TEKniques Vol. 7 No. 1 D1
Part #062-6715-01

TEKniques Vol. 7 No. 1 D1 disk consists of six 4050 Series programs: one CAD, one Project Aids, and four Utility. The individual abstracts describe the programs.

Program 1

Title: PICTURE30
Authors: J.A. Loughran
        A.J. Yerman
        General Electric Company
        Schenectady, NY
Memory Requirement: 4054/Opt. 30
                   w/64K
Peripherals: 4052R11 Character Generator
           ROM
           4952 Joystick, Opt. 2
           4907 File Manager
           4663 Plotter*
           4956 Graphics Tablet
           *Optional – 4662 Plotter (with
                       program changes)
Files: 1 Program
      10 Binary Data (demo pictures)
Statements: 1891

PICTURE30 is a simple but very capable interactive picture composition program. It uses short, sensible, and easy-to-learn mnemonic keyboard entry commands. The program uses the joystick (or thumbwheels) or optionally, the graphics tablet, to define and manipulate six primitive objects. The combination allows the user to create elementary to complex "pictures": sketches, diagrams, drawings, space layouts, flowcharts, electronic schematics, etc. Stored automatically on the 4907 disk as they are created, most of these pictures can then become additional objects for inclusion in subsequent pictures. The program makes extensive use of the 4054 Dynamic Graphics Option 30. It also uses the 4052R11 Character Generator ROM Pack for enhanced text and refresh graphics capabilities.

The primitive objects generated are lines, labels, crosshatch, arrows, circles, and a particularly versatile one broadly called "polygon." Once created, most pictures can become an additional object available for inclusion into another, new picture. By subdividing an elaborate picture into a group of related, individual overlays reduces access time to the picture elements and provides the opportunity to change plotter pen colors between overlays.

Program 2

Title: EDITPROG
Author: John Harms
       Tektronix, Inc.
       Wilsonville, OR
Memory Requirement: 8K
Peripherals: 4907 File Manager
Files: 2 Program
Statements: 134

This program will take any number of 4907 host binary files and perform string replacement. For example, a disk with 50 program files can be easily edited. EDITPROG will allow you to change every occurrence of "FOO" to "FUMP", "CAT" to "KITTEN", "A$" to "B$", and/or any other combination of strings.

The filenames are specified by a list in DATA statements, and each name may include wildcard characters. The report that lists each change can be optionally directed to a printer.

The user interface has been left unstructured to allow a programmer to easily change the program for other purposes (e.g., listing all occurrences of a string, etc.). Internal program documentation is in SUPERLIST format (see *TEKniques* Vol. 6, No. 2 D1).

Restriction: Program line numbers must be less than 65000.

Program 3

Title: Production Capacity Forecasting Model
Authors: Leonard Weitman
        Mark Lyman
        Tektronix, Inc.
        Vancouver, WA
Memory Requirement: 4052/4, 32K
                   (see note below)
Peripherals: 4907 File Manager (dual)
           4643 Printer
Files: 8 Program
      6 data & 2 program – examples
Statements: 1661

The Capacity Forecast Model informs production managers and engineers of maximum production capacities within a production area. The mathematical model is based on the interaction of process yields, processing times, and machine use rates with the forecasted market demand for the products manufactured in the area. The results generated by the model answer such questions as:

– Where are possible bottlenecks in the production line?

– What equipment will be needed to meet the forecasted production requirements?

– When will this equipment be needed?

– How much additional space will be required?

The program is an integrated system of modules performing three main functions:

1) Data storage – lets the user create a data base containing the information needed for running the model.

2) Data file management – aids in the manipulation of data files. Files may be listed, updated, or deleted.

3) Calculate/list production capacities – draws information from the data files and calculates the results. The listing routine outputs the results in a clear, meaningful manner.

NOTE: A few statements setting character size won't work on 4052.

Program 4

Title: 4907 Multiple Volume Directory Lister
Author: Frits Handgraaf
       Tektronix, Inc.
       Europe
Memory Requirement: 32K
Peripherals: 4907 File Manager (dual)
           Optional – 4641/3 Printer
Files: 5 Program
      1 Data
      Requires pre-MARKed data tape file
Statements: 841

The program provides a data base of directories of different volumes of disks on one disk. In addition to the 4907 directory output, the program offers the ability to specify parts of the directory information (items) to be output in any order. The first program REMARK statement may be included in the output (as an extra item, provided it was specified with the CREATE function). All items may be sorted in ascending or descending order with the sort-key setting. The following functions are provided:

1. *List created volume directory files*
   Information is stored in two files, one contains the directory of the volume, the second contains the volume label, number of files and a flag indicating whether the first REMARK statement is included. Output may be to a specified output device.

2. *Create volume directory file*
   Stores the volume directories on the system disk, using the internal tape as an interim step, allowing the user to specify the first REMARK statement line to be included.

3. *Sort volume directory file*
   Provides a butterfly sort of the volume directory file using specified key settings in either ascending or descending order. The array and sorted information may be saved on the disk.

4. *Output volume directory file*
   Output of the directory (sorted or not sorted) in a format defined by the user to a specified device address.

Program 5

Title: Local Language Translator
Author: Ruud Borstel
        Tektronix, Inc.
        Europe
Memory Requirement: 32K
Peripherals: 4907 File Manager (dual)
             Optional – 4641/3 Printer
Files: 2 Program
Statements: 252

Local language translator is an aid in changing the human interface (including screen messages and prompts) from the original language (in most cases English) into a local, other language.

The program offers two modes:

1. Reporting screen messages and prompts of all quoted parts via hard copy or printer.

2. Interactive changing of text strings and reporting the changes made.

NOTE: The original files to be translated must be ASCII files. The documentation contains a utility to convert host binary files to ASCII files.

Program 6

Title: DOC1
Author: John McCrory, Jr.
        USDA Forest Service
        Columbia, MO
Memory Requirement: 64K
Peripherals: 4907 File Manager (dual)
             Optional 4641/3 Printer
Files: 1 Program/1 Data
       5 Data (examples)
Statements: 193

Based on the five level hierarchy of the 4907 File Manager, DOC1 maintains an inventory of tape/disks, their files, and documentation pertaining thereto.

A Table of Contents file contains all the first two-level libraries under which the Documentation files will be found. Each Documentation file is stored under a user-specified five level name. It contains four sequential strings:

program name (30)

tape or disk volume # and file # (72)

short description of program (72)

location of documentation (72)

The program allows data entry into the Table of Contents file and creation and data entry into the Documentation file, or a listing of any or all.

4110 LP Program Exchange Disk 1
Part #062-6955-01

The 4110 LP Program Exchange Disk 1 is the first collection of programs for the 4110A Series Local Programmability. Although the disk is shipped with the Local Programmability product, it is updated periodically with new programs. Thus, the current release is made available in the Program Exchange. As the updates occur, abstracts describing them will be published in *TEKniques*.

Programs 1–16

Title: 4110 LP Program Exchange Disk 1, Release 1.1
Authors: GSP Engineering
         Tektronix, Inc.
         Wilsonville, OR
Equipment: 411XA
Memory Requirement: 256K
Files: 24
Files Space: 310K

Program Exchange Disk 1 is a collection of utility type programs which extend the power of CP/M-86® as implemented on Tektronix 4110A Series terminals. The programs are either self-documenting in their execution or have a documentation/tutorial file on the disk.

Program	Function
ATR	Set file attributes.
BDOS	Operating System interface library for FORTRAN-86.
*DRIPO	DRI Assembler Post-Processor.
EMACS	Text Editor for refresh terminals.
*EXD	Extracts comments from source code to facilitate documentation.
FILCOM	Line-by-line text file comparison.
FILSPY	Hex dump and byte modify of a file.
GREP	Text string search.
*ITS	Date and time.
MDRIVE	In-memory pseudo disk drive.
OLDFETCH	Converts 4110 file structure to CP/M structure.
PAT	Color pattern program for 4113.
QB	Quick batch.
*SDFC	Single drive file copy.
TECO	Text editor for storage terminals and refresh terminals.
TOD	Date and time.

*Files included in release 1.1 that weren't in release 1.0.

Note: CP/M-86 is a registered trademark of Digital Research, Inc.