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DSK1 FDR / V9T9 / TIFILES COMPARISON

These are the results of an comparison of the real TI99/4A file descriptor record (FDR), a V9T9 style file header and a TIFILES file header as created by the terminal emulator program Telco when uploading a TI99/4A file to a PC with a serial connection. The comparison is done with DIS/VAR, DIS/FIX, a TI basic and binary PROGRAM file of less than one sector, precisely one sector and less than two sectors. As I expected there is no difference between the header information of a TI basic program and binary data. To my surprise there was no TIFILES header created when uploading DIS/FIX files to the PC.

The physical layout of an FDR on a floppy disk is as follows:

+-----+		
0		
2		
4		FILE NAME
6		
8		
+-----+		
10		EXTENDED RECORD LENGTH
+-----+		
12		FILE STATUS FLAGS NUMBER OF RECS/SEC
+-----+		
14		NUMBER OF SECTORS CURRENTLY ALLOCATED
+-----+		
16		END OF FILE OFFSET LOGICAL RECORD LENGTH
+-----+		
18		NUMBER OF LEVEL 3 RECORDS ALLOCATED
+-----+		
20		DATE AND TIME OF CREATION
22		
+-----+		
24		DATE AND TIME OF LAST UPDATE
26		
+-----+		
28		
30		
~		DATA CHAIN POINTER BLOCKS
252		
254		
+-----+		

FILE NAME:

Contains the file name of the file. The file name can be any combination of up to 10 ASCII characters, except for the space or period characters and the null character. The name is space filled to the right in case of less than 10 characters.

EXTENDED RECORD LENGTH:

Contains the record length if it is a data file and has a record length of greater than 255 bytes (not TI original).

FILE STATUS FLAGS:

Defines the data type of the file. The flags are as follows with bit 0 being the least significant bit:

bit 0: Program / data file indicator

0= Data file
1= Program file

bit 1: Binary / ASCII data
0= ASCII data (DISPLAY file)
1= Binary data (INTERNAL or PROGRAM file)

bit 2: Reserved

bit 3: Write protect flag
0= Not write protected
1= Write protected

bit 4: Reserved

bit 5: Reserved

bit 6: Reserved

bit 7: FIXED / VARIABLE flag
0= Fixed length records
1= Variable length records

NUMBER OF RECORDS PER SECTOR:

Contains the number of records that will fit into a sector in the case of data files. In the case of FIXED length records the maximum LOGICAL RECORD LENGTH is 255 and the NUMBER OF RECORDS PER SECTOR can be calculated by $256 / \text{LOGICAL RECORD LENGTH}$. In case of VARIABLE length records the maximum LOGICAL RECORD LENGTH is 254 bytes and the NUMBER OF RECORDS PER SECTOR can be calculated by $254 / \text{LOGICAL RECORD LENGTH}$.

NUMBER OF SECTORS CURRENTLY ALLOCATED:

Contains the number of sectors allocated to this file.

END OF FILE OFFSET:

Contains the offset of the first free byte into the last sector used in case of a program or variable length file.

A variable length record always starts with a record length and is closed with a >FF byte. The END OF FILE OFFSET points to this location. If a new variable length record is written the value >FF is replaced by the length byte of the new record. If the new record does not fit in the free space of the current sector, a new sector is allocated. Because a sector of a variable length file always ends with a >FF byte the maximum length of a record is 254 bytes (256 - 1 byte for the record length - 1 end byte).

LOGICAL RECORD LENGTH:

Contains the logical record length of a data file. If this entry is zero and it is a data file, then the record length is given in the EXTENDED RECORD LENGTH at bytes 10 and 11 ((not TI original)).

NUMBER OF LEVEL 3 RECORDS ALLOCATED:

In the case of a FIXED length record files, this contains the highest record number actually written to. In case of VARIABLE length record files this contains the highest sector

number actually written to. Note: The bytes in this field are in reverse order.

DATE AND TIME OF CREATION:

Gives the date and time the file was first created on the disk.
The meaning of the first (TIME) word is as follows:

xxxxxx xxxxxxx xxxxx

Seconds/2

Minutes

Hours

The meaning of the second word (DATE) is as follows:

xxxxxxxx xxxx xxxxx

Day of month

Month

Years%100

DATE AND TIME OF LAST UPDATE:

Gives the date and time the file was last written to.

DATA CHAIN POINTER BLOCKS:

Each data chain pointer block consists of three bytes which indicates a cluster of contiguous sectors. The three bytes are broken down into two three nibble blocks. The first three nibbles indicates the first sector number of the cluster. The second three nibbles indicates the last sector number of the cluster.

Byte1: N2 | N1 Byte2: M1 | N3 Byte3: M3 | M2

First sector : N3 | N2 | N1

Highest sector: M3 | M2 | M1

The FDR data block below is what is found with a sector editor when reading out the catalog of a floppy disk.

A V9T9 header is 128 bytes long and consists of the same data as the first 20 bytes of an FDR in the same order.

A TIFILES header is also 128 bytes long and contains the 11th through the 20th bytes of the FDR. The first 8 bytes of the header is equal to "\x07TIFILES". The file information of the FDR is copied to bytes 9-16 of the TIFILES header. The rest of the 128 bytes may be filled with any other character. Most common is >00 or a >CA >53 combination.

Another version of TIFILES header also contain the original TI filename in bytes 16-26.

TIFILES FDR/V9T9

----- -----

Byte 08 <- Byte 14 Number of allocated sectors

Byte 09 <- Byte 15 /

```

Byte 10 <- Byte 12   File status flags
Byte 11 <- Byte 13   Records per sector
Byte 12 <- Byte 16   End of file offset
Byte 13 <- Byte 17   Logical record length
Byte 14 <- Byte 18   Number of level 3 records
Byte 15 <- Byte 19   /

```

```
=====
Filename: DV128_1S
```

```
Display Variable file with a size of less then 1 sector.
```

```
Number of records per sector is 254/128 = 1!
```

```
The EOF offset points to the EOF flag (>FF)
```

```
FDR / V9T9
```

```
-----
0000 44 56 31 32 38 5F 31 53 20 20 00 00 80 01 00 01
0010 F3 80 01 00 00 00 00 00
```

```
TIFILES (Telco)
```

```
-----
0000 07 54 49 46 49 4C 45 53 00 01 80 01 F3 80 01 00
```

```

0000 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 .THIS IS LINE 1
0010 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
0020 32 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 2 .THIS IS LINE
0030 20 33 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 3 .THIS IS LINE
0040 20 20 34 20 10 54 48 49 53 20 49 53 20 4C 49 4E 4 .THIS IS LIN
0050 45 20 20 35 20 10 54 48 49 53 20 49 53 20 4C 49 E 5 .THIS IS LI
0060 4E 45 20 20 36 20 10 54 48 49 53 20 49 53 20 4C NE 6 .THIS IS L
0070 49 4E 45 20 20 37 20 10 54 48 49 53 20 49 53 20 INE 7 .THIS IS
0080 4C 49 4E 45 20 20 38 20 10 54 48 49 53 20 49 53 LINE 8 .THIS IS
0090 20 4C 49 4E 45 20 20 39 20 11 54 48 49 53 20 49 LINE 9 .THIS I
00A0 53 20 4C 49 4E 45 20 20 31 30 20 11 54 48 49 53 S LINE 10 .THIS
00B0 20 49 53 20 4C 49 4E 45 20 20 31 31 20 11 54 48 IS LINE 11 .TH
00C0 49 53 20 49 53 20 4C 49 4E 45 20 20 31 32 20 11 IS IS LINE 12 .
00D0 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 33 THIS IS LINE 13
00E0 20 11 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
00F0 31 34 20 FF 00 00 00 00 00 00 00 00 00 00 00 00 14 .....
EOF-----^^

```

```
=====
Filename: DV128_1P
```

```
Display Variable file with a size of precisely 1 sector.
```

The EOF offset points to the EOF flag (>FF) which is at the very last byte of the sector. Because records of a variable length file always starts with a length byte the maximum record length is 255. In this case the length byte is 255 (>FF), the EOF offset has a value of 0 and there is no >FF byte at the end of the sector. In general: the end of

a sector is reached when the read offset + record length + 1 is greater than the sector size.

FDR / V9T9

```
-----
0000 44 56 31 32 38 5F 31 50 20 20 00 00 80 01 00 01
0010 FF 80 01 00 00 00 00 00
```

TIFILES (Telco)

```
-----
0000 07 54 49 46 49 4C 45 53 00 01 80 01 FF 80 01 00
```

```
0000 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 .THIS IS LINE 1
0010 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
0020 32 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 2 .THIS IS LINE
0030 20 33 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 3 .THIS IS LINE
0040 20 20 34 20 10 54 48 49 53 20 49 53 20 4C 49 4E 4 .THIS IS LIN
0050 45 20 20 35 20 10 54 48 49 53 20 49 53 20 4C 49 E 5 .THIS IS LI
0060 4E 45 20 20 36 20 10 54 48 49 53 20 49 53 20 4C NE 6 .THIS IS L
0070 49 4E 45 20 20 37 20 10 54 48 49 53 20 49 53 20 INE 7 .THIS IS
0080 4C 49 4E 45 20 20 38 20 10 54 48 49 53 20 49 53 LINE 8 .THIS IS
0090 20 4C 49 4E 45 20 20 39 20 11 54 48 49 53 20 49 LINE 9 .THIS I
00A0 53 20 4C 49 4E 45 20 20 31 30 20 11 54 48 49 53 S LINE 10 .THIS
00B0 20 49 53 20 4C 49 4E 45 20 20 31 31 20 11 54 48 IS LINE 11 .TH
00C0 49 53 20 49 53 20 4C 49 4E 45 20 20 31 32 20 11 IS IS LINE 12 .
00D0 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 33 THIS IS LINE 13
00E0 20 11 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
00F0 31 34 20 0B 41 42 43 44 45 46 47 48 49 4A 4B FF 14 .ABCDEFGHGIJK.
EOF-----^^
```

```
=====
Filename: DV128_2S
```

Display Variable file with a size of less than 2 sectors.

Notice that the first sector still contains a byte with a value of >FF to mark the end of the sector. This does not mean that every byte with a value of >FF marks a sector end. The first byte of every record (here always >10) is the record length. If a record length of >FF (255) is found (and the maximum record length is not 255 and therefore this value is not found as the very first byte of a sector, see above) than this means the end of the sector, skip the rest and start reading the next sector.

The last record "ABCDEFGHGIJKL" is written in a new sector because in the previous sector there was no room for an record length byte (>0C) the record (12 bytes) and the end of rector flag (>FF) thus a total of 14 bytes.

FDR / V9T9

```
-----
0000 44 56 31 32 38 5F 32 53 20 20 00 00 80 01 00 02
0010 0D 80 02 00 00 00 00 00
```

TIFILES (Telco)

```
-----
0000 07 54 49 46 49 4C 45 53 00 02 80 01 0D 80 02 00
```

```
0000 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 .THIS IS LINE 1
0010 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
0020 32 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 2 .THIS IS LINE
0030 20 33 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 3 .THIS IS LINE
0040 20 20 34 20 10 54 48 49 53 20 49 53 20 4C 49 4E 4 .THIS IS LIN
0050 45 20 20 35 20 10 54 48 49 53 20 49 53 20 4C 49 E 5 .THIS IS LI
0060 4E 45 20 20 36 20 10 54 48 49 53 20 49 53 20 4C NE 6 .THIS IS L
0070 49 4E 45 20 20 37 20 10 54 48 49 53 20 49 53 20 INE 7 .THIS IS
0080 4C 49 4E 45 20 20 38 20 10 54 48 49 53 20 49 53 LINE 8 .THIS IS
0090 20 4C 49 4E 45 20 20 39 20 11 54 48 49 53 20 49 LINE 9 .THIS I
00A0 53 20 4C 49 4E 45 20 20 31 30 20 11 54 48 49 53 S LINE 10 .THIS
00B0 20 49 53 20 4C 49 4E 45 20 20 31 31 20 11 54 48 IS LINE 11 .TH
00C0 49 53 20 49 53 20 4C 49 4E 45 20 20 31 32 20 11 IS IS LINE 12 .
00D0 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 33 THIS IS LINE 13
00E0 20 11 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
00F0 31 34 20 FF 00 00 00 00 00 00 00 00 00 00 00 00 14 .....
EOSECTOR-----^^\-----only space for 12 bytes-----/
0100 0C 41 42 43 44 45 46 47 48 49 4A 4B 4C FF 20 31 .ABCDEFGHijkl. 1
EOF-----^
```

```
0110 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
0120 32 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 20 2 .THIS IS LINE
0130 20 33 20 10 54 48 49 53 20 49 53 20 4C 49 4E 45 3 .THIS IS LINE
0140 20 20 34 20 10 54 48 49 53 20 49 53 20 4C 49 4E 4 .THIS IS LIN
0150 45 20 20 35 20 10 54 48 49 53 20 49 53 20 4C 49 E 5 .THIS IS LI
0160 4E 45 20 20 36 20 10 54 48 49 53 20 49 53 20 4C NE 6 .THIS IS L
0170 49 4E 45 20 20 37 20 10 54 48 49 53 20 49 53 20 INE 7 .THIS IS
0180 4C 49 4E 45 20 20 38 20 10 54 48 49 53 20 49 53 LINE 8 .THIS IS
0190 20 4C 49 4E 45 20 20 39 20 11 54 48 49 53 20 49 LINE 9 .THIS I
01A0 53 20 4C 49 4E 45 20 20 31 30 20 11 54 48 49 53 S LINE 10 .THIS
01B0 20 49 53 20 4C 49 4E 45 20 20 31 31 20 11 54 48 IS LINE 11 .TH
01C0 49 53 20 49 53 20 4C 49 4E 45 20 20 31 32 20 11 IS IS LINE 12 .
01D0 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 31 33 THIS IS LINE 13
01E0 20 11 54 48 49 53 20 49 53 20 4C 49 4E 45 20 20 .THIS IS LINE
01F0 31 34 20 FF 00 00 00 00 00 00 00 00 00 00 00 00 14 .....
=====
```

Filename: DF128_1R

Display Fixed file with a size of less than 1 sector.

With this file types there is no need for an EOF offset because of the fixed record length this can be calculated.

FDR / V9T9

```
-----
0000 44 46 31 32 38 5F 31 52 20 20 00 00 00 02 00 01
0010 00 80 01 00 00 00 00 00
```

TIFILES (Telco)

0000 NO HEADER (I did not expect this!)

```
0000 54 48 49 53 20 49 53 20 52 45 43 4F 52 44 20 31 THIS IS RECORD 1
0010 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0020 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0030 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0040 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0050 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0060 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0070 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0080 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0090 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00B0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00C0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00E0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00F0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
```

=====

Filename: DF128_2R

Display Fixed file with a size of exactly 1 sector.

FDR / V9T9

```
0000 44 46 31 32 38 5F 32 52 20 20 00 00 00 02 00 01
0010 00 80 02 00 00 00 00 00
```

TIFILES (Telco)

0000 NO HEADER

```
0000 54 48 49 53 20 49 53 20 52 45 43 4F 52 44 20 31 THIS IS RECORD 1
0010 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0020 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0030 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0040 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0050 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0060 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0070 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0080 54 48 49 53 20 49 53 20 52 45 43 4F 52 44 20 32 THIS IS RECORD 2
0090 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00A0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00B0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00C0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00D0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00E0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00F0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
```

=====

Filename: DF128_3R

Display Fixed file with a size of less than 2 sectors.

FDR / V9T9

```
-----
0000 44 46 31 32 38 5F 33 52 20 20 00 00 00 02 00 02
0010 00 80 03 00 00 00 00 00
```

TIFILES (Telco)

```
-----
0000 NO HEADER
```

```
0000 54 48 49 53 20 49 53 20 52 45 43 4F 52 44 20 31 THIS IS RECORD 1
0010 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0020 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0030 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0040 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0050 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0060 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0070 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0080 54 48 49 53 20 49 53 20 52 45 43 4F 52 44 20 32 THIS IS RECORD 2
0090 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00A0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00B0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00C0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00D0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00E0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
00F0 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0100 54 48 49 53 20 49 53 20 52 45 43 4F 52 44 20 33 THIS IS RECORD 3
0110 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0120 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0130 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0140 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0150 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0160 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0170 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
0180 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0190 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01B0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01C0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01E0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01F0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
```

```
=====
Filename: PGM1S
```

A TI-Basic program with a size of less than 1 sector.

FDR / V9T9

```
-----
0000 50 47 4D 31 53 20 20 20 20 20 00 00 01 00 00 01
0010 41 00 00 00 00 00 00 00
```


TIFILES (Telco)

0000 07 54 49 46 49 4C 45 53 00 01 01 00 41 00 00 00

```

0000 00 3D 37 A2 37 9F 37 D7 00 64 37 A4 34 9C C7 30 .=7.7.7...d7.4..0
0010 54 48 49 53 20 49 53 20 41 20 50 52 4F 47 52 41 THIS IS A PROGRA
0020 4D 20 57 49 54 48 20 41 20 53 49 5A 45 20 4C 45 M WITH A SIZE LE
0030 53 53 20 54 48 45 4E 20 31 20 53 45 43 54 4F 52 SS THEN 1 SECTOR
0040 00 AA 3F FF 11 03 00 11 00 00 28 00 00 00 00 00 ..?.....(.....
EOF-----^^
0050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0060 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0070 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0080 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0090 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00B0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00C0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00E0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00F0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

```

=====

Filename: PGM1P

A TI-Basic program with a size of exactly 1 sector.

The EOF offset is 0 which means that exactly a complete sector is used. A file with no sectors used have not got any sectors allocated!

FDR / V9T9

0000 50 47 4D 31 50 20 20 20 20 20 00 00 01 00 00 01
0010 00 00 00 00 00 00 00 00 00

TIFILES (Telco)

0000 07 54 49 46 49 4C 45 53 00 01 01 00 00 00 00 00

```

0000 00 1B 36 FB 36 E0 37 D7 00 A0 36 FD 00 96 37 28 ..6.6.7...6...7(
0010 00 8C 37 47 00 82 37 66 00 78 37 09 00 6E 37 84 ..7G..7f.x7..n7.
0020 00 64 37 A2 0B 9C C7 07 41 42 43 44 45 46 47 00 .d7.....ABCDEFGF.
0030 1E 9C C7 1A 41 42 43 44 45 46 47 48 49 4A 4B 4C ....ABCDEFGH IJKL
0040 4D 4E 4F 50 51 52 53 54 55 56 57 58 59 5A 00 1E MNOPQRSTUVWXYZ..
0050 9C C7 1A 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D ...ABCDEFGH IJKLM
0060 4E 4F 50 51 52 53 54 55 56 57 58 59 5A 00 1E 9C NOPQRSTUVWXYZ...
0070 C7 1A 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E ..ABCDEFGH IJKLMN
0080 4F 50 51 52 53 54 55 56 57 58 59 5A 00 1D 9C C7 OPQRSTUVWXYZ....
0090 19 41 42 43 44 45 46 48 49 4A 4B 4C 4D 4E 4F 50 .ABCDEFGHIJKLMNOP
00A0 51 52 53 54 55 56 57 58 59 5A 00 1D 9C C7 19 41 QRSTUVWXYZ.....A
00B0 42 43 44 45 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 BCDEGH IJKLMN OPQR
00C0 53 54 55 56 57 58 59 5A 00 36 9C C7 32 54 48 49 STUVWXYZ.6..2THI
00D0 53 20 49 53 20 41 20 50 52 4F 47 52 41 4D 20 57 S IS A PROGRAM W

```

```

00E0 49 54 43 48 20 41 20 53 49 5A 45 20 4F 46 20 45 ITCH A SIZE OF E
00F0 58 45 43 54 4C 59 20 31 20 53 45 43 54 4F 52 00 XECTLY 1 SECTOR.

```

```

=====
Filename: PGM2S

```

```

A TI-Basic program with a size of less than 2 sectors.

```

```

FDR / V9T9

```

```

-----
0000 50 47 4D 32 53 20 20 20
0008 20 20 00 00 01 00 00 02
0010 0C 00 00 00 00 00 00 00

```

```

TIFILES (Telco)

```

```

-----
0000 07 54 49 46 49 4C 45 53
0008 00 02 01 00 0C 00 00 00

```

```

0000 00 3B 36 EF 36 D4 37 D7 00 A0 36 F1 00 96 37 5F .;6.6.7...6...7_
0010 00 8C 37 7E 00 82 37 9D 00 78 37 40 00 6E 37 BB ..7~...7...x7@.n7.
0020 00 64 37 10 1E 9C C7 1A 41 42 43 44 45 46 47 48 .d7.....ABCDEFGH
0030 49 4A 4B 4C 4D 4E 4F 50 51 52 53 54 55 56 57 58 IJKLMNOPQRSTUVWXYZ
0040 59 5A 00 2F 9C C7 2B 54 48 49 53 20 49 53 20 41 YZ./...+THIS IS A
0050 20 50 52 4F 47 52 41 4D 20 57 49 54 43 48 20 41 PROGRAM WITCH A
0060 20 53 49 5A 45 20 4F 46 20 32 20 53 45 43 54 4F SIZE OF 2 SECTO
0070 52 53 00 1E 9C C7 1A 41 42 43 44 45 46 47 48 49 RS.....ABCDEFGHI
0080 4A 4B 4C 4D 4E 4F 50 51 52 53 54 55 56 57 58 59 JKLMNOPQRSTUVWXYZ
0090 5A 00 1E 9C C7 1A 41 42 43 44 45 46 47 48 49 4A Z.....ABCDEFGHIJ
00A0 4B 4C 4D 4E 4F 50 51 52 53 54 55 56 57 58 59 5A KLMNOPQRSTUVWXYZ
00B0 00 1E 9C C7 1A 41 42 43 44 45 46 47 48 49 4A 4B .....ABCDEFGHIJK
00C0 4C 4D 4E 4F 50 51 52 53 54 55 56 57 58 59 5A 00 LMNOPQRSTUVWXYZ.
00D0 1D 9C C7 19 41 42 43 44 45 46 48 49 4A 4B 4C 4D ....ABCDEFHIJKLM
00E0 4E 4F 50 51 52 53 54 55 56 57 58 59 5A 00 1D 9C NOPQRSTUVWXYZ...
00F0 C7 19 41 42 43 44 45 47 48 49 4A 4B 4C 4D 4E 4F ..ABCDEFGHIJKLMNO
0100 50 51 52 53 54 55 56 57 58 59 5A 00 AA 3F FF 11 PQRSTUVWXYZ...?..
EOF-----^^

```

```

0110 03 00 11 00 00 28 00 00 00 00 00 00 00 00 00 .....(.....
0120 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0130 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0140 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0150 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0160 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0170 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0180 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
0190 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01B0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01C0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01E0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
01F0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

```

=====

Filename: PGMBIN080

A program file with 128 bytes of binary data.

FDR / V9T9

0000 50 47 4D 42 49 4E 30 38 30 20 00 00 01 00 00 01
0010 80 00 00 00 00 00 00 00 00

TIFILES (TELCO)

0000 50 47 4D 42 49 4E 30 38 00 01 01 00 80 00 00 00

0000 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
0010 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F
0020 20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F !"#%&'()*+,-./
0030 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 0123456789:;<=>?
0040 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F @ABCDEFGHIJKLMNO
0050 50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F PQRSTUVWXYZ[\]^_
0060 60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F `abcdefghijklmnopqrstuvwxyz
0070 70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F pqrstuvwxyz{|}~.

EOF--VV

0080 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D 8E 8F
0090 90 91 92 93 94 95 96 97 98 99 9A 9B 9C 9D 9E 9F
00A0 A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF
00B0 B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF
00C0 C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF
00D0 D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF
00E0 E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE EF
00F0 F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE FF

=====

Filename: PGMBIN100

A program file with 256 bytes of binary data.

Again the EOF offset is 0 which means that exactly a complete sector
is used.

FDR / V9T9

0000 50 47 4D 42 49 4E 31 30 30 20 00 00 01 00 00 01
0010 00 00 00 00 00 00 00 00 00

TIFILES (TELCO)

0000 50 47 4D 42 49 4E 30 38 00 01 01 00 00 00 00 00

0000 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
0010 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F
0020 20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F !"#%&'()*+,-./
0030 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 0123456789:;<=>?

```
0040 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F @ABCDEFGHIJKLMNO
0050 50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F PQRSTUVWXYZ[\]^_
0060 60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F `abcdefghijklmnopqrstuvwxyz
0070 70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F pqrstuvwxyz{|}~.
0080 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D 8E 8F .....
0090 90 91 92 93 94 95 96 97 98 99 9A 9B 9C 9D 9E 9F .....
00A0 A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF .....
00B0 B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF .....
00C0 C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF .....
00D0 D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF .....
00E0 E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE EF .....
00F0 F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE FF .....
```

=====

Filename: PGMBIN180

A program file with 384 bytes of binary data.

Again the remainder of the second sector contains data of the previous sector.

FDR / V9T9

```
0000 50 47 4D 42 49 4E 31 38 30 20 00 00 01 00 00 02
0010 80 00 00 00 00 00 00 00 00
```

TIFILES (TELCO)

```
0000 50 47 4D 42 49 4E 30 38 00 02 01 00 80 00 00 00
```

```
0000 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F .....
0010 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F .....
0020 20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F  !"#$%&'()*+,-./
0030 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 0123456789:;<=>?
0040 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F @ABCDEFGHIJKLMNO
0050 50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F PQRSTUVWXYZ[\]^_
0060 60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F `abcdefghijklmnopqrstuvwxyz
0070 70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F pqrstuvwxyz{|}~.
0080 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D 8E 8F .....
0090 90 91 92 93 94 95 96 97 98 99 9A 9B 9C 9D 9E 9F .....
00A0 A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF .....
00B0 B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF .....
00C0 C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF .....
00D0 D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF .....
00E0 E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE EF .....
00F0 F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE FF .....
0100 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F .....
0110 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F .....
0120 20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F  !"#$%&'()*+,-./
0130 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 0123456789:;<=>?
0140 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F @ABCDEFGHIJKLMNO
0150 50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F PQRSTUVWXYZ[\]^_
0160 60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F `abcdefghijklmnopqrstuvwxyz
0170 70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F pqrstuvwxyz{|}~.
```

EOF--VV

0180	80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F
0190	90	91	92	93	94	95	96	97	98	99	9A	9B	9C	9D	9E	9F
01A0	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA	AB	AC	AD	AE	AF
01B0	B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	BA	BB	BC	BD	BE	BF
01C0	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA	CB	CC	CD	CE	CF
01D0	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	DA	DB	DC	DD	DE	DF
01E0	E0	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA	EB	EC	ED	EE	EF
01F0	F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	FA	FB	FC	FD	FE	FF

Ti99-geek