```
*******   *******   *******   ********  **      **
   **         **        **        **  **   ****    **
   **      *******      **     ********   ** ** **
   **            **     **        **  **   **    ****
   **      *******   *******      **  **   **      **
```

# DESCRIPTION OF TSCAN

TSCAN is an input/output (I/O) program designed to act
as a flexible link in a multi-user system under the Ohio Scientific
operating system OS65U Level I.   It allows up to 16 microcomputers
to be connected to a host computer with a wide variety of I/O
capabilities.

## OPERATIONS EXECUTABLE FROM REMOTE COMPUTERS   (C1P and C4P)

Among the capabilities is the ability to store and retrieve
programs on magnetic disk.   It also allows extensive printer control
which includes the ability to list and run programs on the microcomputers
with the output being sent to a printer.   The printer formatting
includes any number of spaces between lines and optional pagenation.
There is also the option of having a terminal identification number
printed on the output.

TSCAN also supports data files and is capable of both sequential
and random access files.   The files may be of any length allowed
by the disk.   TSCAN is formatted in such a way as to allow great
flexibility in data file manipulation.

Among the more advanced capabilities is the ability to switch
from one disk drive to another.   Also there is the capability to
execute other programs on the host such as a remote create program.
This allows for a wide range of programs to be available for use
on the host computer.

As an aid in protecting programs, TSCAN also supports passwords.
the use of passwords is, however, optional.   This proves to be of
value in a classroom situation when a number of student files are
being used.

TSCAN is a comprehensive host program that allows maximum
flexibility with minimal complexity.   It is operational on what
ever level of expertise the user is currently operating.   This makes
it ideal for educational aplications.   It has been developed under
actual classroom conditions and is currently in use.   It is the
ideal way to obtain optimum performance from an OS65U Level I
multi-user system.


TSCAN

COPYRIGHT:   5/80

MICHAEL S. O'NEILL

# OPERATIONAL NOTES ON TSCAN

NOTE #1: TSCAN is structured in such a way as to provide the
proper timing that is required to carry out all of its
functions.  This means that any tampering with the program
statements could result in operational errors.

NOTE #2: Due to the critical nature of the timing in TSCAN
it is necessary to run TSCAN at 1 MHZ on dual speed
computers.  Operation at 2 MHZ may result in operational
errors.

NOTE #3: The use of the TSCAN commands will result in the generation
of syntax errors.  This is to be expected due to the fact
that these commands are unintelligible to the BASIC
interpreter.  These syntax errors occur only on the remote
microcomputers and should be ignored.

NOTE #4: During the operation of the system, if more than one
remote computer attempts to tie into the host, the remote
that attempted to tie in last may lock up. The best way
to get out of this is to hit the BREAK key and then W.
This will disable the SAVE mode and unlock the computer.
This type of jamming occurs only on the remote computers
and will cease as soon as the host computer becomes free.

NOTE #5: When printing an execution of a run, it is important to
to note that when the printed output has leading spaces,
the leading spaces will be suppressed on the printer
output.  This occurs due to the nature of the input statement
that is used on the host computer.  The input statement
is configured in such a way that it will automatically
suppress any leading spaces.  One way to get around this
problem is to print an insignificant figure such as a
period as the first item in a print line.  This will make
any spaces following the period embedded spaces and thus
they will be printed.  The SUPPRESS ON function will allow
this to be done and will selectively suppress a period if
it is the first character in a print line.

NOTE #6: Two additional programs are provided on the disk: LISTER
and PURGER.  These two programs are to allow the contents
of the TSCAN message file to be examined and then cleared.

# OPERATION OF TERMINAL SCANNING PROGRAM

In order to operate this program it is necessary to address the host computer. This is accomplished by entering SAVE from the remote terminals. This ties the terminals into the host computer which is then able to provide mass storage as well as printer facilities. It is not advisable to remain in contact with the host computer when not performing operations requiring its assistance. The reason for this is that when the terminals are tied into the host computer, they operate at a drastically slower rate than when they are operating independently. Also, the terminals can be brought to a screeching halt by someone else utilizing the host computer while you are still in communication with it. This means that you could be running a program and have your computer suddenly jam up even though you are not directly addressing the host computer. In other words, don't stay tied into the host any longer than necessary.

The next problem is getting "untied" from the host computer. This is accomplished by entering LOAD followed by a carriage return. Then it is necessary to hit the space bar followed by another carriage return. This will now allow you to operate independently of the host.

## COMMANDS

* NOTE: ALL COMMANDS ARE PRECEEDED BY A PERIOD ".".

PLIST - LISTS PROGRAM ON PRINTER.

        FORMAT:  SAVE
                 . PLIST
                 LIST

PRRUN - PROGRAM EXECUTES WITH OUTPUT TO PRINTER.

        FORMAT:  SAVE
                 . PRRUN
                 RUN

        SUBCOMMANDS:
          P OFF - TURNS PRINTER OFF
          P ON - TURNS PRINTER ON

FSAVE - SAVES CURRENT FILE IN WORKSPACE ON DISK.

         FORMAT:  SAVE
                  . FSAVE FILENAME, PASSWORD        (PASSWORD MUST BE 4 LETTERS)
                  LIST

FLOAD - LOADS FILE FROM DISK TO WORKSPACE.

         FORMAT:  SAVE
                  . FLOAD FILENAME, PASSWORD        (PASSWORD MUST BE 4 LETTERS)
                  LOAD

SFLAG - SETS INTERNAL PROGRAM FLAGS.

        FORMAT: SAVE
                . SFLAG SUBCOMMAND, ARGUMENT      (ARGUMENT NOT ALWAYS USED)

        SUBCOMMANDS:
          ID ON - ENABLES PORT IDENTIFICATION
          ID OFF - DISABLES PORT IDENTIFICATION
          TOP, N - SETS NUMBER (N) SPACES AT TOP OF PRINTOUT
          BOT, N - SETS NUMBER (N) SPACES AT BOTTOM OF PRINTOUT
          SLEW - ENABLES PRINTER TO ADVANCE TO TOP OF NEXT PAGE
          NOSLEW - DISABLES PRINTER ADVANCE TO TOP OF NEXT PAGE
          SS - SINGLE SPACE PRINTOUT
          DS - DOUBLE SPACE PRINTOUT
          TS - TRIPLE SPACE PRINTOUT
          SPCSET, N - (N) SPACE PRINTOUT
          DEV A - SELECTS DISK DRIVE A
          DEV B - SELECTS DISK DRIVE B
          LIB ON - ENABLE BOTH DRIVES TO BE SEARCHED FOR PROGRAMS
          LIB OFF - DISABLE SEARCH ON BOTH DRIVES
          SUPON - SUPPRESSES PERIOD IF FIRST CHARACTER IN FIELD
          SUPOFF - TURNS OFF PERIOD SUPPRESSION

TDATA - TRANSMITS DATA TO HOST COMPUTER ARRAY.

        FORMAT: SAVE
                . TDATA

        SUBCOMMANDS:
          P ON - PRINTS DATA
          P OFF - STOPS DATA PRINT
          DUMP - PRINTS DATA ARRAY
          NAME (NAME) - ALLOWS NAME TO BE PRINTED ON PRINTOUT
          DATE (DATE) - ALLOWS DATE TO BE PRINTED ON PRINTOUT
          COMMENT1 (ANY REMARK) - PRINTED ON PRINTOUT
          COMMENT2 (ANY REMARK) - PRINTED ON PRINTOUT
          COMMENT3 (ANY REMARK) - PRINTED ON PRINTOUT
          OK - EXITS

RDATA - RECOVERS DATA FROM A DISK FILE.

        FORMAT: SAVE
                . RDATA FILENAME, PASSWORD      (4 CHARACTERS)

        SUBCOMMANDS:
          LOAD N - SIGNALS HOST TO TRANSMIT N STRINGS OF DATA
          CLOSE - CLOSES FILE AND EXITS
          RESET - MOVES INDEX POINTER TO BEGINNING OF FILE
          INDEX N - MOVES INDEX POINTER TO LOCATION N
          FIND STRING - FINDS A STRING OF CHARACTERS IN A FILE

SDATA - STORES DATA ON DISK FILE.

                . SDATA FILENAME, PASSWORD

        SUBCOMMANDS:
          CLOSE - CLOSES FILE AND EXITS
          RESET - MOVES INDEX POINTER TO BEGINNING OF FILE
          INDEX N - MOVES INDEX POINTER TO LOCATION N

```
        FIND STRING - FINDS A STRING OF CHARACTERS IN A FILE
        FORMAT - INSERTS AN END OF RECORD MARKER
        MARK - PRINTS "XXX" TO FILE AS A MARKER

DDUMP - DUMPS HOST COMPUTER MATRIX TO PRINTER.

        FORMAT: SAVE
                . DDUMP


MSEND - SENDS MESSAGE TO COMPUTER OPERATOR'S MESSAGE FILE.

        FORMAT: SAVE
                . MSEND
                <TEXT UP TO 6 LINES>
                END

EXEC* - EXECUTES A NEW PROGRAM ON HOST COMPUTER

        FORMAT: SAVE
                . EXEC* FILENAME, PASSWORD   (PASSWORD MUST BE 4 LETTERS)


        TSCAN

        COPYRIGHT:   5/80        MICHAEL S. O'NEILL
```