

**GPIB-1050
HP 9830
HP 9880**

DATA TRANSFER SOFTWARE

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These programs are designed to conveniently transfer data between the Hewlett-Packard HP9880 hard disk system and the GPIB-1050 magnetic tape drive using the HP9830 as a controller. Whole platters of data, or specific files can be transferred between the two storage devices. Programs, data files, binary programs, key files, and secured files can all be transferred. The user should be familiar with the operation of the GPIB-1050, the HP9830, the HP-IB interface, and the HP9880 hard disk system.

EQUIPMENT REQUIRED: GPIB-1050 tape drive, HP-IB interface (HP 59405A), HP9880 mass memory, HP9830 with minimum 32K memory, mass memory, string, matrix, API, APII, extended I/O, and Infotek Fast Basic I, III, IV, and V ROMs, GPIB-1050/HP9830 software cassette.

The cassette contains four files:

File 0: START PROGRAM---allows you to load any of the other three programs.

File 1: IB BINARY---contains the binary program for the IBREAD and IBWRITE statements which provide extremely fast transfer rates (up to 20Kb/sec) between the GPIB bus and the HP9830. This program must be loaded (LOAD BIN 1) before attempting to load the main program on file 3. For more detailed information on the use of these statements, please refer to Appendix A of the INFOTEK GPIB-1050 Operating Manual.

File 2: GPIB-1050 KEY PROGRAMS---This key file loads the following routines on the HP9830 special function keys; the main program must be in memory:

f5: REWIND
Rewinds the tape to the load point.

f6: TLIST
Prints out a listing of the file header information for all files on the tape. The tape file number, the file name, program type, number of words currently used, and the number of physical records is printed on the designated printer:

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FILE:	0	NAME: CATBIN	B	USED:	920 WORDS	FILE SIZE	4 RECORDS
FILE:	1	NAME: CATNAM	P	USED:	530 WORDS	FILE SIZE	3 RECORDS
FILE:	2	NAME: BOOT	P	USED:	157 WORDS	FILE SIZE	1 RECORDS
FILE:	3	NAME: VERIFY	P	USED:	400 WORDS	FILE SIZE	2 RECORDS
FILE:	4	NAME: IBKEY	K	USED:	122 WORDS	FILE SIZE	1 RECORDS
FILE:	5	NAME: ROMT1	D			REC. SIZE	100 RECORDS
FILE:	6	NAME: TAM	D			REC. SIZE	1 RECORDS
FILE:	7	TOTAL PLATTER.		NAME:	G/L 1983		
FILE:	8	FILE HEADER ONLY					

TAPE STATUS:

DRIVE #: 1
CURRENT BLOCK SIZE: 52
END OF FILE
SRQ WAS SET

f7: PRINT HEADER

Prints the file header information of the file where the tape is currently positioned.

f8: FIND FILE

Moves the tape to the beginning of a specified file.

file 3: MAIN PROGRAM

Tape file organization:

The main program consists of six routines which transfer and verify data between the HP9880 and the tape drive, and one routine that prints a catalog of platter files that have been stored on tape. Tape file management is achieved through the use of file headers which the program creates and writes at the beginning of each tape file. The file header (array Y) is 26 words in length and contains the following information:

Array Y

Y(1,1)	File number
Y(1,2)	Identifies the data as an entire platter (1) or a regular file (0).
Y(1,3)	File size in sectors
Y(1,4)	Platter name (provided by the user if an entire platter is copied)
Y(1,19)	File name (6 characters)
Y(1,23)	Physical file size in words
Y(1,24)	Actual file size in words

The program itself has been organized into easily identified modules that the user can adapt and modify for his particular applications. The seven main routines are identified in REM statements. In order to make the program more understandable, subroutines are identified in DFC and FC statements (Advanced Programming I ROM). Q=FC "CLEAR SRQ" (0) [execute], for example, calls the function which clears the tape drive service request. All FC functions can be executed from the keyboard as well as from the

program.

TRANSFER ROUTINES

1. Entire HP9880 platter to a specific tape file.

Allows the user to copy the contents of an HP9880 platter to a specific GPIB-1050 tape file. For identification purposes, the platter can be given a name up to 30 characters in length. After the platter has been copied, a "dummy" file is written at the file immediately following the platter file. This allows the GPIB-1050 to locate the next file if information is to be added after the platter file. The word "FINISHED" appears on the HP9830 display after the platter has been copied. After a platter has been dumped to tape, the information can be verified against the disk using routine #7.

A file that contains data from an entire HP9880 platter is referred to in the program as a "platter file" and is handled somewhat differently than regular tape files.

2. Copy specific (multiple) HP9880 files to the tape drive.

Allows the user to copy selected files from an HP9880 platter to tape. The following prompt messages will appear in the HP9830 display:

"Unit # to read from?" Enter the unit number of the HP9880 source platter.

"Tape file to start recording?" Enter the file number of the first destination file. If you enter 5, the first program will be copied on tape file number 5. All subsequent files will be copied to tape sequentially (file 6, 7, 8, etc.). ALL PREVIOUSLY-RECORDED FILES AFTER THE DESTINATION FILE WILL BECOME INACCESSIBLE.

"Cat names separated by spaces" Enter the names of all of the files that you want copied as they appear in the HP9880 catalog. The file names must be separated by a space. Up to 250 characters may be entered. If you enter a file name that is not found in the HP9880 catalog, an error message will be printed, and the next valid file will be transferred to tape.

After the files have been copied, the HP9830 will display "FINISHED". This routine should NOT be used when copying a single HP9880 file to an EXISTING tape file (see routine #3).

3. Copy one HP9880 file to an existing tape file

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This routine copies a single HP9880 file to an existing tape file. If the tape file is not large enough to accommodate the new file, an error message will be printed, and you will be asked to select another destination tape file. This routine should only be used when copying a single file to an existing tape file, since a dummy file header is NOT written after the file is copied. This allows tape files that follow the copied file to be accessed.

4. Store platter file from tape to HP9880

This routine copies a platter file created by routine #1 from the GPIB-1050 back to the HP9880. Any attempt to transfer a file that is not a platter file will result in an error message.

5. Copy specific tape drive files to HP9880

Copies selected tape files to the HP9880 hard disk. Enter the file numbers of the source tape files. Each number must be separated by a space. If the file already exists on the selected HP9880 platter, an error message will be printed and the file will not be copied. This routine will not copy platter files (see routine #4).

6. Compare tape platter file with HP9880 platter

This is a data verification routine that makes an element-by-element comparison of the data on a tape platter file with the data on an HP9880 platter. If any discrepancies are discovered, an error message is printed giving the head and track location where the fault occurred. It is a good idea to use this routine after a platter dump (routine #1) has been executed.

7. Catalog of platter tape file

Prints a listing of all the file names on a tape platter file. The

catalog provides all of the same information as the HP9880
platter catalog.

FILE: 13 TOTAL PLATTER. NAME: ***** DUMP OF UNIT ZERO **

NAME	TYPE	ORIGIN		ABSOLUTE LENGTH(R)	CURRENT LENGTH(W)
		TRACK	RECORD		
MOVEFI	P	99	10	2	296
*****	P	19	9	1	24
FB6	B	307	6	4	1024
DUPREP	P	166	11	5	1032
SEND4	P	308	2	2	468
FI1-2	P	24	10	1	114
FI1-1	P	24	8	1	189
REPDIS	P	307	10	4	794
RCTST	P	308	7	3	758
DUPSTD	P	321	9	6	1286
+++++	P	164	9	4	934