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Introduction

Psychlone Competition

Psychlone is a new format of competition designed to capture the original excitement of a great sounding aftermarket car stereo installation. This format is also designed to cater to the vast majority of auto sound enthusiasts who design and build their systems to sound great at moderate to high listening levels. Each contestant's sound system is scored based on how loud it will play (SPL), the frequency response of the system (RTA), and Installation Quality. These elements form the basis for a Psychlone event.

The dB Drag Racing Association (dBDRRA) has gone to great lengths to insure that the rules for competing in Psychlone are as comprehensive and unambiguous as possible. Even so, there will invariably be times when a particular application or installation will fall outside the scope of this rulebook. When those occasions arise, it is the responsibility of the head judge to make a determination as to whether the incident in question abides by the "spirit" of Psychlone competition. As a competitor, it is your responsibility to understand the rules contained in this book and to abide by any decisions rendered by the head judge.

Psychlone Creed

- I will never operate my system in a manner that will disturb those around me.
- I will never operate my system in a manner that could result in injury.
- I will never operate my system in violation of the law.
- I will do my best to represent the sport of Psychlone in a positive fashion.
- I will conduct myself in a professional manner while participating at events.
- I will do my best to support those companies and retailers who support our sport.
- I will always abide by the Psychlone rules when competing and will do my best to insure that others abide by the rules as well.

Safety Guidelines

The safety of the competitors, judges, and bystanders at a Psychlone event are of paramount importance. As the operator of the competition vehicle and its sound system, the competitor has a tremendous responsibility both to himself and to those around him with regards to safety. Competitors should clearly understand the following issues prior

to participating in a Psychlone event.

- Operation of a motor vehicle is inherently dangerous. You MUST insure that the operation of your vehicle will not endanger yourself or those around you. Please adhere to all local laws and verify that your pathway is clear before moving your vehicle. Although officiating staff members may sometimes offer assistance in moving and/or directing traffic, the responsibility for the operation of the competition vehicle ultimately lies with the competitor.
- Auto sound systems are capable of producing high sound pressure levels. Exposure to high sound pressure levels may cause hearing damage. NEVER operate your sound system in such a manner as to expose yourself or others to high sound pressure levels. In addition, listening to your sound system at high volumes while driving may prevent you from hearing emergency vehicles, vehicle or train horns, etc. Always operate your sound system in accordance with local laws and never operate your sound system in a manner that could interfere with the safe operation of your vehicle. This includes making adjustments to your sound system while you are driving.
- Custom auto sound installations may affect the safety and/or integrity of your vehicle. Although some competitors may elect to have their sound system installed by others, it is ultimately the competitor's responsibility to validate that his or her installation is safe. Particular care should be taken with regards to electrical wiring. All power wires should be fused directly at the battery to minimize the risk of a fire hazard. Sound components such as speakers, amplifiers, enclosures, etc. should be fastened to the vehicle in such a way as to prevent them from causing injury or damage in the event of an accident. Vehicles that have been structurally modified to accommodate the sound system or vehicles that exceed the maximum gross weight limits as detailed in the vehicle's operating manual should never be driven on public streets or highways.

The dB Drag Racing Association and its affiliates are not qualified to determine the safety and/or legality of a given competition vehicle. This responsibility lies with the competitor. As such, the dB Drag Racing Association and its affiliates cannot be responsible for any accidents, damages, or injuries that occur at a Psychlone event. By participating in a Psychlone event, the competitor agrees to take full responsibility for his or her actions and any accidents, damages, or injuries that may occur. The dBDRR strongly encourages competitors to operate their vehicles and sound systems in a manner that is consistent with local laws. Flagrant disregard for safety will result in disqualification and subsequent ejection from the event.

Section 1 - General Rules

Introduction

Psychlone is a new format of competition designed to capture the original excitement of a great sounding aftermarket car stereo installation. Systems that capture the audience with a balanced concert type of presentation. This format is also designed to cater to the vast majority of auto sound enthusiasts who design and build their systems to sound great at moderate to high listening levels. All of the original, "old school", elements of car stereo competition are integrated into Psychlone judging.

- Sound Pressure Level (SPL) is used to determine how "loud" the stereo system can play.
- Real Time Analysis (RTA) is used to determine the frequency response of the system.
- Installation Quality is used to determine if the fundamental elements of good aftermarket installation are followed.

Competitors may use the program material of their choice while competing.

Additional Guidelines:

- 1-1 • The program material being played must originate from a source unit that is specifically designed for installation and operation in a 12-Volt auto sound environment. This includes cassette decks, CD players and changers, DVD players and changers, VCR's and VCP's, MP3 units, AM / FM / Satellite radio tuners, and any other playback device that is specifically designed for installation and operation in a 12-Volt auto sound environment.
- The program material must consist of music. No "test tones" are permitted. Test tones "camouflaged" as music or "songs" that are advertised as music but are, in fact, test tones will not be permitted in competition.
- The program media may be from a commercial source (such as a CD you purchase) or a custom, homemade recording.

- 1-2 Adjustments to the sound system may be made while the vehicle is being metered as long as no other applicable rules are violated during the adjustment process. (Metering is the process where the Sound Pressure Level or SPL of your vehicle is measured.)

- 1-3 The contestant's vehicle may be running while in the judging lanes as long as the following conditions apply:

- Operation of the vehicle or sound system must not endanger the judge, competitor, spectators, or any real or personal property on the premises.
- The vehicle's parking brake must be set.
- The wheels must be chocked.
- The hood must be closed.
- The maximum engine idle speed must not exceed 2000 RPM.
- A remote "engine kill switch" must be easily accessible from outside of the vehicle for those competitors that are bolting (clamping, strapping, etc.) the doors of the vehicle closed while in the judging lanes.

It is the competitor's responsibility to comply with the conditions listed above. Competitors found to be in violation of one or more of these conditions may be eliminated from the competition.

The contestant must be outside of the vehicle while the sound system is being metered and all doors, windows, and other openings to the vehicle must remain closed during this time.

1-4 *Exception* - Competitors may remain inside of the vehicle during metering provided:

- They wear adequate hearing protection at all times.
- The competitor must sign a Psychlone entry form that includes a waiver stating that the competitor understands that "exposure to high sound pressure levels may result in temporary or permanent hearing loss".

Electrical System

- 1-5
- All of the auto sound equipment must be powered by the vehicle's 12-volt electrical system.
 - Only 12-Volt automotive batteries may be used.

Installation

- 1-6
- All auto sound equipment must be permanently installed within the vehicle and shall not interfere with the normal use of the passenger compartment. (The area in front of the B-pillars.)

Section 2 - Optional Competitor Classification System

Normally, each Psychlone competition will consist of a single class for all contestants. At larger venues, the event sponsor may, at his or her discretion, offer two Psychlone classes based on the contestant's industry affiliation and/or the equipment being used in the installation. When two classes are offered, each contestant shall be categorized as follows...

- 2-1 Amateur Division - Contestants who do not meet any of the Pro Division criteria as outlined in Section 2-2 below.

Pro Division

The dBDRRA considers any contestant who meets one or more of the following criteria to be a Pro...

- Anyone who is employed in the auto sound industry.
 - Anyone who is sponsored by someone in the auto sound industry.
 - Anyone who purchases auto sound equipment at below fair-market prices.
- 2-2
- Anyone who has competed as a pro in the past.

The dBDRRA considers any contestant whose system meets one or more of the following criteria to be a Pro...

- Systems that incorporate "Competition Grade" components.
- Systems that incorporate more than 2000 Watts RMS total power.
- Systems that incorporate woofers with cast frame baskets or voice coils that are greater than 2.5 inches in diameter.

Section 3 - Auto Sound Equipment Regulations

All of the auto sound equipment used in the competitor's sound system must satisfy the following guidelines:

- 3-1 All auto sound equipment must be designed for installation and operation in a 12-Volt auto sound environment.

All auto sound equipment must be (or have been) commercially available. The determination as to whether a product is (or was) commercially available shall be at the sole discretion of the dBDR.

Additional Guidelines:

- 3-2
- Equipment must be available for purchase through legitimate auto sound retailers. For clarification purposes, the dBDR defines a legitimate retailer as any business that is legally licensed to conduct auto sound related transactions, operates a retail establishment that is open for business at least 40 hours per week, and is a factory authorized dealer for the equipment in question.

All auto sound amplifiers must be linear in nature.

Additional Guidelines:

- 3-3
- The amplifiers used in the sound system should be designed for audio reproduction. For clarification purposes, the amplifier's output waveform should be a close facsimile to that of the input signal. In addition, the amplifier's output magnitude should be proportional to that of the input signal. The determination as to whether an amplifier is acceptable for use in Psychlone competition shall be at the sole discretion of the dBDR.
 - No embedded active power sources (such as batteries) may reside inside of the amplifier.

The program material must be reproduced using conventional loudspeakers (subwoofers). The determination as to whether a loudspeaker is acceptable for use in Psychlone competition shall be at the sole discretion of the dBDR.

3-4 *Additional Guidelines:*

- The dBDR defines a conventional loudspeaker as a sound reproducing electro-mechanical transducer that incorporates a cone, surround, basket, and voice-coil.
- The loudspeaker must be powered directly by the audio amplifier(s).

- Loudspeakers incorporating servo mechanisms, actuators, or any other form of mechanically powered motor are specifically prohibited.
- A maximum of 4 electrical conductors may be connected to each woofer as long as no other applicable rules are violated.
- A maximum of 2 amplifiers may be connected to each coil on a woofer.
- Compressed air, explosive devices, etc. are expressly forbidden.

The same audio system must be used for both SPL and RTA measurements.

Additional Guidelines:

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- Competitors are permitted to make changes to the system settings (volume, tone, equalization, fader, etc.) throughout the competition.
- Electrical or physical changes to the sound system are not permitted.

Section 4 - Judging Procedure

Overview

- Every contestant shall qualify twice; once for SPL and once for RTA.
- The contestant's SPL score and RTA score shall be added to the contestant's Installation score to determine the contestant's Overall score.
- Placement shall be determined by each contestant's Overall score (SPL score + RTA score + Installation score). The contestant with the highest Overall score wins.

Sound Pressure Level Score (SPL)

- The SPL score in Psychlone is comprised of two parts; Average SPL and Peak Frequency Bonus.
- The Average SPL is simply the 30 second average SPL as measured by Term-LAB.
- The Peak Frequency Bonus is awarded based upon the frequency where the contestant's highest average SPL occurred. This bonus is determined as follows...
 - 80 Hz = 0 Points
 - 79 Hz = 1 Points
 - ...
 - 20 Hz = 60 Points

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Example:

Average SPL = 143 dB

Peak Frequency 35 Hz

Peak Frequency Bonus = 80 - 35 = 45 points

SPL Score = 143 + 45 = 188

The maximum Peak Frequency Bonus is 60 points. The maximum SPL score is currently 243 points (183 dB Max Term-LAB measurement + 60 Bonus points.)

Frequency Response Score (RTA)

- Contestants shall use Pink Noise for the RTA measurement.
- The RTA microphone shall be placed so that it approximates the driver's ear location.
- The output level of the system shall be adjusted until a good broadband frequency response representation is obtained on the Term-LAB RTA analyzer.
- The frequency response score will be calculated from the 30 second

4-2

average RTA measurement.

- The Term-LAB RTA analyzer will identify PRIMARY discontinuities within the frequency response of the system. (Band-to-band deviations in excess of 9 dB.) The primary discontinuity with the highest band-to-band deviation will then be determined. The actual deviation at this location (in dB) will be deducted from the RTA starting score of 100 points.
- The Term-LAB RTA analyzer will identify SECONDARY discontinuities within the frequency response of the system. (Band-to-band deviations in excess of 6 dB.) The secondary discontinuity with the highest band-to-band deviation will then be determined. The actual deviation at this location (in dB) will be deducted from the current RTA score.
- The Term-LAB RTA analyzer will identify all band-to-band discontinuities exceeding 3 dB (excluding the primary and secondary discontinuities, if any). One point shall be deducted for each of these deviations.

The maximum RTA score is 100 points.

Installation Score

Ten points shall be added for each of the following...

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- Aftermarket source unit in use
- 5-Band or greater equalizer in use (stand-alone or integrated)
- Active crossover in use (stand-alone or integrated)
- Appropriate power wire size for amplifiers
- Power wire(s) fused within 24 inches of the car batteries
- Custom trim panels OR completely "stealth" installation
- Subwoofer enclosure present
- Aftermarket front-stage and rear-fill speakers present
- Aftermarket amplifiers present
- All equipment installed securely

The maximum Installation score is 100 points.