor is found to be alternating between Divisions or Classes through the competition season in order to gain points, that competitor will forfeit all points accrued in any Division or Class and have their invitation to compete at the Finals revoked for that season.

Competitor Division and Class specifics

- A vehicle cannot run in multiple classes at the same event in the same format (i.e. Competing in Class 3 and Adv NW with the same vehicle) but may run in one class per format (i.e. Class 1 in IdBL and Bantamweight in Bass Boxing).
- Competitors with more than one vehicle must have a membership for ***each vehicle.***

MEASURING DEVICE PLACEMENT GUIDELINES

Event judges must ensure that the measuring device height and orientation are absolutely consistent from vehicle to vehicle. The measuring device must face towards the front of the vehicle at all times. The position is as follows for all measuring devices used in ***IdBL*** competition; 4 inches up from the top of the dashboard (or the base of the OEM windshield frame, whichever is higher) and 12 inches over from the OEM passenger side "A" pillar.

This is accomplished by using the ***IASCA*** certified placement jig. For the sensor, the jig must be positioned perpendicular (straight up and down) with the base of the jig touching the top of the dashboard and the top of the jig touching the windshield; the far right end of the jig must be touching the passenger side “A” pillar. The sensor is then positioned in the top left opening, placing the opening of the sensor in the 4” and 12" position. At the judges discretion the sensor may be mounted vertically to help protect the sensor.

The Judge must be able to see the measuring device (sensor) from outside the vehicle at all times during the competition run; competitors are not allowed to place any covering (or tinting) on the windshield blocking the Judge’s ability to see the measuring device during competition.

Nothing in the vehicle may interfere with the correct placement of the measuring device, or its placement jig .

Once the measuring device is positioned, the competitor will have the opportunity to verify it has been positioned properly. The competitor is not allowed to touch the measuring device once it is positioned, however if they feel it is not properly placed, they can request that it be repositioned and the judge is required to do so. **Note:** If the competitor requests that the measuring device be repositioned, this **does not give the competitor an extension on the 3 minute preparation time** set out before being judged. Once the measuring device has been positioned for the first time in the run, the 3 minute countdown will begin.

If the judging staff experiences an equipment failure (with either the meter, measuring device or cable) during the competitor’s run, the score in that run will not count and the competitor will have the option of rerunning within a specified time period.

VEHICLE SEATS AND SYSTEM COMPONENTS - Vehicle seat backs, including headrests, cannot be within 24 inches of the measuring device at any point. System Components (Equipment) in the vehicle, including enclosures, walls cannot be within 24 inches of the measuring device at any point. (Exception: A pillar mounted tweeters and midrange speakers, door mounted speakers.) No item or piece of equipment may be temporarily or permanently attached to the exterior of a vehicle’s dashboard or windshield, within 24 inches of the measuring device.

CLASS 1
(Trunk/Pickup, Hatchback/Wagon and SUV Minivan Divisions)

The intent of Class 1 is a progression for local competitors from the ***Street Division***. It allows for more power and flexibility in competition.

Class 1 is broken down into the following cone area rating:

- **1 to 240 sq. in.** - No Wall Division (4-8s, 3-10s ,2-12S, 1-15 inch subwoofer/s)

COMPETITOR CRITERIA (Class 1)

- Open to all competitors

VEHICLE CRITERIA (Class 1)

1. **Any modification** to a vehicle that is **not** covered in this section will be considered illegal for the division and the vehicle will be reclassified to a higher Class/Division.
2. Vehicle must be tagged (licensed) and insured for use on the road. If the vehicle is not tagged (licensed) or insured, the vehicle and competitor will be reclassified to a higher Class/Division.
3. ***OEM stock interior, except for speaker build outs, kick panels.*** All interior panels must be in place and properly mounted. ***Cosmetic*** modifications allowed (addition of full range speakers for sound quality purposes, painting of trim pieces, etc.).
4. No panels or sheet metal in the vehicle can be modified so as to increase the SPL level of the vehicle. All sheet metal, steel, plastic, wood and any other materials used by the manufacturer to build the vehicle must remain intact and unaltered, with the following exceptions; door panel build outs and kick pods built to house operational speakers the purpose of increasing sound quality only and/or panel modifications for cosmetic purposes will be allowed. Build outs designed for the purpose of increasing SPL will not be allowed.
5. OEM covering (carpeting) in the trunk or hatch or interior area (e.g. carpet, panels, etc.) must remain intact in the vehicle during testing. OEM factory carpeting or covering *may* be replaced with an aftermarket equivalent that approximates an OEM factory appearance.
6. All seats must remain in the vehicle while competing.
7. All equipment must be mounted in the OEM cargo area of the vehicle.
8. Panels or baffles designed to increase SPL, whether attached to the vehicle or enclosure, cannot be mounted in the vehicle interior.
9. All OEM panels and components, including dashboards, must remain OEM stock and in their factory mounted location.
10. The vehicle must have the factory OEM dashboard in place, intact and unmodified. All accessories/gauges/switches in the dashboard must remain functional. The only additions allowed to an OEM dashboard are the painting of “snap in” panels on the dashboard and speakers for improving sound quality only.
11. Supports, poles or braces are not allowed within the vehicle interior.

EQUIPMENT CRITERIA (Class 1)

All equipment must be commercially available and can not be modified in any way.

Source Units

- External source units are allowed. A source unit in the OEM location is not required.

Amplifiers

- Maximum one (1) amplifier ***per pair*** of subwoofers is allowed.
- Maximum allowed amplifier power output 2,000 watts RMS
- Power will be verified using a clamp meter, digital multimeter or the Term-Lab Magnum clamping system while vehicle is competing in the lane.
- One amplifier means that all amplifier components must be encased within one heatsink. “Strapping” multiple amplifiers together as “one” is not considered as one amplifier.

CLASS 1
(Trunk/Pickup, Hatchback/Wagon and SUV Minivan Divisions)

Subwoofers/Speakers

- Single, dual, and quad coil subwoofers are allowed
- All subwoofers and subwoofer enclosures must be mounted in the OEM cargo area of the vehicle. Speakers and/or subwoofers mounted in the interior of the vehicle, installed with the intent of increasing SPL levels below 100 Hz, will be deemed as part of the SPL system and the vehicle will be reclassified to a higher Class.

Batteries

- Unlimited amount of batteries allowed. Super caps are allowed but must be mounted within the cargo area.
- A battery is not required in the factory location. Batteries must be mounted in cargo area or engine compartment.
- Batteries must be a standard automotive 12 volt battery. Lithium based batteries are allowed.
- Batteries must be commercially available through standard retail channels (i.e. auto supply store)

Alternator

- One (1) alternator is allowed. Must be mounted in factory location.
- The vehicle's OEM factory style alternator can be upgraded from its original OEM factory output only. Larger alternators in physical size and/or shape are not allowed.
- Outboard adjustable voltage regulators on alternators are allowed, however the controls for the voltage regulator must be mounted in an accessible location while operating the system, for safety reasons.

Voltage

- Maximum voltage allowed is 15.5 volts (engine running).

Wiring/Fusing

- Unlimited runs of wire (+ or -) are allowed.
- IASCA strongly recommends that all wiring be fused at the main power source. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.

Sound deadening (or dampening) materials

- Sound deadening (or dampening) materials may be used **behind or inside** any factory OEM panels, so long as the factory panel remains intact, unaltered and in its original factory OEM location and does not impede the proper operation of any of the vehicle functions.
- **"Stiffening"** of panels is not allowed; competitors are not allowed to reinforce panels with anything other than traditional sound deadening materials available from retail car audio dealers (See "Stiffening" in Glossary of Terms).

CLASS 2
(Trunk/Pickup, Hatchback/Wagon and SUV Minivan Divisions)

The intent of Class 2 is for competitors that have gained a greater knowledge of, or for those who have a greater knowledge of, SPL and competition than the average consumer.

Class 2 is broken down into the following cone area rating:

- **1 to 480 sq. in.** - No Wall Division (6-10s, 4-12s, 2-15s or 1-18 inch subwoofer/s)

COMPETITOR CRITERIA (Class 2)

- Open to all competitors

VEHICLE CRITERIA (Class 2)

1. **Any modification** to a vehicle that is **not** covered in this section will be considered illegal in this division.
2. Vehicle must be tagged (licensed) and insured for use on the road. If the vehicle is not tagged (licensed) or insured, the vehicle and competitor will be reclassified to a higher Class/Division.
3. ***OEM stock interior, except for speaker build outs, kick panels.*** All interior panels must be in place and properly mounted. ***Cosmetic*** modifications allowed (addition of full range speakers for sound quality purposes, painting of trim pieces, etc.).
4. No panels or sheet metal in the vehicle can be modified so as to increase the SPL level of the vehicle. All sheet metal, steel, plastic, wood and any other materials used by the manufacturer to build the vehicle must remain intact and unaltered, with the following exceptions; door panel build outs and kick pods built to house operational speakers the purpose of increasing sound quality only and/or panel modifications for cosmetic purposes will be allowed. Build outs designed for the purpose of increasing SPL will not be allowed.
5. OEM covering (carpeting) in the trunk or hatch or interior area (e.g. carpet, panels, etc.) must remain intact in the vehicle during testing. OEM factory carpeting or covering *may* be replaced with an aftermarket equivalent that approximates an OEM factory appearance.
6. All seats must remain in the vehicle while competing.
7. All equipment must be mounted in the OEM cargo area of the vehicle.
8. Panels or baffles designed to increase SPL, whether attached to the vehicle or enclosure, cannot be mounted in the vehicle interior.
9. All OEM panels and components, including dashboards, must remain OEM stock and in their factory mounted location.
10. The vehicle must have the factory OEM dashboard in place, intact and unmodified. All accessories/gauges/switches in the dashboard must remain functional. The only additions allowed to an OEM dashboard are the painting of “snap in” panels on the dashboard and speakers for improving sound quality only.
11. Supports, poles or braces are not allowed within the vehicle interior.

EQUIPMENT CRITERIA (Class 2)

All equipment must be commercially available and can not be modified in any way.

Source Units

- External source units are allowed. A source unit in the OEM location is not required.

Amplifiers

- Maximum one (1) amplifier ***per*** subwoofer is allowed.
- Maximum allowed amplifier power output 4,000 watts RMS
- Power will be verified using a clamp meter, digital multimeter or the Term-Lab Magnum clamping system while vehicle is competing in the lane.
- One amplifier means that all amplifier components must be encased within one heatsink. “Strapping” multiple amplifiers together as “one” is not considered as one amplifier.

CLASS 2
(Trunk/Pickup, Hatchback/Wagon and SUV Minivan Divisions)

Subwoofers/Speakers

- All subwoofers and subwoofer enclosures must be mounted in the OEM cargo area of the vehicle. Speakers and/or subwoofers mounted in the interior of the vehicle, installed with the intent of increasing SPL levels below 100 Hz, will be deemed as part of the SPL system and the vehicle will be reclassified to a higher Class.

Batteries

- Unlimited amount of batteries allowed. Super caps are allowed but must be mounted within the cargo area.
- A battery is not required in the factory location. Batteries must be mounted in cargo area or engine compartment.
- Batteries must be a standard automotive 12 volt battery. Lithium based batteries are allowed.
- Batteries must be commercially available through standard retail channels (i.e. auto supply store)

Alternator

- One (1) alternator is allowed. Must be mounted in factory location.
- The vehicle's OEM factory style alternator can be upgraded from its original OEM factory output only. Larger alternators in physical size and/or shape are not allowed.
- Outboard adjustable voltage regulators on alternators are allowed, however the controls for the voltage regulator must be mounted in an accessible location while operating the system, for safety reasons.

Voltage

- Maximum voltage allowed is 15.5 volts (engine running).

Wiring/Fusing

- Unlimited runs of wire (+ or -) are allowed.
- IASCA strongly recommends that all wiring be fused at the main power source. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.

Sound deadening (or dampening) materials

- Sound deadening (or dampening) materials may be used **behind or inside** any factory OEM panels, so long as the factory panel remains intact, unaltered and in its original factory OEM location and does not impede the proper operation of any of the vehicle functions.
- **"Stiffening"** of panels is not allowed; competitors are not allowed to reinforce panels with anything other than traditional sound deadening materials available from retail car audio dealers (See "Stiffening" in Glossary of Terms).

CLASS 3
(Trunk/Pickup, Hatchback/Wagon and SUV Minivan Divisions)

The intent of the Class 3 is for competitors that have the same level of knowledge as Class 2, but use more equipment than allowed in the lower classes.

Class 3 is broken down into the following cone area rating:

- **1 to 860 sq. in. -** No Wall Division (10-10s, 7-12s, 4-15s, 3-18s inch subwoofer/s)

COMPETITOR CRITERIA (Class 3)

- Open to all competitors

VEHICLE CRITERIA (Class 3)

1. **Any modification** to a vehicle that is not covered in this section will be considered illegal in this division and competitor will be moved up in class.
2. Vehicle must be tagged (licensed) and insured for use on the road. If the vehicle is not tagged (licensed) or insured, the vehicle and competitor will be reclassified to a higher Class/Division.
3. ***OEM stock interior, except for speaker build outs, kick panels***. All interior panels must be in place and properly mounted, forward of the B pillar. Cosmetic modifications allowed (addition of full range speakers for sound quality purposes, painting of trim pieces, etc.). All OEM panels and components, including dashboards, forward of the "B" pillar in the vehicle must remain OEM stock and in their factory mounted location, with the exception of the front seats which may be removed for testing. From the "B" pillar back to the rear of the vehicle, any panel modifications can be made.
4. No sheet metal in the vehicle can be modified so as to increase the SPL level of the vehicle. All sheet metal used by the manufacturer to build the vehicle must remain intact and unaltered, with the following exceptions; door panel build outs and kick pods built to house operational speakers the purpose of increasing sound quality only and/or panel modifications for cosmetic purposes will be allowed.
5. Floor and wheel well modifications are not allowed.
6. Battery 'boxes' or "racks" underneath vehicle are not allowed.
7. No other additional brackets or holders may be attached to the outside of the vehicle for the purpose of housing additional equipment of any type. The vehicle must maintain an OEM factory look on the complete outside and in the interior forward of the vehicle's "B" pillar.
8. Walls are not allowed.
9. Panels or baffles designed to increase SPL, whether attached to the vehicle or enclosure, cannot be mounted in the vehicle interior forward of the cargo area of the vehicle.
10. Seats may be removed when competing, but must be in vehicle when entering and exiting the lanes.
11. The vehicle must have the factory OEM dashboard in place, intact and unmodified. All accessories/gauges/switches in the dashboard must remain functional. The only additions allowed to an OEM dashboard are the painting of "snap in" panels on the dashboard and speakers for improving sound quality only. ***EXCEPTION:*** Custom built dashboards and consoles in custom show vehicles, designed and built purely for cosmetic purposes, may be allowed in the class as long as they maintain dimensions similar to the OEM dashboard or console. It is at the Judge's discretion to determine whether the dashboard was built for cosmetic or SPL purposes; the Judge's decision will be final.
12. Supports, poles or braces attached to the enclosure to secure the enclosure in place, forward of the B pillar, are allowed. The supports, poles or braces can be no larger than 1 square inch in thickness (1.125" round or 1" X 1" square) and no longer than 12 inches in length.
13. Cosmetic components or panels attached to the enclosure that extend forward of the B pillar (including but not limited to beauty panels, trim panels, consoles), that are not designed for the purpose of increasing SPL are allowed. It is at the Judge's discretion to determine whether the component or panel was designed for cosmetic purposes or for the intent of increasing SPL.

CLASS 3
(Trunk/Pickup, Hatchback/Wagon and SUV Minivan Divisions)

EQUIPMENT CRITERIA (Class 3)

All equipment must be commercially available and can not be modified in any way.

Source Units

- External source units are allowed. A source unit in the OEM location is not required.

Amplifiers

- There are no minimum or maximum requirements for amplifiers.
- Maximum allowed amplifier power output 6,000 watts RMS
- Power will be verified using a clamp meter, digital multimeter or the Term-Lab Magnum clamping system while vehicle is competing in the lane.

Subwoofers/Speakers

- All subwoofers and subwoofer enclosures must be mounted in the OEM cargo area of the vehicle. Speakers and/or subwoofers mounted in the interior of the vehicle, installed with the intent of increasing SPL levels below 100 Hz, will be deemed as part of the SPL system and the vehicle will be reclassified to a higher Class.

Batteries

- Unlimited amount of batteries allowed. Super caps are allowed but must be mounted within the cargo area.
- A battery is not required in the factory location. Batteries must be mounted in cargo area, behind the B pillar or engine compartment.
- Batteries must be a standard automotive 12 volt battery. Lithium based batteries are allowed.
- Batteries must be commercially available through standard retail channels (i.e. auto supply store)

Alternator

- One (1) alternator is allowed. Must be mounted in factory location.
- The vehicle's OEM factory style alternator can be upgraded from its original OEM factory output only. Larger alternators in physical size and/or shape are not allowed.
- Outboard adjustable voltage regulators on alternators are allowed, however the controls for the voltage regulator must be mounted in an accessible location while operating the system, for safety reasons.

Voltage

- Maximum voltage allowed is 15.5 volts (engine running).

Wiring/Fusing

- Unlimited runs of wire (+ or -) are allowed.
- IASCA strongly recommends that all wiring be fused at the main power source. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.

Sound deadening (or dampening) materials

- Sound deadening (or dampening) may be used behind or inside any factory OEM panels forward of the "B" pillar, so long as the factory panel remains intact, unaltered and in its original factory OEM location and does not impede the proper operation of any of the vehicle functions. There can be no external visible evidence of the sound deadening (pieces of sound deadening material sticking out from the panels).
- **"Stiffening"** of panels ***forward of the B pillar*** is ***not*** allowed; competitors are not allowed to reinforce panels forward of the B pillar with anything other than traditional sound deadening materials available from retail car audio dealers (See "Stiffening" in Glossary of Terms).
- Sound deadening or reinforcement materials (stiffening) may be used anywhere on any panels ***behind*** the vehicle's "B" pillar.

ADVANCED DIVISION

The intent of the Advanced Division is to provide a progression from the lower Divisions as competitors upgrade their equipment in the vehicle and/or modify the vehicle beyond the criteria set forth for the lower classes.

Advanced Division is broken down into two divisions (No Wall and Wall) and 5 cone area Classes (two in No Wall and three in Wall) and is open to all vehicle types:

- **Advanced No Wall 1 -** No Wall - 1 to 510 square inches of cone area (allows up to 6-10s, 4-12s, 2-15s, 2-18s)
- **Advanced No Wall 2 -** No Wall - 511+ square inches of cone area
- **Advanced 1** - 1 to 510 square inches of cone area (allows up to 6-10s, 4-12s, 2-15s, 2-18s)
- **Advanced 2** - 511 to 1120 square inches of cone area (allows up to 14-10s, 9-12s, 6-15s, 4-18s)
- **Advanced 3 -** 1121+ square inches of cone area (up to and more than 15+10s, 10+12s, 7+15s, 5+18s)

COMPETITOR CRITERIA (Advanced Division)

- Open to all competitors

VEHICLE CRITERIA (Advanced Division)

1. ***Any modification*** to a vehicle that is not covered in this section will be considered illegal in this division.
2. OEM stock interior, ***forward*** of the "B" pillar. No interior panels or sheet metal in the vehicle, ***forward*** of the "B" pillar, can be externally modified. All sheet metal, steel, plastic, wood and any other materials, forward of the "B" pillar, used by the manufacturer to build the vehicle must remain intact and unaltered, with the following exceptions; door panel build outs and kick pods built to house operational speakers for the purpose of increasing sound quality only and, panel modifications for cosmetic purposes only.
3. ***Floor and wheel well modifications behind B pillar -*** Floor modifications behind B pillar are allowed. Any floor modification cannot extend below the vehicle's body line. It is at the discretion of IASCA and/or the IASCA event official/s to determine the intent of the build outs/modifications; their decision will be final. Wheel well modifications are also allowed, provided they do not impede the proper movement of the vehicle on its axles and tires.
4. Competitors can build a battery box (rack) ***underneath*** the vehicle to house additional batteries. At its lowest point, the battery box (or rack) must sit above the plane of the axle (vertical center point of the axle), cannot be below the body line of the vehicle and cannot impede any vehicle functions (i.e.: suspension). No other additional brackets or holders may be attached to the outside of the vehicle for the purpose of housing additional equipment of any type.
5. ***Advanced No Wall 2 and Advanced 2 and 3 Classes only - External battery racks***, designed to house additional batteries, are allowed (e.g. running board racks, bumper racks), provided the batteries are properly mounted and covered, and do not pose a hazard to the competitor, the judges or spectators. External roof racks are not allowed. External battery racks are not allowed in Advanced No Wall 1 and Advanced 1 Classes.
6. Seats may be removed when competing, but must be in vehicle when entering and exiting the lanes.
7. Subwoofers and enclosures must be mounted behind the vehicle's "B" pillar. Walls are allowed.
8. Panels or baffles designed to increase SPL, whether attached to the vehicle or enclosure, cannot be mounted in the vehicle interior forward of the B pillar.
9. The vehicle must have the factory OEM dashboard in place, intact and unmodified. All accessories/gauges/switches in the dashboard must remain functional. The only additions allowed to an OEM dashboard are the painting of "snap in" panels on the dashboard and speakers for improving sound quality only. ***EXCEPTION:*** Custom built dashboards in custom show vehicles, designed and built purely for cosmetic purposes, can be allowed in the class as long as they maintain dimensions similar to the OEM dashboard. It is at the Judge's discretion to determine whether the dashboard was built for cosmetic or SPL purposes; the Judge's decision will be final.
10. Aftermarket and/or custom center consoles are allowed, but said consoles must be securely mounted and functional. "Functional" means that the console must provide storage for accessories and/or house functional electronic equipment. If, in the opinion of the IASCA event official, the console is designed solely for the purpose of increasing SPL, they may reclassify the competitor to the Ultimate Division. Any aftermarket or custom console installed in an Advanced Division vehicle cannot extend past the bottom of the steering wheel. In the case of vehicles with tilt steering, the steering wheel will be positioned perpendicular to the steering column to take the measurement.

11. Forward of the B pillar, supports, poles or braces ***attached*** to the enclosure to secure the enclosure in place, are allowed. The supports, poles or braces can be no larger than 2.25 square inches in thickness (1.75" round or 1.5" X 1.5" square), be no longer than 24 inches in length (inclusive of mounting brackets) and must not be attached to the ceiling of the vehicle.
12. One (1) internal brace ***not*** attached to the enclosure is allowed forward of the vehicle's B pillar for the purposes of strengthening integrity of the vehicle. The brace cannot be any larger than 2.25 square inches (1.75" round or 1.5" X 1.5" square). Brace must be attached at both ends and cannot impede the proper mounting of the measuring device.
13. Roof build downs and floor build ups, forward of the vehicle's "B" pillar, are not allowed in Advanced Division.
14. All external body panels (upper, sides, front and rear) must remain intact and unaltered from their factory OEM specs, with the exception of the addition of aftermarket body "kits" for cosmetic upgrade purposes only.
15. **USE OF TAPE** - Competitors may use tape (duct tape, packing tape, etc.) to cover vents or openings on the inside of the vehicle only, for the purposes of increasing SPL. The tape used cannot interfere with the sensor or its proper placement in the vehicle for judging.

EQUIPMENT CRITERIA (Advanced Division)

All equipment must be commercially. Equipment used may be modified, but must still maintain its factory original "look".

Source Units

- External source units are allowed. A source unit in the OEM location is not required.

Amplifiers

- There are no minimum or maximum requirements for amplifiers.
- All bass generating amplifiers must be located behind the B pillar of the vehicle.

Subwoofers/Speakers

- All subwoofers and subwoofer enclosures must be mounted behind the leading edge of the vehicle's "B" pillar, so that no part of the subwoofer extends forward of the B pillar, including the surround. Speakers and/ or subwoofers mounted in the interior of the vehicle, forward of the "B" pillar, installed with the intent of increasing SPL levels below 100 Hz, are not allowed.
- Pickup truck "cut throughs" from the bed of the truck into the cab are allowed in Advanced 1, 2, and 3.

Batteries

- Unlimited amount of batteries allowed. Super caps are allowed but must be mounted within the cargo area.
- A battery is not required in the factory location. Batteries must be mounted in engine compartment, cargo area or external battery bank specified in vehicle criteria.

Alternator

- Unlimited amount of alternators can be used. One must be mounted in factory location.
- If additional alternators are used, they must be mounted within the limitations of the OEM factory engine compartment of the vehicle. Competitors are not allowed to create an opening in any external body panel of the vehicle in order to accommodate additional alternators.
- Outboard adjustable voltage regulators on alternators are allowed, however the controls for the voltage regulator must be mounted in an accessible location while operating the system, for safety reasons.

Voltage

- Maximum allowed voltage in Advanced No Wall 1 is 15.5 volts (engine running). Maximum allowed voltage in Advanced No Wall 2, and Advanced 1, 2 and 3 is 18.0 volts (engine running).

Wiring

- Unlimited runs of wire (+ or -) are allowed.
- IASCA strongly recommends that all wiring be fused at the main power source. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.

Sound deadening (or dampening) materials

- Sound deadening (or dampening) may be used behind or inside any factory OEM panels forward of the “B” pillar, so long as the factory panel remains intact, unaltered, in its original factory OEM location and does not impede the proper operation of any of the vehicle functions. There can be no external visible evidence of the sound deadening (pieces of sound deadening material sticking out from the panels).
- **“Stiffening”** or reinforcement of panels is allowed ***anywhere in the vehicle,*** and may be used *behind or inside any factory OEM panels forward of the “B” pillar*; competitors are allowed to reinforce panels anywhere in the vehicle with anything other than traditional sound deadening materials available from retail car audio dealers (See “Stiffening” in Glossary of Terms). Panels forward of the B pillar must maintain an OEM appearance.

ULTIMATE DIVISION

The ***IdBL*** Ultimate Division is designed to showcase the limits a vehicle can be taken to in order to achieve the highest possible SPL levels. Competitors in Ultimate Division are typically seasoned SPL competitors with a great knowledge of the science of SPL competition.

Being virtually a “no holds barred” competition Division, competitors are urged to “push the envelope” in the design and performance of their SPL vehicles.

Ultimate Division is an unlimited cone area Division and is open to all vehicle types.

COMPETITOR CRITERIA (Ultimate Division)

- Open to all competitors

VEHICLE CRITERIA (Ultimate Division)

1. *Any modification* to a vehicle that is not covered in this section will be considered illegal in this division, until approved by IASCA Worldwide Inc.
2. Vehicles can be modified anywhere in the interior of the vehicle.
3. Vehicle door panel build outs are allowed in Ultimate Division competition. Competitors may use additional latching mechanisms to secure doors during testing (straps, bolts, etc.).
4. All OEM factory windows forward of the vehicle’s “B” pillar may be replaced with any transparent substitute material. The transparent material used to replace the factory OEM glass must maintain a minimum of 576 square inches of visibility in the windshield area, and a minimum of 140 square inches of visibility in each door glass area. The replacement material must closely approximate the same rake and angle of the original OEM glass in the vehicle. All glass panels rearward of the vehicle’s “B” pillar can be replaced with any transparent or non transparent material. The area of the windshield where the measuring device is mounted *must* be clear and allow viewing of the measuring device from the outside.
5. Competitors must provide an opening through the vehicle’s body or glass, a minimum of 1.125 inches in diameter, that can be properly sealed during testing, in order to pass the measuring device cable through. Grooves or gaps between a vehicle’s door and door frame are not acceptable openings. The opening must have some type of seal or gasket to protect the measuring device cable from being cut and/or pinched, and to eliminate any chance of venting to the outside of the vehicle through the opening during testing. The measuring device cable must not pass through any electrical connections in or on the vehicle. *Exception:* Vehicles that have been reclassified to the Ultimate Division may be exempt from this rule, dependent upon the door frame and glass design of the vehicle.
6. Competitors may add a custom built dashboard in their vehicle. The dashboard height cannot extend any higher or lower than the top of the original OEM dashboard, or 3 inches above or below the base of the OEM windshield frame. “Base” in this reference means the part of the windshield frame that attaches to the firewall of the vehicle through the width of the vehicle at the joining point. It may run the complete width of the vehicle and extend inward to the interior of the vehicle, but it cannot exceed the height limitation set forth in this rule.
7. Competitors may add a custom center console in their vehicles. The console cannot extend past the top of the dashboard; it may vary in length and width, but it cannot exceed the height limitation set out in this rule.
8. Ultimate Division vehicles cannot have any partition and/or wall above the height of the dashboard, anywhere in the interior of the vehicle, that separates the driver and passenger compartments.
9. Subwoofers, enclosures (sub boxes), vents, ports or walls: The wall cannot pass forward of the B pillar and must allow for seating (fetal position is acceptable) of two average sized adults (5’9”, 180 lbs.). The wall cannot be any closer than 24 inches from the measuring device. This distance is measured from the point on the wall that protrudes the furthest (including speakers, surrounds, supports and braces).
10. All interior modifications must allow for two average sized adults (see rule #8) to sit comfortably in the interior of the vehicle (one on the driver’s side and one on the passenger’s side). Other than a standard seating position, like in a regular seat in a vehicle, the only other acceptable seating position is the fetal position. To be considered as “comfortable”, officials sitting in the fetal position to test compliance with this rule must have a minimum of 12 inches between their knees and chin. Officials must be able to hold their head straight up while sitting in the fetal position on the vehicle floor during this test. This means that there must be an approximate distance of 30 inches (the average height of the torso, neck and head of an average sized adult) between the highest point of the vehicle’s floor and lowest point of the vehicle’s roof.

11. OEM factory door framing can be altered from the original OEM factory specifications for the purpose of strengthening the door frame and creating mounting points to attach the door.
12. Any additional framing and/or bracing used to support or strengthen any panel or replacement transparent material (window framing), must not interfere with the proper positioning of the measuring device or its placement jig.
13. Floorboards in an Ultimate Division vehicle may be raised above the OEM factory door jamb.
14. Roof interiors may be lowered below the OEM factory door frame. Any “extensions” of the lowered roof fall within the guidelines set out for visibility into the interior of the vehicle; if a lowered roof line protrudes into the windshield or door glass area, it is considered in the calculation of total visibility to the interior of the vehicle
15. Vehicles can be modified to increase or decrease the length, width and/or height of the vehicle, deviating from the intent of the OEM factory body specifications of the vehicle, for the purposes of increasing SPL, so long as the vehicle meets all other criteria set forth and rules set forth for the Ultimate Division. This will include, but not limited to; stretching, widening, heightening, storage compartments on the roof, floor cut outs, non factory or aftermarket body panels, etc. All modifications to any Ultimate Division vehicle must still attempt to maintain an OEM factory “look”.
16. If a competitor uses any exterior panel to house any additional equipment (other than a head unit, speakers or processor), that equipment must be encased in some type of enclosure so that the equipment is not visible. Example: Batteries mounted on the roof of a vehicle must be mounted securely and have a cover over them so they are not visible or “out in the open”.
17. All types of vehicles are allowed to compete in Ultimate Division.

EQUIPMENT CRITERIA (Ultimate Division)

Amplifiers

- Unlimited amount of amplifiers.
- All bass generating amplifiers must be located behind the B pillar of the vehicle.

Subwoofers/Speakers

- All bass generating subwoofers and enclosures must be located behind the B pillar of the vehicle.
- Walls allowed.
- Pickup truck “cut throughs” from the bed of the truck into the cab are allowed.

Batteries

- Unlimited amount of batteries and capacitors.

Alternator

- Unlimited amount of alternators can be used.

Voltage

- Maximum allowed voltage is 18.0 volts.

Wiring

- Unlimited runs of wire (+ or -) are allowed.
- IASCA strongly recommends that all wiring be fused at the main power source. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.

STREET DIVISION

The intent of Street is to give newcomers and local competitors a place to compete without the worry of having seasoned ***IdBL*** veterans coming in and taking all the "top spots". It allows newcomers and local competitors to compete in ***IASCA IdBL*** competition and learn what ***IdBL*** is all about.

This class will only be offered when the event organizer has resources to offer this division. When this division is not offered, Street competitors will be classified as Class 1 but will not lose eligibility for Street for the remainder of the year. Street will not be offered at championship events but Street competitors will be moved to Class 1.

Street is broken down into the following cone area rating:

- **1 to 240 sq. in.** - No Wall Division (4-8s, 3-10s ,2-12S, 1-15 inch subwoofer/s)

COMPETITOR CRITERIA (Street)

- Cannot have competed in any SPL competition in any sanctioned organization in prior years (must be first year competitor)
- Cannot have competed in any higher IdBL class.
- Cannot receive, or have received, any schooling or accredited education in the mobile electronics industry (e.g. car audio installation schools).
- Cannot derive, or have derived, any income or support from any facet of the mobile electronics industry or any of its affiliations, including but not limited to, sponsorship or the sales, installation, manufacturing, design, testing or engineering of any autosound products.
- Cannot derive, or have derived, any income or support from the publishers of any autosound magazine including but not limited to print and internet publications.
- Cannot derive, or have derived, any income or support from the participation in or arranging of autosound and/or similar style competitions, sanctioned or unsanctioned.
- Cannot be part of a manufacturer competition team.

VEHICLE CRITERIA (Street)

1. Vehicle must not have been used in any SPL competition in any sanctioned organization in prior years (must be first year vehicle).
2. Vehicle must not have competed in any higher IdBL class.
3. **Any modification** to a vehicle that is **not** covered in this section will be considered illegal for the division and the vehicle will be reclassified to a higher Class/Division.
4. Vehicle must be tagged (licensed) and insured for use on the road. If the vehicle is not tagged (licensed) or insured, the vehicle and competitor will be reclassified to a higher Class/Division.
5. ***OEM stock interior, except for speaker build outs, kick panels.*** All interior panels must be in place and properly mounted. ***Cosmetic*** modifications allowed (addition of full range speakers for sound quality purposes, painting of trim pieces, etc.).
6. No panels or sheet metal in the vehicle can be modified so as to increase the SPL level of the vehicle. All sheet metal, steel, plastic, wood and any other materials used by the manufacturer to build the vehicle must remain intact and unaltered, with the following exceptions; door panel build outs and kick pods built to house operational speakers the purpose of increasing sound quality only and/or panel modifications for cosmetic purposes will be allowed. Build outs designed for the purpose of increasing SPL will not be allowed.
7. OEM covering (carpeting) in the trunk or hatch or interior area (e.g. carpet, panels, etc.) must remain intact in the vehicle during testing. OEM factory carpeting or covering *may* be replaced with an aftermarket equivalent that approximates an OEM factory appearance.
8. All seats must remain in the vehicle while competing.
9. All equipment must be mounted in the OEM cargo area of the vehicle.
10. Panels or baffles designed to increase SPL, whether attached to the vehicle or enclosure, cannot be mounted in the vehicle interior.
11. All OEM panels and components, including dashboards, must remain OEM stock and in their factory mounted location. All accessories/gauges/switches in the dashboard must remain functional. The only additions allowed to an OEM dashboard are speakers for improving sound quality only.
12. Supports, poles or braces are not allowed within the vehicle interior.

EQUIPMENT CRITERIA (Street)

All equipment must be commercially available and can not be modified in any way.

Source Units

- The source unit must be mounted in the factory OEM radio location of the vehicle. Source units may be operated from outside the vehicle by remote control. Source Units cannot be removed from their mounted location.

Amplifiers

- Maximum one (1) amplifier ***per pair*** of subwoofers is allowed.
- Maximum allowed amplifier power output 1,000 watts RMS
- Power will be verified using a clamp meter, digital multimeter or the Term-Lab Magnum clamping system while vehicle is competing in the lane.
- One amplifier means that all amplifier components must be encased within one heatsink. "Strapping" multiple amplifiers together as "one" is not considered as one amplifier.

Subwoofers/Speakers

- Single, dual, and quad coil subwoofers are allowed
- All subwoofers and subwoofer enclosures must be mounted in the OEM cargo area of the vehicle. Speakers and/or subwoofers mounted in the interior of the vehicle, installed with the intent of increasing SPL levels below 100 Hz, will be deemed as part of the SPL system and the vehicle will be reclassified to a higher Class.

Batteries

- One battery must be mounted in the factory location and must fit within the parameters of the unmodified OEM battery tray. No additional batteries.
- Batteries must be a standard automotive 12 volt battery. Lithium based batteries are allowed.
- Batteries must be commercially available through standard retail channels (i.e. auto supply store)

Capacitors

- Up to 10 farads of capacitance is allowed. Competitors may use a single 10 farad capacitor or a multiple of capacitors totaling 10 farads.

Alternator

- One (1) alternator is allowed. Must be mounted in factory location.
- The vehicle's OEM factory style alternator can be upgraded from its original OEM factory output only. Larger alternators in physical size and/or shape are not allowed.
- Outboard adjustable voltage regulators on alternators are allowed, however the controls for the voltage regulator must be mounted in an accessible location while operating the system, for safety reasons.

Voltage

- Maximum voltage allowed is 15.5 volts (engine running).

Wiring/Fusing

- Unlimited runs of wire (+ or -) are allowed from the front battery of the vehicle to the rear.
- IASCA strongly recommends that all wiring be fused at the main power source. ***If the vehicle and system are not properly fused***, competitors ***must*** have an A-B-C rated fire extinguisher with the vehicle while competing in the lanes.

Sound deadening (or dampening) materials

- Sound deadening (or dampening) materials may be used **behind or inside** any factory OEM panels, so long as the factory panel remains intact, unaltered and in its original factory OEM location and does not impede the proper operation of any of the vehicle functions.
- **"Stiffening"** of panels is not allowed; competitors are not allowed to reinforce panels with anything other than traditional sound deadening materials available from retail car audio dealers (See "Stiffening" in Glossary of Terms).

GLOSSARY OF TERMS

The following are terms used by IASCA and its judges.
This section is to help those unfamiliar with the terms used to better understand them.

Automotive - The term "automotive" refers to any mass produced, commercially available component, designed for use in a motor vehicle designed and built to travel on roads.

Baffle/s - Panels built, or created specifically, to redirect air flow, or enhance the performance characteristics of a sound system, its components or installation.

Battery - A "battery" (or 'batteries') by definition consists of two or more cells connected in series or parallel, encased in a container, but the term is generally used for a *single cell*. A cell consists of a single ***negative electrode***, an ***electrolyte*** (which conducts ions), a ***separator*** (also an ion conductor) and a single ***positive electrode***. "Custom made" multi cell batteries ***not*** made by a manufacturer that are not commercially available do not fit the requirement and are not allowed in IASCA SPL competition. IASCA's definition of a battery follows this description, however for competition use, the 'battery' must be a standard, commercially available automotive type battery with one positive and one negative electrode, regardless of the number of cells.

Birth Sheet - A 'birth sheet' is a power specification sheet for one particular piece of equipment within a model line. It usually comes with amplifiers stating the exact output of that particular amplifier, not the whole model line. It is not to be confused with the "specification sheet" (or spec sheet) for all amplifiers with that model number (see 'specification sheet' on next page).

Blockers - People (Team Members) used to "block" a door opening in an effort to increase the SPL generated by the vehicle.

Cargo area - The common area in a vehicle used to store cargo. In a car, the cargo area would be referred to as the trunk, or boot. For clarification purposes; in the case of sedans and coupes, the OEM cargo area is considered the trunk of the vehicle. For SUV's and minivans, the cargo area is considered as the area directly behind the second row of seating in the vehicle. If the vehicle is equipped with a third row (or more) of seating, it will not affect the positioning of the enclosure so long as the enclosure remains behind the second row of seating. Third row (or more) seating only may be removed from the vehicle for competition, but the second row seating must remain intact and securely fastened in the vehicle (emulates a 4-5 passenger vehicle). There is an exception for pickup trucks, see General Rules for details.

Commercially Available - The term refers to how components used in competition must be available to the general public for sale at a retail level. Any component used in competition must be available to the general public through standard retail outlets or online retailers. If a component is only available to a select group of individuals, where access to the product is disallowed to the general public, it will not be deemed legal in IASCA competition.

Custom Made - Any item or component used in the construction of a competition vehicle using materials and the skill of the builder to create said item or component. Building custom made items or components is generally encouraged by IASCA to allow builders to showcase their skills, however certain components within the rule book that state they "must be commercially available" must be purchased through standard retail channels and cannot be custom made.

Driver's seat - In IASCA competition, the term refers to the main seat used to operate the vehicle in normal driving conditions. It is the seat immediately behind the vehicle's steering wheel with access to the gas and brake pedals.

Enclosure - More commonly referred to as a "sub box" or "box", the enclosure is the fabricated "box" that houses the subwoofers.

Factory or OEM - OEM is an abbreviation for "**O**riginal **E**quipment **M**anufacturer", referring to both the automotive and mobile electronics industries, for the purposes of these rules. When OEM is referred to through this text, it signifies the original equipment the vehicle or components came with from the factory when it was originally assembled.

Full Range Music - ***Full Range*** music is the representation of all musical frequencies in the sound spectrum. In regular terms, this means that the bass, mid bass, midrange and high frequency levels are being played at the same output level, evenly represented.

Mounted Properly and Securely - This refers to any vehicle or system components that have been added to the vehicle. “Properly” means the use of proper materials to mount a component (**example -** using a proper battery tie down to hold a battery in place, not bungee cords, rope, cable ties, etc.). “Securely” means that the component being mounted does not move loosely in its position (**example -** using screws in the proper mounting holes for an amplifier and screwing them into a solid piece of material in the vehicle, not Velcro across the bottom of the amp stuck to the floor carpet).

Pillars - The posts that hold up the roof of the vehicle. Pillars are referenced from front to rear alphabetically; the front pillars at the windshield are commonly referred to as the “A” pillars, the next set of pillars rearward are referred to as the “B” pillars and so on.

Road (or Roadway) - A **road** is a thoroughfare, route, or way on land between two places which has been paved or otherwise improved to allow travel by motor vehicle. Roads consist of one, or sometimes two, roadways each with one or more lanes and also any associated and road verges. Roads that are available for use by the public may be referred to as public roads or highways.

Specification Sheet (Spec Sheet) - A **specification sheet** is a document that summarizes the performance and other technical characteristics of a product, machine or component (e.g., an electronic component) in sufficient detail to be used by a design engineer to integrate the component into a system. Typically, a spec sheet is created by the component manufacturer and begins with an introductory page describing the rest of the document, followed by listings of specific characteristics, with further information on the connectivity and performance of the devices. The specification sheet is a generalized document stating the performance of that specific model within the brand’s product line, not the actual piece of equipment itself. Depending on the specific purpose, a spec sheet may offer an average value, a typical value, a typical range, engineering tolerances, or a nominal value. The type and source of data are usually stated on the spec sheet.

Super Capacitors - “Super Capacitors” are the latest technology on the market, where the product, when used in multiples, can act as a fast discharge battery. Typically, super capacitors have a voltage rating (usually 2.5, 2.6, 2.7 volts each), but they also have an extremely high farad rating. For rating purposes and the purposes of this rule book, these super capacitors will be rated by their farad rating, just like regular capacitors, and when connected together in multiples of 6 will be considered as a battery. If a competitor uses more than 6 of these super capacitors, they will be rated as multiple batteries (example: 6 super capacitors = 1 battery, 7 super capacitors = 2 batteries)

Stiffening - The practice of bracing the inside of a large sheet metal panel, such as a roof or door panel. Stiffening can be achieved by many means; examples of stiffening a panel include welding steel braces or adding thicker wood between the inner roof and headliner, caving in a roof panel and filling the depression with body filler, building a headliner out of thick wood and covering it with carpet or headliner material to emulate a headliner, etc.(Please note that not all examples of stiffening are legal in all classes please check with Iascs’s judging staff to make sure.)

Traditional Sound Deadening - This term refers to the standard flexible petroleum based material produced to reduce vibration and resonance in metal panels. Known by many names such as Boom Mat, StP, Dynamat, Road Kill, etc, these products are available in sheets that adhere to the metal panel or in a spray can to apply to the panel.

Vehicle - The word “vehicle” is used as a general term referring to all motor powered cars, trucks, vans, SUV’s, Crossovers and minivans. To qualify as a “vehicle” under IASCA’s definition, the unit used to house the sound system being evaluated must have a motor that powers it, a transmission, an electrical system, a front and rear axle (one of which must be the driving axle and the other a steering axle), a steering wheel and a seat from which to control the unit while it is in motion. A trailer with a “tow vehicle” attached does not meet the definition; it must be one unit containing at minimum all of the above criteria.

Wall - Wall is a term used in reference to the type of subwoofer enclosure used in a vehicle. IASCA’s definition of what constitutes a “wall” is any subwoofer enclosure that exceeds 25 inches in height, including all attached equipment, supports, panels and braces used to hold the enclosure in place.