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0001 * 0180-001-6808 (TABLESIZ)   CCD NO. 70181497000   REV. B   TSIZ0001
0002 *                               TSIZ0002
0003 *                               TSIZ0003
0004 *                               TSIZ0004
0005 * COMPUTER: H316, DDP-516   TSIZ0005
0006 *                               TSIZ0006
0007 *                               TSIZ0007
0008 * PROGRAM CATEGORY: ASSEMBLY TSIZ0008
0009 *                               TSIZ0009
0010 *                               TSIZ0010
0011 * PROGRAM TITLE: TABLESIZ (TBLSIZ) TSIZ0011
0012 *                               SET SYMBOL TABLE MEMORY SIZE TSIZ0012
0013 *                               TSIZ0013
0014 *                               TSIZ0014
0015 *                               TSIZ0015
0016 *                               TSIZ0016
0017 *                               TSIZ0017
0018 *                               TSIZ0018
0019 *                               TSIZ0019
0020 *                               TSIZ0020
0021 *                               TSIZ0021
0022 *                               TSIZ0022
0023 *                               TSIZ0023
0024 *                               APPROVAL                               DATE TSIZ0024
0025 *                               TSIZ0025
0026 *                               TSIZ0026
0027 *                               TSIZ0027
0028 *                               PROG----- TSIZ0028
0029 *                               TSIZ0029
0030 *                               TSIZ0030
0031 *                               SUPR----- TSIZ0031
0032 *                               TSIZ0032
0033 *                               TSIZ0033
0034 *                               QUAL H. B. Harrison 16. FEB. 71 TSIZ0034
0035 *                               TSIZ0035
0036 *                               NO. OF PAGES 5 TSIZ0036
0037 *                               TSIZ0037

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0038 * REVISIONS: TSIZ0038
0039 * TSIZ0039
0040 * REV. B   ECO TSIZ0040
0041 * REV. A   05-04-70 TSIZ0041
0042 * TSIZ0042
0043 * TSIZ0043
0044 * AUTHOR TSIZ0044
0045 * TSIZ0045
0046 * HONEYWELL INC., COMPUTER CONTROL DIVISION TSIZ0046
0047 * TSIZ0047
0048 * TSIZ0048
0049 * PURPOSE TSIZ0049
0050 * TSIZ0050
0051 * TO SET THE SYMBOL TABLE SIZE AND COMMON BASE FOR DAP-16M2 TSIZ0051
0052 * TSIZ0052
0053 * TSIZ0053
0054 * RESTRICTIONS TSIZ0054
0055 * TSIZ0055
0056 * THIS MUST BE THE LAST SUBROUTINE LOADED WHEN MAKING TSIZ0056
0057 * A DAP-16M2 SYSTEM. TSIZ0057
0058 * DO NOT USE ANY EQUATES TO MAIN ASSEMBLER PROGRAM. TSIZ0058
0059 * TSIZ0059
0060 * TSIZ0060
0061 * STORAGE TSIZ0061
0062 * TSIZ0062
0063 * 0061 (OCTAL) TSIZ0063
0064 * 0049 (DECIMAL) TSIZ0064
0065 * TSIZ0065
0066 * TSIZ0066
0067 * USE TSIZ0067
0068 * TSIZ0068
0069 * THIS PROGRAM IS CALLED BY THE I/O SUPERVISOR THAT TSIZ0069
0070 * IS USED AT THE START OF THE FIRST ASSEMBLY. THE TSIZ0070
0071 * MEMORY SIZE WILL BE DETERMINED AND THE SIZE OF THE SYMBOL TSIZ0071
0072 * TABLE AND THE DEFAULT COMMON BASE WILL BE SET. IF SENSE TSIZ0072
0073 * SWITCH ONE IS SET DURING EXECUTION, THE PROGRAM TSIZ0073
0074 * WILL HALT TO ALLOW THESE VALUES TO BE CHANGED. THE TSIZ0074

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0075 * FIRST TIME THE COMPUTER HALTS, THE ADDRESS OF THE LAST TSI20075
0076 * LOCATION AVAILABLE FOR THE SYMBOL TABLE WILL BE DISPLAYED TSI20076
0077 * IN THE A REGISTER. CHANGE THIS VALUE, IF DESIRED, AND TSI20077
0078 * PRESS START. THE COMPUTER WILL THEN HALT WITH THE TSI20078
0079 * COMMON BASE DISPLAYED IN THE A REGISTER. CHANGE THIS TSI20079
0080 * VALUE, IF DESIRED, AND PRESS START. AFTER THE FIRST TSI20080
0081 * EXECUTION OF THIS PROGRAM, THE CALL WILL BE REPLACED WITH A TSI20081
0082 * EXA OR EXA INSTRUCTION DEPENDING ON THE MODE IN WHICH THE TSI20082
0083 * PROGRAM WAS LOADED. TSI20083
0084 * TSI20084
0085 * TSI20085
0086 * METHOD TSI20086
0087 * TSI20087
0088 * THE PROGRAM FIRST CHECKS FOR THE MODE IN WHICH TSI20088
0089 * IT WAS LOADED BY INSPECTING AN INDEXED LDA INSTRUCTION TSI20089
0090 * WHOSE ADDRESS IS IN ANOTHER SECTOR. IF THE INDEX BIT TSI20090
0091 * IS SET ON THIS INSTRUCTION, THEN THE CALL IS REPLACED TSI20091
0092 * BY AN 'EXA' INSTRUCTION. IF IT IS NOT SET, THE CALL IS TSI20092
0093 * REPLACED BY A 'DXA' INSTRUCTION. THE PROGRAM THEN CHECKS TSI20093
0094 * FOR THE LAST IMPLEMENTED MEMORY LOCATION, STARTING WITH TSI20094
0095 * LOCATION '77777' IF LOADED IN EXTENDED MODE, OR LOCATION TSI20095
0096 * '37777' IF LOADED IN NORMAL MODE. THE SCAN PROCEEDS TSI20096
0097 * DOWNWARD BY 4K DECREMENTS UNTIL AN IMPLEMENTED LOCATION TSI20097
0098 * IS FOUND. THIS BECOMES THE HIGHEST AVAILABLE SYMBOL TSI20098
0099 * TABLE LOCATION UNLESS OVERRIDDEN BY OPERATOR CONTROL. TSI20099
0100 * THE SYMBOL TABLE SIZE IS DETERMINED BY SUBTRACTING THE TSI20100
0101 * ADDRESS OF THE ENTRY POINT TO THIS ROUTINE FROM THIS VALUE. TSI20101
0102 * THE COMMON BASE IS SET TO XX600 WHERE XX IS THE LAST IMPL- TSI20102
0103 * MENTED SECTOR IN MEMORY. TSI20103
0104 * TSI20104
0105 * TSI20105
0106 * ***** TSI20106
0107 * TSI20107
0108 * SUBR TRLSIZ,SIZ SYMBOL TABLE SETUP ROUTINE TSI20108
0109 * SUBR D$MAP,MAP DUMMY FOR MAP PRINTER TSI20109
0110 * TSI20110
0111 * EXT D$TP LAST AVAILABLE LOCATION FOR SYMBOL TABLE TSI20111
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0112 EXT D$SZ NUMBER OF WORDS AVAILABLE FOR SYMBOL TABLE TSI20112
0113 EXT D$CB DEFAULT COMMON BASE TSI20113
0114 * TSI20114
0115 CF3 FOR USE ON H316 AND DDP-516 TSI20115
0116 REL THIS IS A RELOCATABLE SUBROUTINE TSI20116
0117 * TSI20117
0118 00000 0 000000 MAP DAC ** SYMBOL TABLE MAP PRINTER ENTRY TSI20118
0119 00001 -0 01 00000 JMP* MAP EXIT TSI20119
0120 * TSI20120
0121 00002 0 000000 SIZ DAC ** ESTABLISH SYMBOL TABLE TSI20121
0122 00003 0 02 00002 LDA *-1 FETCH RETURN ADDRESS TSI20122
0123 00004 0 07 00001 SUB ONE DECREMENT IT TO POINT TO CALL TSI20123
0124 00005 0 04 00002 STA SIZ SAVE NEW RETURN ADDRESS TSI20124
0125 00006 0 02 00000 LDA MLOD CHECK FOR EXTENDED MODE LOADING TSI20125
0126 00007 0415 77 ALS 1 IF INDEX BIT IS SET, EXTENDED MODE TSI20126
0127 00010 100400 SPL SKIP IF NORMAL MODE TSI20127
0128 00011 0 01 00016 JMP EXD PROCESS EXTENDED MODE TSI20128
0129 00012 0 02 00057 LDA DXA INSERT A 'DXA' INSTRUCTION IN PLACE TSI20129
0130 00013 -0 04 00002 STA* SIZ OF THE CALL TO THIS ROUTINE TSI20130
0131 00014 0 02 00051 LDA K16 MAXIMUM OF 16K STORAGE TSI20131
0132 00015 0 01 00022 JMP SIZL GO CHECK MEMORY SIZE TSI20132
0133 00016 000013 EXD EXA ENABLE EXTENDED ADDRESSING TSI20133
0134 00017 0 02 00056 LDA EXA INSERT AN 'EXA' INSTRUCTION IN PLACE TSI20134
0135 00020 -0 04 00002 STA* SIZ OF THE CALL TO THIS ROUTINE TSI20135
0136 00021 0 02 00052 LDA K32 MAXIMUM OF 32K STORAGE TSI20136
0137 00022 0 04 00050 SIZL STA TOP SAVE ADDRESS TO BE CHECKED TSI20137
0138 00023 -0 13 00050 IMA* TOP CHECK THE LOCATION WITHOUT TSI20138
0139 00024 -0 13 00050 IMA* TOP DESTROYING ITS CONTENTS TSI20139
0140 00025 0 05 00050 ERA TOP COMPARE WITH ORIGINAL VALUE TSI20140
0141 00026 101040 SNZ SKIP IF LOCATION DOES NOT EXIST TSI20141
0142 00027 0 01 00033 JMP OUTL LAST MEMORY LOCATION FOUND TSI20142
0143 00030 0 02 00050 LDA TOP FETCH ADDRESS OF NONEXISTANT LOCATION TSI20143
0144 00031 0 07 00053 SUB BLCK DECREMENT THE ADDRESS BY 4K TSI20144
0145 00032 0 01 00022 JMP SIZL GO TEST NEXT FEASIBLE LOCATION TSI20145
0146 00033 0 02 00050 OUTL LDA TOP FETCH LAST IMPLEMENTED ADDRESS TSI20146
0147 00034 100020 SRI TEST FOR OPERATOR OVERRIDE TSI20147
0148 00035 000000 HLT ALLOW OPERATOR TO SET VALUE TSI20148
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0149	00036	0 04 00000	STA	D\$TP	SET ADDRESS OF LAST SYMBOL TABLE LOCATION	TSIZ0149
0150	00037	0 02 00050	LDA	TOP	FETCH HIGH LOCATION	TSIZ0150
0151	00040	0 03 00054	ANA	CMSK	MASK TO XX600 FOR COMMON BASE	TSIZ0151
0152	00041	100020	SRI		TEST FOR OPERATOR OVERRIDE	TSIZ0152
0153	00042	000000	HLT		ALLOW VALUE TO BE SET	TSIZ0153
0154	00043	0 04 00000	STA	D\$CB	SET COMMON BASE	TSIZ0154
0155	00044	0 02 00000	LDA	D\$TP	FETCH HIGH TABLE LOCATION	TSIZ0155
0156	00045	0 07 00055	SUB	END	CALCULATE NUMBER OF WORDS AVAILABLE	TSIZ0156
0157	00046	0 04 00000	STA	D\$SZ	SET SYMBOL TABLE SIZE	TSIZ0157
0158	00047	-0 01 00002	JMP*	SIZ	EXIT	TSIZ0158
0159			*			TSIZ0159
0160	00050		TOP	BSS	1	TSIZ0160
0161	00051	037777	K16	HEX	3FFF	TSIZ0161
0162	00052	077777	K32	HEX	7FFF	TSIZ0162
0163	00053	010000	BLCK	HEX	1000	TSIZ0163
0164	00054	177600	CMSK	HEX	FF80	TSIZ0164
0165	00055	0 000002	END	DAC	SIZ	TSIZ0165
0166	00056	000013	EXA	EXA		TSIZ0166
0167	00057	000011	DXA	DXA		TSIZ0167
0168	00060	1 02 02030	MLOD	LDA	*+1000*1	TSIZ0168
0169	00061	000001	ONE	OCT	1	TSIZ0169
0170			END			TSIZ0170

BLCK	000053	CMSK	000054	D\$CB	000000E	D\$SZ	000000E
D\$TP	000000E	DXA	000057	END	000055	EXA	000056
EXD	000016	K16	000051	K32	000052	MAP	000000
MLOD	000060	ONE	000061	OUTL	000033	SIZ	000002
SIZL	000022	TOP	000050				

0000 WARNING OR ERROR FLAGS
DAP-16 MOD 2 REV. C 08-24-70