



# Competition Rules

2025



### 1 - GOAL

The competitor's goal is to build and tune a sound system to reproduce the source material, so that it gives an accurate and realistic reproduction of the original music from a technical standpoint. To create the illusion of listening to the live performance being played.

### 1 - GOAL

This competition format was created to evaluate a system builder's skill and ability to install aftermarket equipment and build a system to operate at peak performance in the categories of Safety, Integrity, Integration and Craftsmanship. It also evaluates the builder's knowledge of the system and creativity used in system design.

### 2 - INTENT

The intent of IASCA's Sound Quality Challenge (SQC) format and its rules is to provide a fair, fun and unbiased sound judging format, evaluating automotive sound systems in seven critical areas of sound reproduction; *System Safety, Tonal Accuracy, Sound Stage, Imaging, Track List, Noise and System Control Operation*. The main premise of evaluation is to Judge the system as it would be used in a real world application (the user driving down the road listening to the music). Certain classes are designed for vehicles that are not intended for road use, but that is the main premise.

### 2 - INTENT

The intent of IASCA's Installation Quality Challenge (IQC) format and its rules is to provide a fair, fun and unbiased judging format, rewarding the system builder for the installation of aftermarket equipment.

To evaluate the automotive sound system, the installer, its installation and related components in six main criteria; Presentation, Safety, Integrity, Integration, Craftsmanship and Creative Elements.

### 3 - PURPOSE

The purpose of IASCA SQC is to determine which competing system in each class best reproduces a live performance in the intended conditions, using the official source material in an objective manner, without bias or consideration towards brand, vehicle or installation technique.

### 3 - PURPOSE

The purpose of IASCA IQC is to raise the standard of sound system installation, educating consumers and industry members alike to the benefit of a properly installed aftermarket sound system, without bias or consideration towards brand or vehicle, aiding in the promotion of system safety, performance, serviceability and cosmetics.

### 4 - CLASSES

Classes in IASCA SQC and IQC are based on vehicle modifications and competitor status within the industry. The reason for basing classes on industry status (dealers, distributors, manufacturers) is because industry members typically have a better understanding of sound quality, **along with easier access to advanced equipment or knowledge**, and would have an unfair advantage over those not affiliated with the industry.

### ELIGIBLE VEHICLES

Vehicles allowed to compete in IASCA SQC and IQC must be motorized vehicles such as cars, trucks, vans, SUVs, COVs, designed and built by the manufacturer for the purpose of being *driven* on the road by the general public, and must have two front seats (**with the exception of Outlaw**). Vehicles such as trailers, motorhomes, golf carts, motorcycles, etc. are not eligible to compete.

## 5 - CLASSES

Here are the available classes in competition along with a general description of classifications. The classes are broken down in more detail on the following pages:

<b>SQC Class</b>	<b>IQC Class</b>
<b>NOVICE</b> - Minor modifications to vehicle interior allowed, no connection to industry. One (1) seat judging. IQC not required.	<b>AMATEUR</b>
<b>AMATEUR</b> - Higher level of modifications to vehicle interior allowed, no connection to industry. One (1) seat judging. IQC not required.	
<b>ADVANCED AMATEUR</b> - Higher level of modifications to vehicle allowed (over Amateur). Advanced Amateur is limited to those with no connection to industry. One (1) seat judging. IQC not required.	<b>ADVANCED AMATEUR</b>
<b>PRO 1</b> - Higher level of modifications to vehicle allowed (over Amateur). Pro 1 is open to all industry and non-industry related competitors. One (1) seat judging. IQC not required.	<b>PRO 2</b>
<b>PRO 2</b> - Higher level of modifications to vehicle allowed (over Pro 1). Open to all industry and non-industry related competitors whose vehicles meet the requirements for the class. One (1) seat judging. IQC not required.	
<b>PRO 3</b> - Higher level of modifications to vehicle allowed (over Pro 2). Open to all industry and non-industry related competitors whose vehicles meet the requirements for the class. One (1) seat and two (2) seat judging, and IQC is required with the IQC score combined with the SQC score for one total score.	
<b>EXPERT</b> - Open to all industry and non-industry related competitors whose vehicles meet the requirements for the class. One (1) seat and two (2) seat judging, IQC and SPL is required and the IQC and SPL score will be combined with the SQC score for one total score.	

These classes are only available on a limited bases at World Finals. The classes are broken down in detail on the following pages:

## **SPECIALIZED CLASSES ONLY OFFERED AT WORLD FINALS**

**CHAMPIONS** - For those who have won IASCA World Championships (or INAC) in any SQC class with a current paid membership. This class will only be offered at World Finals and can be added to World Finals registration of any class above, or qualified competitors can register for only this class. Qualification for this class must be requested by sending an email to [info@iasca.com](mailto:info@iasca.com) with proof of past championship winning. Only two (2) seat judging, and IQC and SPL is required. The IQC and SPL score will be combined with the SQC score for one total score.

**OUTLAW** - Open to any level SQC Class and all current members (paid membership), almost any level of modification to vehicle allowed. This class will only be offered at World Finals with only one award (winner takes all). No points requirement, but qualification for this class must be requested by sending an email to [info@iasca.com](mailto:info@iasca.com) before membership deadline. One (1) seat judging, evaluated by two Judges evaluating one at a time independently, from the same seat. IQC is required and the IQC score will be combined with the SQC score for one total score.

# 5 - CLASSES

## 5.1- NOVICE CLASS

### 5.1.1 - Intent

The intent of the Novice Class is to provide a class for newcomers to compete in a fair, fun and unbiased format against other competitors of the same experience level. Minimal modifications to vehicle are allowed (see Vehicle/System Requirements). Systems are evaluated by one Judge from the vehicle's driver's seat. IQC is not required, but optional.

### 5.1.2 - Competitor Requirements for Novice Class

- Non-Industry Members only; competitors cannot be employed in the mobile electronics industry.

### 5.1.3 - Vehicle/System Requirements for Novice Class

- The vehicle interior must maintain an OEM appearance and retain all standard seating positions.
- Custom made panels, consoles or baffles designed specifically for the purpose of improving the system's sound quality are not allowed within the boundaries of the vehicle's interior. Panels and interior vehicle components not listed here (such as the dashboard, seats, seat rails, headliner, floor carpet) cannot be modified in any way.
- Temporary or permanent non OEM coverings added to the vehicle interior for the specific purpose of increasing sound quality are not allowed (example - dash pads, towels, blankets, window shades, etc.).
- Aftermarket equipment replacing the factory equipment located in the vehicle (head unit, speakers) must be mounted in the vehicle's OEM factory locations. **Exception - Tweeters *only*** (if used) can be mounted in a non OEM location within the vehicle (Example - Vehicle A pillar or door panel). For purposes of cosmetics, competitors may modify tweeter location using standard materials such as body filler, fiberglass and covering materials to make the area cosmetically appealing. Tweeter cone area cannot exceed a maximum diameter of 1.0 inch.
- System subwoofers (if used) must be located in the OEM cargo area (or stowage area) .
- Other aftermarket audio equipment (such as amplifiers, capacitors, processors, etc.) may be mounted in any area within the vehicle's interior, as long as they are not visible and do not compromise the safety of the vehicle, the Judge or impede the proper operation of any of the vehicle's functional or safety features.
- All OEM vehicle functions (such as windows, door locks, sunroof, door handles, etc.) must maintain their functionality. **Example:** windows designed to roll up and down must be able to completely perform that function without interference from any installed aftermarket component.
- Aftermarket items such as cell phone holders, iPod docks and their attachment cables are allowed within the boundaries of the vehicle interior.
- Sound enhancing materials used in the vehicle (such as sound dampening) must not be visible or impede the proper fit of any vehicle panel.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.). Permanently affixed window coverings, such as window tint, are allowed).
- **Commercially available dash pads may be used in Novice Class. Pads or coverings not intended specifically for automotive applications (example - towels, blankets, etc.) are not allowed.**
- All OEM vehicle safety and convenience features which include, but are not limited to, spare tires, airbags, emergency brake, seat belts, seat adjusting mechanisms, etc. must be intact, unmodified and fully operational.
- There are no limitations to the type and amount of audio equipment used in Novice Class.

### 5.1.4 - Vehicle Judging/Evaluation

- Vehicle sound system is evaluated from the driver's seat position by one (1) Judge.
- Novice must move up to Amateur after 1 full season of competition starting with the first time competing in SQC at an IASCA sanctioned event.



## **5.2 - AMATEUR CLASS**

### **5.2.1 - Intent**

The intent of the Amateur Class is to provide a progression from the Novice Class for competitors as they gain experience in competition, to compete against others with the same experience level and like systems, with a higher level modifications to their vehicles and systems than the Novice Class allows. Systems are evaluated in the one seat judging style (from the driver's seat). IQC is not required, but optional.

### **5.2.2 - Competitor Requirements for Amateur Class**

- Non-Industry Members only; competitors cannot be employed in the mobile electronics industry.

### **5.2.3 - Vehicle/System Requirements for Amateur Class**

- Modifications to certain interior cosmetic panels and components are allowed, for the purpose of housing sound system equipment. Panels that are allowed to be modified are; kick panels, roof pillar trim pieces (A/B/C pillars), dashboards, inside door panels, rear parcel shelf, console. Additionally, no more than 25% of the dashboard may be modified regardless to how much equipment is added - this is determined by measuring the widest part of the dashboard and there must be 75% of that width measurement as unmodified from front to back of the dash.
- Modification of non-cosmetic vehicle panels in this class – Non-cosmetic internal panels in, and areas of the vehicle, including internal panels such as inner door sheet metal, rear parcel shelf, firewall, floor pan (under vehicle), trunk floor and wheel wells, and areas such as the engine compartment and trunk/hatch areas, can be cut or modified to house equipment for the purpose of sound quality. This also includes any panels manufactured in these areas to house equipment.

Any cutting or modification of, or to, these panels must not allow for the panel itself, or any equipment installed in them, from protruding to extend past the vehicle's external body lines. Modifications cannot interfere with the proper operation of the vehicle.

External body/sheet metal panels, including but not limited to external door skins, hood, trunk lid, roofs (including A/B/C/D pillars), quarter panels, fenders and the vehicle's OEM glass cannot be modified in any way. **Exception:** window tint is allowed on OEM glass.

- Panels and interior vehicle components not listed above (including, but not limited to, seats, seat rails, headliner, floor carpet) must remain intact and unmodified. If you're unsure about a modification, contact the IASCA Office.
- Speakers (not including subwoofers) can be mounted in vehicle A pillars and/or dashboard if not equipped as such from OEM. For purposes of cosmetics, competitors may modify the mounting location using standard materials such as body filler, fiberglass and covering materials to make the area cosmetically appealing and maintain an OEM Appearance (see Glossary of Terms).
- Speakers being mounted in vehicle A pillars or dashboard surfaces are limited to 5 1/4" (133.5 mm) maximum speaker size, or equivalent cone area (21.65 sq. in.)
- No speaker larger than a 10" diameter (inclusive) speaker or 78.5 sq in maximum cone area (refer to SPL rules for definition) may be mounted forward of the front edge of the front seat(s) at the furthest rearward seat position with the exception of the doors.
- Aftermarket audio components can be mounted in any of the "approved for modification" panels listed above, or within the vehicle's interior, as long as they do not compromise the safety of the vehicle, the Judge or impede the proper operation of any of the vehicle's safety features.
- Any other additional aftermarket equipment used in the vehicle's sound system may be mounted anywhere in the vehicle, so long as the vehicle interior maintains an OEM factory appearance.
- All OEM vehicle functions (such as windows, door locks, sunroof, door handles, etc.) must maintain their functionality. **Example:** windows designed to roll up and down must be able to completely perform that function without interference from any installed aftermarket component.

- Sound enhancing materials used in the vehicle (such as sound dampening) must not be visible or impede the proper fit of any vehicle panel.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.). Permanently affixed window coverings, such as window tint, are allowed).
- Commercially available dash pads may be used in Amateur Class. Pads or coverings not intended specifically for automotive applications (example - towels, blankets, etc.) are not allowed.
- All OEM vehicle safety features in the interior of the vehicle which include, but are not limited to, airbags, emergency brake, seat belts, seat adjusting mechanisms, etc. must be intact, unmodified and fully operational.
- Convenience items such as the spare tire and jack may be removed.
- There are no limitations to the type and amount of audio equipment used in Amateur Class.

#### **5.2.4 - Vehicle Judging/Evaluation**

- Vehicle sound system is evaluated from the driver's seat position by one (1) Judge.
- Amateur must move up to Advanced Amateur after 2 full seasons of competing as Amateur starting with the first time competing in Amateur in SQC at an IASCA sanctioned event.
- Competitors who win the Amateur World Finals Championship must move up to Advanced Amateur effective on the next calendar day.



### **5.3 - ADVANCED AMATEUR CLASS**

#### **5.3.1 - Intent**

The intent of the Advanced Amateur Class is to provide a progression from the Amateur Class for more experienced competitors, with a higher level of modifications to the vehicle and audio system. Systems are evaluated in the one seat judging style (from the driver's seat). IQC is not required, but optional.

#### **5.3.2 - Competitor Requirements for Advanced Amateur Class**

- Non-Industry Members only; competitors cannot be employed in the mobile electronics industry.
- Competitors cannot have previously won a championship in Advanced Amateur or any class higher than Advanced Amateur.

#### **5.3.3 - Vehicle/System Requirements for Advanced Amateur Class**

- Modifications to any or all interior cosmetic panels or components are allowed, however the vehicle must retain all standard seating positions. Additionally, no more than 25% of the dashboard may be modified regardless to how much equipment is added - this is determined by measuring the widest part of the dashboard and there must be 75% of that width measurement as unmodified from front to back of the dash.
- Modification of non-cosmetic vehicle panels in this class – Non-cosmetic internal panels in, and areas of the vehicle, including internal panels such as inner door sheet metal, rear parcel shelf, firewall, floor pan (under vehicle), trunk floor and wheel wells, and areas such as the engine compartment and trunk/hatch areas, can be cut or modified to house equipment for the purpose of sound quality. This also includes any panels manufactured in these areas to house equipment.

Any cutting or modification of, or to, these panels must not allow for the panel itself, or any equipment installed in them, from protruding to extend past the vehicle's external body lines. Modifications cannot interfere with the proper operation of the vehicle.

External body/sheet metal panels, including but not limited to external door skins, hood, trunk lid, roofs (including A/B/C/D pillars), quarter panels, fenders and the vehicle's OEM glass cannot be modified in any way. **Exception:** window tint is allowed on OEM glass.

- Speakers being mounted in vehicle A pillars or dashboard surfaces are limited to 5 1/4" (133.5 mm) maximum speaker size, or equivalent cone area (21.65 sq. in.). There is no limit to the amount of speakers mounted in the A pillars or dashboards as long as they are no larger than 5 1/4" and no more than 25% of the dashboard is modified.
- No speaker larger than a 10" diameter (inclusive) speaker or 78.5 sq in maximum cone area (refer to SPL rules for definition) may be mounted forward of the front edge of the front seat(s) at the furthest rearward seat position with the exception of the doors.
- All OEM vehicle functions (such as windows, door locks, sunroof, door handles, etc.) must maintain their functionality.
- Aftermarket items such as cell phone holders, iPod docks and their attachment cables are allowed within the boundaries of the vehicle interior.
- All OEM vehicle safety features in the interior of the vehicle which include, but are not limited to, airbags, emergency brake, seat belts, etc. must be intact, unmodified and fully operational, forward of the vehicle's B pillar. **Exception:** seat adjusting mechanisms (seat rails) modified for extended travel of the front seats to improve sound quality are allowed. Seat rail positions must be in OEM location, but seat rail extensions can be added so that the seat may only slide forward and back.
- Convenience items such as the spare tire and jack may be removed.
- Aftermarket audio components can be mounted in any of the interior panels and components, as long as they do not compromise the safety of the Judge or impede the proper operation of any of the vehicle's safety features.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.) forward of the B pillar. Permanently affixed window coverings, such as window tint, are allowed forward of the B pillar.
- There are no limitations to the type and amount of audio equipment used in Advanced Amateur Class.



### **5.3.4 - Vehicle Judging/Evaluation**

- Vehicle sound system is evaluated from the driver's seat position by one (1) Judge.
- Competitors who win the Advanced Amateur World Finals Championship must move up to Pro 1 effective on the next calendar day.



## **5.4 - PRO 1 CLASS**

### **5.4.1 - Intent**

The intent of the Pro 1 Class is to provide a class for industry members who are not experienced competitors. Systems are evaluated in the one seat judging style (from the driver's seat). IQC is not required, but optional.

### **5.4.2 - Competitor Requirements for Pro 1 Class**

- Competitors cannot have any ownership of an equipment manufacturer in the mobile electronics industry.
- Competitors cannot have previously won a championship in Pro/Am or Pro 1, or any class higher than Pro/Am or Pro 1.

### **5.4.3 - Vehicle/System Requirements for Pro 1 Class**

- The vehicle must retain all standard seating positions, including 2nd row seats, if applicable, but not including any 3rd row seats. Seat adjusting mechanisms (seat rails) modified for extended travel of the front seats to improve sound quality are allowed. Seat rail positions must be in OEM location, but seat rail extensions can be added so that the seat may only slide forward and back.
- Modifications to any or all interior cosmetic panels or components are allowed. Additionally, no more than 25% of the dashboard may be modified regardless to how much equipment is added - this is determined by measuring the widest part of the dashboard and there must be 75% of that width measurement as unmodified from front to back of the dash.
- Modification of non-cosmetic vehicle panels in this class – Internal panels in and areas of the vehicle, including internal panels such as inside door panels, rear parcel shelf, firewall, floor pan (under vehicle), trunk floor and wheel wells, and areas such as the engine compartment and trunk/hatch areas, can be cut or modified to house equipment for the purpose of sound quality. This also includes any panels manufactured in these areas to house equipment.

Any cutting or modification of, or to, these panels must not allow for the panel itself, or any equipment installed in them, from protruding to extend past the vehicle's external body lines. **Exception:** In these classes, panels and equipment may protrude past the lower external body lines of the vehicle only. This includes all lower external body lines through the length of the vehicle, from front to rear, including floor pans, trunk floors, rocker panels and wheel wells.

All other external body/sheet metal panels, including but not limited to external door skins, hood, trunk lid, roofs (including A/B/C/D pillars), quarter panels, fenders and the vehicle's OEM glass cannot be modified in any way. **Exception:** window tint is allowed on OEM glass.

- Speakers being mounted in vehicle A pillars or dashboard surfaces are limited to 5 1/4" (133.5 mm) maximum speaker size, or equivalent cone area (21.65 sq. in.). There is no limit to the amount of speakers mounted in the A pillars or dashboards as long as they are no larger than 5 1/4" and no more than 25% of the dashboard is modified.
- No speaker larger than a 10" diameter (inclusive) speaker or 78.5 sq in maximum cone area (refer to SPL rules for definition) may be mounted forward of the front edge of the front seat(s) at the furthest rearward seat position with the exception of the doors.
- All OEM vehicle functions (such as windows, door locks, sunroof, door handles, etc.) must maintain their functionality.
- Aftermarket items such as cell phone holders, iPod docks and their attachment cables are allowed within the boundaries of the vehicle interior.
- All OEM vehicle safety features in the interior of the vehicle which include, but are not limited to, airbags, emergency brake, seat belts, etc. must be intact, unmodified and fully operational, forward of the vehicle's B pillar.
- Convenience items such as the spare tire and jack may be removed.
- Aftermarket audio components can be mounted in any of the interior panels and components, as long as they do not compromise the safety of the Judge or impede the proper operation of any of the vehicle's safety features.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.) forward of the B pillar. Permanently affixed window coverings, such as window tint, are allowed forward of the B pillar.
- There are no limitations to the type and amount of audio equipment used in Pro 1 Class.

### **5.4.4 - Vehicle Judging/Evaluation**

- Vehicle sound system is evaluated from the driver's seat position by one (1) Judge.
- Competitors who win the Pro 1 World Finals Championship must move up to the Pro 2 Class effective on the next calendar day.

## **5.5 - PRO 2 CLASS**

### **5.5.1 - Intent**

- The intent of the Pro 2 Class is to provide a progression from the Pro 1 Class for more experienced competitors and Industry Members, with a higher level of modifications to the vehicle. Systems are evaluated as one (1) seat. IQC is not required, but optional.

### **5.5.2 - Competitor Requirements for Pro 2 Class**

- Open to all competitors

### **5.5.3 - Vehicle/System Requirements for Pro 2 Class**

- The vehicle must retain all front row seating positions. Seat adjusting mechanisms (seat rails) modified for extended travel of the front seats to improve sound quality are allowed. Seat rail positions must be in OEM location, but seat rail extensions can be added so that the seat may only slide forward and back.
- Modifications to any or all interior cosmetic panels or components are allowed. Additionally, no more than 50% of the dashboard may be modified regardless to how much equipment is added - this is determined by measuring the widest part of the dashboard and there must be 50% of that width measurement as unmodified from front to back of the dash.
- Modification of non-cosmetic vehicle panels in this class – Internal panels in and areas of the vehicle, including internal panels such as inside door panels, rear parcel shelf, firewall, floor pan (under vehicle), trunk floor and wheel wells, and areas such as the engine compartment and trunk/hatch areas, can be cut or modified to house equipment for the purpose of sound quality. This also includes any panels manufactured in these areas to house equipment.

Any cutting or modification of, or to, these panels must not allow for the panel itself, or any equipment installed in them, from protruding to extend past the vehicle's external body lines. **Exception:** In these classes, panels and equipment may protrude past the lower external body lines of the vehicle only. This includes all lower external body lines through the length of the vehicle, from front to rear, including floor pans, trunk floors, rocker panels and wheel wells.

All other external body/sheet metal panels, including but not limited to external door skins, hood, trunk lid, roofs (including A/B/C/D pillars), quarter panels, fenders and the vehicle's OEM glass cannot be modified in any way. **Exception:** window tint is allowed on OEM glass.

- Speakers being mounted in vehicle A pillars or dashboard surfaces are limited to 5 1/4" (133.5 mm) maximum speaker size, or equivalent cone area (21.65 sq. in.). There is no limit to the amount of speakers mounted in the A pillars or dashboards as long as they are no larger than 5 1/4" and no more than 50% of the dashboard is modified.
- All OEM vehicle functions (such as windows, door locks, sunroof, door handles, etc.) must maintain their functionality.
- Aftermarket items such as cell phone holders, iPod docks and their attachment cables are allowed within the boundaries of the vehicle interior.
- OEM vehicle safety features may be removed or disabled, as long as they do not compromise the safety of the Judge or their ability to evaluate the vehicle's sound system.
- Convenience items such as the spare tire and jack may be removed.
- Aftermarket audio components can be mounted in any of the interior panels and components, as long as they do not compromise the safety of the Judge or impede the proper operation of any of the vehicle's safety features.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.) forward of the B pillar. Permanently affixed window coverings, such as window tint, are allowed forward of the B pillar.
- There are no limitations to the type and amount of audio equipment used in Pro 2 Class

### **5.5.4 - Vehicle Judging/Evaluation**

- Vehicle sound system is evaluated from the driver's seat position by one (1) Judge.



## **5.6 - PRO 3 CLASS**

### **5.6.1 - Intent**

- The intent of the Pro 3 is to offer a competition class for those who desire to compete with no limitations on installations yet retain vehicle roadworthiness and installation scoring. This is a logical progression from the Pro 2 class. These include vehicles that have extensive modifications within the OEM interior space of the vehicle while maintaining the OEM drivability. Systems are evaluated as one (1) seat by one judge and two (2) seat judges, each in the front driver and passenger seats. Install is also required.

### **5.6.2 - Competitor Requirements for Pro 3 Class**

- Open to all competitors.

### **5.6.3 - Vehicle/System Requirements for Pro 3 Class**

- Any modifications made must not compromise the safety of the Judge or their ability to evaluate the vehicle's sound system.
- Modification of vehicle panels in this class – Internal panels in and areas of the vehicle, including internal panels such as inside door panels, rear parcel shelf, firewall, floor pan (under vehicle), trunk floor and wheel wells, and areas such as the engine compartment and trunk/hatch areas, can be cut or modified to house equipment for the purpose of sound quality. This also includes any panels manufactured in these areas to house equipment.

Any cutting or modification of, or to, these panels must not allow for the panel itself, or any equipment installed in them, from protruding to extend past the vehicle's external body lines. **Exception:** In these classes, panels and equipment may protrude past the lower external body lines of the vehicle only. This includes all lower external body lines through the length of the vehicle, from front to rear, including floor pans, trunk floors, rocker panels and wheel wells.

All other external body/sheet metal panels, including but not limited to external door skins, hood, trunk lid, roofs (including A/B/C/D pillars), quarter panels, fenders and the vehicle's OEM glass cannot be modified in any way. **Exception:** window tint is allowed on OEM glass.

- Basic OEM vehicle functions (such as the opening and closing of windows and doors, hood opening, etc.) must maintain their functionality. Custom control or operation are allowable as long as it does not impede functionality. Improved functionality is also allowed.
- Exterior modifications intended to improve or modify the performance of the sound system are not allowed.
- Seat rail positions may be relocated, and seat rail extensions can be added but the seat may only slide forward and back.
- The vehicle must be equipped with two seats, positioned side by side for a driver and a passenger to occupy the vehicle at the same time.
- OEM vehicle safety features may be removed or disabled, as long as they do not compromise the safety of the judge or their ability to evaluate the vehicle's sound system.
- Aftermarket audio components can be mounted anywhere within the oem boundaries of the vehicle.
- There are no limitations to the type and amount of audio equipment used in Pro 3 Class, so long as they meet all other Vehicle/System Requirements for the Class.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.) forward of the B pillar. Permanently affixed window coverings, such as window tint, are allowed forward of the B pillar.
- If a you are unsure whether your vehicle qualifies, contact the IASCA Head Office.

### **5.6.4 - Vehicle Judging/Evaluation**

- Vehicle sound system is evaluated from the driver's seat position by the one judge, and then also separately with two different judges, one from the driver's seat and one from the passenger seat. All 3 scores will be averaged for one SQC score. The averaged SQC along with the IQC score will be summed for a grand total score.

## 5.7 - EXPERT CLASS

### 5.7.1 - Intent

- The intent of the Expert Class is to offer a competition class for the most highly experienced competitors with vehicles that have extensive modifications within the OEM interior space of the vehicle while maintaining the OEM drivability. **Systems are evaluated as one (1) seat by one judge and two (2) seat judges, each in the front driver and passenger seats. Install and SPL are also required.**

### 5.7.2 - Competitor Requirements for Expert Class

- Open to all competitors.

### 5.7.3 - Vehicle/System Requirements for Expert Class

- Same as the Pro 3 Class

### 5.7.4 - Vehicle Judging/Evaluation

- Vehicle sound system is evaluated from the driver's seat position by the one judge, and then also separately with two different judges, one from the driver's seat and one from the passenger seat. All 3 scores will be averaged for one SQC score. The averaged SQC along with the IQC and SPL scores will be summed for a grand total score.



## **5.8 - CHAMPIONS CLASS**

### **5.8.1 - Intent**

- The intent of the Champions Class is to offer a competition class for the past IASCA champions (**competitor or vehicle**) to compete against each other **without the requirement of collecting points**. This is considered an exhibition class **and will only be offered at World Finals**. Systems are evaluated as two (2) seat judges with each one in the front driver and passenger seats. Install and SPL are also required.

### **5.8.2 - Competitor Requirements for Champions Class**

- By invitation only to those competitors who have won an IASCA World Championships (or INAC) in any SQC class (or any Sound Quality class pre-SQC). Qualification for this class must be requested by sending an email to [info@iasca.com](mailto:info@iasca.com) with proof of past championship winning.

### **5.8.3 - Vehicle/System Requirements for Champions Class**

- Same as the Pro 3 and Expert Class
- System or vehicle may be changed from previous championship winning system. But if a championship vehicle was only equipped with one seat by removal of the second front seat, the second front seat will need to be re-installed and follow the criteria for the front seats and seat rails as stated in Pro 3.

### **5.8.4 - Vehicle Judging/Evaluation**

- **Vehicle sound system is evaluated with two different judges, one from the driver's seat and one from the passenger seat. Both scores will be averaged for one SQC score. The averaged SQC along with the IQC and SPL scores will be summed for a grand total score.**
- Although CAP points are not required to receive a invitation to the season end Finals, membership is required with full disclosure to the IASCA head office of intent to compete at Finals.





## **5.9 - OUTLAW CLASS**

### **5.9.1 - Intent**

- The intent of the Outlaw Class is to offer a competition/exhibition class for **any level** experienced competitors with vehicles that have extensive modifications beyond the criteria for the Novice/Amateur/Pro/Expert. Vehicles in this class may not be street legal but must still pass the Operability test (5.9.5) upon roll-in. This class will only be offered at World Finals with only one award (winner takes all).

### **5.9.2 - Competitor Requirements for Outlaw Class**

- Open to all competitors. No points requirement, but qualification for this class must be requested by sending an email to [info@iasca.com](mailto:info@iasca.com) before membership deadline.

### **5.9.3 - Vehicle/System Requirements for Outlaw Class**

- Any modifications made must not compromise the safety of the Judge or their ability to evaluate the vehicle's sound system.
- Seating positions may be modified to optimize the listening area for the listener.
- OEM vehicle functions (such as windows, door locks, sunroofs, door handles, etc.) may be modified but must remain functional.
- OEM vehicle safety features may be removed or disabled.
- Aftermarket audio components can be mounted anywhere in the vehicle.
- There are no limitations to the type and amount of audio equipment used in Extreme Open Class, so long as they meet all other Vehicle/System Requirements for the Class.
- Competitors are not allowed to cover any window areas with temporary coverings (including, but not limited to, shades, blankets, drop cloths, etc.) forward of the B pillar. Permanently affixed window coverings, such as window tint, are allowed forward of the B pillar.
- Vehicle must be operable and complete. All entries must be able to start under their own power, meaning that an operable battery must be permanently positioned in the vehicle, the vehicle propelling motor must either be (a) fueled by its own fixed fuel tank and transmission or (b) electric motors powered by batteries mounted in the vehicle and shifted from the driver's position. The vehicle will be required to travel 20 feet of continuous motion forward, steering to the left and right, brake to a stop, shift into reverse, travel 20 feet of continuous motion backward steering to the left and right, and brake to a stop (emergency brake not allowed to stop vehicle). The vehicle owner may be assisted by two crewmembers limited to starting the vehicle only. No more than two ounces of fuel will be allowed to prime start a vehicle. An electrical battery jump, battery to battery, will be allowed for starting purposes only. Once a judge has indicated its time to start, a time limit of ten (10) minutes will be allowed to complete the operability inspection. All vehicles are subject to inspection by judging staff. An inoperable vehicle will be for exhibition only.
- If a you are unsure whether your vehicle qualifies, contact the IASCA Head Office.

### **5.9.4 - Vehicle Judging/Evaluation**

- Vehicle sound system is evaluated from the driver's seat position by maximum of three (3) judges, one at a time, independently. Scoring is based on the average score from the score sheets.
- IQC is required and the IQC score will be combined with the SQC score for one total score.
- This class is a Winner-Take-All class. There is no placement or award beyond 1st place.
- Although CAP points are not required to receive a invitation to the season end Finals, membership is required with full disclosure to the IASCA head office of intent to compete at Finals.

## 6 - SQC JUDGING CRITERIA

SQC judging is performed in two methods, one (1) seat (single seat) and two (2) seat. There are variations of each method, dependent on the class being Judged. The following outlines the general criteria used by Judges when evaluating a vehicle's sound system:

- Judges will evaluate the sound system by the order of the criteria as they appear on the score sheet; *1st-System Safety, 2nd-Track List, 3rd-Tonal Accuracy & Spectral Balance, 4th-Sound Stage, 5th-Imaging, 6th-Noise, 7th-System Control Operation.*
- Sound judging for Tonal Accuracy, Sound Stage and Imaging will be performed at a system volume level approximately 90 dB. The volume level for judging will be set by the judge. All vehicles in a class will be evaluated at approximately the same level.
- All sound judging will be performed from the forward most front seats in the vehicle. One seat judging evaluations will be performed from the driver's side seat only. Two seat judging evaluations will be performed from both front seats with two Judges (one in each front seat, driver's and passenger's) simultaneously.
- Sound judging criteria is the same for all classes. Judging will be performed using the Official IASCA Track List.
- Competitors are responsible for acquiring the tracks and having them accessible and ready to play.
- Judges will utilize the stage maps (as found in these rules) and track maps to determine some of the sound judging criteria, as required.
- Competitors are not allowed to view their score sheet (or any score sheet) until after competition is over and awards have been presented. Any competitor attempting to view their score sheet will receive a 10 point deduction from the total score.
- The sound system must operate under the vehicle's own power supply. Exception: When the event venue require vehicles to be judged with engines off, vehicle batteries may be charged by an external power supply/charging system during judging, and may require proff that the system is powered by the vehicle's own power. If so, and the vehicle is connected to an external power supply/charging system when the judging process begins, it must remain connected to and/or powered throughout the judging process. If the vehicle is not connected to an external power supply/charging system when the judging process begins, it cannot be connected during the judging process.
- Steering wheels with aftermarket quick release mechanisms may be removed by the competitor before the judging process begins. It may not be removed once judging for that vehicle has begun.



## **7 - SQC JUDGING PROCEDURE**

### **7.1 - PRIOR TO EVALUATION**

1. The Judge will introduce themselves to the competitor prior to beginning the evaluation and ask the competitor if they are ready to be evaluated.
2. If a Judge has to return to a vehicle more than twice for any reason to ask the competitor if they are ready, the Judge has the authority to penalize the competitor by deducting up to 10 points from the overall score for tardiness or delay of judging.
3. The Judge will ask the competitor to instruct them on which source unit is to be used and the proper use of the volume and track selection of that source unit, and point out the system display. *For vehicles with multiple source units and volume controls, the competitor must specify which one (1) source unit and volume control should be used throughout the contest. This is to be indicated to the Sound Judge at the beginning of the judging process. The Judge will mark which unit was used on the score sheet.*
4. The Judge will then ask the competitor if they have made all the adjustments they wanted to the system and the vehicle, to ensure that the competitor's system and vehicle are ready for evaluation.
5. The Judge is not allowed to evaluate the system and vehicle until the competitor gives approval that the vehicle is ready to be Judged.
6. Once approval is given, the Judge will sit in the vehicle and check the seat position for comfort level during evaluation. The Judge is not allowed to change the position of the seat to evaluate the sound system without first conferring with the competitor. If the seating position is deemed unreasonable, the Judge and competitor will work together to find an acceptable seating position that satisfies both. Any seats that are reclined to more than a 45 degree angle may be considered unreasonable.
7. At this time, the vehicle and system will be evaluated as presented; no other adjustments are allowed, other than the volume and track adjustments necessary to perform the evaluation. Once judging has begun on the vehicle, the vehicle may not be re-judged.

### **7.2 - THE EVALUATION**

1. During evaluation, the Judge will only adjust the volume (up/down) and track selection (up/down) as needed.
2. The vehicles and systems for all competitors will be evaluated with the engine off, unless extenuating circumstances require that the engine be running. If running the engine is required, the Head Judge will notify all competitors prior to the start of judging.
3. The Judge will set the listening volume so that the overall system is at a moderate listening volume (approximately 90 dB).
4. The Judge will then continue to evaluate the vehicle in the order of the score sheet, starting with Tonal Accuracy and Spectral Balance, then Sound Stage, Imaging, Linearity, Noise and System Control Operation.
5. Once the Judge has completed the evaluation, they will remove the CD (or source material), all evaluation tools and exit the vehicle.
6. If the judge experiences any of the following (and only what is listed), the Judge will exit the vehicle and notify the competitor, at which time they have 5 minutes to correct the issue. If the issue cannot be corrected in five (5) minutes, the vehicle and system will be evaluated "as is". Vehicles will not be re-judged for system failures and if the failures listed below occur during the judging process, the judge will stop scoring, but after corrections are made, judging will continue from the point at where the judged stopped and experienced the failure.
  - Left and Right failure (this may occur during the judging process)
  - System unexpectedly shuts off

### **7.3 - AFTER THE EVALUATION IS COMPLETED**

1. The Judge will take a moment with the competitor to summarize their evaluation. As their time is limited, they are limited to a brief overview of two minutes or less.
2. The Judge isn't allowed to speak about scores or any specifics; they can only cite general areas of interest or concerns within the system and vehicle. No specific questions may be asked by the competitor.
3. The Judge will instruct the competitor that they will be available after the awards ceremony to review their evaluation in greater detail.
4. The Judge will then thank the competitor for the opportunity to evaluate their system and vehicle and excuse themselves to proceed to the next evaluation.



## 8 - SQC JUDGING GUIDELINES

*This section describes the details of what an IASCA Judge will be evaluating in SQC competition. Each subsection will not only describe what is being evaluated, but what the Judge is looking for when evaluating and what the competitor should strive to achieve.*

### **8.1 - SYSTEM SAFETY**

**2 points max.**

The general safety of the vehicle, for the protection of the competitor and the judge at an IASCA event, is of first and foremost importance. This section evaluates the safety aspect of the vehicle and system against potential damage and the protection of the individual in the seated evaluation position, in regards to any potential damage to the system or injury to the individual seated in the vehicle.

This section of judging is "Pass/Fail" scoring. It will be used as an instructional tool at local level events (1X, 2X) to promote system safety and will be scored as such; at large scale events (3X, INAC), if a system is found to be unsafe for the judge or competitor, it will be required to be repaired before the system is evaluated. If repairs are not implemented, the vehicle will not be judged.

#### **FUSING - 0 or 1 point**

The Judge will ask the competitor to point out the main power source (battery) of the system and any secondary power sources (if applicable). The Judge will then visually inspect the system/vehicle's power sources to ensure they are properly fused within 18 inches of the power source. If the power sources are fused, 1 point will be awarded.

#### **EQUIPMENT SECURED - 0 or 1 point**

All items within the judge's seated and foot well area, including but not limited to, equipment, cables, connectors, knobs, remotes, etc., must be properly secured to avoid any potential damage to said items, and to protect the safety of the competitor and/or the Judge.

**Procedure:** Judges will determine if the equipment is properly secured by visually inspecting around and under the seating and foot well area for any items that may be connected to the sound system, and their connecting cables.

**If** items are found, the Judge will then physically inspect to see if the items are securely mounted and cables are protected, by attempting to move the item to confirm it is secured. If there is any question as to their mounting, the Judge will ask the competitor to prove that the items are properly secured and that cables are protected, by physically attempting to move the items/cables. If all items/cables are properly secured/protected, 1 point will be awarded.

**Example:** A processor mounted under a seat where the individual is sitting; the unit must be securely mounted so that it cannot be inadvertently moved by an individual either attempting to adjust the seat or by moving their feet near the front of the seat. Cables must also be secured so that a person's hands or feet cannot accidentally hook the cables and disconnect them from the processor, potentially causing a loss in system performance or potential shorting danger.

**NOTE:** Judges are not allowed to adjust the seat once the competitor has set it in position for judging. Where the example states the use of hands under the seat or adjusting the seat, it is referring to the competitor only and not the Judge.

<b>Tonal Accuracy Scoring Scale</b>	
Perfect	20 points
Exceptional	16 - 19 points
Very Good	12 - 15 points
Good	8 - 11 points
Marginal	2 - 7 points
Needs Improvement	1 point
<b>NO Zero Scores are Given</b>	

## **8.2 - TONAL ACCURACY AND SPECTRAL BALANCE**

In Tonal Accuracy and Spectral Balance judging, Judges will evaluate the tonal characteristics of the system based on how well it reproduces four specific frequency ranges; ***Sub Bass, Mid Bass, Mid Range and High Frequencies.***

For a system to reproduce a recording with superior tonal accuracy, it must perform without significantly affecting the parameters of these frequency ranges. When all of the above parameters come together well, a system is said to sound natural and spectrally accurate.

The Judge will evaluate whether the sound of the instruments and voices reproduced by the system in these frequency ranges sound real and natural, in and of themselves. When evaluating the system, the Judge will concentrate on instruments in each range specifically, ignoring the relative balance of the whole spectrum (which will be evaluated next).

A Judge will use the six basic characteristics that describe a tone when evaluating Tonal Accuracy and Spectral Balance; *Loudness, Pitch, Timbre, Modulation, Duration and Attack & Decay.* The descriptions of these characteristics are listed in the glossary of terms at the back of this rule book.

### **What Judges listen for:**

***The following general guidelines apply to a broad range of music. The judging tracks of the Official IASCA Sound Quality Track List may or may not contain some of the instruments listed below. For accurate information on the content of the judging tracks, please refer to the track notes.***

#### **SUB-BASS (1Hz-60Hz) All Divisions**

***1 to 20 points***

The Judge will concentrate on the lowest notes of the large string instruments (bass guitar and stand-up bass, in particular), large drums (kick drums, timpani), low synthesizer sounds, low pipe organ notes, etc. The sounds reproduced by the system in this range should be immediately recognizable, articulate, free of distortion and have proper attack and decay. Accurate low-frequency extension is a desirable trait. An example is the lowest frequency range of very large pipe organs.

#### **MID-BASS (60Hz-200Hz) All Divisions**

***1 to 20 points***

The Judge will focus on the sounds produced by the mid-size drums (tom-toms, large congas, etc.), the middle range of the bass guitar and stand-up bass, lower notes of the piano and synthesizer. These should be reproduced smoothly with good detail and proper attack & decay. Particular attention should be paid to the attack & decay of drums and bass guitars. Because of the small size of the vehicle as a listening area, problems with resonance are common in this frequency range.

#### **MID-RANGE (200Hz-3KHz) All Divisions**

***1 to 20 points***

This range contains the vast majority of musical information in most recordings. The Judge will focus on the human voice, brass instruments, woodwinds, strings, the upper range of the bass guitar, electric and acoustic guitar, synthesizer, piano, smaller drums and other percussion instruments. Resonance and sibilance are common system flaws in this frequency range. Voices should sound full and natural. All instruments should sound realistic without sounding thin, dull or contain uncharacteristic ringing or distortion. Large stringed instruments, for example, should have the characteristic 'wood' sound without undue resonance.

## **HIGH FREQUENCIES (3khz-+) All Divisions 1 to 20 points**

The Judge will concentrate on cymbals, triangles, bells, the upper frequencies of the snare drum, rim shots, hand clapping, synthesizers, the upper stretches of string and woodwind instruments, and the tendency to exaggerate "s" or "f", or "t" sounds in the voice recordings. These should sound accurate, smooth, neither too dull nor too bright and should not exhibit any harsh, thin, metallic sounds or distortion.

## **SPECTRAL BALANCE 1 to 20 points**

Spectral Balance is a test of the system's overall tonal realism at the listening level, encompassing the Tonal Accuracy of the system across the entire frequency spectrum. The same factors described under "Tonal Accuracy" affect overall Spectral Balance. The system will be judged according to its ability to reproduce the recording as a whole, rather than by dissecting it into individual frequency ranges.

Superior systems will sound effortless and natural with any of the judging tracks. Weaker systems will exhibit distortion, unnatural coloration, dynamic compression, and frequency response errors, which lead to listening fatigue and lend an unnatural sound to the music.

### **Spectral Balance: What Judges Listen For:**

The Judge will listen to the "big picture" and score the vehicle on a twenty point scale. Does the system create the illusion of real instruments and voices as they listen to the judging tracks? Is the distribution of energy between the frequency ranges appropriate and natural sounding? Particular attention is paid to how smoothly the system integrates different frequency ranges. As an example, a system may have good sounding high frequency performance in and of itself, but when the level of the high frequencies is compared with the rest of the spectrum, they may be too loud or too quiet.

## **LOUD SPECTRAL BALANCE 1 to 20 points**

At high levels, the Judge will listen for smooth spectral balance and solid, realistic dynamics. Instruments should have a realistic attack and impact that does not get compressed by distortion (amplifier clipping or speaker system limitations). Points should be deducted for any unnatural harshness or distortion.

## **8.3 - SOUND STAGE**

*A Sound Stage is the platform where the musical source originates from; it can be quite large (orchestras) or quite small (room in a jazz club). The goal is to reproduce that sound stage as accurately and realistically as possible so that it seems to exceed the physical boundaries of the vehicle interior.*

*A sound stage is broken down into five factors:*

- **Listening Position Relative to Sound Stage** - The position of the listener relative to the sound stage and the apparent distance between the front of the sound stage and the listener.
- **Stage Width** - How wide the stage is from its furthest point to the left to its furthest point to the right
- **Stage Height** - How tall the stage is from the floor of the stage to its highest point
- **Stage Depth** - How deep the stage is from its furthest point forward to its furthest point back
- **Ambience** - The sense of space naturally created by the music and the size of the stage

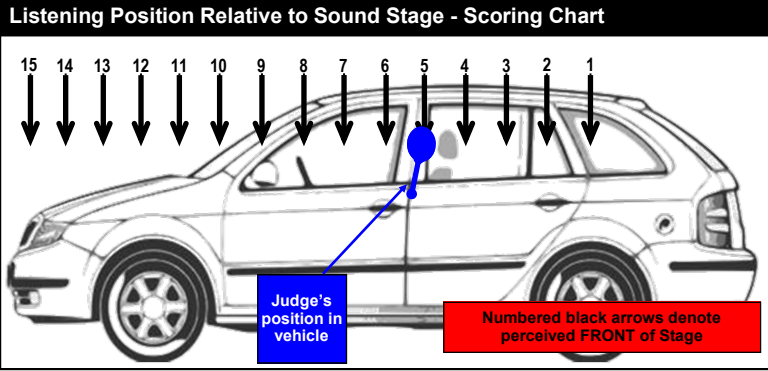
In Sound Stage judging, the Judge will evaluate how well the vehicle's sound system is able to recreate the sound stage and ambient content of the program material being played. The ideal car audio system sound stage will create the illusion that the sound is originating well in front of the listener, with additional ambient content. While evaluating the Sound Stage, the Judge will draw maps describing the sound stage boundaries. These maps will not only help in evaluating the sound stage elements, but will be vital to the evaluation of imaging.

The Judge will not let any visual cues influence their judgment (apparent speaker locations or lack of them, vehicle boundaries, for example). Sound Quality Judges have been trained to be "blind" to any equipment in the vehicle, the vehicle itself, or any distractions that interfere with their ability to properly determine the sound stage.

**LISTENING POSITION RELATIVE TO SOUND STAGE**

**1 to 15 points**

Fig. 1



“Listening Position Relative to Sound Stage” refers to the Judge’s physical position in the vehicle relative to the front of the sound stage.

Based on where the Judge perceives the front of the sound stage, they could be sitting well in front of, or behind, or even on, the stage itself. The Listening Position Relative to Sound Stage scoring chart example (Fig. 1) denotes where the judge perceives the *front* of the sound stage relative to where they are seated; **for example**, if a Judge scores the Listening Position Relative to Sound Stage as a 9, it means that the front of the stage *appears to be* at the dashboard *in relation to where they are seated*.

The best systems will give the illusion of the stage being well in front of the listener, exceeding the front boundary of the vehicle. This is considered ideal as it approximates sitting in an ideal location to the stage at a live concert.

The Judge will base scoring on the distance between themselves and the perceived front of the sound stage.

Listen carefully to the bass. Does it seem to come from up front or from behind? Maximum points within each scoring tier will only be given to systems that convincingly create the illusion that all the sound originates from the Sound Stage.

Listening Position Relative to Sound Stage Scoring Scale	
Sound stage well exceeds front boundary of vehicle interior	13 - 15 pts.
Sound stage exceeds front boundary of vehicle interior	11 - 12 pts.
Sound stage originates at or near front boundary of interior	8 - 10 pts.
Sound stage originates directly in front of listeners	6 - 7 pts.
Sound stage appears to be at the Judge’s Position	5 pts.
Sound stage originates from behind or is impossible to define	1 - 4 pts.

Some systems will exhibit some localization of sub bass towards the rear, but still maintain a forward listening position. Judges should not drop these vehicles to the “behind the listening position” scoring tier.

In this situation, a Judge should deduct 2 points for obvious rear sub bass within the scoring tier established by the higher frequencies (mid-bass and up) and make note of that action on the score sheet. In no case should a vehicle be dropped to a lower tier for rear sub bass only.

## STAGE WIDTH

1 to 15 points

Stage Width refers to the distance between the perceived left and right boundaries of the sound stage, and is evaluated in relation to the listening position relative to the sound stage and the stage depth.

### What Judges listen for:

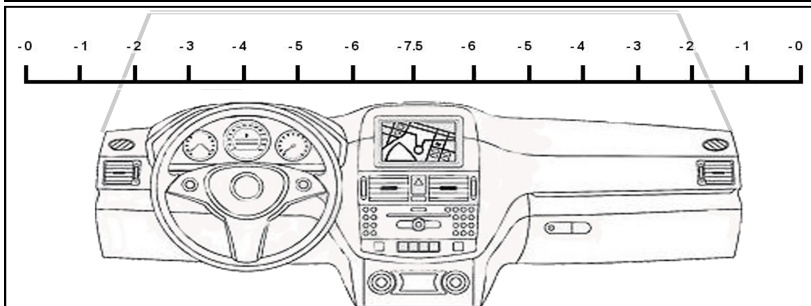
The judging tracks on the official **IASCA** Sound Quality Reference CD, in conjunction with the enclosed liner notes, allow the Judge to quickly and accurately evaluate stage width.

The Judge will focus on the original dimensions of the room, as outlined in the liner notes, in relation to the listener. The system's reproduction of the music should not artificially compress or expand stage width. The Judge will listen for additional stage width cues beyond the furthest left and right instruments/vocalists. In many recordings, there is additional space beyond them that can be heard. These are general guidelines for scoring. If, in two seat judging, a vehicle exhibits different stage width characteristics for each seat, the Judges are instructed to arrive at a score for each seat individually then average these scores to arrive at the final score.

**NOTE:** If a sound stage originates beyond the interior boundaries of the vehicle (e.g. beyond the side view mirrors), Stage Width is evaluated using the vehicle's exterior boundaries as a reference point only to describe the stage's width.

**Defining the stage width as the vehicle's boundaries (such as A pillars) is incorrect.**

Stage Width Scoring Scale	
Stage extends beyond lateral vehicle boundaries	13 - 15 pts.
Stage extends to both lateral vehicle boundaries	11 - 12 pts.
Wide stage almost extends to lateral vehicle boundaries.	10 pts.
Narrow stage short of lateral vehicle boundaries	8 - 9 pts.
Narrow stage <b>well</b> short of lateral vehicle boundaries	5 - 7 pts.
Stage width is severely compressed (virtual mono)	1 - 4 pts.



The stage's width is defined by where the judge hears the outermost musical cues from the program material being reproduced. If musical cues originate from outside the vehicle's physical boundaries, the Judge will detail where they perceive the left and right sides of the stage on the stage map, regardless of the vehicle's physical boundaries. The boundaries are used as a reference point only and are not "where" the stage should be.

### Example (see figure):

When evaluated from one seat (in the example, the left seat), the Judge will determine the score by identifying the left and right sides of the stage by determining where they hear the musical cues. In this example, the left side musical cues seemingly originate just outside the vehicle's A pillar; based on the scoring chart, the Judge would deduct 1 point for the left side. The right side musical cues of the stage seemingly originate over the middle of the passenger glove box area; based on the scoring chart, the Judge would deduct 3 points for the right side.

The sum of this score is a 4 point deduction (1 point for left, 3 points for right) from the original 15 point scale, for a score of 11 (see diagram below). When evaluated by two Judges, the same principle is used from each seat, then the two scores are added together and divided by 2 to establish the average stage width score.



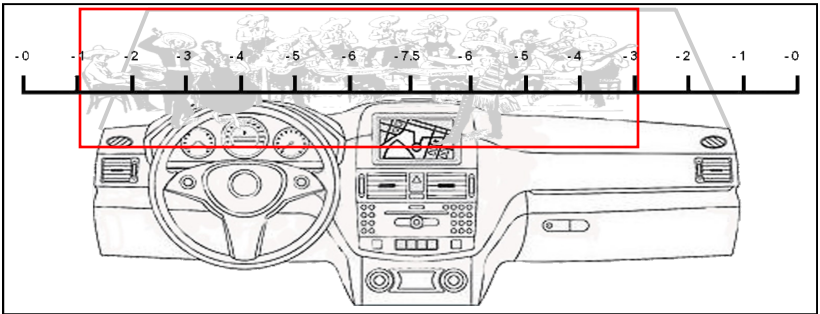
## STAGE WIDTH SCORING EXAMPLES

**E  
X  
A  
M  
P  
L  
E**

In the example to the right, using the vehicle's boundaries **as a reference point only**, the stage width extends beyond the boundaries of the left side "A pillar", but only extends to about midway over on the right side of the dashboard.

Utilizing the scoring scale, the judge would deduct 1 point from the left side and 3 points from the right side from the maximum score of 15, for a score of 11.

$$15 - 1 - 3 = 11$$



**E  
X  
A  
M  
P  
L  
E  
S  
O  
F  
S  
T  
A  
G  
E  
W  
I  
D  
T  
H**

### STAGE WIDTH EXAMPLE #1

Example of

"Stage extends beyond lateral vehicle boundaries"

13-15 points



### STAGE WIDTH EXAMPLE #2

Example of

"Stage extends to both lateral boundaries"

11-12 points



### STAGE WIDTH EXAMPLE #3

Example of

"Wide stage almost extends to lateral vehicle boundaries"

10 points





**STAGE WIDTH EXAMPLE #4**

Examples of  
"Narrow stage short of lateral vehicle  
boundaries"  
8 - 9 points



## STAGE HEIGHT

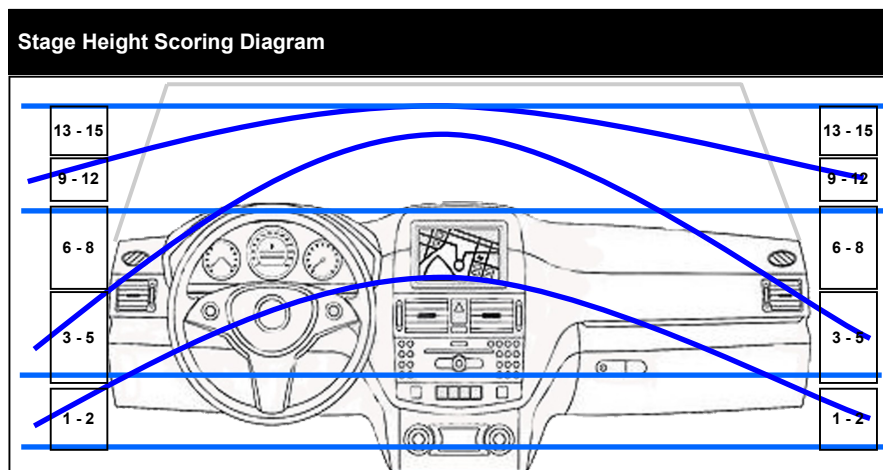
1 to 15 points

Stage height refers to the apparent height of the sound stage and the vertical spread above that level. The center of the vertical spread of the stage should be at horizon level with appropriate instruments/vocalists being above or below this plane from left to right of the stage. The height of the stage should also remain horizontal from the front of the stage, where the lead singer may be placed, to the rear of the stage, where the drums may be located. This spread should not be exaggerated or incoherent and should be proportional to the other stage dimensions.

### What Judges listen for:

Systems with good stage height properties will produce a stable sound stage at horizon level with a natural sense of vertical space above that point. Instruments and voices should sound complete and whole at that height with no portion of them coming from below the sound stage floor. The Judge will look for the stage height to remain stable from left to right and front to rear. Some vehicles may exhibit good height in the center with left and right boundaries dropping lower (or vice versa) and this will be taken into account in the scoring. Some vehicles may also exhibit good height within the high frequencies but the lower mid bass and bass frequencies are well below the dash.

These are the guidelines for scoring Stage Height. The Judge will write comments describing the sound stage height after evaluation. If a vehicle exhibits different stage height characteristics for each seat (two seat judging), the Judges are instructed to arrive at a score for each seat, add the 2 scores then divide by 2 to arrive at the final score. The Judges should note when averaging is used to arrive at a stage height score, they will write the individual seat scores in the comments section of the score sheet.



<b>Stage Height Scoring Scale</b>	
Stage is at horizon level with little to no hint of instability from left to right	13 - 15pts.
Stage is mainly at horizon level, with some instability from side to side	9 - 12 pts.
Stage is lower than horizon level but stable left to right or Stage is at horizon level but very unstable	6 - 8 pts.
Stage is low and unstable	3 - 5 pts.
Stage is impossible to define	1 - 2 pts.

**STAGE HEIGHT EXAMPLE #1**

Example of  
“Stage is at horizon level with little to no hint of instability from left to right”

13-15 points



**STAGE HEIGHT EXAMPLE #2**

Example of  
“Stage is lower than horizon level but stable left to right”

6-8 points



**STAGE HEIGHT EXAMPLE #3**

Example of  
“Stage is low and unstable”

3-5 points



**STAGE DEPTH****1 to 15 points**

Sound Stage Depth is the ***perceived*** physical depth of the stage, from its forward most point to the rearward most point, *in relation to* the Judge's seating position in the vehicle, relative to the front of the stage. The perceived position of the instruments or vocals on the stage, either behind or in front of each other, creates that perceived stage "depth".

**Stage Depth Evaluation Instructions** - The perceived front of stage has been established by the Listening Position Relative to Sound Stage score. From the *perceived front of stage*, the Judge will determine where the perceived rear of stage is, *in relation to* the front of the stage.

**What Judges listen for:**

The Judge will compare what they hear from the system in regards to instrument and vocalist position (from the front to the rear of the stage). If the system exhibits a realistic, almost three dimensional interpretation of those instruments and vocalists in their proper order on the sound stage, it will score well. If the sound stage depth extends beyond the area with a score of 10, the score will be the maximum of 10.

Stage Depth Scoring Scale	
Stage exhibits realistic sense of depth	12- 15 points
Stage exhibits good sense of depth	8 - 11 points
Stage exhibits some sense of depth	2 - 7 points
Stage is impossible to define	1 point
<b>NO Zero Scores are Given</b>	



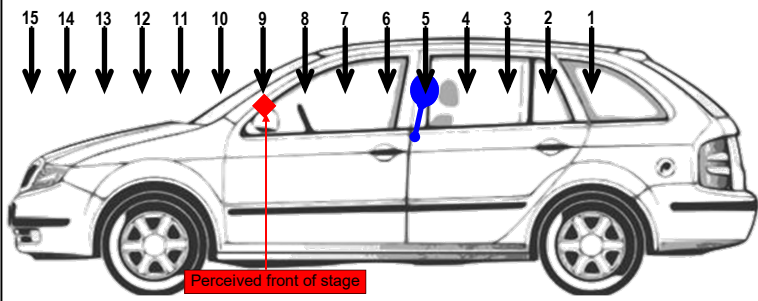
**Stage Depth STEP 1 - FRONT** of the sound stage is determined by the *Listening Position Relative to Sound Stage* evaluation.

**E  
X  
A  
M  
P  
L  
E**

Arrows denote scoring scale for perceived **FRONT** of Stage, established in the *Listening Position Relative to Sound Stage* evaluation.

In this example, the **red diamond** denotes where the judge perceives the front of the stage *relative to where they are sitting* (depicted in blue).

**Listening Position Relative to Sound Stage Scoring Scale**

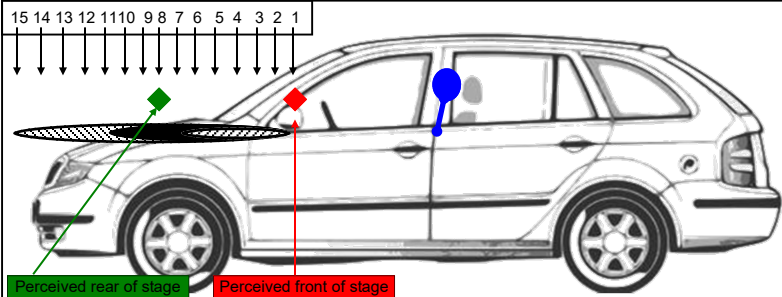


**Stage Depth STEP 2 - Determine the perceived REAR of the sound stage, *in relation to* the front of the stage. Using the scoring scale in the *example* diagrams below, score the Stage Depth based on the perceived front and rear of the stage.**

**E  
X  
A  
M  
P  
L  
E**

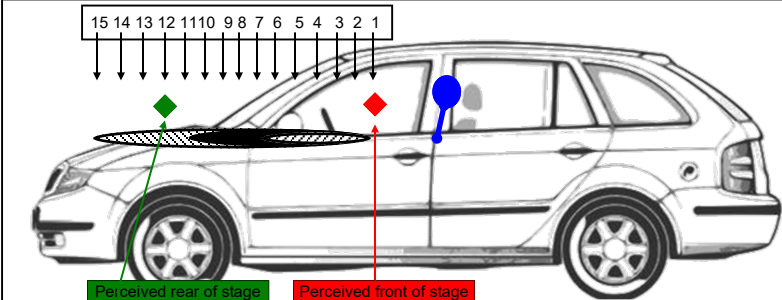
In this example, the **green diamond** denotes where the judge perceives the **REAR** of the stage **IN RELATION TO** the perceived **front** of stage.

*In this example, the Stage Depth would receive a score of 8.*



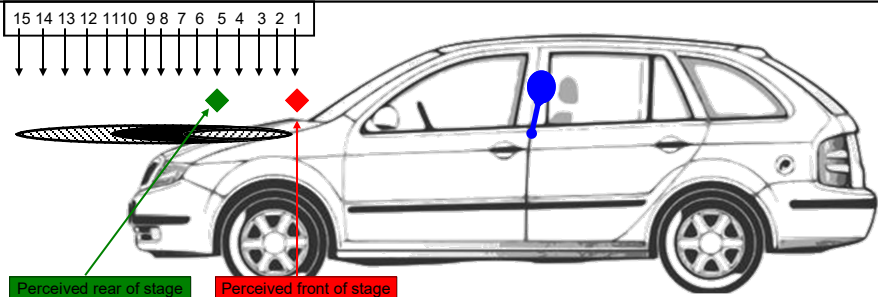
**E  
X  
A  
M  
P  
L  
E**

In this example, the perceived front of the stage is much closer to the seated position, but the perceived rear of the stage is further back (deeper) and would score higher (12 pts.)



**E  
X  
A  
M  
P  
L  
E**

In this example, the perceived front of the stage is much deeper, but the perceived rear of the stage is not as far back (shallower) and would score lower (5 pts.).



**AMBIENCE****1 to 10 points**

Ambience can be defined as the perceived sense of space around a sound source. Most recordings contain ambient cues, which are either naturally created by the room used for recording or created by recording engineers using processing equipment. These cues can interact with the acoustics of the vehicle and the design of the sound system to help create that sense of space.

**What Judges listen for:**

The Judge will envision the size of the “room” the music was recorded in and listen for ambient cues that help them create a feeling of being in that room. The ambient cues should sound natural to the size of, and recreate the feeling of being in, the room the music was recorded in.

<b>Ambience Scoring Scale</b>	
Realistic Ambience / Sounds like an appropriate room	8 - 10 points
Slightly closed in / Sounds like a very small room	4 - 7 points
Lack of ambience / Sounds like a very confined area	2 - 3 points
Overbearing /Artificial ambient effect	1 point
<b>NO Zero Scores are Given</b>	

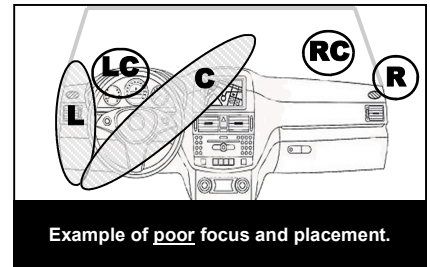
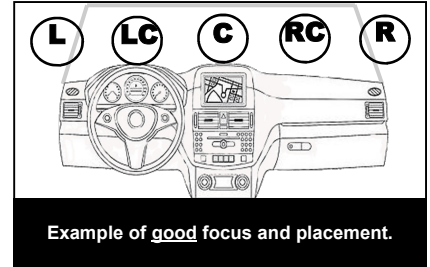


## 8.4 - IMAGING

The term "imaging" describes a system's ability to reproduce the sounds of instruments and vocals in their correct locations and proportions on the sound stage. Correct locations are defined by their placement as they were actually recorded. Systems are evaluated based on their ability to place instruments and vocals accurately in their positions across the sound stage.

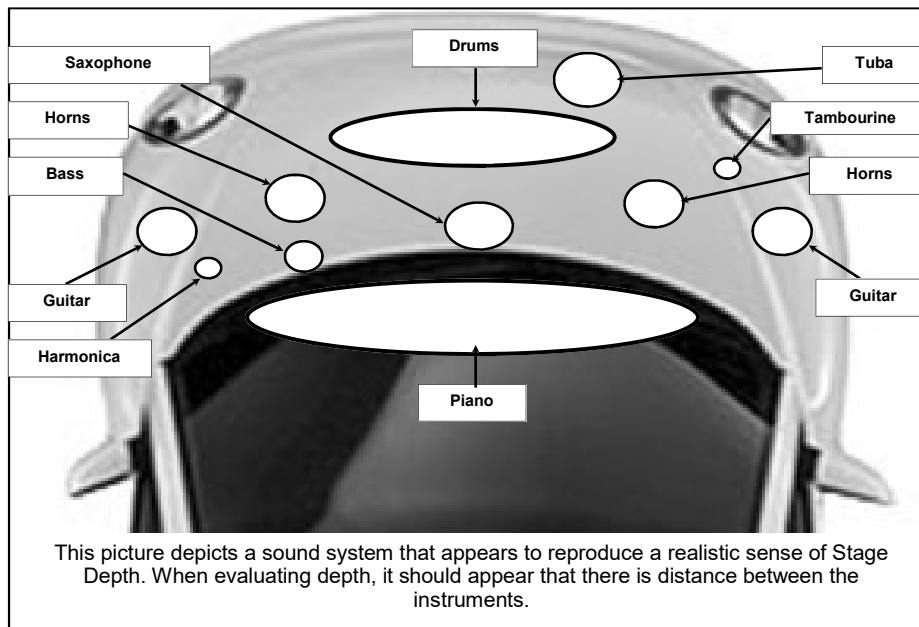
### Points Breakdown for Imaging Judging:

LEFT	(10 pts. Total - 1 to 5 pts. Focus/1 to 5 pts. Placement)
LEFT OF CENTER	(10 pts. Total - 1 to 5 pts. Focus/1 to 5 pts. Placement)
CENTER	(10 pts. Total - 1 to 5 pts. Focus/1 to 5 pts. Placement)
RIGHT OF CENTER	(10 pts. Total - 1 to 5 pts. Focus/1 to 5 pts. Placement)
RIGHT	(10 pts. Total - 1 to 5 pts. Focus/1 to 5 pts. Placement)



Detailed sound stage maps in the track notes of the Official **IASCA** track list provide the exact locations of specific instruments and voices in the recordings used to evaluate this category. These maps have been produced in conjunction with the recording engineers who produced the tracks.

The Judge will listen for and reward for properly placed, coherent, and defined images that accurately convey the size of the instrument relative to the soundstage. Particular attention should be paid to whether or not the sound of the instrument or vocal is focused and properly placed in its correct location on the soundstage (i.e. a piano may be very large relative to a saxophone). If an image seems unnaturally wide, or the image wanders as the pitch changes, or if it seems to split into two or more images, points will be deducted. Height should also be consistent (the lower part of the voice should not come from the foot well, while the rest of it is up high).



### Judges Use the Following Scale to Score Imaging (No zero scores given)

Images are correctly defined (Focused) and located (Placement)	10 points
Images are well defined and located, but not perfect (Excellent)	8-9 points
Images are somewhat diffused and shifted in location (good)	6-7 points
Images are diffused and somewhat difficult to place (average)	3-5 points
Images are very diffused and very difficult to locate (below average)	1-2 points

## **8.5 - TRACK LIST**

**5 points max.**

The instructions for download the track list is on the IASCA website (<https://iasca.com/sqc-tracks/>) and is the competitor's responsibility to make these playable for the judges to evaluate the system. A QR code to the instructions is also on the SQC scoresheet.

### **ALL TRACKS ACCESSIBLE - 0 or 3 point**

Competitors must have all full length tracks from the IASCA track list available and ready to play on the system. This could include uploading to an HD Player or burning to a CD. It is the competitor's responsibility to purchase these tracks, but do not need to purchase from the sources on the IASCA instructions, as long as they are the same versions that are listed on the track list. All tracks must be in their own folder, or all tracks and no other tracks on a CD.

### **TRACKS PLAYABLE WITHOUT INTERRUPTION - 0 or 2 point**

System must be able to play each track without any audible interruption, including playing stoppage or delay. This can include noise-gating or noticeable delay at track startup. No additional sounds should be present through the system during track changing. If a phone or communication device is used as the source unit, with the first audible alert (phone ringing, emergency alert, audible messaging notification, etc), the competitor will be given one warning, and any audible alerts afterward will be given a score of 0.



## **8.6 - LACK OF NOISE**

**Possible 0 - 6 Point deduction**

*In this section, Judges will evaluate noises within the vehicle and system, which may affect the 'listenability' of the system, based on any noises generated while listening to the program material. Points will be deducted for varied noises affecting the listening enjoyment of the system.*

### **Procedure for Noise Testing:**

Musical tracks on the current Official IASCA Track List will be used to determine the system's listenability. Judges will determine the level of noise *from a normal seated position*.

### **NOISE SCORING**

Scoring is based on the level of the noise heard by the Judge. If no noise is heard, full points will be awarded; if noise is heard, points will be deducted from the 6 point total, based on the level of noise. There are two levels of noise that will be considered; a "Slight Noise" and an "Apparent Noise"

*Slight Noise (-1 point)* - A noise that is barely perceptible during the evaluation process, that slightly detracts the Judge's attention from the music being played. Example: a low level hiss that can be heard during quiet passages or between tracks; a barely perceptible rattle or click during playback under all conditions.

*Apparent Noise (-2 points)* - A noise that very perceptible during the evaluation process, under all playback conditions, that heavily detracts the Judge's attention from the music being played. Example: a loud hiss that is easily perceptible while playing music at evaluation listening levels; a consistent rattle, or resonance, caused by a loose panel or item within the vehicle; a consistent mechanical noise that is not part of the original source material.

### **FLOOR NOISE/GAIN HISS**

**Possible 1-3 point deduction**

Judges will evaluate for Noise throughout the entire judging process to determine the level of hiss heard. Floor noise (also known as Gain Hiss) is a hissing sound in and between audio tracks that is audible from a normal seated position. Similar noises that may affect scoring in this section include, but are not limited to, hums (from amplifiers, power supplies or other sources) and whining sounds heard while the system is playing.

### **ENVIRONMENTAL AND MECHANICAL NOISE**

**Possible 1-3 point deduction**

Environmental Noise is defined as any noise generated by the vehicle, system or any item within the vehicle and the system, that is not part of the original recording, that detracts from the Judge's ability to hear the music while the source media is being played. Examples include, but are not limited to, vehicle panels rattling, items within the vehicle creating noise due to resonance (e.g. candy box in door pocket rattling, loose screw rattling, plastic panel resonating because it's not securely snapped in place, etc.). Exterior environmental noises such as crowd noise, other vehicles playing music, revving engines, etc. will not be considered.

## **8.7 - SYSTEM CONTROL OPERATION**

**0 to 5 points**

The Judge will evaluate whether certain system controls can be operated from a control device without unreasonable distraction from the road.

Any function that the judge has to perform while evaluating the vehicle and system must be able to be controlled by the control device from the judging position (Judge's seated position) without having to move, lean forward or backward or adjust their seated position to operate the system controls from that seated position, with the exception of inserting and retrieving the judging media (CD, flash drive, etc.).

**NOTE:** The competitor determines the seat position for SQC evaluation. Once the competitor has set the seat position for evaluation, that will be the position used for the entire judging of SQC. The seat position will not be moved or adjusted during the judging process. Example: if a seat is adjusted as far back as it can go, that is where the judging process will take place from. The judge must be able to reach the control device and operate the controls, without undue movement from that seated position, throughout the entire judging process.

The control device must be able to operate the following functions; volume adjustment up/down and track selection up/down. A system display must also be visible within the Judge's field of vision. These are the features that will be evaluated to determine if the system is safe to operate while driving.

**A Control Device** is defined as a device capable of completing the functions required by the judge to evaluate the system. System controls can include but are not limited to; steering wheel controls, wired/wireless remote, voice activation, mechanical/electrical switches/knobs, head units, source units, etc.

Standard control devices for source units that are not securely mounted will not be awarded 1 point. A "loose remote" can be a potential hazard while driving and does not provide a consistent location to access the system controls of the source unit. Control devices (such as steering wheel controls or source unit controls) **that are not** easily accessible by the judge in the seated position for evaluation selected by the competitor will not receive a point for accessibility.

Controls (buttons) location should be easily identifiable by touch. Touchscreens where the buttons move or where the track must be selected are not easily found without looking.

### **System Control Operation Scoring Scale:**

The System Control Operation scoring scale is based on a 5 point system:

- Controls are within reach **0 or 1 point**
- Controls are easy to identify by touch (without looking) **0 or 1 point**
- Controls are mounted **0 or 1 point**
- Display is within field of vision **0 or 1 point**
- Display is easy to read **0 or 1 point**



## 9 - IQC JUDGING CRITERIA

Judges will evaluate the installation of the sound system in an objective manner, using the standards set in this rule book and a score sheet itemizing the evaluation in the following order:

1. *Presentation*
2. *System Safety*
3. *Installation Integrity*
4. *System Integration*
5. *Craftsmanship*
6. *Creative Elements*

- The competitor or system builder (installer) must present the system/vehicle to the Judge. Only in the case of extenuating circumstances can another individual (other than the competitor/installer/builder) present the system/vehicle; this must be approved by the IASCA Office prior to the evaluation of the system/vehicle.
- All Installation judging will be performed by one judge.
- IQC judging criteria is the same for all classes, with the exception of Creative Elements scoring levels.
- Judges will utilize the charts as found in this rule book to determine some of the installation judging criteria, as required.
- Competitors are ***not*** allowed to view their score sheet (or any score sheet) until after competition is over and awards have been presented. Any competitor attempting to view their score sheet will receive a 10 point deduction from the total score.

## **10 - IQC JUDGING PROCEDURE**

### **10.1 - PRIOR TO EVALUATION**

1. The Judge will introduce themselves to the competitor prior to beginning the evaluation.
2. The Judge will ask the competitor if they are ready for their installation judging. If the answer is yes, the judge will ask the competitor to begin their presentation. Judge is not allowed to evaluate the system and vehicle until the competitor gives approval that the vehicle is ready to be judged.
3. If a judge has to return to a vehicle more than twice to ask the competitor if they are ready, the judge has the authority to penalize the competitor by deducting 10 points from the overall score for tardiness or delay of judging.

### **10.2 - DURING THE EVALUATION**

1. During evaluation, the Judge will listen attentively to the competitor's presentation without interrupting. The Judge will withhold all questions/comments until after the presentation is complete, unless the competitor asks a question of the Judge.
2. The vehicles and systems for all competitors will be evaluated with the engine off, unless circumstances dictate otherwise.
3. The Judge will use the competitor's photo log book and any lists they present, along with the vehicle itself, to complete the evaluation. This will require that they may need to move around the vehicle to inspect it during evaluation, so it is recommended that the competitors leave enough space around the vehicle so the judge may move freely and allow access to any area of the vehicle the judge requests to see.
4. The Judge will evaluate the vehicle in the order of the score sheet, starting with Presentation, Safety, Integrity, Integration, Craftsmanship and Creative Elements.
5. Once the Judge has completed the evaluation, they will exit the vehicle and thank the competitor.

## 11 - IQC JUDGING GUIDELINES

### 11.1 MEMBERSHIP

#### IASCA LOGO ON DISPLAY

0 or 3 points

Three (3) points are awarded for displaying the **IASCA sound waves** logo (*current or past*) or the **IASCA** styled text on the exterior of the vehicle. By definition, the *exterior of the vehicle is described as; being able to view the logo from a standing position with all the doors, the hood (bonnet) and trunk (boot) closed.* The logo does not have to be permanently affixed to qualify.

#### IASCA MEMBERSHIP

0 or 5 points

Five (5) points are awarded for being a card carrying **IASCA** member in good standing. **Competitors must present their current IASCA** Membership Card to the IQC Judge during their presentation; it is not the responsibility of the Judge to ask for it. An **IASCA Competitor Membership** may be purchased the day of the event, however, it must be purchased **PRIOR TO** entering the judging lane. New **IASCA** membership credentials (as in a receipt of payment) must be properly authorized and presented to the Judge.

**NOTE:** The Head Judge or promoter reserves the right to award these points to any new member on the day of the event should the **IASCA** Membership kit shipped from Headquarters has not yet been received by the competitor. If the competitor has a copy of their order confirmation from **IASCA**, the Judges will award the competitor their points, but only for that event; the competitor must present their membership card at the next event in order to earn these points.

### 11.2 PRESENTATION

The following rules apply to the judging of Presentation:

- All competitors are required to explain their sound system and installation to the Judge in the form of a verbal presentation. **If** weather conditions are poor (rain, snow, sandstorm or dust due to field conditions etc.), these conditions will be taken into consideration during the competition by the Judge.
- The System builder/installer must present their vehicle within a certain time frame designated for each Class. If for any reason the builder/installer is unwilling or unable to present the vehicle, a score of 1 point only will be assessed to the score sheet. **NOTE:** If there are extenuating circumstances preventing the installer/builder from presenting the vehicle, they can request someone take their place by writing the **IASCA** Office for approval. **IASCA** reserves the right to approve or deny the request.
- The presentation may include, but shall not be limited to, or required to have, photo logs, videotape, schematic drawings, or any other form of documentation. Competitors may use computers that have been integrated into the vehicle for their system presentation. The competitor cannot require the Judges to wear any devices during the presentation. (i.e. headphones, 3D glasses, goggles, helmets, hula skirts, etc.)
- The competitor must not leave the judging area until the vehicle evaluation is complete; they will not converse with any official judging at the event during evaluation, *unless* requested by the Judge to answer a question or to clarify a system element.
- A competitor is required to show all areas of their vehicle to the Judge during the presentation, even if said compartment contains no equipment related to the audio system. (i.e. a covered truck bed that contains no audio equipment.) If a competitor refuses to show any or all compartments, the Judge is authorized to deduct 2 (two) points per compartment in Presentation scoring.
- After the presentation, the competitor will be directed to a designated waiting area while scoring is being assessed. Judges will evaluate the presenter's presentation and explanation for Creative Element and installation requirements within the presentation display. Elements of the installation or presentation that are of a high level of quality, difficult to accomplish, or require a significant amount of preparation will be considered in judging for the degree of difficulty in the execution of each element.

#### Allotted Time for Presentation by Class

Allotted Time for Presentation by Class	
Amateur	5 minutes
Advanced Amateur	7 minutes
Pro 2	10 minutes
Pro 3 & Expert	15 minutes
Extreme Open & Champions	20 minutes

## System Presentation

1 to 5 points

The system installer/builder will be given a specific amount of time to describe the vehicle and system and point out any special elements of the vehicle's mobile electronics installation, such as hidden components, installation techniques, special efforts in system Creative Elements, operation of the system, precautions, etc. - that may affect the judging. The Judge will not interrupt the presenter during this time.

*It is the presenter's responsibility to keep the presentation within the time allotted.* Judges will politely inform competitors when the presentation will begin and when the time has expired. If the presentation goes over the allotted time, the Judge may deduct up to 1 point per minute over the allotted time, based on the amount of time over.

## System Knowledge

1 to 5 points

In this scoring section, the Judge will evaluate how well the installer knows the vehicle's audio system. The score will be determined by the installer's knowledge of the system during the presentation and may include questioning the installer after the presentation is over, during the judging process.

## Installation Visibility

1 to 5 points

Points are awarded based on actual in-person visibility of the installation, and also the accompanying photo log book. A photo log book is not required but will not receive maximum points if not every aspect of the installation is visible. The level of detail shown in the photos relative to the installation of the system and the judging sections on the score sheet, as well as the organization of the photo log book for easy reference when judges are scoring. It's recommended to have the photos organized in such a way that they follow the scoring sections of the score sheet.

## Overall Theme

1 to 5 points

Scoring is based on how well the installer was able to create a common theme/display with the vehicle, system, installation and display. The theme can have various attributes, as long as the overall theme (or concept) is maintained. Maximum points can be earned if theme extends beyond vehicle (external displays, etc.).

## Attention to Detail/Cleanliness

1 to 5 points

The vehicle, system *and display area* should be clean and presentable at all times during the competition. Cleanliness, as well as the attention to detail of the entire vehicle and surrounding area will be evaluated. Damage to the vehicle and interior trim panels will be taken into consideration. The Judge will check all vehicle compartments and the display area for dirt, trash, fingerprints, dust, damage, etc.

**NOTE:** The Judge will also take into consideration the *type* of vehicle that is being evaluated. Vehicles used as "daily drivers" will typically have signs of normal wear and tear. These items will not affect the scoring for "daily driver" vehicles, however show cars and "trailer queens" will be held under the highest scrutiny. A Judge will not penalize a competitor for the average condition of the vehicle; damage to the vehicle resulting from an obvious vehicle accident may or may not affect scoring, depending on the age of the damage.

## Security System

0 to 5 points

Points are awarded based on the type of security system, features and proper operation of the system and its features. If the vehicle does not have any form of security system, points cannot be awarded in this section. Points are awarded as follows:

**0** points for - no system at all, or a non functional system, **OR**

**1** point for - an OEM or aftermarket **Keyless Entry System** **OR**

**2** points for - an Aftermarket or OEM **Alarm/Security system**

**0 to 3** additional bonus points for - any additional functions connected to the security system. 1 point per function will be awarded. *Note: A function on a security system is considered as the "complete cycle" of that function (e.g. Windows roll up **and** down).*

**Additional Bonus points may be awarded for, but not limited to, the following items:**

Windows Up/Down	Door opening/closing control
Convertible top control	Door Locking control
Lighting Control	Motorization control
Trunk Release control	Processor Controls



## **11.3 SYSTEM SAFETY**

***System Safety is broken down into 8 scoring areas. All scoring areas are judged to determine the relative safety of the sound system installation in the vehicle.***

### **BATTERIES VENTED & SECURED**

**0 or 5 Points**

**Batteries connected to any charging system installed anywhere in a vehicle must be vented and securely mounted.** All batteries installed in the trunk (boot) or passenger compartment of a vehicle must be contained in a sealed chamber with adequate ventilation (minimum ¼" inside diameter tube) to the exterior of the vehicle. This is to prevent any potential build up of hydrogen gases during recharge conditions, whether from the vehicle's charging system or an external battery charger. Batteries that have been upgraded or have had the cables upgraded must also comply with this rule.

***EXCEPTION:*** Batteries that are considered "sealed units" may be exempt from the sealed chamber section of this rule, ***if*** the competitor can provide proof that the battery does not emit any gases under charging conditions. This can be proven with an owner's manual for the battery stating that the battery is a sealed unit and does not emit gases during charging conditions. If the sealed unit battery manufacturer makes claim that the battery may produce gases if charging instructions are not followed, the Judge may verify that the charging system is within the guidelines of the battery specifications by checking the voltage of the charging system in use.

If a charging system fails to meet the sealed unit battery manufacturer's requirements for proper charging, points may not be awarded if the battery is not contained in a sealed chamber with adequate ventilation.

***NOTE:*** ***All batteries that are in a sealed chamber must have photographic evidence of venting.***

### **SAFE TO OPERATE WHILE DRIVING**

**1 to 5 Points**

**In this section, Judges evaluate whether the system can be operated (Volume, track selection, power on/off) without unreasonable distraction from the road. If, in the Judge's opinion, the system cannot be operated safely while driving, low points will be awarded.** The location and orientation of the above-mentioned controls and the status display of the system will be weighed by the Judges to determine if the system is safe to operate while driving. For example, a track display located between the bottom seat cushions of the front seats would be considered an unreasonable distraction. Furthermore, motorized installation elements must be designed so as not to interfere with the safe operation of the vehicle.

**RULE Verification:** The judge will ask the competitor to sit in the vehicle, in the normal driving position with the doors closed and both hands on the steering wheel. The competitor will then demonstrate the ability to operate and view the audio system controls. This demonstration will not be considered as part of the presentation time given to competitors.

### **POWER WIRE SIZE**

**0 or 5 points**

**Proper wire size should be used for both positive and negative current requirements.** There is no deduction or additional points awarded for wires bigger than the minimum size specified by the Power Cable Calculator Chart. If wire size does not meet requirements, points will not be awarded. (*See Power Cable Calculator Chart on [next page](#)*)

**Example: A 4 gauge wire runs from the front battery to one 1000 watt amplifier in the trunk. How long can the wire be?** A 1000 watt amplifier draws 1800 watts from the 12-volt source (based on a 60% amplifier efficiency rating). 1800 watts at 12-volts is a current draw of 150-amps. Therefore a 4 gauge wire passing 150-amps of current can be no longer than 12-feet. **Current calculation formula:** *Amp Wattage* times *Efficiency*, divided by voltage = current draw.

**How to calculate required wire size for your system application:**

1. Add up the total fuse ratings for each piece of equipment to be powered by the main power wire and calculate the total current required.
2. Measure the length of power wire needed
3. Locate the closest total amperage rating in the chart below and follow the column down to the closest wire length required, then cross reference to the wire gauge column on the left of the chart.

Power Cable Calculator

↓

Wire Gauge	Amperage	20	30	40	50	60	75	100	150	200	400
00								57	38	29	16
0							61	45	30	23	12
1						60	48	36	24	18	7
2					57	48	38	29	19	14	X
3				57	45	38	30	23	15	11	X
4		60	45	36	30	24	18	12	9		X
5	71	48	36	29	24	19	14	10	7		X
6	57	38	28	23	19	15	11	8		X	X
7	45	30	22	18	15	12	9		X	X	X
8	36	24	18	14	12	9		X	X	X	X
9	28	19	14	11	9		X	X	X	X	X
10	22	15	11	9		X	X	X	X	X	X
12	14	9	7		X	X	X	X	X	X	X

**APPROPRIATE POWER WIRES FUSED**

**0 or 5 points**

All electronics throughout the audio system installation must be individually fused (a fuse that is in line with each (one) piece of electronic gear) with appropriate value fuses. Chassis-mounted fuses on electronic equipment satisfy this requirement. Competitors must present photographs of (or physical access to) fuses for in-dash equipment. All fuses must be readily accessible within 60 seconds and be able to be replaced within the five minute breakdown period. A Judge may request that this be demonstrated and will not award points if it cannot be done.

**What is considered an “appropriate value fuse?”** Factory recommended fuse ratings for equipment are the first point of reference; in order to comply with these ratings, proof from the manufacturer must be presented to the judge for verification or the fuses within the amplifier must be visible for judges to inspect.

**NOTE: Judges will allow for a 20% over/under allowance in fuse rating. Protecting your equipment with a fuse value more than 20% below the recommended rating will not be considered as appropriate. If there is a fuse inline between the amplifier fuses and the main power/distribution connection, the lower value fuse/s of the two will be considered the primary fuse.**

All system power wires connected to any positive battery post (or terminal) must be fused within 18 inches of wire length from the battery post (terminal) and prior to the power cable's first pass through any sheet metal or other conductive material. The term “wire length” indicates the complete wire, from tip to tip, inclusive of wire inside the fuse holder and battery terminal. If there is no fuse present or the fusing is located beyond 18 inches or 46 centimeters of wire length, or after the power wire passes through sheet metal, the score will be zero.

**NOTE:**

Banks of batteries located within 18 inches of wire length between each other may be evaluated as one battery and the wire between them need not be fused. Factory dual battery systems (usually found on larger diesel powered vehicles) often do not have factory-installed protection between batteries. - Additional protection is not required in these cases, unless the cable between the batteries has been upgraded.

*This chart shows the maximum recommended fuse sizes for the wire gauge listed, based on a wire length of 15 feet.*

*Source [www.bcael.com](http://www.bcael.com)*

Wire Gauge	Maximum Recommended Fuse Size
00 awg	400 amps
0 awg	325 amps
1 awg	250 amps
2 awg	200 amps
4 awg	125 amps
6 awg	80 amps
8 awg	50 amps
10 awg	30 amps
12 awg	20 amps
14 awg	15 amps
16 awg	7.5 amps

## ALL WIRES PROPERLY PROTECTED

0 or 5 points

A non-conductive grommet must protect all wires where they **pass through any metal panel\*** or against any metal edges. Additionally, a non-conductive protective sleeve (a wire's insulator is not considered as a protective sleeve) must protect all wires that pass along, by or against any potential hazardous metal. This includes, but is not limited to; all power wires, signal wires (e.g. RCA cables), speaker wires, security wires and convenience option wires. The grommet and sleeve must provide protection against elements common to the area in which it is installed. Any installed cabling mounted to the exterior of the vehicle, whether underneath or above, must be properly protected against exterior elements such as road debris (salt, sand, dirt, water, rocks, etc.) and must not be mounted (or hanging) below the chassis of the vehicle.

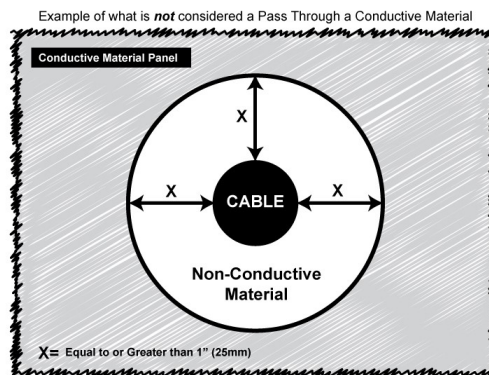
**\*Definition of a "pass through any metal panel"** - A "pass through any metal panel" in IASCA terms, is defined as a wire (power cable) travelling **perpendicularly** through any conductive material panel, with any edge of the conductive panel being less than one inch (1") away (along its complete circumference) from the edge of any wire or wire insulator. **In order for the wire (power cable) to be considered as not passing through a conductive material panel, there must be a minimum of one (1) inch (25mm) of distance between the outer edge of the passing cable/s (along its complete circumference) to any edge of the conductive material panel.**

Any wire (cable) passing through an opening in a *conductive material panel*, equal to or greater than specified and being considered as "not passing through a sheet metal panel", must be supported by a **non conductive** material in order to maintain the minimum required distance between the wire (power cable) and the conductive material panel (see diagram below).

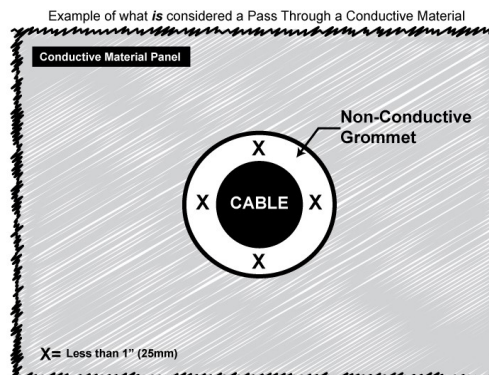
**EXEMPTION:** Competitors using commercially manufactured pass through connectors that are approved by any major safety standards organizations\* for completing a circuit through a conductive material panel are exempt from the minimum "non conductive" material distance rule. However, competitors manufacturing their own wiring pass through, whether it be a grommet or pass through connector, must adhere to the rule. If using a commercially manufactured pass through connector approved by a major safety standards organization, it is the competitor's responsibility to prove to the judge that it is an approved connector.

**\*Major Safety Standards Organization** indicates such groups as DOT, UL, CSA, European Safety Standards such as CE or BG, Automotive Groups such as ASE, F1, NASCAR, NHRA, etc.

The following is an example of what **is not** considered a "Pass Through any Metal (or Conductive) panel":



The following is an example of what **is** considered a "Pass Through any Metal (or Conductive) panel":



## **ALL WIRES PROPERLY TERMINATED**

**1 to 5 points**

All connections of wires at terminations and both positive and negative terminals must be protected from potential shorting and corrosion. All wire conductors (copper, etc.) must be insulated and not exposed. All Terminations and Terminals must be accessible by the Judges; failure in this will result in a lower score being given.

**NOTE:** “*Properly Terminated*” refers to how well a wire is inserted into a terminal on, or attached to, a piece of equipment. It does not refer to the type of terminal used by the competitor when making the connection, or to the manufacturer when building a piece of equipment. This means that no matter what type of terminal is used, there should not be any loose strands of bare wire or metal protruding (or visible) from the terminal or the connection that could potentially touch on (or be touched by) a conductive surface causing a short circuit and, that the terminal and where it connects is properly protected from corrosion.

The following examples satisfy this requirement:

### **Terminals:**

- Terminals that are coated or plated
- A complete or partially sealed enclosure surrounding the terminal (battery venting or “vents” that allow gases to escape from the enclosure are acceptable).
- A non-conductive water proof grease covering the termination

### **Wire Termination:**

- A heat shrinkable material that provides protection against fluid penetration
- A non-conductive water proof grease covering the exposed wire (*Waterproof grease should be used to stop corrosion penetrating up the cable.*)

## **INTERIOR WIRES HIDDEN FROM VIEW**

**0 or 5 points**

Any wires in the passenger compartment that are not part of a visual display should be hidden from view while sitting upright in any seat of the vehicle or standing upright outside of the vehicle.

## **WIRES SECURED**

**1 to 5 points**

All wires should be neatly tied down at regular intervals (maximum 8 inches apart) and routed in a neat and orderly fashion so as to prevent them from interfering with the mechanics of the location in which they are installed. Any type of tape or glue is an unacceptable means of securing wires in any area that is exposed to the elements.

**In this section, Judges will evaluate the integrity of the system's installation. Aspects of the installation that the Judges will consider include: proper cooling and ventilation, reliability of the system , ease of access for service and safe system design.**

**NOTE:** OEM components used in the sound system installation ***that have been modified by the installer and incorporated into the system*** will be evaluated in the same fashion as aftermarket components, including but not limited to: source units, amplifiers, speakers, other devices. Unmodified OEM components will not be evaluated.

## **11.4 - INSTALLATION INTEGRITY**

### **SOURCE/INTEGRATION UNIT**

**1 to 10 points**

**Maximum points are scored by those units that are secured in a fashion that they have no detectable movement when evaluated.** The Judge will evaluate how well the source unit or the OEM integration unit is physically mounted in the vehicle; they will check for sufficient support and the fit and finish of the source/integration unit and accompanying panels. The entire dash panel assembly and surrounding trim must fit together precisely. Points can be deducted for any of the following: loose mounting brackets, gaps or improper fit of any major panels around the source unit mounting area.

A source unit is defined as any piece of installed equipment that is capable of playing the official IASCA reference media available at an event, inclusive of in-dash OEM or aftermarket CD/DVD/MP3 players, single/multi disc CD changers, onboard PC or video game console, iPods, MP3, ZUNE or similar players capable of playing the media.

In the case of an unmodified OEM source unit being used in an installation, the OEM integration unit will be evaluated in place of the source unit.

### **AMPLIFIER/S**

**1 to 10 points**

**Amplifier/s must be solidly mounted in areas that promote ease of access, proper cooling/ventilation, ease of fuse access, ease of servicing and mounting location.** Points will be awarded for amplifier mounting architecture that promotes a safe and logical location, easy access to amp fuses and controls and proper amplifier cooling capabilities. Amplifiers mounted in areas which inhibit cooling, improperly secured to the vehicle, mounted in such a way that promotes difficulty in accessing fuses or controls or may create a safety hazard could have points deducted.

### **SPEAKERS**

**1 to 10 points**

**Speakers must be mounted using methods and locations that promote component longevity, system reliability, safety and proper acoustical performance.** In this section, Judges will evaluate the installation integrity of *all* speakers. The entire speaker system must be well secured to the respective mounting surfaces (the mounting surface may be a door panel, rear deck, speaker enclosure, etc.), exhibit reinforced surfaces or well executed enclosures, use the correct mounting hardware, be located in safe and logical locations of the vehicle, *and use the proper speaker protection appropriate for the particular installation. Proper speaker protection will be determined using a 1" (25mm) diameter object; if the judge is able to pass that object through the speaker protection at any point, and touch the cone of the speaker, it will not be considered as properly protected.* Points are to be awarded based upon all speakers being readily accessible by the Judge; if some speakers cannot be accessed, photographs of those speakers must be presented. The overall score will reflect the installation integrity of the speakers that are accessible and the photos presented.

### **OTHER DEVICES**

**0 to 10 points**

**Maximum points are scored by those devices that are secured in a fashion that promote component longevity, system reliability, ease of fuse access and ease of replacement or servicing.** In this section, Judges will evaluate the installation integrity of any audio system component not covered by a previous category. This includes pre-amps, OEM interfaces/modules, OEM integration processors, equalizers, electronic and passive crossovers, DSP processors, center channel devices, surround sound processors, noise gates, bass reconstruction processors, line drivers, OEM Integration components and *any other device through which the audio signal will pass* once it leaves a source unit connected to the system, until it reaches the speaker. When multiple devices (as defined above) are present in one vehicle, the Judges will assign a score based on the least well-installed unit. In the case of multiple source units, the units not judged under the Source Unit Judging will be judged as Other Devices.

If there are no other pieces of equipment connected to the vehicle's sound system that can be considered as "Other Devices", the score for this section will be zero (0).



## **11.5 - SYSTEM INTEGRATION**

***In this section, Judges will evaluate how well the system components are integrated into the vehicle (physically and cosmetically) as well as the overall installation theme. Items for consideration are ease of operation, safety, serviceability, as well as the fit and finish of the installation.***

**NOTE:** OEM components used in the sound system installation ***that have been modified by the installer and incorporated into the system*** will be evaluated in the same fashion as aftermarket components, including but not limited to: source/integration units, amplifiers, speakers, other devices. Unmodified OEM components will not be evaluated.

As this scoring section focuses on how well the system components are physically and cosmetically integrated into the vehicle and the overall installation theme, scoring will be focused on how well this was done in the installation and not what method of installation it is.

There are two methods of integration, STOCK and CUSTOM. Each vehicle may have different methods in each area or compartment.

- A STOCK installation maintains the integrity of the vehicle's interior with continuity. Color and texture are important. The highest points are awarded to the installation that creatively expands upon the factory look. The main motivating factor behind an installation in the STOCK method is to make it look the way the factory would do it, or better.
- A CUSTOM installation is one that purposely highlights the installation and its components. Consistency in the methods of highlighting, color selection, blending and creative methods of integration, will be important points of concern. This type of installation lends itself to the outlandish, much in the way a street rod stretches the limit of an OEM factory vehicle. The main motivating factor behind an installation in the CUSTOM Class is to make the installation stand out from the vehicle.

### **System Integration will be scored on:**

- Source/OEM Integration Unit 1 to 10 points
- Amplifier/s 1 to 10 points
- Speakers 1 to 10 points
- Other Devices (If no Other Devices present = 0) 0 to 10 points

<b>System Integration Scoring Scale</b>	
Perfect	10 points
Exceptional	8 - 9 points
Very Good	6 - 7 points
Good	4 - 5 points
Marginal	2 - 3 points
Needs Improvement	1 point

## **11.6 - CRAFTSMANSHIP**

***In this section, Judges will evaluate the quality of workmanship and elements of the installation that contribute to reliability, longevity, and durability of the audio/video system, as well as the overall fit and finish of the installation. The degree of difficulty involved with the various elements of an installation will be considered along with use of exotic materials, fasteners and/or installation techniques.***

**NOTE:** OEM components used in the sound system installation ***that have been modified by the installer and incorporated into the system*** will be evaluated in the same fashion as aftermarket components, including but not limited to: source/integration units, amplifiers, speakers, other devices. Unmodified OEM components will not be evaluated.

<b>Judges Evaluate Craftsmanship by the Following Scale</b>	
Perfect	10 points
Very Good/Excellent	8-9 points
Above Average/Good	6-7 points
Adequate/Average	2-5 points
Needs improvement	1 point

### **CRAFTSMANSHIP SECTIONS AND POINT TOTALS**

- Wiring 1 to 10 points
- Source/Integration Unit 1 to 10 points
- Amplifier/s 1 to 10 points
- Speakers 1 to 10 points
- Other Devices 0 to 10 points

## **11.7 - CREATIVE ELEMENTS**

**The concept of the Creative Elements scoring section is to reward those competitors for the installation or build elements within their installation that take it to the next level and raise the standard of installation in our industry.**

Creative Elements points are designed to reward the competitor for going “over and above” a standard system in a vehicle, using different items or techniques in the build, design and installation of the sound system. For purposes of clarification, a “standard system” is defined as a sound system comprising of a source unit, amplifier/s, speakers and a subwoofer in a basic enclosure.

They are items or techniques within the design, build or installation of the system that contribute to the system’s **performance, safety, cosmetics or serviceability**. They are items that may also highlight the equipment, installation, design or build of the system in the vehicle.

In this section, points are awarded not only for the item or technique, but also to the installer for their ingenuity and “*thinking outside the box*”, attempting to raise the standards of installation quality.

These items or techniques do not necessarily have to be unique, or uniquely creative or innovative in nature, to earn points; they may be items or techniques that have been “done before” and still earn points based on their level of ingenuity, difficulty, integration and craftsmanship.

All items or techniques to be considered for Creative Elements points **should** be presented to the IQC judge by the installer in the form of a written list. Judges will also look for Creative Elements within the installation as they perform the evaluation and will award points for items that they see, whether there is a list or not. However, it is in the competitor’s best interest to present a list, as the judge may not be aware of all the intricate details of the installation.

If a competitor chooses not to present a list to the judge, the judge will evaluate only the items they consider to meet the criteria. It’s likely that a competitor will not score as many Creative Elements points without a list, as the judges are not as familiar with the installation as the installer is.

Photos are not required with the list; however photos of the Creative Elements to be considered could be included within the competitor photo log or in a separate section of the photo log book, for review by the judge if necessary.

Each item or technique will be scored on a 6 point scale per item, based on the factors listed below. Points are calculated in two areas:

- The level of ingenuity, uniqueness, creativity **or** innovation (0 to 3 points)
- The level of difficulty to accomplish and execute (0 to 3 points)

Creative Element points are awarded for the overall application; for example, CE points can be earned for all speakers, but not each individual speaker. This example also applies to other components, system design, build techniques and use of materials.

<b>Creative Elements points possible (Per Class)</b>		
<b>Class</b>	<b>Points Possible per Category</b>	<b>Points Possible Total</b>
Amateur	15	90
Pro 1	15	90
Pro 2	15	90
Pro 3	20	120
Expert	20	120
Extreme Open	30	180

**EXAMPLE of CREATIVE ELEMENTS SCORING:**

Competitor **A** builds a subwoofer enclosure out of wood and on one side of the enclosure incorporates a clear Plexiglas panel, as a window to display the subwoofers and integrate them into the theme of the installation. This allows viewing of the subwoofer from the cargo area of the vehicle and creates a display in the trunk incorporating the subwoofer.

Competitor **B** builds a similar enclosure with the same concept in mind, but builds the complete enclosure out of Plexiglas, then adds mirrored Plexi in with lighting to highlight the subwoofer. Then, Competitor **B** has the subwoofer basket chromed for effect.

While both subwoofer enclosures effectively operate at the same performance level and were designed with the same basic concept in mind, the execution of Competitor **B**'s subwoofer enclosure achieved a superior cosmetic effect. Competitor **B**'s enclosure also required a higher level of ingenuity and design to create, and assembling the enclosure was more difficult to accomplish and execute.

When judging these two enclosures in this example, a judge could award points in this fashion:

**Competitor A**

- The level of ingenuity, uniqueness , innovation or creativity - 1 point
- The level of difficulty to accomplish and execute – 1 points

**Competitor B**

- The level of ingenuity, uniqueness , innovation or creativity - 2 points
- The level of difficulty to accomplish and execute – 3 points

Both enclosures are worthy of points, but the level of execution, design, ingenuity and cosmetics in Competitor **B**'s enclosure was superior, which merited the additional points awarded.

***Keep in mind that this scenario is merely one example of a concept that could potentially earn Creative Elements points. It is only listed as a frame of reference and does not specify that those exact points would be awarded in a similar situation.***

## 12 - SPL JUDGING

If SPL is available at the event, Expert class and Champions class competitors are required to be measured for SPL.

The SPL portion of testing will be measured at a “peak” SPL reading over 30 seconds.

Competitor will receive points based on the following SPL range brackets:

- 120db - 124.9 db - 2 points
- 125db - 129.9 db - 4 points
- 130db - 134.9 db - 6 points
- 135db - 139.9 db - 8 points
- 140db+ - 10 points

Example: 123.4 db will be 2 points. The cap is 140 dB; any system achieving a decibel level of 140 dB or greater will score the maximum 10 points.

In SPL testing, competitors do not have to keep their system operating for the full 30 seconds if they choose not to; once the maximum level has been achieved, they may shut the system down so as not to cause damage.

- The competitor must be completely prepared within 5 minutes of being approached by the SPL judge. Competitors **may not**, at any time, physically remove, replace or add any components to their sound system, including **but not limited to**, amplifiers, speakers, subwoofers, equalizers, processors, crossovers and source units during the entire SQ judging session (between SQC, IQC and SPL).
- The general lane rules from IdBL will be used along with the IdBL sensor placement.
- Competitor must use tracks from the IASCA SQC Track List
- Competitor will get one 30 second test run
- Competitors not able to operate their system from outside may sit in the vehicle during SPL judging. If they choose to do so, they must sit in the driver's seat and they **must** wear proper hearing protection. If the system is able to be operated from outside the vehicle, IASCA highly recommends that they do so.
- All vehicle openings and panels (e.g. windows, doors, sunroofs, trunk, hood, hatch, etc.) must be fully closed and remain that way until testing is completed. AT NO POINT during testing is a panel allowed to be opened. Any panel opened (or open) during testing will void the run and the competitor will receive a score of zero (0).
- When ready, the competitor will give the Judge a signal that they are ready to compete. Once the judge receives the signal, they will begin the 30 second run on the software.



## 13 - TIEBREAKERS

### 13 - COMPETITION TIE BREAKERS

In the case of a tie in SQC, the winner is determined by the highest score in the following sections, in the following order;

1. Tonal Accuracy
2. Sound Stage
3. Imaging
4. Noise
5. System Control Operation
6. Safety
7. Track List
8. If a tie remains, the competitors will share the position equally.

In the case of a tie in IQC, the winner is determined by the highest score in the following sections, in the following order;

1. Creative Elements
2. Craftsmanship
3. Cosmetic Integration
4. Installation Integrity
5. System Safety
6. Presentation
7. If a tie remains, the competitors will share the position equally.

In the case of a tie where SQC and IQC are combined, the winner is determined by the highest score in the following sections, in the following order;

1. SQC—Tonal Accuracy
2. SQC—Sound Stage
3. SQC—Imaging
4. SQC—Noise
5. SQC—System Control Operation
6. SQC—Safety
7. SQC—Track List
8. IQC—Creative Elements
9. IQC—Craftsmanship
10. IQC—Cosmetic Integration
11. IQC—Installation Integrity
12. IQC—System Safety
13. IQC—Presentation
14. SPL
15. If a tie remains, the competitors will share the position equally.

## 14 - CHANGING CLASSES

### 14 - CHANGING CLASSES

In SQC and IQC competition, a competitor may move up in Class, but **cannot** move down. If a competitor wishes to move down in Class, it is at the sole discretion of the IASCA Head Office to approve the Class change. **All petitions for a Class change must be submitted electronically by email or in writing, listing the circumstances and sent to the IASCA Head office or affiliate office for approval. Petitions will be examined on a case by case basis.**

- Novice must move up to Amateur after 1 full season of competition starting with the first time competing in SQC at an IASCA sanctioned event.
- Amateur must move up to Advanced Amateur after 2 full seasons of competing as Amateur starting with the first time competing in Amateur in SQC at an IASCA sanctioned event.
- Competitors who win the Amateur World Finals Championship must move up to Advanced Amateur effective on the next calendar day.
- Competitors who win the Advanced Amateur World Finals Championship must move up to Pro 1 effective on the next calendar day.
- Competitors who win the Pro 1 World Finals Championship must move up to the Pro 2 Class effective on the next calendar day.

## 15 - GLOSSARY OF TERMS

### SIX BASIC CHARACTERISTICS FOR DESCRIBING A TONE

**Loudness:** The magnitude of the auditory sensation produced by the sound (can be affected by equalization or improper level matching between speakers).

**Pitch:** The subjective quality of a sound which determines its position on a musical scale. (Excessive distortion and non-linearity can affect pitch.)

**Timbre:** The interaction of the harmonics and fundamentals of a sound which give it its sonic signature. (Example: The sound of a guitar can be affected by poor reproduction of high frequencies in the system if the harmonics of the fundamental tones produced by the guitar are not reproduced accurately.)

**Modulation:** A change in amplitude, phase or frequency which occurs to a sound. (Can be affected by systems with phase problems, frequency response problems, etc.)

**Duration:** Literally, the duration of a sound (for example this can be affected by systems with poor transient response or panel resonance).

**Attack and Decay:** The time it takes for a sound to build up (attack) or die down (decay). Attack and decay can be affected by systems with poor transient response, panel resonance and excessive reflections.

### OTHER TERMS

**Accurate (Accuracy)** - Precise, free from errors, capable of providing information in accordance with an accepted standard

**Ambience (Ambient)** - An atmosphere, giving the feeling of being in the room where the music was performed. Also known as "Realism".

**Baffle/s** - Panels built, or created specifically, to redirect or enhance the sound quality characteristics of a system.

**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. In trucks it is referred to as the bed, or box. In minivans, SUVs and crossover vehicles, it is the area directly behind the second row of seats.

**Characteristics** - A feature or quality that makes somebody or something recognizable; distinguishing or representative of a particular person or thing

**Coherent** - logically or aesthetically consistent and holding together as a harmonious or credible whole.

**Coloration** - The ability of a system component to give the sound a unique characteristic that is unnatural to or not recorded in the original reproduction.

**Control Device** - A device capable of completing the functions required by the judge to evaluate the system. System controls can include but are not limited to; steering wheel controls, wired/wireless remote, voice activation, mechanical/electrical switches/knobs, source units, head units, etc.

**Dashboard** - The panel that is generally attached to the interior side of the firewall that extends the full width of the vehicle. It may contain an instrument panel, controls for heating and air conditioning, glovebox, etc.

**Decibel** - A unit of relative loudness, electric voltage, or current equal to ten times the common logarithm of the ratio of two readings. For sound, the decibel scale runs from zero for the least perceptible sound to 130 for sound that causes pain and beyond. The symbol for decibel is *dB*.

**Dynamics** - In reference to music, the varied levels of amplitude in a piece of music, and the way in which a performer reproduces them within the performance.

**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.

## 15 - GLOSSARY OF TERMS (cont.)

**Environmental Noise** - Any noise generated by the vehicle, or any item within the vehicle and the system, that is not part of the original recording.

**Ergonomics** - The factors or qualities in the design of an item that contribute to its comfort, efficiency, safety, and ease of use.

**Industry** - The term "Industry" by IASCA's definition refers to the Mobile Electronics Industry and any facet of any other industry that directly relates to mobile electronics, such as car audio competition (Judge, Trainer, Event Promoter), magazines (online and print).

**Industry Member** - Definition: any individual who is employed in the industry, meaning they receive compensation from a company within the industry in the form of a paycheck from the company they are employed by.

**Kick pods (or Kick Panels)** - Pods or panels built to house speakers that are positioned in the vehicle's foot well area, designed specifically to enhance or improve the sound quality characteristics of the vehicle and system.

**Live concert environment** - The ability of a vehicle and sound system to reproduce the feeling and emotion of a live concert for the listener.

**Mechanical Noise** - Mechanical Noise is considered noise not generated by the judging media (CD, flash drive, etc.), such as airflow noises from fans, relay noises, or any noise coming from a piece of equipment within the system that detracts from the ability of the Judge to properly listen to the source media as it was intended to be listened to.

**Noise Floor** - The volume level of any ambient noise in the area of the vehicle, in relation to the listening volume level of the system evaluation.

**Newcomers** - Somebody who has recently arrived, appeared, or been introduced to the sport of car audio competition who is competing in their first season.

**OEM** - Abbreviation for "Original Equipment Manufacturer", 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.

**OEM Appearance** - This term refers to the vehicle maintaining a similar look to what it did from the manufacturer's original design. If a panel in a vehicle is modified, the intent must be to refinish the panel so it maintains an original "look", using the same or similar materials and maintaining the same or similar "shape" to its original counterpart. The look of the modified panel must maintain the flow of the original interior and not be designed to stand out from the rest of the interior design. **Example** - A pillars trim panels that do not have OEM tweeters mounted in them from the factory, but with aftermarket tweeters mounted in them. The original design was a plastic A pillar trim piece attached to the A pillar frame of the vehicle; the new (or modified) trim piece with the tweeter would be designed to replicate the look of the original trim piece with similar materials, such as a plastic spray, or a cloth or vinyl material of similar color and texture to the original trim piece in the vehicle.

**Parameters** - A fact or set of guidelines that restricts how something is done or what can be done within those facts or guidelines.

**Permanently affixed** - An item that has been added to the vehicle with the intent of permanence. An item is considered permanently affixed if the manner in which it was affixed causes potential damage to the panel where it is attached when removed. Examples of manners of attachment that could potentially cause damage when removed are, but not limited to: double sided tape, Velcro, screws, glue, solder, nuts/bolts, screws.

## 15 - GLOSSARY OF TERMS (cont.)

**Pillars** - The metal posts that hold up the roof of the vehicle. The front pillars at the windshield are commonly referred to as the “A” pillars, the center pillars at the middle of the roof are referred to as the “B” pillars and the rear pillars at the back window are referred to as the “C” pillars.

**Realism/Realistic** - The simulation of the music by the sound system in a way that accurately resembles the live performance of that music. Also known as Ambience.

**Reproductions** - The act or process of reproducing the music through the sound system using the source material.

**Resonance** - An intense and prolonged sound produced by sympathetic vibration, usually caused by the reproduction of the music by the sound system vibrating a panel in the vehicle. Resonance is the effect of a panel continuing to vibrate, reproducing a frequency after the musical equivalent of that frequency has stopped playing through the system.

**Seating Positions Retained** - This refers to the front and immediate rear seats in the vehicle. For vehicles with third row or more seating, the seating positions behind the first row of rear seating may be removed.

**Securely mounted** - For purposes of the SQC rules referring to equipment securely mounted, it refers to any item within the vehicle that is not properly installed, and could potentially pose a safety hazard to the judge while evaluating the vehicle and system. Examples of items would include, but are not limited to, remotes, bass knobs, processors, amplifiers, speakers, etc. Smaller items such as bass knobs or remotes may be mounted with Velcro and be considered as securely mounted, so long as the Velcro used is properly affixed to a panel and will not fall off. Larger items such as processors, amplifiers and speakers must be mounted more securely, such as with the use of screws. Wires coming out of the equipment must also be properly protected against the possibility of being accidentally pulled out of the equipment by a person’s movement while seated in the seat. **NOTE:** IASCA, and its representatives (Judges, staff, etc.) are not liable for any damage to any piece of equipment or wiring in a vehicle that is not securely mounted and protected. It is the competitor’s responsibility to ensure that their equipment and wiring is securely mounted and protected and IASCA holds no responsibility in regards to any damage that may occur from improperly secured items.

**Sense of Space** - The ability of the sound system being able to give the listener a “feeling” of being in the area where the music was originally recorded.

**Sibilance** - The hissing sound created when certain consonants are vocalized, such as the letter “s”. Can be compared to the sound made by a tire losing air.

**Spectrum** - The complete range of audio frequencies from the lowest bass to the highest highs the average human ear can perceive, commonly referred to as the “Sound Spectrum”.

**Stock** - Term used when referencing a vehicle, to reference the original (or OEM) design and appearance of that vehicle, before any modifications were made.

**Vehicle** - 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), a

## 16 - AFFILIATION, SPONSORSHIP and SUPPORT

**INDUSTRY AFFILIATION** - Competitor Members who work in the Mobile Electronics industry are considered as being affiliated with the mobile electronics industry. If a competitor is employed in any part of the mobile electronics industry, regardless of their position, they are by IASCA's definition considered a "professional in the industry" and must compete in the Pro 1 Classes or higher.

**SPONSORSHIP** - One of the questions that gets asked the most when trying to figure out what Division or Class to compete in is; "What is considered as sponsorship?"

For the purpose of clarification and proper competition Classification, the term "sponsorship" by **IASCA's** definition is: **"Receiving without cost, any finances, equipment, labor or vehicle from any person or entity that sells, installs, distributes and/or manufactures autosound products at any level, wholesale or retail for any reason and/or in exchange for publicity, advertisement or promotion of and for a brand or affiliated brand. This includes extraordinary discounts not commonly available to the general public, receiving funds or being reimbursed for typical corporate expenses to attend competitions including; travel, meals, fuel, accommodations, mileage and/or per diem."**

In short, this means any discounts below normal discounts you'd get at a store, or "freebie" equipment from anyone in the industry that directly relates to your sound system. If you have a contract for, or are being normally reimbursed for, travel expenses, meals, lodging or any expenses related to your attendance at sanctioned IASCA events, you are in essence receiving sponsorship, or being sponsored by a manufacturer.

**SUPPORT** - The following criteria is considered support and **is not considered** as receiving "sponsorship":

- Receiving reasonable retail discounts such as commonly advertised (e.g. 25% or 50% Off Sales). Special retail deals such as "Buy 3, get one free" or as an example "Buy an amplifier and get a free wire kit"
- Being a member of a manufacturer supported team.
- Receiving reimbursements for competition entry fees to attend a competition as part of a manufacturer supported team.
- Receiving branded apparel at little or no cost as a member of a manufacturer supported team.
- Receiving assistance with the tuning or set up of an audio system by an audio professional or team member, whether paid or voluntary, at any time prior to a competition, or while preparing a vehicle the day of the competition.
- Receiving the occasional "free meal" or dinner when attending a team meeting.