Spectrum Projects Presents

Tape Utility Version 1.5

TAPE UTILITY V1.2
(C) 1982 by Thomas P. Olk

TAPE UTILITY is an extremely versatile program for the TRS-80
Color Computer'''' which permits the user to easily maintain,
backup, and catalog both tape and disk programs. A minimum of 16K
RAM is required, but 32K is recommended. Extended Basic is not
required for cassette based systems.

As supplied, TAPE UTILITY is compatible with both disk and tape
systems. Disk operations are trapped in cassette-only systems,
which minimizes the chance of unexpected results due operator
error.

All TAPE UTILITY operations are menu driven. Selections are made
by three-letter commands which include the following:

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 TDR - Tape directory
 COP - Tape-to-tape copy
 PTD - List tape directory to printer
 RET - Return to Basic
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The following commands are for disk systems only:

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 DIR - Directory of disk
 PDR - Print disk directory
 DTT - Copy file from disk to tape
 TTD - Copy file from tape to disk
 BAC - Auto disk to tape backup
 DRV - Set default drive number
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To run TAPE UTILITY on a cassette system, place the program tape
in the recorder and depress the play button. Then type
CLOADM"TAPEUTIL"<enter>. When the tape has finished loading, type
EXEC<enter>.

For disk systems, insert the diskette in drive 0 then type
LOADM"TAPEUTIL"<enter>. When the load has completed, type
EXEC<enter>.

After the copyright message is displayed, you will be presented
with a menu of available commands. Command selection is made by
simply typing the desired three-letter command. Termination of a
command with the enter key is not necessary.

COMMAND DESCRIPTION

TDR - Tape Directory
      The Tape Directory Command will display a complete directory
      of all files on a tape of any length. The following
      information is displayed for each file:

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      NAME  - Name of file (8 characters maximum)
      TYP   - Type of file (Basic, Machine Language or Data)
      MOD   - File Mode (ASCII or Binary)
      START - Starting address of file
      END   - End address of file
      EXEC  - Execute address of file
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      NOTE: For Basic programs and Data files, the start, end,
      and execute addresses have no validity.

The TDR command performs verification of all files while
reading tape, and will display an error message if an error
is encountered in any file. In addition, a unique error
handling routine is utilized, allowing the program to
recover and continue operation even after an error is
encountered in a file. This is an especially valuable
feature if you wish the program to run unattended.

The TDR command, as well as all other tape read commands,
may be terminated by holding down the break key. Similarly,
depressing the space-bar will pause the tape operation
without aborting it. Pressing any key will resume the tape
read after a pause. However, due to the way the Color
Computer handles tape operations, the aborting and pausing
of tape operations will function only while data is being
read-in, and will not take place during a gap or blank
section of the tape.

PTD - Print_Tape_Directory
      The Print Tape Directory command is similar to the TDR
      command, with the exception that output is directed to the
      printer port. The baud rate defaults to the value set by
      Basic which is normally 600 baud. Poking location 150 with
      the correct value before executing TAPE UTILITY allows
      different baud rates to be used with the program.   The
      following table lists various baud rates and the
      corresponding value to poke into location 150:

                    Baud rate   Poke 150
                       120   458
                       300   180
                       600   87
                      1200   41
                      2400   18
                      4800   6
                      9600   1

COP - Copy_Tape-to-Tape
      Copying of a file from one tape to another is accomplished
      by the COP command. The source tape should be correctly
      positioned in the recorder with the play button depressed
      before selecting the COP function. Once the entire file has
      been read, you will be prompted to place the destination
      tape in the recorder. At this time, insert a blank tape,
      place the recorder in the record mode and press the enter
      key. When the copy is complete, press the enter key to get
      back to the main menu.

TT - Disk-to-Tape File Copy
      Individual disk files of any type may be copied from disk to
      tape with the DTT command. You will be prompted for the
      name of the file to be copied. All file names must be
      entered in the format FILENAME/EXT with no drive number
      specified. The file to be copied from is assumed to be on
      the default drive (normally drive 0) which may be changed by
      the Basic DRIVE command or the TAPE UTILITY DRV command.

BAC - Auto Disk-to-Tape Backup
      The BAC command will copy all files from a disk in the
      default drive to tape. This operation is completely
      automatic, and requires no operator intervention once the
      operation has begun. A blank tape should be in the recorder
      and the record mode set before entering the BAC command.   A
      message will be displayed at the conclusion of each file
      copy, and the program will stop once the last file has been
      copied from disk.   Press the enter key to return to the main
      menu.

TTD - Tape-to-Disk File Copy
      Individual tape files may be copied to disk by the TTD
      command.

      Place the source tape in the recorder, and the destination
      disk in the default drive before entering the TTD command.
      Tape files are automatically verified during each load, and
      a message will be displayed if an error is encountered.   At
      the conclusion of each file copy, press C to transfer
      additional files from tape to disk, or X to return to the
      main menu.

DIR - Disk Directory
      The directory of a disk in the default drive can be viewed
      by entering the DIR command. The directory is displayed in
      a two-column compressed format which includes the
      FILENAME.EXT and file type. Unlike the Basic DIR command,
      file size is not displayed. The free space remaining on the
      disk is displayed at the end of the directory.

PDR - Print Directory of Disk
      The PDR command is identical to the DIR command with the
      exception that output is directed to the line printer at the
      baud rate set by Basic.

DRV - Select Default Drive
      The DRV command is identical to the Basic DRIVE command.

RET - Return to Basic
      The RET command is used to exit TAPE UTILITY and return to
      Basic.

TAPE UTILITY is an extremely useful and powerful program, but like
most anything else, it does have its limitations. The most severe
limitation is that TAPE UTILITY cannot be used to copy files
larger than available memory. For a 16K machine, the largest
program that may be copied would be approximately 10K in length. A
32K machine is capable of copying files up to approximately 26K in
length.

TAPE UTILITY will not copy protected disks, or some tape programs
that make use of an auto-start feature. In addition, there exists
a peculiar feature in some machine language disk programs that may
cause unexpected problems. Disk Basic allows machine language disk
files to contain non-contiguous or segmented memory images.
Although the Basic SAVEM command cannot generate a segmented file,
some assemblers (i.e. The Micro Works Macro-80C) can produce

segmented disk files. TAPE UTILITY cannot copy a segmented file.
The obvious solution to this problem would be to resave the
segmented file to another disk, using the Basic SAVEM command.
TAPE UTILITY may then be used to transfer the file to tape.