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SANTA BARBARA PLANT

2219 0557

SDL SUPPORT PROGRAMS

PRODUCT SPECIFICATION

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
B	1/11/82	<i>D. Stone</i>	Changes for MARK 11.0 Release 5-1 Changed "XMAP.LINE" to "XMAP_LINE".

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B1800/B1700 SDL SUPPORT PROGRAMS

PRODUCT SPECIFICATION

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
A	12/1/77	<i>J. Hale</i>	Original issue. Software Release Level Mark 7.0.

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I. P. S. 2219 0557 REV. B

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SDL SUPPORT PROGRAMS

The SDL support programs provide support for analysis of the SDL compiler and individual SDL programs. These support programs are maintained as part of the SDL project because they have proved useful in the development of SDL programs.

The SDL support programs, SDL/IA, SDL/SA and SDL/SSC have been rewritten for the 7.0 release. While the results are the same, the operation of these programs is significantly different from previous releases in an attempt to make them easier to use. The significant differences are:

1. The input stream may be from the SPD when SW 0 = 0 or from the file CARDS when SW 0 = 1. Blank input from the SPD or end of file on CARDS has the same effect as typing "END" as in the subsequent input diagrams.
2. The output stream may be routed to the SPD when SW 1 = 0, or to the file LINE when SW 1 = 1. LINE file is declared PRINTER or BACKUP.
3. The name of the file to be analyzed is now included in the input stream. For SDL/IA, the file must be an intermediate file from the SDL compiler. SDL/SA and SDL/SSC require an SDL code file.

RELATED DOCUMENTATION

Name ----	Number -----
B1800/B1700 SDL (BNF Version)	P. S. 2212 5405
B1800/B1700 SDL Compiler	P. S. 2212 5389

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SDLZIA DESCRIPTION

SDL/IA, SDL Intermediate File Analyzer, is primarily used for SDL compiler debugging. It displays, in a readable format, the contents of the specified SDL intermediate file. Because the output may be lengthy, all output should go to the LINE file. Input is in the following format:

```
-- <file-name> ---- P -----END-----}
      |-- I --| |<-----|
                    |--<sequence range>---->|
                    |--ALL----->|
```

P or I specifies whether the intermediate file created from the pre-pass, PFILE, or the intermediate file created from the first pass, IFILE, is to be analyzed.

SDL/SA DESCRIPTION

SDL/SA, SDL S-code Analyzer, displays in detail the various parts of an SDL code file. Input is in the following format:

```

|<----- ; -----|
|
|-- <file-name> ----- END -#
|
|<-----|
| |---CODE---<integer>---<integer>--->|
| |           |--ALL-----|--ALL-----|
|
| |---COUNT---<integer>---<integer>--->|
| |           |--ALL-----|--ALL-----|
|
| |---DD----->| |
| |---DMS----->|
| |---FN----->|
| |---FPB---<integer>----->|
| |           |--ALL-----|
|
| |---PPB----->|
| |---PRINT----->|
| |---SD----->|
| |---SP----->|
|----->|
  
```

Some of the above commands are new for the 7.0 release. Others have improved output. Notice in particular COUNT, FN, FPB and SD.

- CODE Displays the contents of the code file within a specified page and segment.
- COUNT Displays in alphabetical order each S-op with the number of occurrences and the percentage of occurrences to the total number of S-ops within a specified page and segment.
- DD Displays the data dictionary of the code file. Programs compiled since the 5.1 release do not use this type of data segmentation and therefore have no data dictionary.
- DMS Displays the S-code in a DMS dictionary. The file in this case must be a DMS dictionary.
- END Terminates SDL/SA.

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FN	Displays the internal names and corresponding external names of files declared within the code file.
FPB	Displays the File Parameter Block of the specified file declared within the code file.
PPB	Displays the Program Parameter Block of the code file.
PRINT	Displays each token following in the input stream. (Used for debugging only.)
SD	Displays the segment dictionary of the code file.
SP	Displays the Scratchpad area of the code file.
;	Terminates analysis of the current code file.

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SDL/SSC DESCRIPTION

SDL/SSC, SDL Stack Size Changer, provides the capability to inspect and change any of the various SDL program stack sizes of a specified code file without recompilation. Input is in the following format:

```

|<----- ; -----|
|
|-----|
|<file-name> -----END-----|
|
|  |<-----| | | |
|  |<---number---| |<-----| |
|  |<---V---number---| |
|  |<---N---| |
|  |<---X---| |
|  |<---C---| |
|  |<---E---| |
|  |<---P---| |
|  |<---D---| |
|  |
|----->
  
```

The number following the file name is the scratchpad number. If the number following the <file-name> is not specified, then zero is assumed because there is only one scratchpad for most SDL programs and scratchpad numbers start at zero. The numbers following the stack ids are in bits.

The stack ids correspond to the stacks in the following manner:

V	VALUE STACK
N	NAME STACK
X	DISPLAY STACK (including Profile, Timing and Monitor space)
C	CONTROL STACK
E	EVALUATION STACK
P	PROGRAM POINTER STACK
D	DYNAMIC MEMORY (for paged arrays and paged array tables)

There are only two restrictions on the size of the program stacks. The size of the evaluation stack plus the program pointer stack cannot exceed 65,536 bits. The total stack size cannot exceed 128K bytes.

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SDL/XMAP DESCRIPTION

SDL/XMAP, SDL source and code cross reference map, provides a list of code addresses with corresponding source sequence numbers. This facility is used through the SDL compiler control \$XMAP. The output file attributes may be modified by file equation of the SDL compiler XMAP_LINE file. Due to implementation problems, \$XMAP cannot be used with \$CREATE_MASTER or \$RECOMPILE options.

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SDL/XREF DESCRIPTION

SDL/XREF, SDL source cross reference map, provides an alphabetical list of identifiers cross referenced by sequence numbers for any SDL source program. This facility is used through the SDL compiler control \$XREF or \$XREF_ONLY. Another control which expands the XREF listing is \$EXPAND_DEFINES. The output file attributes may be modified by file equation of the SDL compiler XREF_LINE file.

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