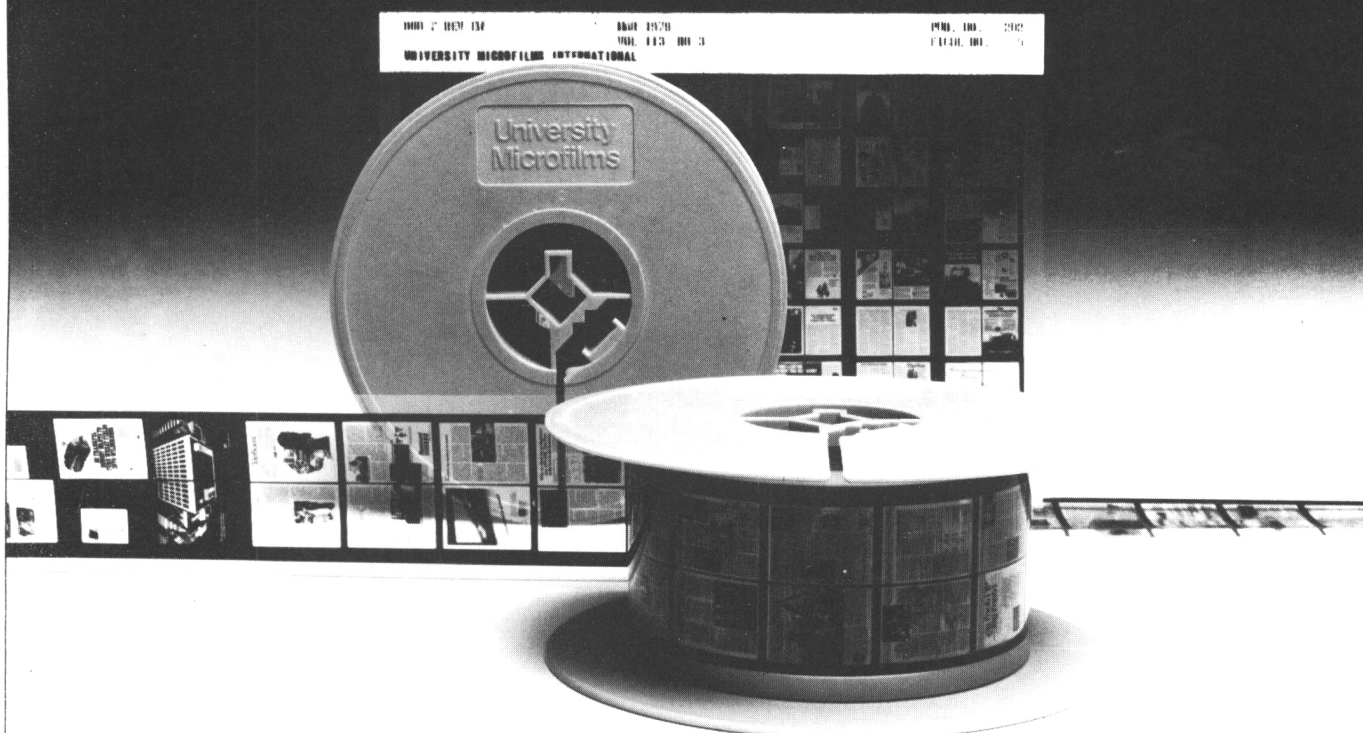


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COMpacs[®]

FRIENDLY PROGRAMS FOR ENGINEERS WITH SMALL COMPUTERS

COMpac 7004

SPECIFICATION

SUBJECT: Fatigue damage estimation under variable amplitude loading.

PURPOSE: This is an interactive program, with graphics, enabling the user to make reasonable engineering estimates of the fatigue life of a component subjected to a variable amplitude and variable mean loading. The package is based on ESDU's well tried methods of fatigue life estimation which take account of inelastic behaviour at stress concentrations, thus overcoming the serious limitations of elementary Miner's Rule calculations, but without demanding expensive and extensive testing to establish special material properties data. The main input data required are the expected loading history together with points from the constant amplitude SN curve for a notched and an unnotched set of specimens of the material, and stress concentration factors for the component and the notched test specimens. The COMpac enables the professionally qualified user, though having no special computer or language knowledge, to make fatigue life estimates directly, to follow the process involved stage by stage, and to ascertain quickly the effect of modifications to the geometry, material or loading on the life of the component.

BASIS: ESDU Data Items 76014, 76016 and 77004 with latest amendments.

MECHANICAL DETAILS: The COMpac comprises a User's Manual, ESDU Data Items 76014, 76016 and 77004, and a program currently available in the following form(s):

1. DC-300A Data Cartridge for Tektronix 4051 (16k version), 4052 or 4054.



ENGINEERING
SCIENCES
DATA UNIT

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