STRUCTURAL ENGINEERING SOFTWARE

ROSS H. BRYAN INC.
Consulting Engineers

for

OLIVETTI MICROCOMPUTERS

INTRODUCTION

The enclosed material has been prepared by Ross H. Bryan Inc., Consulting Structural Engineers, in cooperation with Olivetti Corporation of America to acquaint firms in the structural consulting field - who are considering purchase of an Olivetti P602 or P603 Series Microcomputer - with extensive structural programs developed for the machines. The programs are written specifically for the structural design field and contain practical, analytical solutions to problems encountered daily in consulting offices. The format allows the designer freedom to impose his own criteria in reaching an individual design solution.

The programs are divided into two groups, termed Package A and Package B, which relate to the accessory equipment selected. The former was developed for firms equipped with only the Olivetti P602. The latter group was developed for structural firms equipped with the Olivetti P602 and MLU600 magnetic tape cartridge. A list of current programs in each group is included. An abstract of each individual program and an example problem is given. Programs which require the MLU600 for execution will have (MLU) written in the description. Programs with the listing (Opt.) in the description are available in two versions; one for users with P602 only and another for users with the P602 and MLU600.

DEMONSTRATION

Two programs are available for demonstration by the Olivetti representative, to illustrate the program content. One is Program No. 59, which provides trial sizing and design review of a reinforced concrete footing subject to axial load and applied moment. The second program reviews trial sizing of a composite steel beam and computes required section, studs, cover plate, cutoff if used, weld size and spacing. Full details are provided in the abstract and on Page 11 of the Olivetti Marketing Information Bulletin.

The Olivetti representative will have on hand, or may obtain, a sample problem and printout on any program listed.

PROGRAM MATERIAL

Package A and Package B may only be purchased by owners of Olivetti Micro-computers. The programs in these packages may be furnished to the purchaser as follows.

Package A: The programs will be transferred to magnetic cards, in which case the buyer will pay the additional price of the cards.

Package B: The Olivetti customer will send his 32 track tape cartridge to Ross H. Bryan Inc. The cartridge will be loaded and returned.

In both cases a conditional sales agreement must be signed by purchaser.

FEATURES

Several useful features are contained in these programs which are not usually found in programs for small computers. One such item is a preprinted analysis sheet matching up with the tape output. The tape output may be reproduced with the explanatory sheet to supply a complete, understandable record set of calculations.

Considerable time and expense would be required for an individual firm to develop in-house information comparable to this structural package. With the package, the user has access to the most comprehensive set of structural programs developed to date for the P602 and MLU600 combination.

The staff of this engineering firm includes two system analyst engineers who have written all programs in the packages and are available for specific program writing for those who wish to expand beyond the present listing. The purchaser of either package will be informed of all new programs as they become available. He may purchase one or all of the new programs as he elects.

An extensive development is continuing to expand the library of structural software by adding programs of general interest and practical use.

PACKAGE A

These programs require only the P602 for execution. The more comprehensive and complex programs are not contained in this grouping as the extended storage provided by an MLU600 is unavailable.

The following 20 programs comprise the recommended structural package. The price of this group is $495.00.

1	15	23	34	50
5	16	25	35	64
10	17	27	36	81
12	22	30	41	155

Substitution of other listed programs that do not require the MLU for execution is an option of the purchaser. After initial purchase of Package A or Package B, user may purchase additional programs at the listed prices.

PACKAGE B

This selection consists of the complete library of structural programs written by Ross H. Bryan Inc. for the Olivetti Microcomputers. It contains Package A and the more sophisticated and complex structural solutions using the extended storage capacity of the random access tape in the MLU600. The current price for the library of 54 programs is $1195.00 .

RECENT DEVELOPMENT

A number of very useful and much requested programs have been added to the structural software library this year and are included in the Package B group.

1) A continuous beam program with capacity of solving up to ten spans of any combination of lengths having any number of concentrated and uniform loads is available. Columns above and below the member may be included in the indeterminate solution. Variable inertia within each span is allowed. For the latter two conditions, the user enters the distribution factor and carry-over factor. (This entry is not required when columns are not included and beams are prismatic within each span.) Moments and shears at supports and quarter points are output. (CP 127)

2) A program which reviews the proportions and designs interior elements of a concrete retaining wall is now available. Sloping backfill, surcharge, passive pressure and water pressure may be input. (CP 143)

3) A program for designing steel base plates and anchor bolts subjected to bending moment and axial load is included. It is useful for analyzing any fixed joint of a steel member against concrete. Required thickness based on compression and tension forces is output. (CP 120)

4) A program analyzing steel columns subjected to axial force and one
or two directional bending is now available.   (CP 106)

5) A program for computing the average effective inertia of a concrete
member as outlined in Section 9.5.2.2 of the new ACI Building
Code. Rectangular , tee and inverted tee sections are solved by
this program.   (CP 44)

6) A truss analysis program is complete and now available. The member
forces in the truss and its reactions are output.   (CP 136)

7) A program for analyzing the forces on a multistory rigid frame subjected
to wind loading. The cantilever method is used. (CP 156)

8) A program for analyzing a shearwall is complete. Total deflection
and stresses are output.   (CP 125)

9) A program for analyzing a pile group with rigid pile cap loaded with
two way bending and axial load. is complete.   (CP 29)

10) A program for determining column loads in a multistory building using
live load reduction factors.   (CP 109)

11) A program for determining the slenderness effect of concrete columns
using the moment magnification method of ACI 318-71 (CP 161)