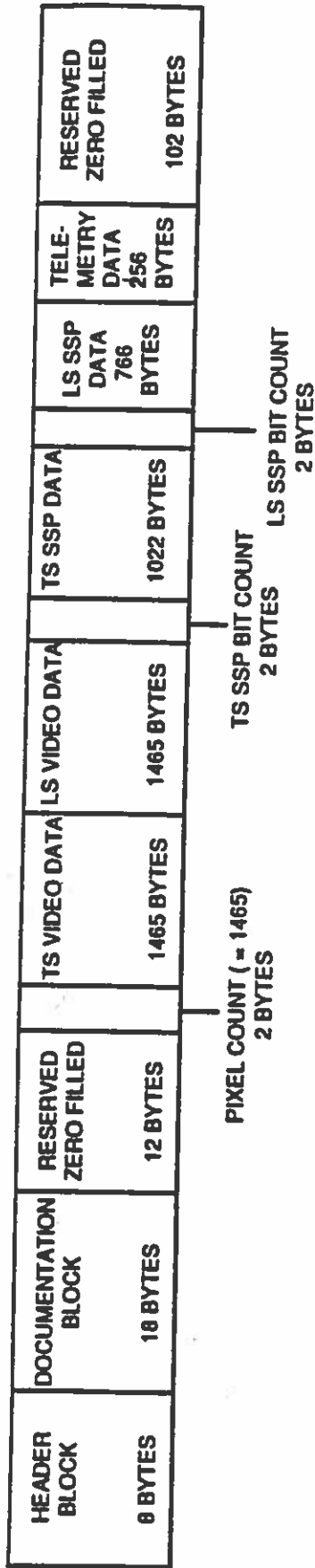


SMOOTH DATA FILE RECORD FORMAT



BLOCK USAGE FOR 5D2:

TS SSP - MINIMUM 1822 BITS (227 BYTES & 6 BITS), MAXIMUM 1852 BITS (231 BYTES & 4 BITS)
 LS SSP - MINIMUM 961 BITS (120 BYTES & 1 BIT), MAXIMUM 991 BITS (123 BYTES & 7 BITS)
 LS TELEMETRY - 983 BITS OF WHICH 861 ARE DATA (61 16 BIT WORDS & ONE 7 BIT WORD CONTAINING THE VALID WORD COUNT)

BLOCK 5D3 ADDS 22 NEW SSP FRAMES (192 ADDITIONAL BITS EACH) & ASSIGNS THE FIRST 2 BLANK FRAMES TO SSP FRAMES (192 ADDITIONAL BITS EACH)

TS SSP - MINIMUM 6410 BITS (801 BYTES & 2 BITS) MAXIMUM 6440 BITS (805 BYTES)
 LS SSP - MINIMUM 5549 BITS (693 BYTES & 5 BITS) MAXIMUM 5579 BITS (697 BYTES & 3 BITS)
 LS TELEMETRY IS THE SAME AS 5D2

8	BYTES
18	
2	
12	
1465	
1465	
2	
1022	
2	
766	
256	
102	

5120 BYTES PER SCAN LINE

NOTE: FOR VIDEO DEFINITIONS SEE THE SDS FRAME AND LINE DEFINITIONS IN IS-YD-821.

186427
5 July 1994

<u>Byte</u>	<u>Contents</u>	<u>Units Stored</u>
1-4	Data type	ASCII (Same as Header)
5-6	Satellite ID	Hexadecimal Value
7-8	Data Valid Flag	1=Valid, -1=Fill
9-10	Calibration Flag	0=N/A, 1=Valid, -1=Invalid
11-12	ECC Flag	0=N/A, 1=Valid, -1=Invalid
13-16	Line Counter	Hexadecimal Value
17-38	Spare	N/A
39-40	Timecode Type	ASCII MM or TT; M=Millisecs, T=1/1024th sec
41-44	ETC Timecode	Hexadecimal Value
45-46	Satellite Altitude	Nautical Miles (hex)
47-48	Latitude	Radians * 8192 (hex)
49-50	Longitude	Radians * 8192 (hex)
51-52	Crossing Angle	Radians * 8192 (hex)
53-54	EPH TIMECODE	Hexadecimal Value
	(from 2 bits)	
55-68	Spare	N/A
69-70	Valid Pixels/Block 2	Hexadecimal Value
71-72	Valid Pixels/Block 3	Hexadecimal Value
73-74	Valid Pixels/Block 4	Hexadecimal Value
75-76	Valid Pixels/Block 5	Hexadecimal Value
77-78	Valid Pixels/Block 6	Hexadecimal Value
79-80	Valid Pixels/Block 7	Hexadecimal Value
81-82	Valid Pixels/Block 8	Hexadecimal Value
83-84	Valid Pixels/Block 9	Hexadecimal Value
85-86	Valid Pixels/Block 10	Hexadecimal Value
87-88	Valid Pixels/Block 11	Hexadecimal Value
89-90	Valid Pixels/Block 12	Hexadecimal Value
91-92	Valid Pixels/Block 13	Hexadecimal Value
93-94	Valid Pixels/Block 14	Hexadecimal Value
95-96	Valid Pixels/Block 15	Hexadecimal Value
97-98	Valid Pixels/Block 16	Hexadecimal Value
99-100	Bits/Pixel Block 2	Hexadecimal Value
101-102	Bits/Pixel Block 3	Hexadecimal Value
103-104	Bits/Pixel Block 4	Hexadecimal Value
105-106	Bits/Pixel Block 5	Hexadecimal Value
107-108	Bits/Pixel Block 6	Hexadecimal Value
109-110	Bits/Pixel Block 7	Hexadecimal Value
111-112	Bits/Pixel Block 8	Hexadecimal Value
113-114	Bits/Pixel Block 9	Hexadecimal Value
115-116	Bits/Pixel Block 10	Hexadecimal Value
117-118	Bits/Pixel Block 11	Hexadecimal Value
119-120	Bits/Pixel Block 12	Hexadecimal Value
121-122	Bits/Pixel Block 13	Hexadecimal Value
123-124	Bits/Pixel Block 14	Hexadecimal Value
125-126	Bits/Pixel Block 15	Hexadecimal Value
127-128	Bits/Pixel Block 16	Hexadecimal Value
129-256	Spare	N/A
257-512	Reserved for Satellite Specific Doc Data	Variable

Figure 10.2-4 SDHS IS/CDFS II Generic Documentation Data Format

186427
5 July 1994

10.2.1 DMSP SDS Data Formats

DMSP Stored Data Smooth (SDS) data are received in scanline format. Each scan consists of the documentation data, one channel of VIS imagery, one channel of IR imagery, and DMSP Mission Sensor data.

VIS imagery consists of 1465 6-bit pixels, left justified, and IR imagery consists of 1465 8-bit pixels. No geometric or radiometric calibrations are performed on the data. The imagery, with its associated documentation data, shall be transmitted to CDFS II as shown in Figure 10.2.1-1. The format of the DMSP SDS documentation data is shown in Figure 10.2.1-2.

The DMSP Mission Sensor data package is comprised of a subset of the DMSP documentation data and a raw, packed set of SSP data-bits. SSP data are received in both the VIS and IR data streams as 12-bit words packed into a 16-bit word, right justified. A single VIS scanline contains a maximum of 16,092 bits. A single IR scanline contains a maximum of 18,684 bits. The first 288 bits of both the IR and VIS SSP message are 16-bit words, the remaining SSP data are 12-bit words. SDHS IS shall pack both the 16 and 12-bit values into 16-bit words resulting in 1335 words of SSP data in the VIS scan and 1551 words into the IR scan. For flexibility purposes, the VIS and IR SSP scanline lengths are set to the IR maximum length of 1551 words, or 3102 bytes. No further manipulation is performed on the Mission Sensor data package. The Mission Sensor data package and its associated DMSP documentation data shall be transmitted to the CDFS II as shown in Figure 10.2.1-3. The format of the subset of DMSP documentation data is shown in Figure 10.2.1-4.

10.2.2 DMSP SDF Data Formats

DMSP Stored Data Fine (SDF) data are received in scanline format. The imagery is received in either interleaved or non-interleaved mode. In SDF interleaved mode, each scan consists of documentation data, one channel of VIS imagery, and one channel of IR imagery. In SDF non-interleaved mode, a scan consists of documentation data, and a single channel of imagery, either VIS or IR. Both imagery line lengths vary from 7322 to 7324 6-bit pixels, left justified. SDHS shall transmit a fixed line length of 7324 pixels for SDF imagery. No geometric or radiometric calibrations are performed on the data. SDF data shall be transmitted from SDHS IS to the CDFS II in either interleaved or non-interleaved format. An example of an SDF interleaved transmission to CDFS II is shown in Figure 10.2.2-1. An example of an SDF non-interleaved transmission to CDFS II is shown in Figure 10.2.2-2. The format of the DMSP SDF documentation data is shown in Figure 10.2.2-3.