Meeting: 1001, Evanston, Illinois, SS 5A, Special Session on Codes and Applications

1001-94-251 **Jon-Lark Kim*** (jlkim@math.unl.edu), Department of Mathematics, 203 Avery Hall, P.O.Box 880130, University of Nebraska–Lincoln, Lincoln, NE 68588, and **Vera Pless** (pless@math.uic.edu), Department of Mathematics, Statistics, and Computer Science, 322 SEO(M/C 249), University of Illinois–Chicago, Chicago, IL 60607. *Formally self-dual even codes of length divisible by 8.*

A binary code with the same weight distribution as its dual code is called *formally self-dual (f.s.d.)*. We only consider f.s.d. even codes (codes with only even weight codewords). We show that any formally self-dual even binary code C of length n not divisible by 8 is balanced. We show that the weight distribution of a balanced near-extremal f.s.d. even code of length a multiple of 8 is unique. We also determine the possible weight enumerators of a near-extremal f.s.d. even $[n, n/2, 2\lfloor n/8 \rfloor]$ code with $8 \mid n$ as well as the dimension of its radical. (Received August 27, 2004)