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Sommario/riassunto	This book develops a C^* -algebraic approach to the notion of principal symbol on Heisenberg groups and, using the fact that contact manifolds are locally modeled by Heisenberg groups, on compact contact manifolds. Applying abstract theorems due to Lord, Sukochev, Zanin and McDonald, a principal symbol on the Heisenberg group is introduced as a homomorphism of C^* -algebras. This leads to a version of Connes' trace theorem for Heisenberg groups, followed by a proof of the equivariant behavior of the principal symbol under Heisenberg diffeomorphisms. Using this equivariance and the authors' globalization theorem, techniques are developed which enable further extensions to arbitrary stratified Lie groups and, as a consequence, the notion of a principal symbol on compact contact manifolds is described via a patching process. Finally, the Connes trace formula on compact contact sub-Riemannian manifolds is established and a spectrally correct version of the sub-Riemannian volume is defined (different

from Popp's measure). The book is aimed at graduate students and researchers working in spectral theory, Heisenberg analysis, operator algebras and noncommutative geometry.
