

Spectrum Projects
Presents

Tape Utility Version 1.5

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

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:

TDR - Tape directory
COP - Tape-to-tape copy
PTD - List tape directory to printer
RET - Return to Basic

The following commands are for disk systems only:

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

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:

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

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.

DTT - 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