

A GUIDE TO THE USE OF 'SPRINGBOARD' – A PACKAGE OF PROGRAMS FOR THE PREDICTION OF WHEEL/RAIL NOISE

A major source of noise from railways is that produced by the interaction of the wheel and the rail. Theoretical models of the phenomenon have been under development over a number of years at British Rail research, and from this work a linear theory of wheel/rail noise generation has been developed.

A suite of programs, known as SPRINGBOARD (Software for the Prediction of Rail-wheel Interaction Noise Generation Based On Acoustic Radiation and Dynamics), has been written to implement this theory. This document describes the use of these programs; a description of the function of each program is given, along with details of the data required to run them. It should be stressed that, if meaningful results are to be produced using the programs, a good working knowledge of the above theory, as described in the report, is an essential pre-requisite.