Abstract: We provide a comprehensive treatment for the problem of testing jointly for structural changes in both the regression coefficients and the variance of the errors in a single equation system involving stationary regressors. Our framework is quite general in that we allow for general mixing-type regressors and the assumptions on the errors are quite mild. Their distribution can be non-Normal and conditional heteroskedasticity is permitted. Extensions to the case with serially correlated errors are also treated. We provide the required tools to address the following testing problems, among others: a) testing for given numbers of changes in regression coefficients and variance of the errors; b) testing for some unknown number of changes within some pre-specified maximum; c) testing for changes in variance (regression coefficients) allowing for a given number of changes in the regression coefficients (variance); d) a sequential procedure to estimate the number of changes present. These testing problems are important for practical applications as witnessed by interests in macroeconomics and finance where documenting structural changes in the variability of shocks to simple autoregressions or Vector Autoregressive Models has been a concern.