1048-17-246 **Alex J Feingold*** (alex@math.binghamton.edu), Department of Mathematical Sciences, Binghamton University, Vestal Parkway East, Binghamton, NY 13902-6000. *Hyperbolic Weyl groups and related Coxeter groups.* Preliminary report.

In recent work of Alex Feingold, Axel Kleinschmidt and Hermann Nicolai ("Hyperbolic Weyl groups and the four normed division algebras"), the Weyl groups of many hyperbolic Kac-Moody algebras of ranks 3, 4, 6 and 10 were explicitly realized as certain 2x2 matrices with entries from the four normed division algebras, R, C, H and O, respectively, acting on spaces of 2x2 Hermitian matrices. In the rank 3 case associated with R, the Weyl group is the hyperbolic triangle group T(2,3,∞) isomorphic to PGL(2,Z), an index two extension of the modular group. That case, and the corresponding hyperbolic Kac-Moody algebra, were extensively studied in 1983 by A. Feingold and I. Frenkel, who also knew that two rank 4 cases had Weyl group containing PSL(2,Z[i]) with index four. This talk will present some extensions of the work of Feingold, Kleinschmidt and Nicolai, including a realization of other hyperbolic triangle groups such as T(3,4,5), and possible use of other algebras in place of the four normed division algebras. (Received February 09, 2009)