

MACE Sound Pressure Level (SPLC) Rules

Categories

Amateur (Outer SPL) SPLC.A (Private Car)

Develop for entry level consumer competitors, who are beginning their involvement in car audio sports while not involving in any retail, distribution in car audio industry. Most systems at this level are very basic, compared to experienced competitor's systems. Amateurs pay regular prices for equipment and installation, or do the installation work themselves, or with assistance. The Amateur competitors own their system components, and do not borrow equipment for the contest. Amateur competitors are allowed to take part in the Pro categories.

This particular category is especially for outdoor blasting systems. Basically the system must have at least 2 x 10 or 12 inches subwoofers or a pair of 15 inches subwoofers or a total area of 157 square inches or more and the subwoofer box cannot be moved and shall be tighten. The entire system must have midranges and tweeters and full design, the sub box must be fully secured and not to be moved. Those aiming just to compete and doing last minute installation is not allowed to participate. Vents without port are not allowed. Each vent (round or rectangular) must have at least 4 inches port for the port tuning. Each vent cannot expose over the enclosure 1 inch. (Van doesn't falls into this category, but they can participate in the Pro (Outer SPL) Van SPLC.P Van)

SPLC.A Categories

0-2500W

2501-5000W

5101W+

Pro (Outer SPL) SPLC.P (Private Car)

This particular category is especially for outdoor blasting systems. Basically the system must have at least 4 x 10 or 12 inches subwoofers or a pair of 15 inches subwoofers or a total area of 314 square inches or more and the subwoofer box cannot be moved and shall be tighten. The entire system must have midranges and tweeters and full design, the sub box must be fully secured and not to be moved. Those aiming just to compete and doing last minute installation is not allowed to participate. Vents without port are not allowed. Each vent (round or rectangular) must have at least 4 inches port for the port tuning. Each vent cannot expose over the enclosure 1 inch.

The Pro Class is designed to offer a more than basic competition format for competitors who work within the Mobile Electronics Industry in the capacity such as installer, salesperson, technician, or any other position that gives them a technological advantage over an Amateur.

SPLC.P Categories

0-3100W

3101-6100W

6101W+

Pro (Outer SPL) SPLC.P (Van)

This particular category is especially for outdoor blasting systems. The entire system must have midranges and tweeters and full design, the sub box must be fully secured and not to be moved. Those who aiming just to compete and doing last minute to install is not allowed participating. Each vent (round or rectangular) must have at least 4 inches port for the port tuning. Each vent cannot expose over the enclosure 1 inch. In this class, the minimum number of 12 or 10 inches subwoofer are 6 and above while 15 inches will be 4 and above.

The Pro Class is designed to offer a more than basic competition format for competitors who work within the Mobile Electronics Industry in the capacity such as installer, salesperson, technician, or any other position that gives them a technological advantage over an Amateur.

SPLC.P Categories

0-6100W

6101W+

Measuring Procedures: -

1. Each competitor are given 2 chances, 30 seconds each chance. Highest score will be taken.
2. Midrange and tweeters must have a reasonable volume to support the sub bass until the 30 seconds time frame.
3. Upon the measuring SPL started, if one of the component no sound and break down or system down (including cracking of the cone, voice coil problems) (not including dust cap losing). The score will not be taken and the competitor lost one chance. The competitor are given chance to rectified the problem for the second chance or redrawn from the competition.
4. In the process of measuring SPL, competitor are allowed to tune up or maintain the volume to achieve his desire SPL, but they are not allow to tune down the volume. There will be a video recorder recording the whole process until the end of the measurement. Competitors who found tune down the volume will be disqualified (including the score). But the competitor still has the second chance, if it is only the 1st chance he uses. But if the competitor still found repeating the same mistake, he will be disqualified and will not have the 3rd chance.

5. The official CD is Bass Nation and the official music is “Sex is Danger – Florfilla CD one. This song doesn’t consist sub bass below 50Hz. Competitors are ask to play this music from the start till 30 sec, during this 30 sec, all the driver (high, mid, low) must have sound.
6. During the music, there cannot have “kong kong” or “fu fu” sound of strong wind, or weird sound from in-sequence movement of the sub woofers. Each bass note has to be clearly being listened and the entire woofer cone must have almost the same kind of movement. If the above weird sound appears, then the competitor will be disqualified and on the spot will be given 2 min to make adjustment for the second test. If the second test also same kind of sound appear, then the competitor will be disqualify again and will not given the 3rd test.
7. During the music, every single bass note has to be clearly being heard from the sub woofer like 8, 10, 12 or 15 inches. If the line judges have doubt on the system, he has the right to ask the competitor to turn off the midbass and test the sound from the sub woofers. If found cheat or problems, the competitor will be disqualify and on the spot will be given 2 min to make adjustment for second test. If the second test also same kind of sound appears, then the competitor will be disqualify again and will not given the 3rd test.

SPLC.U 12 (Unlimited Power Two Twelve) (Outer SPL)

In this category, competitors are only limit to use 2 pieces of 12 inches sub woofers(Quartet is not allow). There are no limitations of the usage of amplifiers and power, no design is needed, midrange and tweeter are not needed. Sub box and be movable but must be lock on during measurement. The port hole aiming the microphone is allowable. (Fuse bonus is not applicable here). This category is for highest SPL can be achieving by 2 pieces of 12 inches sub woofer.

Measuring procedure: -

1. Each competitor are given 2 chances, 30 seconds each chance. Highest score will be taken.
2. We will be using the official CD
3. During measurement, competitors are allowing tuning up or tuning down the volume, but cannot turn off the player before the 30 second time frame.
4. If there is a problem occur during the 1st measurement, competitors are allow to leave the judging lane to rectify the problem or even

change amplifier (same power but the 1st score cannot be taken) and try for the 2nd attempt.

Amateur Sound Quality (SQ) Sound Pressure (Inner SPL) SPLC.SQ

This class only allowed for Amateur Sound Quality competitors and uses SQC standards.

SPLC.SQ Categories

0 – 1100 W

1101 W+

SPLC.S 12 (Street Thunder Two Twelve) (Outer SPL)

In this category, competitors are only limit to use 2 pieces of 12 inches sub woofers (Quartet woofer is not allowed). There are limitations of the usage of amplifiers and power (Only the woofers). Midrange and tweeters must have a reasonable volume to support the sub bass, until the 30 seconds time frame. The sub box must be fully secured and not to be moved. Those who aiming just to compete and doing last minute to install is not allowed participating. Amateur competitors are allowed to take part in the Pro categories. (Fuse bonus is applicable here).

SPL.S 12 Categories

0-1500W (Amateur)

0-2000W (Pro)

1. Each competitor are given 2 chances, 30 seconds each chance. Highest score will be taken.
2. Midrange and tweeters must have a reasonable volume to support the sub bass until the 30 seconds time frame.
3. Upon the measuring SPL started, if one of the component no sound and break down or system down (including cracking of the cone, voice coil problems) (not including dust cap losing). The score will not be taken and the competitor lost one chance. The competitor are given chance to rectified the problem for the second chance or redrawn from the competition.
4. The official CD name is Platypus Seven and choice your own track. Competitors are asking to play this music from the start till 30 sec, during this 30 sec, all the driver (high, mid, low) must have sound.
5. If there is a problem occur during the 1st measurement, competitors are allow to leave the judging lane to rectify the problem or even change amplifier (same power but the 1st score cannot be taken) and try for the 2nd attempt.
6. Testing process chairs pillows can be removed; chairs back can be down but not removed.

7. During measurement driving side must close the window, only to open passenger window

Rules and Regulations

1. Vehicle must be fulfilling the road safety regulations (valid road tax, safety belts, seats, windows, brake and lamps).
2. Both vehicle and system must be operating by the car owner or the team. During the judging process, only 1 person is allowed sitting in the vehicle.
3. In amateur class, only the car owner is allowed to operate the system.
4. Competitors must wear a protection ear glove.
5. During the judging process, the judging lane only allowed the owner and one member from the team.
6. During the judging process, engine is allowed to be start.
7. The vehicle's engine RPM cannot exceed 2000 rpm during testing, the competitor must be able to set the rpm to 2000 revolutions and being inspect by the judges.
8. If the tachometer haven't reaches the required RPM, each vehicle are not allowed to exceed the required RPM. Competitor will be given a chance to retest if found disqualified once, repeater will be disqualified.
9. Each competitor is give 2 chances; the highest score will be taken as the overall result.
10. In every competition, competitors are allowed to take part in multiple categories using the same vehicle, but only allowed to keep the score on only one category.
11. Amateur competitors are allowed to take part in Pro categories.
12. Members of the competitors and him had to respect the judges. Any immoral act will be leaded to disqualification.
13. Once the vehicle entering the judging lane and the judge are ready, the competitors will have 5 minutes for tuning. Failing to do so will lead to disqualification.
14. 30 seconds for each test.
15. For inner SPL, the competitors are not allowed to open their doors before the 30 seconds end. Else the score will be disqualified.
16. For inner SPL, the competitors need to shut down all the windows.
17. The entire systems have to get the power supply (12V) from the vehicle electrical systems, and cannot exceed 15V. Modification of the alternator is allowed, however it is only based on the original location. Numbers of batteries are not counted. For Pro, multiple alternators are allowed.

18. The enclosure is not only the enclosure of the sub woofer, but it includes the amplifiers, speakers, sub woofers, power sources, and batteries etc that install on it.
19. The entire system; including amplifies, speakers, fuse box, batteries shall be safely installed in the vehicle for inspection.
20. There should be no changes after the inspection unless agreed by the judges, but only allowed to change to same replacement items.
21. If the system having problems, the competitors will be given 5 minutes to rectify the problem. Each competitor will be given only 1 chance.
22. In event of tie scores, competitors will retest their system, the highest score will win, but if it is still tie, both competitors will share the winning.

Judging Standards

1. MACE calculation; Amplifier maximum output + square inches of the subwoofer cone area.
2. Only calculate those which connected to the subwoofers.
3. The fuses for the subwoofers amplifiers should be with the correct value.
4. There should not have splitters, distributions blocks (without fuses) after any fuse box or distributions box.
5. The allowable fuse boxes are: - AGU, AUE, Maxi, ANE or ANL etc. A, allowable fuse value for AGU/AUE are: 20, 30, 40, 50, 60Amp. B, allowable fuse values for Maxi are: 40, 50, 60 and 80Amp. C, allowable fuse values for ANL/ANE are: 100, 150, 200, 250 or 300Amp.
6. Circuit breaker is not considered as a fuse.
7. After inspection, competitors are not allowed to change the fuses, unless getting approval from the judges.
8. If the system doesn't have a fuse system, then it will use the amplifier built-in fuse value. If the amplifier also don't have fuse, then it will use the maximum output of the amplifier to count the value. The calculation is: - the maximum output of the amplifier (with the lowest impedance) divided by 13.
9. The amplifier uses for the subwoofers should use the correct fuse for protection. By doing this, an extra bonus of 2 points will be added. Example: - if the result is 138dB + bonus = 140dB, hence the final score will be 140dB.
10. MACE judges will justify the categories for the competitors.

11. Competitor should show the amplifier manual for verification, prior for that will be given 1 extra point.
12. The entire vent should not be over the hook of the car.
13. The boot has to be able to close in the normal manner.

Location of the microphone

1. The microphone should be placed at the MACE approved stand.
2. During the competition, competitors are not allowed to touch or move the microphone.
3. The position of the microphone shall always be facing the front of the car and should be stable during the whole testing.
4. Outer SPL measurement.
 - The distance for the microphone and the sub enclosure is 36 inches (from dust cap). Example: calculation distance from the inner sub woofer dust cap and the outer most sub woofer dust cap distance added up and divided by 2. Then the microphone is free to move but will keep the distance of 36 inches.
 - Microphone basically will be placed 36 inches away and the competitor can choose the height of the mic. But the mic cannot directly face the vents and should be placed on a place where there are no vents. The judges can adjust up and down or left or right directions.
 - Microphone cannot be placed closer than 12 inches from the hook.
 - If the sub woofer installed at the inner place holds only 40% of the entire system and the sub woofer installed at the outer place holds 60% or more, then the distance of the mic should count from the outer sub woofers.
5. For inner SPL, competitors cannot sit at the same location as the microphone is located.
6. Inner SPL measurement:
 - Microphone away from the A-pillar 12 inches and height 4 inches and away from the windscreen 1 inch.
7. Unlimited Power Two Twelve measurement:
 - Microphone located away from the vent 4 inches.
8. SPLC.S 12 (Street Thunder Two Twelve)
 - Microphone located outside the middle passenger car window.

SPL Winner System check

After every test, those winner vehicles must perform another round of system check. This check is to check on the proper installation and make sure the voice coil is not damage.