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Joshua P. Case* (joshua.case@maine.edu), P.O. Box 71, New Vineyard, ME 04956. *Measuring Complexity of d -Note Pitch Collections Within a c -Note Chromatic Universe.*

Music theorists describe the complexity of pitch-class sets (collections of musical notes) by computing the number of "differences", "ambiguities", and "contradictions" found among the generic intervals. Norman Carey has developed a formula to determine the maximum number of differences for sets of cardinality N . However, due to the restrictions of the c -note chromatic universe in which a d -note pitch-class set is contained, this maximal value may not be reached. I desire to develop a formula that will yield the maximum number of differences given the values d and c . If such a formula can be developed, what can it reveal about a set's chromatic universe and its ability to contain complex collections? What will this formula tell us about the collections themselves? While differences will be a main focus, other formulas dealing with complexity (incorporating both c and d) will also be considered. (Received September 21, 2009)