Linear Gas Dynamics - Acoustic in a pipe

Write equations: $R_t + \rho_0 * u_x = 0$ and $u_t + (a_0^2/\rho_0) * R_x = 0$, where R is the density perturbation to ρ_0 [$\rho = \rho_0 + R$]
Boundary conditions for closed (u = 0) and open (R = 0) pipe ends.

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