Reverse Alarm of M- and N-Vehicles

(2. Approach after Discussions between Japan & Germany dated 8th Dec. 2016)
Contents:

1. Present Situation
2. Problems
3. Solutions
Present Situation

Most vehicles > 3,500 kg are equipped with a Reverse Alarm (OEM/Retrofit).

Equipment often based on the Employer's Liability Insurance Association.

Because of this, existing Reverse Alarms are very loud.

Because

- Using-Conditions differ (wide range: extreme loud to very quiet) &
- the effect of insurances (“a lot helps a lot”).

Existing Reverse Alarm noise level is based on the ambient noise of highway construction areas.

No specific harmonized standards or requirements were found.
Contents:

1. Present Situation

2. Problems

3. Solutions
Problems

1. Reverse Alarms actually have no harmonized limits (Min. and Max.)

2. In urban and quiet areas Reverse Alarms are too loud (many complaints)

3. During 10:00 pm & 7:00 am Reverse Alarms are much too loud (many complaints)

4. Reverse Alarm is a substitute for AVAS at UN-Regulation 138 (QRTV) This makes no sense, if there are no Minimum limits of Reverse Alarm!
Contents:

1. Present Situation

2. Problems

3. Solutions
Solutions about **REVERSE ALARM (REAL)**

**Harmonization** of REAL as New UN-Regulation. Not part of UN-R28!

Combine AWD (mandatory) & REAL (voluntary) at one UN-R is difficult

**Req.-Scope:** N2, N3 & M3 vehicles for carriage of passengers or goods

REAL: Mandatory for [N3 and M3]; Not mandatory for [N2] [Option]

**Main Structure (Approval: Component- & vehicle Fitting)** similar to UN-R 28

**Component:** Min-/Max-Levels, Frequencies; Microphone-distance 2 m
(Laboratory- or Outside-tests; like AWD component)

**Vehicles:** Min-/Max-Levels, Microphone-distance 7 m; height of 0,5 - 1,5 m
(Outside-test; like AWD-mounting on the vehicle; only difference: Rear End)
Solution Details (1. Approach dated Sep. 2016)

4 Selectable Sound Pressure levels (SPL))

**Normal:** Urban-Area (SPL: Min. 68 dB(A) & Max. 78 dB(A))

**High:** Road-Work Area (SPL: Min. 80 & Max. 94 dB(A))

**Low:** Quiet-Area (SPL: Min. 52 dB(A) & Max. 58 dB(A))

**Night-switch Off:** Deactivation of Sound (Recommendation: can be used from 10:00 pm - 5:00 am), if hazard warning lights will be activated automatically by using reversing gear
Solution Details (JP & DE Proposal: 65th GRB-Session)

2 Selectable Sound Pressure levels (SPL)

1. Normal: Urban-Area (SPL: Min. 58 dB(A) & Max. 78 dB(A))

2. Low: Quiet-Area (SPL: Min. 45 dB(A) & Max. 65 dB(A))

How to select 2 SPL

Option 1 Manual switching
(After restarting the vehicle the “Normal level” has to be activated again!)

Option 2 Automatic switching

[Also allowed: Automatically Level Adjustment
5 dB(A) [± 2] dB(A) above Ambient Noise between 50 and 100 dB(A)]

UN-Typ-Approval can also be granted, if a vehicle is equipped with Rear-View-Camera in accordance to 2003/97/EC or UN-R 46 Rev. 5 and no REAL is fitted and the Rear view camera is activated automatically by selecting reverse gear!
**Solution (Possible Next Steps and Time Line)**

1. Question to GRB about acceptance of JP/DE-Approach?  
   
   If GRB agree with Step 1.

2. Present GRB a proposal of UN-Reg. REAL as Inf.-Doc.  
   
   If GRB agree with Step 2.

3. Present GRB a proposal of UN-Reg. REAL as Work.-Doc.  
   
   If GRB agree with Step 3.

4. Vote of WP.29 about UN-Reg. REAL (Proposal)  
   
   If WP.29 agree with Step 4.

5. UN-Reg. REAL could get into force
Thanks for your attention!