Abstract: The Euclidean generalized wave operator can be considered as a differential intertwining operator between degenerate principal series for the indefinite orthogonal groups. There is a similar operator, the Heisenberg generalized wave operator, that can be considered as a differential intertwining operator between degenerate principal series for the indefinite unitary groups. In this talk, I will present a family of integral operators from the degenerate principal series for the orthogonal groups to those for the unitary groups that intertwines these two wave operators. I will also sketch the first part of the proof for this intertwining property, which is purely analytic and so makes sense in a wider context.