

Downloader File Formats

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¹\$Header: d:/Downloader2/DFs/RCS/DFs.tex,v 1.3 2010-08-13 10:30:47-07 Hamilton Exp Hamilton \$

⁴tocdepth = 4

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1 Format of Downloader files

Recently working with the downloader has indicated that there are multiple different file formats used in downloading various Pelco PTZ units.

The “typical” files that I have selected came from the Pelco Web site where that was possible. However on the Web Site there are no files for the ExSite or the Spectra III. (The Esprit is not a downloadable device.) s

In the files that are listed below, the indicated files were run through HEAD and then TAIL to extract the first, and last, 10 lines from each file. Then the extracted data was run through MAXLL75 to limit each line to a maximum of 75 characters. When a continuation line was necessary it was preceded by three “dots” (...). Line lengths varied from a minimum of 46 bytes to a maximum of 142 bytes. These line lengths do not include the newline thing (which consists of a pair of characters of 0x0D and 0x0A) at the end of each line.

The download files for the ExSite came from an old development version and may not be correct. I couldn’t find a current version on the Pelco web site.

Things to note:

1. The S RECORD “data” lines are different between the Spectra IV and all other files. The data lines start with S2 all of the others start with S3.
2. In the S RECORD document shown in Appendix A, page 23 it suggests that files end in S7 if the data records are S3 and in S8 if the data records are S2. For the Spectra IV this is violated.
3. For the ExSite not all of the files end in any of the three recommended last record types of: S7, S8 or S9.
4. What is **not** obvious is that no where in the download files is the S5 record used.
5. The Spectra IV is the only set of files that has partially useful data in the S0 record. All the other files have either HDR or nothing in them.

Sp4app2110.H64

```

a p p _ h l f _ b i
S0 0F 0000 61 70 70 5F 68 6C 66 5F 62 69 00 00 EC
```

Sp4font0101.H64

```

f o n t _ t a b l e
S0 0F 0000 66 6F 6E 74 5F 74 61 62 6C 65 00 00 D2
```

Sp4str0220.H64

```

s t r i n g _ t a b
S0 0F 0000 73 74 72 69 6E 67 5F 74 61 62 00 00 C3
```

⁵\$Header: d:/Downloader2/DFs/RCS/DFs.inc,v 1.5 2010-08-16 13:10:44-07 Hamilton Exp Hamilton \$

1.1 Spectra IV Download Files

1. File sp4app2110.h64 has 18670 lines in it
2. File sp4font0101.h64 has 1127 lines in it
3. File sp4str0220.h64 has 5207 lines in it

```

1 Spectra4:
2 total 1714
3 drwxr-xr-x    2 EHamilton root          128 Aug 12 15:10 Zips
4 drwxr-xr-x    4 EHamilton root           96 Aug 12 15:06 h382346
5 drwxr-xr-x    2 EHamilton root           32 Aug 12 15:08 h382347
6 drwxr-xr-x    2 EHamilton root           32 Aug 12 15:08 h382348
7 drwxr-xr-x    2 EHamilton root           32 Aug 12 15:08 h382349
8 -rw-r--r--    1 EHamilton root 1306792 Jan 12  2010 sp4app2110.h64
9 -rw-r--r--    1 EHamilton root   78778 Oct 27  2009 sp4font0101.h64
10 -rw-r--r--    1 EHamilton root  364350 Oct 27  2009 sp4str0220.h64
11
12 Spectra4/Zips:
13 total 1942
14 drwxr-xr-x    2 EHamilton root          128 Aug 12 15:10 .
15 drwxr-xr-x    9 EHamilton root          320 Aug 12 15:10 ..
16 -rw-r--r--    1 EHamilton root 1477121 Aug 12 14:51 h382346.zip
17 -rw-r--r--    1 EHamilton root  433878 Aug 12 14:51 h382347.zip
18 -rw-r--r--    1 EHamilton root   63951 Aug 12 14:52 h382348.zip
19 -rw-r--r--    1 EHamilton root   11152 Aug 12 14:51 h382349.zip
20
21 Spectra4/h382346:
22 total 1492
23 drwxr-xr-x    4 EHamilton root           96 Aug 12 15:06 .
24 drwxr-xr-x    9 EHamilton root          320 Aug 12 15:10 ..
25 drwxr-xr-x    2 EHamilton root           32 Aug 12 15:05 __macosx
26 drwxr-xr-x    2 EHamilton root          576 Nov 29  2007 setup
27 -rwxr-xr-x    1 EHamilton root 1524568 Jun  5  2009 spectra_v21_win32.exe
28
29 Spectra4/h382346/__macosx:
30 total 2
31 drwxr-xr-x    2 EHamilton root           32 Aug 12 15:05 .
32 drwxr-xr-x    4 EHamilton root           96 Aug 12 15:06 ..
33 -rwxr-xr-x    1 EHamilton root          201 Jun  5  2009 ._spectra_v21_win32.exe
34
35 Spectra4/h382346/setup:
36 total 3389
37 drwxr-xr-x    2 EHamilton root          576 Nov 29  2007 .
38 drwxr-xr-x    4 EHamilton root           96 Aug 12 15:06 ..
39 -rwxr-xr-x    1 EHamilton root 1028096 Aug  4  2004 Mfc42.Dll
40 -rwxr-xr-x    1 EHamilton root  343040 Aug  4  2004 Msvcrt.Dll
41 -rwxr-xr-x    1 EHamilton root   913408 Aug  1  2007 Spectra.exe

```

```

42 -rw-r--r--      1 EHamilto root      300178 Nov 19 1997 _inst32i.ex_
43 -rwxr-xr-x      1 EHamilto root        8192 Nov 19 1997 _isdel.exe
44 -rwxr-xr-x      1 EHamilto root     11264 Nov 19 1997 _setup.dll
45 -rw-r--r--      1 EHamilto root    191177 Aug  1 2007 _sys1.cab
46 -rw-r--r--      1 EHamilto root     51015 Aug  1 2007 _user1.cab
47 -rw-r--r--      1 EHamilto root       126 Aug  1 2007 data.tag
48 -rw-r--r--      1 EHamilto root     3509 Aug  1 2007 data1.cab
49 -rw-r--r--      1 EHamilto root     4557 May 30 1997 lang.dat
50 -rw-r--r--      1 EHamilto root       353 Aug  1 2007 layout.bin
51 -rw-r--r--      1 EHamilto root       417 May  6 1997 os.dat
52 -rw-r--r--      1 EHamilto root    493014 Jun 28 2007 setup.bmp
53 -rwxr-xr-x      1 EHamilto root     59904 Nov 19 1997 setup.exe
54 -rw-r--r--      1 EHamilto root        95 Aug  1 2007 setup.ini
55 -rw-r--r--      1 EHamilto root    57237 Aug  1 2007 setup.ins
56 -rw-r--r--      1 EHamilto root        49 Aug  1 2007 setup.lid
57
58 Spectra4/h382347:
59 total 1278
60 drwxr-xr-x      2 EHamilto root        32 Aug 12 15:08 .
61 drwxr-xr-x      9 EHamilto root       320 Aug 12 15:10 ..
62 -rw-r--r--      1 EHamilto root   1306792 Jan 12 2010 sp4app2110.h64
63
64 Spectra4/h382348:
65 total 357
66 drwxr-xr-x      2 EHamilto root        32 Aug 12 15:08 .
67 drwxr-xr-x      9 EHamilto root       320 Aug 12 15:10 ..
68 -rw-r--r--      1 EHamilto root   364350 Oct 27 2009 sp4str0220.h64
69
70 Spectra4/h382349:
71 total 78
72 drwxr-xr-x      2 EHamilto root        32 Aug 12 15:08 .
73 drwxr-xr-x      9 EHamilto root       320 Aug 12 15:10 ..
74 -rw-r--r--      1 EHamilto root    78778 Oct 27 2009 sp4font0101.h64

```

1.1.1 Spectra IV sp4app2110.hed

```

1  S00F00006170705F686C665F626900000EC
2  S220000000DEC0FECA0100000000000200A6F90700000000000000000000000000D0
3  S22000001C000000003E080000C1F7FFFF4A616E20313220323031300031303A3578
4  S220000038383A3038000000000600000EAF0F09FE5F0F09FE5F0F09FE5F0F09FE54D
5  S220000054F0F09FE5F0F09FE5F0F09FE5D330A0E303F02FE10000A0E3170F08EE37
6  S2200000704004A0E30210A0E3001080E54E04A0E3180080E2FF10A0E3001080E548
7  S22000008C040080E2001080E54004A0E3D00080E2001090E5801C81E3001080E585
8  S2200000A84134A0E33C2083E2103F02EE6004A0E3C11EA0E3E61281E28049A0E34F
9  S2200000C4604484E2001083E5043083E2400980E2401981E2040050E1F9FFFFBAB3
10 S2200000E00010A0E3001083E5043083E2020053E1FBFFFFBAC11EA0E3E51281E2B6

```

1.1.2 Spectra IV sp4app2110.tai

```
1 S22007F8D42000222C20001E90C12000417375704C720C01CB656477305FFAF404FF
2 S22007F8F0545F00FF5F4E616D656C6573FF735F001C3FF10020F0BB9FCD9E6201C5
3 S22007F90C620157361D099FFEB69377F0F290CAEE36DEDCE345787072B590204C13
4 S22007F928FEEA4120496E632E202AF72054685FC064582041DF524D392F47F86048
5 S22007F9446E20FF48696C6C73205665FB72734D7147342E3062FD2E45A063202AA1
6 S22007F96000472DFF47422D474C2D4D2DFF442D444C2D4B4D4CBF2D434D522D48C8
7 S22007F97C65A04DFF4C322D475A2D4B48FD3263A02D52502D5443FF2D4E482D54FE
8 S22007F998442D41FF502D48412D47462DFF4484A0542D4D462D4DFF532D44572D6F
9 S21607F9B4555341BF2D43412D5344A4A05305552C5000AB
10 S70500000000FA
```

1.1.3 Spectra IV sp4font0101.hed

```
1 S00F0000666F6E745F7461626C650000D2
2 S220000000DECOFECA0400000000000C00E07A000000000000000000000000000000F
3 S22000001C00000000650000009AFFFFFFF000000000000000000000000000000C7
4 S22000003800000000000000004349534101000100990010100000456E676C69736A
5 S22000005468006C616E675F656E672E62696E0030342F31332F30370031353A3024
6 S220000070313A35320000000000000000000000001011111111111011111111E2
7 S22000008C11111111122222222222111222222222221112211111111221189
8 S2200000A8112221222122211112221111122211112221111122211112221226E
9 S2200000C42212221111221111111221112211122111221111221111112211A5
10 S2200000E0112222222222211122222222222111111111111111111011111158
```

1.1.4 Spectra IV sp4font0101.tai

```
1 S220007A100020222200000022002222002002000000000000000000000202227
2 S220007A2C22000000002222020000002200222002200200000000000000000049
3 S220007A480000202222222222222200000000200222200222000000000000065
4 S220007A6400000000000000202222222222020000000002202002202000000CB
5 S220007A800000000000000000000000022222222220000000000002022222293
6 S220007A9C000000000000000000000000000000002222222000000000000041
7 S220007AB80000000000000000000000000000000000000000000000000000AD
8 S220007AD4000000000000000000000000000000000000000000000000000091
9 S214007AF00000000000000000000000000000000000000000000000081
10 S70500000000FA
```

1.1.5 Spectra IV sp4str0220.hed

```
1 S00F0000737472696E675F7461620000C3
2 S220000000DECOFECA0500000000000D001239020000000000000000000000001A
3 S22000001C00000000DC00000023FFFFFFF00000000000000000000000000000C7
4 S2200000380000000000000000C07B84330055AAFF4D0202140101000045004E00BD
5 S22000005447004C00490053004800000000050005200450053005300200049001E
```

```
6 S22000007052004900530020004F00500045004E00200054004F00200043004F00BA
7 S22000008C4E00540049004E0055004500000050005200450053005300200049008A
8 S2200000A852004900530020004F00500045004E00200054004F0020005300410080
9 S2200000C4560045000000500052004500530053002000490052004900530020007C
10 S2200000E043004C004F0053004500200054004F002000430041004E00430045004C
```

1.1.6 Spectra IV sp4str0220.tai

```
1 S22002385050004F005200000054003100000054003200000054003300000054007E
2 S22002386C3400000054003500000054003600000054003700000046004900450093
3 S2200238884C004400200041004C00490047004E0000004500560045004E000000D4
4 S2200238A44F00440044000000500052004F00470052004500530053004900560016
5 S2200238C04500000049004E005400450052004C004100430045004400000058006D
6 S2200238DC3200370000005800350034000000580031003000380000005800320024
7 S2200238F83100360000005800320037003000000058003300320034000000500014
8 S22002391449004300540055005200450020004D004F004400450000003100350019
9 S206023930000008E
10 S70500000000FA
```

1.2 ExSite Download Files

1. File `app.h64` has 1543 lines in it
2. File `bios.h64` has 225 lines in it
3. File `eab.h64` has 1760 lines in it
4. File `font.h64` has 258 lines in it
5. File `lang.h64` has 1002 lines in it
6. File `pmab.h64` has 1760 lines in it

```

1  ExSite:
2  total 593
3  drwxr-xr-x    2 EHamilto root          192 Aug 13 11:36 .
4  drwxr-xr-x    7 EHamilto root          192 Aug 13  2010 ..
5  -rw-r--r--    1 EHamilto root        222208 Nov 21  2008 app.h64
6  -rw-r--r--    1 EHamilto root         32416 Nov 21  2008 bios.h64
7  -rw-r--r--    1 EHamilto root         84480 Nov 12  2004 eab.h64
8  -rw-r--r--    1 EHamilto root         36916 Sep 13  2004 font.h64
9  -rw-r--r--    1 EHamilto root        144034 Sep 13  2004 lang.H64
10 -rw-r--r--    1 EHamilto root         84480 Sep 13  2004 pmab.h64

```

1.2.1 ExSite app.hed

```

1 S00600004844521B
2 S34500014000AFB216640055AAFF01C50100020100000001454E474C4953480000505245535
3 ...32049524953204F50454E20544F20434FE54494E554500505245535320495249BC
4 S3450001404053204F50454E20544F2053415645005052455353204952495320434CF53452
5 ...0544F2043414E43454C0050524553532049524953204F50454E20544F2053454C82
6 S34500014080454354004241434B00455849540052455345542043414D455241004359434C4
7 ...52043414D45524120504F5745520053595354454D20494E464F524D4154494F4E55
8 S345000140C0005245424F4F542053595354454D00444F4D452053455454494E47530044495
9 ...3504C4159205345545550004C414E47554147450043414D455241004D4F54494FF7
10 S345000141004E00504F574552205550004C494E452053594E4300505245534554530050415
11 ...45445524E530041555800414C41524D53005A4F4E45530057494E444F5720424CF9
12 S34500014140414E4B494E470050415353574F524400434C454152005350454349414C004C4
13 ...94E452053594E43004C494E452053594E43205048415345004155582031204D4F0F
14 S345000141804445004155582032204D4F4445004457454C4C2054494D45202853454353290
15 ...0504F57455220555020414354494F4E00524553554D450053455155454E4345200A
16 S345000141C02853454353290052455345542044454C41592028534543532900414C41524D2
17 ...0504F4C415249545900414C41524D2053455454494E4753004155544F20464C4955
18 S34500014200500050524F504F5254494F4E414C2050414E004C494D49542053544F5053005
19 ...041524B2054494D4520284D494E5554455329005041524B20414354494F4E0053D5

```

1.2.2 ExSite app.tai

```
1 S345000368C0010000060000000000000000000000000000000009FD4000000000100000
```

1.2.3 ExSite bios.hed

1.2.4 ExSite bios.tai

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```

3 ...572666C6F770A000000000000000000000000000000D00000099
4 S34500007600C20000000000000000000000C6000000000000000000000000000000
5 ...000000000000000000000000000000CF00000000000000C5000000C400000064
6 S34500007640C1000000C3000000C4000100C000000000960000012C00000258000004B000
7 ...00096000001C20000CA000000CC0000258000000080028800800268000000000048
8 S34500007680CD000012C012000080029800800278000000000000549000005274000052A80
9 ...0005310000053300000549000005274000052A80000531000005330000046BC00E9
10 S345000076C00046D800000000000046F80000000000000000000000000081A00000000C0000
11 ...0C7000000CE001D00CE001E000000000100000000CF001D00CF001E000067EC017B
12 S345000077000000000000010000000000000000000000000000000000000000000000
13 ...00000000000000000000000000000000000000000000000000000000BE
14 S3450000774000000000000000000000000000000000000008006600080066000807800008078000
15 ...00000000000072A0000727A0000727A00000000000072AA000072CA000072AA000F
16 S3450000778000000008004B800800000000000000080053800800000100000008005B80
17 ...08000000200000000000000000000000000000000000000000000000000000A
18 S34500007FC000000000000000000000000000000000000000000000000000000000000
19 ...000000000000000000000000000000FFEF0BB50000778042494F53A9
20
```

1.2.5 ExSite eab.hed

```

1 S315200002001DD0FFFFFFFCC1EF03F045737072A4
2 S3152000021069742045585020454142205665727369BD
3 S315200002206F6E01000A000000436F7079726967687B
4 S31520000230742050454C434F2032303033F26AD06818
5 S31520000240D09EE06A806A816A826A836A0101020E10
6 S31520000250EA6EFF0EE96EEF6AED50D8A4198FE966B3
7 S31520000260FAD7EA66F8D700C018F1EF6A000192685B
8 S3152000027093689468956802EC05F03886959083809B
9 S31520000280D7EC05F002EC05F08390C9EC05F002EC02
10 S3152000029005F095803896388494948284C9EC05F0CC
```

1.2.6 ExSite eab.tai

```

1  S31520006F60FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
2  S31520006F70FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
3  S31520006F80FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
4  S31520006F90FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
5  S31520006FA0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
6  S31520006FB0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
7  S31520006FC0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
8  S31520006FD0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
9  S31520006FE0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF0B
10 S31520006FF030313A30FFFFFFFFFFFFFFFFF117EB00E5B

```

1.2.7 ExSite font.hed

1 S00F0000455850466F6E743130305F3349

```

2 S345000C000464F4E540001000047656E6572696320666F6E7400455850466F6E74313030S
3 ... F330030382F32372F30340030393A35343A30350000000000000000000000000000049
4 S345000C04000FE007F00FF00FFFC033FC0FC033FC00CF330CFEC1337C82CD334CB2CD334C
5 .. BEC1337C80CF330CF4CB332CD0CF330CFFC033FC0FC033FC000FF00FF00FE007FDC
6 S345000C0800000000000000000000000F8001F609C003FF00E007F98661F6098661F60F00E0E7
7 ... 1609C0A7500F8003F00F0001F000000D000000000000000000000000000000066
8 S345000C0C00000000000000000F8001F00FC003FF00E0F70FC033FC04CB332CDE01F07F8708C0E3
9 ... 138C61C6378861E61F8061F6000FC003F00F8001F000000000000000000000000006D
10 S345000C1000000000000000000000000E0000F8070031CE0180F70F00C1F60F00C1F60F00C1F6
11 ... 0F00C1F60F8063FC0F8063FC000FE03FC00FC06790080000F0000000000000000097
12 S345000C14000000000000E0000300F00007E018030CF00C071818E60C338C5318658649304
13 ... F864937480689304F0C13186418E60C33F00C0718E018030C00F0000700E00003A6
14 S345000C18000FF00FFFE017F80FE017F8006F9609F06F9609FFE016798FE016798FE01679
15 ... 8FE01649BFE01649BFE016798FE016798FE016798FE01679800FF00FF00FE007F1A
16 S345000C1C000000000000000000000000000000000000000000000000007F00803CC300C38C700E038C
17 ... 7C0303FC0807C3FC0807E3FC0FE013FC0FC033FC0FC033FC000FF00FF00FE007F41
18 S345000C20000F80007F00C011E807C0F1000FF007FFC031F60FC031F601CE3007F1CE3007
19 ... FFC030F30FC030F301CE3007F1CE3007FFC031F60FC031F6000FF007F00FE003F1E
```

1.2.8 ExSite font.tai

[illegible]

1.2.9 ExSite lang.hed

```
1 S00600004844521B
2 S34580008000AFB216640055AAFF01C50100020100000001454E474C4953480000505245535
3 ...32049524953204F50454E20544F20434F4E54494E554500505245535320495249FD
4 S3458000804053204F50454E20544F2053415645005052455353204952495320434C4F53452
```

```
5 ...0544F2043414E43454C0050524553532049524953204F50454E20544F2053454CC3
6 S34580008080454354004241434B00455849540052455345542043414D455241004359434C4
7 ...52043414D45524120504F5745520053595354454D20494E464F524D4154494F4E96
8 S345800080C0005245424F4F542053595354454D00444F4D452053455454494E47530044495
9 ...3504C4159205345545550004C414E47554147450043414D455241004D4F54494F38
10 S345800081004E00504F574552205550004C494E452053594E4300505245534554530050415
11 ...45445524E530041555800414C41524D53005A4F4E45530057494E444F5720424C3A
12 S34580008140414E4B494E470050415353574F524400434C454152005350454349414C004C4
13 ...94E452053594E43004C494E452053594E43205048415345004155582031204D4F50
14 S345800081804445004155582032204D4F4445004457454C4C2054494D45202853454353290
15 ...0504F57455220555020414354494F4E00524553554D450053455155454E4345204B
16 S345800081C02853454353290052455345542044454C41592028534543532900414C41524D2
17 ...0504F4C415249545900414C41524D2053455454494E4753004155544F20464C4996
18 S34580008200500050524F504F5254494F4E414C2050414E004C494D49542053544F5053005
19 ...041524B2054494D4520284D494E5554455329005041524B20414354494F4E005316
```

1.2.10 ExSite lang.tai

```
1 S345800177C04E8D204A45444E4F544B590050C64556520E43454E8D204A45444E4F544B590
2 ...05A4DC84E4954204F5249454E5441434900545950200C5052415659004F204B4FC7
3 S345800178004C494B2053545550F5C1004F5645525343414E00554E4445525343414E004F5
4 ...40EC7454E8D004E4153544156495420524F5A53414800545950204A45444E4F54E1
5 S345800178404B5920524F5A5341485500524F5A5341482053544F505900524F5A534148204
6 ...D4554525900414E474C49434B59004D45545259004B414C49425241434520504F53
7 S345800178805A49434500504F55CA8D56454A544520500EC74B55204E45424F004B4C0E564
8 ...5534E494349204B2050C6454E4153544156454E8D0054C84348544F20484F444E08
9 S345800178C04F5420412052454B414C4942524143490056C045434820484F444E4F5420534
10 ...5005345205354454A4E4F55200C505241564F550056594D415A4154204E415354CF
11 S345800179004156454E8D204B414C494252414345004E4153544156495420504F444C45205
12 ...0C1562E204B414C4942522E004B414C4942524143450045414200504D414200C788
13 S345800179408D534C4F20534F55C70E53544B590053595354454D204D4F4E49544F5200504
14 ...D4C42204D454D4F52592056414C554500504D4C42204D454D4F5259204F4646536E
15 S34580017980455400454142204D454D4F52592056414C554500454142204D454D4F5259204
16 ...F4646534554004F544845520055534520544845204A4F59535449434B204F5200E0
17 S345800179C04B4559424F41524420544F20504F534954494F4E0054484520435552534F520
18 ...00000000000000000000000000000000000000000000000000000000000000000078
19 S70500000000FA
```

1.2.11 ExSite pmab.hed

```
1 S3154000020018D0FFFFFFF156ED8CF16F0E0CFE7
2 S3154000021017F09EA603D09E96FDEC05F0F2A403D0FF
3 S31540000220F29483EC06F017C0E0FF16C0D8FF1550D5
4 S315400002301000E06AF26AD068D09E9F68A2684AEC5
5 S3154000024001F05CEC01F0EAEC01F002EC02F026EC85
6 S3154000025002F00301246B236B226B0001100E1D6E0E
7 S3154000026066EC03F01D2EFCD7FBEC02F004EC03F029
```

8 S315400002700BEC03F066EC03F047EC04F00EEC05F0F3
9 S31540000280DCEC05F085EC04F075EC06F01CB41CECD7
10 S3154000029002F0ECD70101030EE26EFF0EE16EE76A53

1.2.12 ExSite pmab.tai

1 S31540006F60FFFFFFFFFFFFFFFFFFFFFFFFFFFFFEB
2 S31540006F70FFFFFFFFFFFFFFFFFFFFFFFFFFFFFDB
3 S31540006F80FFFFFFFFFFFFFFFFFFFFFFFFFFFFFCB
4 S31540006F90FFFFFFFFFFFFFFFFFFFFFFFFFFFFFBB
5 S31540006FA0FFFFFFFFFFFFFFFFFFFFFFFFFFFFFAB
6 S31540006FB0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF9B
7 S31540006FC0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF8B
8 S31540006FD0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF7B
9 S31540006FE0FFFFFFFFFFFFFFFFFFFFFFFFFFFFF6B
10 S31540006FF030313930FFFFFFFFFFFFFFFFF1454B21B54

1.3 Mini Spectra Download Files

1. File mini122.h64 has 1661 lines in it
2. File miniL1.h64 has 531 lines in it
3. File miniL2.h64 has 498 lines in it

```

1  MiniSpectra:
2  total 382
3  drwxr-xr-x    7 EHamilton root          256 Aug 13 06:57 .
4  drwxr-xr-x    7 EHamilton root        1248 Aug 13  2010 ..
5  drwxr-xr-x    2 EHamilton root         128 Aug 13 06:57 ZIPs
6  drwxr-xr-x    4 EHamilton root          96 Aug 13 06:53 h382346
7  drwxr-xr-x    3 EHamilton root          96 Aug 13 06:54 h382353
8  drwxr-xr-x    3 EHamilton root          96 Aug 13 06:55 h382354
9  drwxr-xr-x    3 EHamilton root          96 Aug 13 06:55 h382355
10 -rw-r--r--    1 EHamilton root    238439 Apr 17  2006 mini122.h64
11 -rw-r--r--    1 EHamilton root     76210 Apr 17  2006 miniL1.H64
12 -rw-r--r--    1 EHamilton root     71458 Apr 17  2006 miniL2.H64
13
14 MiniSpectra/ZIPs:
15 total 1682
16 drwxr-xr-x    2 EHamilton root         128 Aug 13 06:57 .
17 drwxr-xr-x    7 EHamilton root         256 Aug 13 06:57 ..
18 -rw-r--r--    1 EHamilton root    1477121 Aug 12 14:54 h382346.zip
19 -rw-r--r--    1 EHamilton root    120679 Aug 12 14:54 h382353.zip
20 -rw-r--r--    1 EHamilton root     60852 Aug 12 14:54 h382354.zip
21 -rw-r--r--    1 EHamilton root     61245 Aug 12 14:54 h382355.zip
22
23 MiniSpectra/h382346:
24 total 1492
25 drwxr-xr-x    4 EHamilton root          96 Aug 13 06:53 .
26 drwxr-xr-x    7 EHamilton root        256 Aug 13 06:57 ..
27 drwxr-xr-x    2 EHamilton root          32 Aug 13 06:53 __macosx
28 drwxr-xr-x    2 EHamilton root         576 Nov 29  2007 setup
29 -rwxr-xr-x    1 EHamilton root    1524568 Jun  5  2009 spectra_v21_win32.exe
30
31 MiniSpectra/h382346/__macosx:
32 total 2
33 drwxr-xr-x    2 EHamilton root          32 Aug 13 06:53 .
34 drwxr-xr-x    4 EHamilton root          96 Aug 13 06:53 ..
35 -rwxr-xr-x    1 EHamilton root        201 Jun  5  2009 ._spectra_v21_win32.exe
36
37 MiniSpectra/h382346/setup:
38 total 3389
39 drwxr-xr-x    2 EHamilton root         576 Nov 29  2007 .
40 drwxr-xr-x    4 EHamilton root          96 Aug 13 06:53 ..
41 -rwxr-xr-x    1 EHamilton root    1028096 Aug  4  2004 Mfc42.Dll

```

```

42 -rwxr-xr-x      1 EHamilto root      343040 Aug  4 2004 Msvcrt.Dll
43 -rwxr-xr-x      1 EHamilto root      913408 Aug  1 2007 Spectra.exe
44 -rw-r--r--      1 EHamilto root      300178 Nov 19 1997 _inst32i.ex_
45 -rwxr-xr-x      1 EHamilto root        8192 Nov 19 1997 _isdel.exe
46 -rwxr-xr-x      1 EHamilto root       11264 Nov 19 1997 _setup.dll
47 -rw-r--r--      1 EHamilto root     191177 Aug  1 2007 _sys1.cab
48 -rw-r--r--      1 EHamilto root      51015 Aug  1 2007 _user1.cab
49 -rw-r--r--      1 EHamilto root        126 Aug  1 2007 data.tag
50 -rw-r--r--      1 EHamilto root      3509 Aug  1 2007 data1.cab
51 -rw-r--r--      1 EHamilto root      4557 May 30 1997 lang.dat
52 -rw-r--r--      1 EHamilto root        353 Aug  1 2007 layout.bin
53 -rw-r--r--      1 EHamilto root        417 May  6 1997 os.dat
54 -rw-r--r--      1 EHamilto root     493014 Jun 28 2007 setup.bmp
55 -rwxr-xr-x      1 EHamilto root      59904 Nov 19 1997 setup.exe
56 -rw-r--r--      1 EHamilto root         95 Aug  1 2007 setup.ini
57 -rw-r--r--      1 EHamilto root     57237 Aug  1 2007 setup.ins
58 -rw-r--r--      1 EHamilto root         49 Aug  1 2007 setup.lid
59
60 MiniSpectra/h382353:
61 total 357
62 drwxr-xr-x      3 EHamilto root         96 Aug 13 06:54 .
63 drwxr-xr-x      7 EHamilto root        256 Aug 13 06:57 ..
64 drwxr-xr-x      2 EHamilto root         32 Aug 13 06:54 __macosx
65 -rwxr-xr-x      1 EHamilto root     125256 Jun  5 2009 mini122.exe
66 -rw-r--r--      1 EHamilto root     238439 Apr 17 2006 mini122.h64
67
68 MiniSpectra/h382353/__macosx:
69 total 2
70 drwxr-xr-x      2 EHamilto root         32 Aug 13 06:54 .
71 drwxr-xr-x      3 EHamilto root         96 Aug 13 06:54 ..
72 -rwxr-xr-x      1 EHamilto root        201 Jun  5 2009 ._mini122.exe
73
74 MiniSpectra/h382354:
75 total 140
76 drwxr-xr-x      3 EHamilto root         96 Aug 13 06:55 .
77 drwxr-xr-x      7 EHamilto root        256 Aug 13 06:57 ..
78 drwxr-xr-x      2 EHamilto root         32 Aug 13 06:54 __macosx
79 -rw-r--r--      1 EHamilto root      76210 Apr 17 2006 miniL1.H64
80 -rwxr-xr-x      1 EHamilto root     65448 Jun  5 2009 miniL1.exe
81
82 MiniSpectra/h382354/__macosx:
83 total 2
84 drwxr-xr-x      2 EHamilto root         32 Aug 13 06:54 .
85 drwxr-xr-x      3 EHamilto root         96 Aug 13 06:55 ..
86 -rwxr-xr-x      1 EHamilto root        201 Jun  5 2009 ._miniL1.exe
87
88 MiniSpectra/h382355:
89 total 136

```


1.3.3 Mini Spectra miniL1.hed

1.3.4 Mini Spectra miniL1.tai

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18

1 *FORMAT OF DOWNLOADER FILES*

19 S70500000000FA

1.4.3 Spectra III PG91-0002-0402.hed

1.4.4 Spectra III PG91-0002-0402.tai

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[illegible]

1.4.5 Spectra III PG91-0003-0402.hed

```

1  S00600004844521B
2  S34580008000E00D13470055AAFF018D0402020100000001454E474C4953480000505245535
3  ...32049524953204F50454E20544F20434F4E54494E554500505245535320495249C4
4  S3458000804053204F50454E20544F2053415645005052455353204952495320434C4F53452
5  ...0544F2043414E43454C0050524553532049524953204F50454E20544F2053454CC3
6  S34580008080454354004241434B00455849540052455345542043414D455241004359434C4
7  ...52043414D45524120504F5745520053595354454D20494E464F524D4154494F4E96
8  S345800080C0005245424F4F542053595354454D00444F4D452053455454494E47530044495
9  ...3504C4159205345545550004C414E47554147450043414D455241004D4F54494F38
10 S345800081004E00504F574552205550004C494E452053594E4300505245534554530050415
11 ...45445524E530041555800414C41524D53005A4F4E45530057494E444F5720424C3A
12 S34580008140414E4B494E470050415353574F524400434C454152005350454349414C004C4
13 ...94E452053594E43004C494E452053594E43205048415345004155582031204D4F50
14 S345800081804445004155582032204D4F4445004457454C4C2054494D45202853454353290
15 ...0504F57455220555020414354494F4E00524553554D450053455155454E4345204B
16 S345800081C02853454353290052455345542044454C41592028534543532900414C41524D2
17 ...0504F4C415249545900414C41524D2053455454494E4753004155544F20464C4996
18 S34580008200500050524F504F5254494F4E414C2050414E004C494D49542053544F5053005
19 ...041524B2054494D4520284D494E5554455329005041524B20414354494F4E005316

```

1.4.6 Spectra III PG91-0003-0402.tai

```

1  S3458000F9804E4F5455204100535449534B4E492049524953204F50454E2E0000524556455
2  ...25A4E49204F4B4E4F005832323000583236340058323300583332005839320058DD
3  S3458000F9C03138340058323330005A4D52415A20534E494D454B205052492050524553455
4  ...40050524550494E4143004348594241204B4F4E4649475552414345004B4F4E4649
5  S3458000FA0049475552414345204A415A594B41004348594241204B4F4E464947555241434
6  ...500464154414C204552524F52004348594241204B4F4E464947555241434500508A
7  S3458000FA40524950524156454E4F2050524F20444F574E4C4F4144004C4F4B414C4E49204
8  ...F564C4144414320414B5449564E4900504F54565244495420504F484F544F564F4D
9  S3458000FA80535400504F5A4F52004F50414B4F56415400504F545652444954204E0E42C84
10 ...800534F55C741534EC9204E0E50495300524553455420504F484F544F564F535437
11 S3458000FAC0003135204D494E5554003330204D494E5554003630204D494E55540056CA445
12 ...9205A41504E55544F003820484F44205659504E555400323420484F442056595073
13 S3458000FB004E555400343820484F44205659504E5554005445504C4F544100524F534EC92

```

```
14 ...0424F4400544C414B004F424E4F5649540046004300505349470042415200565925
15 S3458000FB40534F4B0E205445504C4F5441004E8D5A4B0E205445504C4F5441005659534F4
16 ...BC920544C414B004E8D5A4BC920544C414B005659534F4B0E20564C484B4F5354C9
17 S3458000FB8000504F5A4F5220565A4B415A00504F4420544C414B454D00583138005833320
18 ...05837320058313434005831383000000000000000000000000000000000000000008D
19 S70500000000FA
```

A S Record File Format

```

1      SREC(4)                UNIX 5.0 (03/21/84)                SREC(4)
2
3      NAME
4          srec - S-record file and record format
5
6      DESCRIPTION
7          An S-record file consists of a sequence of specially
8          formatted ASCII character strings.  An S-record will be less
9          than or equal to 78 bytes in length.
10
11          The order of S-records within a file is of no significance
12          and no particular order may be assumed.
13
14          The general format of an S-record follows:
15
16          +-----//-----//-----+
17          | type | count | address |          data          | checksum |
18          +-----//-----//-----+
19
20          type      A char[2] field.  These characters describe the
21                    type of record (S0, S1, S2, S3, S5, S7, S8, or
22                    S9).
23
24          count     A char[2] field.  These characters when paired and
25                    interpreted as a hexadecimal value, display the
26                    count of remaining character pairs in the record.
27
28          address   A char[4,6, or 8] field.  These characters grouped
29                    and interpreted as a hexadecimal value, display
30                    the address at which the data field is to be
31                    loaded into memory.  The length of the field
32                    depends on the number of bytes necessary to hold
33                    the address.  A 2-byte address uses 4 characters,
34                    a 3-byte address uses 6 characters, and a 4-byte
35                    address uses 8 characters.
36
37          data      A char [0-64] field.  These characters when paired
38                    and interpreted as hexadecimal values represent
39                    the memory loadable data or descriptive
40                    information.
41
42          checksum  A char[2] field.  These characters when paired and
43                    interpreted as a hexadecimal value display the
44                    least significant byte of the ones complement of
45                    the sum of the byte values represented by the
46                    pairs of characters making up the count, the

```

47 address, and the data fields.
 48
 49 Each record is terminated with a line feed. If any
 50 additional or different record terminator(s) or delay
 51 characters are needed during transmission to the target
 52 system it is the responsibility of the transmitting program
 53 to provide them.
 54
 55 S0 Record The type of record is 'S0' (0x5330). The address
 56 field is unused and will be filled with zeros
 57 (0x0000). The header information within the data
 58 field is divided into the following subfields.
 59
 60 mname is char[20] and is the
 61 module name.
 62
 63 ver is char[2] and is the
 64 version number.
 65
 66 rev is char[2] and is the
 67 revision number.
 68
 69 description is char[0-36] and is a
 70 text comment.
 71
 72 Each of the subfields is composed of ASCII bytes
 73 whose associated characters, when paired,
 74 represent one byte hexadecimal values in the case
 75 of the version and revision numbers, or represent
 76 the hexadecimal values of the ASCII characters
 77 comprising the module name and description.
 78
 79 S1 Record The type of record field is 'S1' (0x5331). The
 80 address field is interpreted as a 2-byte address.
 81 The data field is composed of memory loadable
 82 data.
 83
 84 S2 Record The type of record field is 'S2' (0x5332). The
 85 address field is interpreted as a 3-byte address.
 86 The data field is composed of memory loadable
 87 data.
 88
 89 S3 Record The type of record field is 'S3' (0x5333). The
 90 address field is interpreted as a 4-byte address.
 91 The data field is composed of memory loadable
 92 data.
 93
 94 S5 Record The type of record field is 'S5' (0x5335). The

95 address field is interpreted as a 2-byte value
 96 and contains the count of S1, S2, and S3 records
 97 previously transmitted. There is no data field.
 98
 99 S7 Record The type of record field is 'S7' (0x5337). The
 100 address field contains the starting execution
 101 address and is interpreted as 4-byte address.
 102 There is no data field.
 103
 104 S8 Record The type of record field is 'S8' (0x5338). The
 105 address field contains the starting execution
 106 address and is interpreted as 3-byte address.
 107 There is no data field.
 108
 109 S9 Record The type of record field is 'S9' (0x5339). The
 110 address field contains the starting execution
 111 address and is interpreted as 2-byte address.
 112 There is no data field.
 113

114 EXAMPLE

115 Shown below is a typical S-record format file.

116
 117 S00600004844521B
 118 S1130000285F245F2212226A000424290008237C2A
 119 S11300100002000800082629001853812341001813
 120 S113002041E900084E42234300182342000824A952
 121 S107003000144ED492
 122 S5030004F8
 123 S9030000FC
 124

125 The file consists of one S0 record, four S1 records, one S5
 126 record and an S9 record.

127
128 The S0 record is comprised as follows:

129
 130 S0 S-record type S0, indicating it is a header
 131 record.
 132
 133 06 Hexadecimal 06 (decimal 6), indicating that six
 134 character pairs (or ASCII bytes) follow.
 135
 136 00 00 Four character 2-byte address field, zeroes in
 137 this example.
 138
 139 48 ASCII H, D, and R - "HDR".
 140
 141 1B The checksum.
 142

143 The first S1 record is comprised as follows:
 144
 145 S1 S-record type S1, indicating it is a data record
 146 to be loaded at a 2-byte address.
 147
 148 13 Hexadecimal 13 (decimal 19), indicating that
 149 nineteen character pairs, representing a 2 byte
 150 address, 16 bytes of binary data, and a 1 byte
 151 checksum, follow.
 152
 153 00 00 Four character 2-byte address field; hexadecimal
 154 address 0x0000, where the data which follows is to
 155 be loaded.
 156
 157 28 5F 24 5F 22 12 22 6A 00 04 24 29 00 08 23 7C Sixteen
 158 character pairs representing the actual binary
 159 data.
 160
 161 2A The checksum.

162
 163 The second and third S1 records each contain 0x13 (19)
 164 character pairs and are ended with checksums of 13 and 52,
 165 respectively. The fourth S1 record contains 07 character
 166 pairs and has a checksum of 92.

167
 168 The S5 record is comprised as follows:
 169
 170 S5 S-record type S5, indicating it is a count record
 171 indicating the number of S1 records.
 172
 173 03 Hexadecimal 03 (decimal 3), indicating that three
 174 character pairs follow.
 175
 176 00 04 Hexadecimal 0004 (decimal 4), indicating that
 177 there are four data records previous to this
 178 record.
 179
 180 F8 The checksum.

181
 182 The S9 record is comprised as follows:
 183
 184 S9 S-record type S9, indicating it is a termination
 185 record.
 186
 187 03 Hexadecimal 03 (decimal 3), indicating that three
 188 character pairs follow.
 189
 190 00 00 The address field, hexadecimal 0 (decimal 0)

191 indicating the starting execution address.
192
193 FC The checksum.
194
195
196 (last mod. 8/15/84)
197
198 A note (or minor nit)-
199 This is the first time that *I* have ever seen the 78-byte limit on total
200 record length or 64-byte limit on data length. I wouldn't trust those
201 values.
202
203 Note also that the count field can have values in the range of 0x3-0xff
204 (2 bytes of address + 1 byte checksum = 3, a not very useful record), and
205 that this is the count of remaining character *PAIRS*, including
206 checksum.
207
208 Whenever I write code to convert S-Records, I always assume that a record
209 can be as long as 514(decimal) characters in length (255 * 2 = 510, plus
210 4 characters for the type and count fields), plus any terminating
211 character(s). That is, in establishing an input buffer in C, I would
212 declare it to be an array of 515 chars, and leave room for the
213 terminating null character.
214
215 That should cover it :-)
216
217 The above was keyed in by and a tip of the hat to:
218
219 Ron Widell, Field Applications Eng. |UUCP: {...}mcdchg!motmpl!ron
220 Motorola Semiconductor Products, Inc.
221

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