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The reconstruction of the potential for a wave equation on a semi-axis is demonstrated with local versions of the Gelfand-Levitan and Krein equations and the linear version of Simon's approach. In all cases the problem is reduced to a Fredholm integral equation of the second kind. The resulting problems are then resolved numerically with a second order accurate scheme, and the efficacy of these local approaches is demonstrated. Construction of accurate data from the forward problem is also described. (Received January 24, 2014)