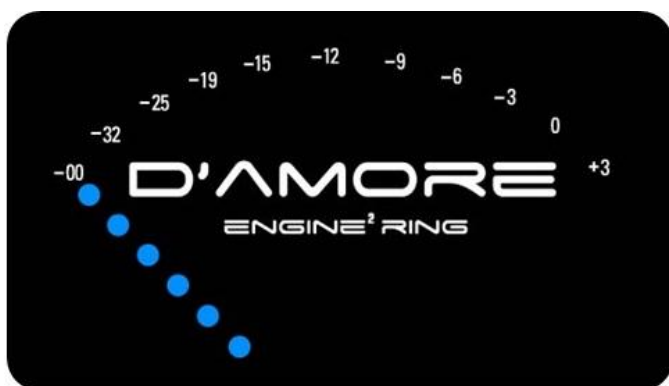


SMD



VU-DIN

OUTPUT METERS

Thank You

Congratulations on your purchase of the SMD / D'Amore Engineering VU-DIN. This unit is designed and manufactured in the USA with pride.

A word of caution: This product has exposed circuitry and components on it. Damage can result from static discharge into the circuit board. Please handle with care.

Description

The VU-DIN can be used as a real time indicator of how close to clipping your amplifier is being driven (when calibrated with the SMD / D'Amore Engineering DD-1 Distortion Detector) and / or as a light show to add a visual sense to your music. Adding a visual sense to your music is great, as long as it is perfectly in sync. With the use of high speed analog circuitry in the VU-DIN, the response is instantaneous. (Hopefully if your system is set up correctly you won't add the sense of smell, as smelling your music is usually a bad sign)

About the Design

Some might consider the VU-DIN to be over-built; we think it is just right. Some features of the design are:

- Mil spec FR4 circuit board
- High speed switching power supply
- Constant LED current and brightness regardless of battery voltage (won't dim with your beat)
- 66 bright surface mount LEDs
- 100% analog for real time response
- Adjustable sensitivity
- Wide operating voltage range for vehicles with modified electrical systems

Specifications

Operating voltage range for power supply 8 – 28 VDC

Operating voltage range for remote turn on 3 – 28 VDC

Voltage required on speaker input for full scale @
maximum sensitivity15 VAC RMS

Voltage required on speaker input for full scale @
minimum sensitivity.....200 VAC RMS

Maximum input.....200 VAC RMS

Step per meter segment.....3dB

Dimensions.....6.7 X 1.6 X 0.3 Inches

Installation

Connect the BLACK wire to ground.

Connect the RED wire to constant battery voltage.
(Acceptable range is 8V – 28V) Why not?

Connect the BLUE wire to switched voltage.
(Acceptable range is 3V – 28V)

Connect the WHITE signal wire to the left channel (+) speaker output of amplifier.

Connect the GREY signal wire to the right channel (+) speaker output of amplifier. If this does not work, connect it to the right channel (-) speaker output instead.

If you have a MONO amplifier and wish to connect both meters to it, you can. Connect the WHITE and GREY wires together to the amplifier's speaker (+) output.

Calibration with Distortion Detector DD-1

1. Disconnect speakers from amplifier
2. Connect VU-DIN as described in installation section.
3. Connect DD-1 to amplifier output
4. Play track 3 or 4 from Distortion Detector CD (Track 3 for subwoofer amplifier, Track 4 for full range amplifier), set track to repeat.
5. Turn volume on source unit up until RED distortion detected LED illuminates on DD-1

6. Turn source volume down one click until distortion is no longer detected.
7. Carefully, with small adjustment screwdriver, turn the adjustment pots on the VU-DIN fully counter clockwise. Then turn clockwise until the display switches from amber to red. Do this for each of the meters.
8. It is now calibrated. The reason for setting the meters to red (+3db) without distortion detected on the DD-1 is to compensate for the amplifier being set unloaded vs. loaded.
9. Reconnect speakers and enjoy

Calibration without Distortion Detector DD-1

1. Connect VU-DIN as described in installation section.
2. Play music as loud as possible **without damaging your system or distorting the sound.**
3. Carefully, with small adjustment screwdriver, turn the adjustment pots on the VU-DIN fully counter clockwise. Then turn clockwise until the display activates the red (+3db) only slightly on the loudest peaks of the music.
4. Enjoy

Troubleshooting

Problem: The VU-DIN doesn't seem to show any movement of the simulated needle.

Solution: Make sure the White and Grey signal wires are connected to audio signal. On most 2 and 4 channel amplifiers the White wire (Left) should be connected to the amplifier's Left Speaker (+) terminal. The Grey wire (Right) should be connected to the Right Speaker (-) terminal. If the right channel doesn't work try connecting it to the Right Speaker (+) terminal of amplifier.

Problem: The meters do not return to the $-\infty$ position even when no audio signal is present.

Solution: There may be noise in the system or the amplifier has some DC offset on the output. If DC offset is the problem, it may be necessary to place a capacitor in series with White or Grey wire to filter this noise from the signal. If this is the case, a 10uF 200V non-polarized capacitor will do the trick. One side of capacitor connected to amplifier, the other side of capacitor connected to VU-DIN White or Grey wires. Each wire (white and grey) should have its own capacitor connected as above. If system noise is the problem, it will need to be tracked down. Usual causes are grounding issues and gain structure not set correctly.

Limited Warranty

D'Amore Engineering warrants this product to be free of defects in materials and workmanship for a period of one year. This warranty is not transferrable and applies only to the original purchaser from an authorized D'Amore Engineering dealer. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction, D'Amore Engineering will (at its discretion), repair or replace the defective product with new or remanufactured product at no charge. Damage caused by the following is not covered under warranty: accident, misuse, abuse, product modification or neglect, unauthorized repair attempts, misrepresentations by the seller. This warranty does not cover incidental or consequential damages. Cosmetic damage due to accident or normal wear and tear is not covered under warranty. **Warranty is void if the product's serial number has been removed or defaced.**

Any applicable implied warranties are limited in duration to the period of one year beginning with the date of the original purchase. No warranties shall apply to this product thereafter. Some states do not allow limitations on implied warranties; therefore these exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you need service on your D'Amore Engineering product:

All warranty returns should be sent to D'Amore Engineering accompanied by proof of purchase (a copy of the original sales receipt). Warranty expiration on products returned without proof of purchase will be determined from the manufacturing date code. Non-defective items received will be returned COD. Customer is responsible for shipping charges and insurance in sending the product to D'Amore Engineering. Shipping damage on returns is not covered under warranty.

**To obtain service worldwide please e-mail
D'Amore Engineering at
Warranty@DAmoreEngineering.com**

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