abstract A computer program is presented aiming at the calculation of bound and continuum states, reduced transition probabilities, phase-shifts, photo-disintegration cross sections, radiative capture cross sections, and astrophysical S-factors, for a two-body nuclear system. The code is based on a potential model of a Woods-Saxon, a Gaussian, or a M3Y, type. It can be used to calculate nuclear reaction rates in numerous astrophysical scenarios.