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000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 03 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 03 00002
3 * 03 00003
4 * V.D.M. PART NO. 92L1105-039B 03 00004
5 * 03 00005
6 * RELEASED 3-1-74 03 00006
7 * 03 00007
8 * 03 00008
9 * C52FUN 03 00009
10 * 03 00010
11 * 03 00011
12 * TITLE C52FUN 03 00012
13 * NLIS 03 00013
1443 * LIST *****
1444 * 03 00014
1445 * EJEC 03 00015
1446 * ***** 03 00016
1447 * ***** 03 00017
1448 * PROGRAM NAME - **03 00018
1449 * C52FUN - 520X DCM QUEUED FUNCTION PROCEDURE **03 00019
1450 * **03 00020
1451 * ENTRY CONDITIONS - **03 00021
1452 * (X) LSD ADDRESS **03 00022
1453 * **03 00023
1454 * CALLING SEQUENCE - **03 00024
1455 * JMPM C52FUN **03 00025
1456 * (RETURN) **03 00026
1457 * **03 00027
1458 * EXIT CONDITIONS - **03 00028
1459 * (A) DESTROYED **03 00029
1460 * (B) DESTROYED **03 00030
1461 * (X) UNCHANGED **03 00031
1462 * **03 00032
1463 * ***** 03 00033
1464 * ***** 03 00034
1465 * EJEC 03 00035
1466 * NAME C52FUN 03 00036
1467 * IFF VORTEX-2 V2 03 00037
1468 * EXT VT$MAP V2 03 00038
000046 A 1469 * MAP SET 046 V2 03 00039
000334 A 1470 * V$ST0 SET 0334 V2 03 00040
000336 A 1471 * V$ST2 SET 0336 V2 03 00041
000337 A 1472 * V$ST3 SET 0337 V2 03 00042
000000 A 1473 * C52FUN ENTR 03 00043
000001 A 1474 * LSD SET X 03 00044
1475 * 03 00045
1476 * A QUEUED FUNCTION IS ALWAYS THE FIRST REQUEST ON THE THREAD 03 00046
1477 * 03 00047
000001 025001 A 1478 * LDB LSRRT,LSD 03 00048
000002 A 1479 * RQST SET B 03 00049
000003 006067 A 1480 * STBE FURQST SAVE REQUEST ADDRESS 03 00050
000003 001014 R 1481 * 03 00051
1482 * IFF VORTEX-2 V2 03 00052
1483 * CALL VT$MAP SET UP MAP V2 03 00053
1484 * 03 00054
1485 * GET THE LCB ADDRESS FROM THE RQST AND SAVE 03 00055
000004 026002 A 1486 * LDB RFCB,RQST 03 00056
000002 A 1487 * LCB SET B 03 00057
000005 006067 A 1488 * STBE FULCB 03 00058
000006 001015 R 1489 * 03 00059
1490 * GET FUNC CODE FROM LCB AND SAVE 03 00060
1491 * 03 00061
1492 * IFF VORTEX-2 V2 03 00062
000007 016002 A 1493 * DNE MAP,V$ST3 SET ENEC STATE TO NN V2 03 00063
1494 * LDB DCONT,LCB 03 00064
1495 * IFF VORTEX-2 V2 03 00065
1496 * DNE MAP,V$ST0 SET ENEC STATE TO 00 V2 03 00066
000010 004350 A 1497 * LDB B 03 00067
000011 006067 A 1498 * STBE FUFUNC 03 00068
000012 001017 R 1499 * 03 00069
1500 * GET LINE CONTROL WORD ADDRESS 03 00070
1501 * 03 00071
1502 * EXT CC$FCW 03 00072
1503 * PUSCH CC$FCW 03 00073
000013 100444 A 1504 * 03 00074
000014 100747 A 1505 * 03 00075
000015 002000 A 1506 * GENERAL HOUSEKEEPING COMPLETED, CHECK IF INITIAL ENTRY OR 03 00076
000016 000000 A 1507 * REENTRY DUE TO TIMEOUT OR INTERRUPT 03 00077
000017 000000 A 1508 * 03 00078
000022 025002 A 1509 * LDB LSRCA,LSD 03 00079
000023 001020 A 1510 * JBZ FU00 READ COMPLETION ADDR NON-ZERO, REENTRY. 03 00080
000024 000027 A 1511 * 03 00081
000025 006706 A 1512 * IJMP 0,B JUMP TO CONTINUATION ADDRESS 03 00082
000026 000000 A 1513 * 03 00083
1514 * EJEC 03 00084
1515 * INITIATION ENTRY 03 00085

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1514 * VALIDATE FUNCTION CODE 03 00084
1515 * 03 00085
000027 006017 A 1516 FU00 LDAE FUFUNC V2 03 00086
000030 001017 R
000031 005012 A 1517 TAB 03 00087
000032 144032 A 1518 SUB FUVECT SUBTRACT MAX FUNC CODE FROM THIS FUNC CODE 03 00088
000033 001002 A 1519 JAP FUZO FUNC CODE TOO HIGH, IGNORE 03 00089
000034 000750 R
1520 * 03 00090
1521 * FUNC CODE IN RANGE, CHECK FOR EXCLUSIONS DUE TO MODE CONFLICTS 03 00091
1522 * 03 00092
1523 * TESTF LSD,LSASY,LSASYB,LSASYZ 03 00093
000035 015014 A
000036 150434 A
000037 001010 A 1524 JAZ FU01 ASYNC LAD 03 00094
000040 000050 R
000041 006017 A 1525 LDAE FUFUNC SYNC,LAD V2 03 00095
000042 001017 R
000043 130466 A 1526 ERA SIX CHECK FOR TRANSMIT BREAKS FUNC CODE 03 00096
000044 001010 A 1527 JAZ FUZO CANT BREAK SYNC LINE, IGNORE FUNC RQST 03 00097
000045 000750 R
000046 001000 A 1528 JMP FU02 03 00098
000047 000055 R
000050 005122 A 1529 FU01 IBR ASYNC LAD, CHECK IF FUNC IS FOR SYNC ONLY 03 00099
000051 006016 A 1530 LDAE FUVECT,B 03 00100
000052 000065 R
000053 001004 A 1531 JAN FUZO IGNORE IF SYNC ONLY FUNC 03 00101
000054 000750 R
1532 * 03 00102
1533 * CALCULATE ORDINAL IN TRANSFER VECTOR TABLE AND JUMP TO FUNC 03 00103
1534 * PROCESSING ADDRESS 03 00104
1535 * 03 00105
000055 024741 A 1536 FU02 LDB FUFUNC 03 00106
000056 005122 A 1537 IBR 03 00107
000057 006016 A 1538 LDAE FUVECT,B 03 00108
000060 000065 R
000061 150460 A 1539 ANA BR15 03 00109
000062 005012 A 1540 TAB 03 00110
000063 006706 A 1541 IJMP 0,B 03 00111
000064 000000 A
1542 * TRANSFER VECTOR TABLE 03 00112
1543 * WORD 0 CONTAINS HIGHEST FUNC CODE ALLOWED 03 00113
1544 * WORDS 1 - N CONTAIN THE ADDRESS OF THE PROCESSING 03 00114
1545 * ROUTINE 03 00115
1546 * IF 2**15 IS SET, FUNC IS ALLOWED FOR SYNC LADS ONLY 03 00116
1547 * 03 00117
000065 000040 A 1548 FUVECT DATA FUVECE-FUVECT-1 03 00118
000066 000750 R 1549 DATA FUZO 0 INVALID 03 00119
000067 000750 R 1550 DATA FUZO 1 INVALID 03 00120
000070 000750 R 1551 DATA FUZO 2 INVALID 03 00121
000071 000142 R 1552 DATA FUA0 3 WAIT FOR EVENT 03 00122
000072 000204 R 1553 DATA FUB0 4 REVERSE CHANNEL ON 03 00123
000073 000220 R 1554 DATA FUC0 5 REVERSE CHANNEL OFF 03 00124
000074 000226 R 1555 DATA FUD0 6 XMIT BREAKS 03 00125
000075 000302 R 1556 DATA FUE0 7 CHANGE CONTROL CHARACTERS 03 00126
000076 000307 R 1557 DATA FUF0 8 ANSWER LINE 03 00127
000077 000315 R 1558 DATA FUG0 9 HANG UP LINE 03 00128
000100 100323 R 1559 DATA (FUH0)* 10 CHANGE SYNC CHARACTERS 03 00129
000101 000372 R 1560 DATA FUI0 SET LSEPF / IIT IN BSC 03 00130
000102 000377 R 1561 DATA FUJ0 CLEAR LSEPF / IIT IN BSC 03 00131
000103 000404 R 1562 DATA FUK0 13 SET LSDSF 03 00132
000104 000411 R 1563 DATA FULO 14 CLEAR LSDSF 03 00133
000105 000416 R 1564 DATA FUM0 15 SET LSTER 03 00134
000106 000423 R 1565 DATA FUN0 16 CLEAR LSTER 03 00135
000107 100430 R 1566 DATA (FUO0)* 17 SET LSYNC 03 00136
000110 100435 R 1567 DATA (FUP0)* 18 CLEAR LSYNC 03 00137
000111 000442 R 1568 DATA FUQ0 19 SET LSABN 03 00138
000112 000447 R 1569 DATA FUR0 20 CLEAR LSABN 03 00139
000113 000750 R 1570 DATA FUZO 21 INVALID 03 00140
000114 000454 R 1571 DATA FUS0 22 SET LSASC 03 00141
000115 000461 R 1572 DATA FUT0 23 CLEAR LSASC 03 00142
000116 000466 R 1573 DATA FUU0 24 INITIALIZE LINE 03 00143
000117 000633 R 1574 DATA FUV0 25 SET IN CHAIN MODE 03 00144
000120 000653 R 1575 DATA FUW0 26 RESET CHAIN MODE 03 00145
000121 000660 R 1576 DATA FUAA 27 SET NBC-NO BCC CHECK AFTER ITB 03 00146
000122 000677 R 1577 DATA FUBB 28 RESET NBC 03 00147
000123 000705 R 1578 DATA FUCC 29 SET ASCII NO TRANSPARENT 03 00148
000124 000711 R 1579 DATA FUDD 30 SET ASCII WITH TRANSPARENT CAPABILITY 03 00149
000125 000715 R 1580 DATA FUEE 31 SET EBCDIC MODE 03 00150
000126 000126 R 1581 FUVECE EQU * 03 00151
1582 EJEC 03 00152
000126 000000 A 1583 FU10 ENTR WAIT FOR READ INTERRUPT OR TIMEOUT 03 00153
000127 006017 A 1584 LDAE FU10 03 00154
000130 000126 R
000131 055002 A 1585 STA LSRCA,LSD 03 00155
000132 001000 A 1586 JMP* C52FUN 03 00156
000133 100000 R
000134 000000 A 1587 FU11 ENTR WAIT FOR WRITE INTERRUPT OR TIMEOUT 03 00157
000135 006017 A 1588 LDAE FU11 03 00158
000136 000134 R
000137 055006 A 1589 STA LSWCA,LSD 03 00159
000140 001000 A 1590 JMP* C52FUN 03 00160
000141 100000 R
1591 * PROCESS WAIT FOR EVENT 03 00161
1592 * FUNC CODE 03 03 00162

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		1593	*							03	00163
		1594	FUA0	DINTS		DISABLE INTERRUPTS				03	00164
000142	100444	A									
000143	100747	A									
		1595		EXT	VTPUSH,C52SST	BUILD CCM STATUS WORD				03	00165
		1596		JMPM	VTPUSH					03	00166
000144	002000	A									
000145	000016	E									
000146	000000	E		DATA	C52SST					03	00167
000147	065013	A		STB	LSDST,LSD	SAVE STATUS WORD IN DYNAMIC AND STATIC				03	00168
000150	065005	A		STB	LSSRS,LSD	WORDS IN LSD				03	00169
000151	024643	A		LDB	FULCB					03	00170
	000002	A		SET	B	STORE WORD 3 OF LCB (EVENT MASK) IN				03	00171
		1601	LCB	IFF	VORTEX-2				V2	03	00172
		1602		DME	MAP,V\$ST3	SET EXEC STATE TO NN			V2	03	00173
000152	016003	A		LDA	3,LCB	READ EVENT MASK IN LSD				03	00174
		1605		IFF	VORTEX-2				V2	03	00175
		1606		DME	MAP,V\$ST0	SET EXEC STATE TO 00			V2	03	00176
000153	055003	A		STA	LSREM,LSD					03	00177
000154	006010	A		1608	FUA1	LDAI	50	SET TIMEOUT TO 250 MS		03	00178
000155	000062	A									
000156	055004	A									
000157	002000	A		1609		STA	LSRTO,LSD	WAIT FOR TIMEOUT OR INTERRUPT ON READ		03	00179
000160	000126	R		1610		JMPM	FUI0			03	00180
		1611	*								
		1612	*			RETURN AFTER EVENT OR TIMEOUT				03	00181
		1613	*							03	00182
		1614	*			TESTF	LSD,LSRRS,LSRRSB+1,1			03	00183
000161	015016	A									
000162	150432	A									
000163	001016	A		1615		JANZ	FUA2	CHECK IF ID CLEAR		03	00185
000164	000200	R									
		1616				EXT	C52SST			03	00186
		1617				PUSH	C52SST	GET LATEST STATUS FROM LAD		03	00187
000165	100444	A									
000166	100747	A									
000167	002000	A									
000170	000145	E									
000171	000146	E									
000172	005021	A		1618		TBA				03	00188
000173	055013	A		1619		STA	LSDST,LSD	SAVE UPDATED STATUS		03	00189
000174	135005	A		1620		ERA	LSSRS,LSD	CHECK IF EVENT HAS OCCURED		03	00190
000175	155003	A		1621		ANA	LSREM,LSD			03	00191
000176	001010	A		1622		JAZ	FUA1	NO EVENTS, GO BACK TO TIMEOUT		03	00192
000177	000154	R									
		1623	*								
		1624	*			EVENT OR ID CLEAR OCCURRED				03	00193
		1625	*							03	00194
000200	005001	A		1626	FUA2	TZA		ZERO READ COMPLETION ADDRESS		03	00195
000201	055002	A		1627		STA	LSRCA,LSD	AND		03	00196
000202	001000	A		1628		JMP	FU21	EXIT		03	00197
000203	000760	R								03	00198
		1629	*			EJEC				03	00199
		1630	*			SET CONTROL (REVERSE) CHANNEL ON				03	00200
		1631	*							03	00201
		1632	*							03	00202
000204	024611	A		1633	FUB0	LDB	FULCW	SET 'C' BIT IN PCW		03	00203
	000002	A		1634	LCW	SET	B			03	00204
		1635				SETF	LCW,LCCHC,LCCHCB,LCCHCZ			03	00205
000205	016006	A									
000206	110436	A									
000207	056006	A									
		1636	*								
		1637	*			OUTPUT PROTOTYPE CONTROL WORD				03	00206
		1638	*							03	00207
000210	005021	A		1639	FUB1	TBA				03	00208
		1640				ADAT	LCLCB	CALCULATE ADDRESS OF PCW		03	00209
000211	120466	A									
000212	054002	A		1641		STA	FUB2			03	00211
		1642				EXT	C52RCW			03	00212
000213	006506	A		1643		JSR	C52RCW,B	WRITE CONTROL SEQUENCE		03	00213
000214	000000	E									
000215	000000	A		1644	FUB2	DATA	0			03	00214
000216	001000	A		1645		JMP	FU20			03	00215
000217	000750	R									
		1646	*			EJEC				03	00216
		1647	*			SET CONTROL (REVERSE) CHANNEL OFF				03	00217
		1648	*							03	00218
		1649	*							03	00219
000220	024575	A		1650	FUC0	LDB	FULCW	CLEAR 'C' BIT IN PCW		03	00220
	000002	A		1651	LCW	SET	B			03	00221
		1652				CLEARF	LCW,LCCHC,LCCHCB,LCCHCZ			03	00222
000221	016006	A									
000222	150456	A									
000223	056006	A									
000224	001000	A		1653		JMP	FUB1			03	00223
000225	000210	R									
		1654	*			EJEC				03	00224
		1655	*			TRANSMIT BREAKS				03	00225
		1656	*							03	00226
		1657	*							03	00227
000226	024565	A		1658	FUD0	LDB	FURQST			03	00228
		1659				EXT	CC\$SCH			03	00229
000227	002000	A		1660		JMPM	CC\$SCH	BUILD LINE CONTROL WORDS		03	00230
000230	000000	E									
000231	024564	A		1661		LDB	FULCW			03	00231

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000232 000002 A 1662 LCH SET B SET 'B' AND 'T' IN PCW. CLEAR 'I'. 03 00232
000233 016006 A 1663 LDA LCLCB,LCH 03 00233
000234 006110 A 1664 DRAI 010400 03 00234
000235 010400 A 1665 ANAI 0137777 03 00235
000236 006150 A 1666 STA LCLCB,LCH 03 00236
000237 137777 A 1667 SETF LCH,LCLTB,LCLTBB,LCLTBZ 03 00237
000240 016007 A
000241 110440 A
000242 056007 A
000243 005001 A 1668 TZA 03 00238
000244 004253 A 1669 SETA LSD,LSWRS,LSWRSB,LSWRSZ 03 00239
000245 135016 A
000246 004353 A
000247 150467 A
000250 004253 A
000251 135016 A
000252 055016 A
000253 024542 A 1670 * INITIATE CONTROL WRITE SEQUENCE 03 00240
1671 LDB FULCH 03 00241
1672 ADAT LCLCB 03 00242
000254 120466 A 1673 STA FUD1 03 00243
000255 054002 A 1674 JSR C52RCW,B 03 00244
000256 006506 A
000257 000214 E
000260 000000 A 1675 FUD1 DATA 0 03 00245
1676 *
000261 025012 A 1677 FUD2 LDB LSCTA,LSD 03 00246
000262 000002 A 1678 DMT SET B 03 00247
000263 016024 A 1679 LDA DMCHA,DMT 03 00248
000264 001016 A 1680 JANZ FUD2 LOOP UNTIL CONTROL NOT BUSY 03 00249
000265 000261 R
000266 024530 A 1681 LDB FULCH 03 00251
000267 000002 A 1682 LCH SET B 03 00252
000268 001016 A 1683 JANZ FUD2 03 00253
000269 000261 R
1684 *
1685 * CLEAR 'B' AND 'T' BITS IN CWP 03 00254
1686 *
000270 016006 A 1687 LDA LCLCB,LCH 03 00255
000271 006150 A 1688 ANAI 0167377 03 00256
000272 167377 A
000273 056006 A 1689 STA LCLCB,LCH 03 00257
000274 002000 A 1690 JMP FU10 WAIT FOR INTERRUPT 03 00258
000275 000126 R
1691 *
1692 * REENTRY WHEN BREAK COMPLETE 03 00261
1693 *
000276 005001 A 1694 TZA 03 00262
000277 055002 A 1695 STA LSRCA,LSD 03 00263
000300 001000 A 1696 JMP FU20 03 00264
000301 000750 R
1697 *
1698 * EJEC CHANGE CONTROL CHARACTERS 03 00267
1699 *
000302 024512 A 1700 * 03 00268
000303 000002 A 1701 FUE0 LDB FULCB 03 00269
1702 LCB SET B 03 00270
1703 IFF VORTEX-2 03 00271
1704 DME MAP,V$ST3 SET EXEC STATE TO NN V2
000304 016003 A 1705 LDA 3,LCB MOVE CONTROL CHARACTERS FROM LCB V2
1706 IFF VORTEX-2 03 00272
1707 DME MAP,V$ST0 SET EXEC STATE TO 00 V2
000305 055015 A 1708 STA LSCC1,LSD TO LSD 03 00273
000306 001000 A 1709 JMP FU20 03 00274
000307 000750 R
1710 *
1711 * EJEC TURN DATA-TERMINAL-READY ON (ANSWER LINE) 03 00280
1712 *
000308 024506 A 1713 * 03 00281
000309 000002 A 1714 FUF0 LDB FULCH 03 00282
1715 LCH SET B SET DTR BIT IN PCW 03 00283
1716 SETF LCH,LCCWD,LCCWDB,LCCWDZ 03 00284
000310 016006 A
000311 110434 A
000312 056006 A
000313 001000 A 1717 JMP FUB1 GO TO CONTROL SEQUENCE 03 00285
000314 000210 R
1718 *
1719 * EJEC TURN DATA-TERMINAL-READY OFF (HANG-UP LINE) 03 00288
1720 *
000315 024500 A 1721 * 03 00289
000316 000002 A 1722 FUG0 LDB FULCH 03 00290
1723 LCH SET B CLEAR DTR BIT IN PCW 03 00291
1724 CLEARF LCH,LCCWD,LCCWDB,LCCWDZ 03 00292
000317 016006 A
000320 056006 A
000321 001000 A 1725 JMP FUB1 GO TO CONTROL SEQUENCE 03 00293
000322 000210 R
1726 *
1727 * EJEC CHANGE SYNC CHARACTERS 03 00296
1728 * 03 00297
03 00298

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000323	024472	A	1729	* FUHO	LDB	FULCH				03	00299
	000002	A	1730	FCW	SET	B				03	00300
			1731		FETCHA	FCW,LCLCB,0,6				03	00301
			1732							03	00302
000324	016006	A									
000325	150474	A									
000326	110430	A	1733		DRA	BS7		STORE PHYSICAL LINE NUMBER IN CW XMIT SYNC		03	00303
000327	054040	A	1734		STA	FUHTS		AND CW RCV SYNC		03	00304
000330	110427	A	1735		DRA	BS6				03	00305
000331	054037	A	1736		STA	FUHRS				03	00306
			1737	*						03	00307
			1738	*						03	00308
			1739	*						03	00309
000332	024462	A	1740		LDB	FULCB				03	00310
	000002	A	1741	LCB	SET	B				03	00311
			1742		IFF	VORTEX-2			V2	03	00312
			1743		DME	MAP,V\$ST2		SET EXEC STATE TO NO	V2	03	00313
000333	016003	A	1744		LDA	3,B				03	00314
			1745		IFT	VORTEX-2			V2	03	00315
			1746		GOTO	1			V2	03	00316
			1747		DME	MAP,V\$ST0			V2	03	00317
			1748		STA	FUX		SAVE	V2	03	00318
			1749	1	CONT				V2	03	00319
000334	150462	A	1750		ANA	LHW				03	00320
000335	114032	A	1751		DRA	FUHTS				03	00321
000336	054031	A	1752		STA	FUHTS				03	00322
			1753		IFF	VORTEX-2			V2	03	00323
			1754		LDA	FUX		RESTORE A	V2	03	00324
			1755		IFF	VORTEX-1			V2	03	00325
000337	016003	A	1756		LDA	3,B				03	00326
000340	004250	A	1757		LRLA	8				03	00327
000341	150462	A	1758		ANA	LHW				03	00328
000342	114026	A	1759		DRA	FUHRS				03	00329
000343	054025	A	1760		STA	FUHRS				03	00330
			1761	*						03	00331
			1762	*						03	00332
			1763	*						03	00333
000344	014024	A	1764		LDA	FUHRS		STORE RECEIVE SYNC		03	00334
000345	004350	A	1765		LSRA	8				03	00335
			1766		SETA	LSD,LSYNR,LSYNRB,LSYNRZ				03	00336
000346	135020	A									
000347	150463	A									
000350	135020	A									
000351	055020	A									
			1767	*						03	00337
000352	014015	A	1768		LDA	FUHTS		STORE XMIT SYNC		03	00338
000353	004350	A	1769		LSRA	8				03	00339
			1770		SETA	LSD,LSYNT,LSYNTB,LSYNTZ				03	00340
000354	135017	A									
000355	150463	A									
000356	135017	A									
000357	055017	A									
			1771	*						03	00341
			1772	*						03	00342
			1773	*						03	00343
000360	006506	A	1774		JSR	C52RCW,B		XMIT		03	00344
000361	000257	E									
000362	000370	R	1775		DATA	FUHTS				03	00345
			1776	*						03	00346
000363	006506	A	1777		JSR	C52RCW,B		RCV		03	00347
000364	000361	E									
000365	000371	R	1778		DATA	FUHRS				03	00348
			1779	*						03	00349
000366	001000	A	1780		JMP	FUZO				03	00350
000367	000750	R									
			1781	*						03	00351
			1782	*						03	00352
000370	000000	A	1783	FUHTS	DATA	0				03	00353
000371	000000	A	1784	FUHRS	DATA	0				03	00354
			1785		EJEC					03	00355
			1786	*				SET LSEPF (E/P BIT) IN LSD		03	00356
			1787	*						03	00357
			1788	*				SET IIT BIT-ACCEPT ITB'S (IN BSC MODE) AS		03	00358
			1789	*				REGULAR CHARACTERS		03	00359
			1790	*						03	00360
			1791	FUI0	SETF	LSD,LSEPF,LSEPFB,LSEPFZ				03	00361
000372	015016	A									
000373	110437	A									
000374	055016	A									
000375	001000	A	1792		JMP	FUZO				03	00362
000376	000750	R									
			1793		EJEC					03	00363
			1794	*				CLEAR LSEPF IN LSD		03	00364
			1795	*						03	00365
			1796	*				CLEAR IIT - ITB ARE RECOGNIZED AS CONTROL		03	00366
			1797	*				CHARACTERS (IN BSC MODE)		03	00367
			1798	*						03	00368
			1799	FUJ0	CLEARF	LSD,LSEPF,LSEPFB,LSEPFZ				03	00369
000377	015016	A									
000400	150457	A									
000401	055016	A									
000402	001000	A	1800		JMP	FUZO				03	00370
000403	000750	R									
			1801		EJEC					03	00371
			1802	*				SET LSDSF (DS/S BIT) IN LSD		03	00372

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1803 *
1804 *
1805 *
1806 *
1807 FUKO SETF LSD,LSDSF,LSDSFB,LSDSFZ
000404 015017 A
000405 110440 A
000406 055017 A
000407 001000 A
000410 000750 R
1808 JMP FUZO
1809 EJEC
1810 CLEAR LSDSF
1811 *
1812 *
1813 *
1814 *
1815 FULO CLEARF LSD,LSDSF,LSDSFB,LSDSFZ
000411 015017 A
000412 150460 A
000413 055017 A
000414 001000 A
000415 000750 R
1816 JMP FUZO
1817 EJEC
1818 SET LSTER (TERMINATE READ UPON RECEIPT OF CONTROL CHARACTERS)
1819 *
1820 *
1821 FUM0 SETF LSD,LSTER,LSTERB,LSTERZ
000416 015016 A
000417 110440 A
000420 055016 A
000421 001000 A
000422 000750 R
1822 JMP FUZO
1823 EJEC
1824 CLEAR LSTER
1825 *
1826 *
1827 FUM0 CLEARF LSD,LSTER,LSTERB,LSTERZ
000423 015016 A
000424 150460 A
000425 055016 A
000426 001000 A
000427 000750 R
1828 JMP FUZO
1829 EJEC
1830 SET LSYNC (CAUSES RESYNCHRONIZATION FOR EACH READ)
1831 *
1832 *
1833 FUD0 SETF LSD,LSYNC,LSYNCB,LSYNCZ
000430 015017 A
000431 110437 A
000432 055017 A
000433 001000 A
000434 000750 R
1834 JMP FUZO
1835 EJEC
1836 CLEAR LSYNC
1837 *
1838 *
1839 FUP0 CLEARF LSD,LSYNC,LSYNCB,LSYNCZ
000435 015017 A
000436 150457 A
000437 055017 A
000440 001000 A
000441 000750 R
1840 JMP FUZO
1841 EJEC
1842 SET LSABN (TERMINATE READ UPON DETECTION OF ERROR) IN LSD
1843 *
1844 *
1845 FUD0 SETF LSD,LSABN,LSABNB,LSABNZ
000442 015017 A
000443 110436 A
000444 055017 A
000445 001000 A
000446 000750 R
1846 JMP FUZO
1847 EJEC
1848 CLEAR LSABN
1849 *
1850 *
1851 FUR0 CLEARF LSD,LSABN,LSABNB,LSABNZ
000447 015017 A
000450 150456 A
000451 055017 A
000452 001000 A
000453 000750 R
1852 JMP FUZO
1853 EJEC
1854 SET LSASC (FORCES 2**7 = 1 FOR EACH BYTE INPUT) IN LSD
1855 *
1856 *
1857 FUS0 SETF LSD,LSASC,LSASCB,LSASCZ
000454 015017 A
000455 110432 A
000456 055017 A
000457 001000 A
000460 000750 R
1858 JMP FUZO
1859 EJEC
1860 CLEAR LSASC
1861 *

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		1862 *								03	00432
		1863	FUTO	CLEARF	LSD,LSASC,LSASCB,LSASCZ					03	00433
000461	015017	A									
000462	150452	A									
000463	055017	A									
000464	001000	A	1864	JMP	FUZO					03	00434
000465	000750	R									
			1865	EJEC						03	00435
			1866 *	INITIALIZE	LINE ADAPTOR AND LCW					03	00436
			1867 *							03	00437
			1868 *							03	00438
			1869	FUU0	FETCHA	LSD,LSPLA,LSPLAB,LSPLAZ				03	00439
000466	015016	A									
000467	150463	A									
000470	110427	A	1870	DRA	BS6	BUILD CW WITH A ZERO CONTROL BYTE				03	00440
000471	054255	A	1871	STA	FUUCH					03	00441
			1872 *							03	00442
			1873 *	PERFORM	WRITE CONTROL SEQUENCE TO CLEAR ALL CONTROL OPTIONS					03	00443
			1874 *							03	00444
000472	006506	A	1875	JSR	C5EROW,B					03	00445
000473	000364	E									
000474	000747	R	1876	DATA	FUUCH					03	00446
			1877 *							03	00447
			1878 *	BUILD	LCW FROM LSD INFO					03	00448
			1879 *							03	00449
			1880 *	WORD	ZERO					03	00450
			1881 *							03	00451
000475	024250	A	1882	LDB	FUULCW					03	00452
			1883	TESTF	LSD,LSASC,LSASCB,LSASCZ					03	00453
000476	015017	A									
000477	150432	A									
000500	001010	A	1884	JAZ	FUU1					03	00454
000501	000503	R									
000502	010437	A	1885	LDA	BS14					03	00455
000503	005031	A	1886	FUU1	MERGE	031 (A) .OR. (B) REPLACE (A)				03	00456
000504	024311	A	1887	LDB	FULCW					03	00457
	000002	A	1888	LCW	SET	B				03	00458
000505	056000	A	1889	STA	LCIBL,LCW					03	00459
			1890 *							03	00460
			1891 *	WORD	1					03	00461
			1892 *							03	00462
000506	005001	A	1893	TZA						03	00463
000507	056001	A	1894	STA	LCIBA,LCW					03	00464
			1895 *							03	00465
			1896 *	WORD	2					03	00466
			1897 *							03	00467
000510	015015	A	1898	LDA	LSCC1,LSD					03	00468
000511	056002	A	1899	STA	LCIC1,LCW					03	00469
			1900 *							03	00470
			1901 *	WORD	3					03	00471
			1902 *							03	00472
000512	005002	A	1903	TZE						03	00473
			1904	TESTF	LSD,LSTER,LSTERB,LSTERZ					03	00474
000513	015016	A									
000514	150440	A									
000515	001010	A	1905	JAZ	FUU2					03	00475
000516	000521	R									
000517	010440	A	1906	LDA	BS15					03	00476
000520	005032	A	1907	FUU2	MERGE	032 (A) .OR. (B) REPLACE (B)				03	00477
			1908	FETCHA	LSD,LSCRC,LSCRCB,LSCRCZ					03	00478
000521	015017	A									
000522	004352	A									
000523	150467	A									
000524	004254	A	1909	LRLA	LCCRCB					03	00479
000525	005032	A	1910	MERGE	032					03	00480
			1911 *	IF	LSABN SET, SET LCABN					03	00481
			1912	TESTF	LSD,LSABN,LSABNB,LSABNZ					03	00482
000526	015017	A									
000527	150436	A									
000530	001010	A	1913	JAZ	FUU3					03	00483
000531	000533	R									
000532	010434	A	1914	LDA	BS11					03	00484
000533	005032	A	1915	FUU3	MERGE	032				03	00485
			1916 *	MOVE	LSASY TO LCASY					03	00486
			1917	TESTF	LSD,LSASY,LSASYB,LSASYZ					03	00487
000534	015014	A									
000535	150434	A									
000536	001010	A	1918	JAZ	FUU3A					03	00488
000537	000541	R									
000540	010433	A	1919	LDA	BS10					03	00489
000541	005031	A	1920	FUU3A	MERGE	031				03	00490
			1921 *	STORE	WORD 3					03	00491
000542	024253	A	1922	LDB	FULCW					03	00492
	000002	A	1923	LCW	SET	B				03	00493
000543	056003	A	1924	STA	LCIKE,LCW					03	00494
			1925 *							03	00495
			1926 *	WORD	4					03	00496
			1927 *							03	00497
000544	014201	A	1928	LDA	FUULCW					03	00498
000545	056004	A	1929	STA	LCDBF,LCW					03	00499
			1930 *							03	00500
			1931 *	WORD	5					03	00501
			1932 *							03	00502
000546	005001	A	1933	TZA						03	00503
000547	056005	A	1934	STA	LCDBA,LCW					03	00504

Address	Op	Opnd	Comment	Line	Page
1935	*				
1936	*				
1937	*				
000550 024176	A		WORD 6	03	00505
000551 015017	A	LDB FUUCH	IF LSDSF SET, SET LCCWS	03	00506
000552 150440	A	TESTF LSD,LSDSF,LSDSFB,LSDSFZ		03	00507
000553 001010	A			03	00508
000554 000557	R			03	00509
000555 010440	A				
000556 005032	A				
1940		JAZ FUU4		03	00510
1941		LDA BS15		03	00511
1942		MERGE 032		03	00512
1943	*		IF ASYNC LINE ADAPTOR, IGNORE LSEPF	03	00513
1944	FUU4	TESTF LSD,LSASY,LSASYB,LSASYZ		03	00514
000557 015014	A				
000560 150434	A				
000561 001010	A				
000562 000570	R				
1945		JAZ FUU5		03	00515
1946	*		SYNCHRONOUS LINE ADAPTOR, CHECK LSEPF	03	00516
1947		TESTF LSD,LSEPF,LSEPFB,LSEPFZ		03	00517
000563 015016	A				
000564 150437	A				
000565 001010	A				
000566 000570	R				
000567 010433	A				
000570 005031	A				
000571 024224	A				
000572 056006	A				
1948		JAZ FUU5		03	00518
1949		LDA BS10		03	00519
1950	FUU5	MERGE 031		03	00520
1951		LDB FULCH		03	00521
1952	LCH	SET B		03	00522
1953		STA LCLCB,LCH		03	00523
1954	*			03	00524
1955	*			03	00525
1956	*			03	00526
000573 005001	A			03	00527
000574 056007	A			03	00528
1957		TZA		03	00529
1958		STA LCKE,LCH		03	00529
1959		FETCHA LSD,LSCHN,LSCHNB,LSCHNZ	CHAIN FLAG	03	00529
000575 015017	A				
000576 004350	A				
000577 150421	A				
1960		SETA LCH,LCCHN,LCCHNB,LCCHNZ		03	00530
000600 004256	A				
000601 136007	A				
000602 004356	A				
000603 150421	A				
000604 004256	A				
000605 136007	A				
000606 056007	A				
1961		FETCHA LSD,LSBSC,LSBSCB,LSBSCZ	BSC FLAG	03	00531
000607 015020	A				
000610 004356	A				
000611 150421	A				
1962		SETA LCH,LCBSC,LCBSCB,LCBSCZ		03	00532
000612 004255	A				
000613 136007	A				
000614 004355	A				
000615 150421	A				
000616 004255	A				
000617 136007	A				
000620 056007	A				
1963	*				
1964	*				
1965		TESTF LSD,LSBSC,LSBSCB,LSBSCZ	EXIT IF BSC	03	00533
000621 015020	A			03	00534
000622 150437	A			03	00535
000623 001016	A				
000624 000750	R				
1966		JANZ FUZO		03	00536
1967	*				
1968	*				
1969	*				
1970		TESTF LSD,LSASY,LSASYB,LSASYZ	IF SYNC LINE OUTPUT TRANSMIT AND RECEIVE SYNC BYTES	03	00537
000625 015014	A			03	00538
000626 150434	A			03	00539
000627 001010	A			03	00540
000630 000750	R				
000631 001000	A				
000632 000323	R				
1971		JAZ FUZO		03	00541
1972		JMP FUHO		03	00542
1973	*				
1974	*				
000633 024160	A				
000634 000002	A				
000634 026003	A				
000634 000002	A				
1975	FUV0	SET CHAIN MODE IN LSD		03	00543
1976	RQST	LDB FURQST	REQUEST ADDRESS	03	00544
1977		SET B		03	00545
1978	TIDB	LDB RTIDB,RQST	TIDB ADDRESS	03	00546
1979		SET B		03	00547
000635 016001	A			03	00548
000636 150432	A			03	00549
000637 001016	A				
000640 000646	R				
000641 006010	A				
000642 004640	A				
000643 024150	A				
000644 001000	A				
000645 000752	R				
1980		JANZ FUV01	SETD IF FORGROUND	03	00550
1981		LDAI 04640	ERROR CODE TO PUT IN RQBLK	03	00551
1982		LDB FURQST		03	00552
1983		JMP FUZO		03	00553
1984	FUV01	SETF LSD,LSCHN,LSCHNB,LSCHNZ		03	00554
000646 015017	A				
000647 110431	A				
000650 055017	A				
000651 001000	A				
1985		JMP FUZO		03	00555

000652	000750	R	1986 *					03	00556
			1987 *					03	00557
			1988 *	FUW0	RESET CHAIN MODE FLAG IN LSD			03	00558
000653	015017	A			CLEARF	LSD,LSCHN,LSCHNB,LSCHNZ			
000654	150451	A							
000655	055017	A							
000656	001000	A	1989		JMP	FUZO		03	00559
000657	000750	R							
			1990 *					03	00560
			1991 *					03	00561
			1992 *	EJEC				03	00562
			1993 *	FUNC 27	SET NBC (BIT 14 IN LCLCB) DON'T CHECK BCC AFTER			03	00563
			1994 *		RECEIVING AN ITB - FOR BSC USE ONLY			03	00564
			1995 *					03	00565
			1996 *	FUAA	TESTF	LSD,LSBSC,LSBSCB,LSBSCZ	TEST IF IN BSC MODE	03	00566
000660	015020	A							
000661	150437	A							
000662	001016	A	1997		JANZ	FUAA1		03	00567
000663	000671	R							
000664	006010	A	1998		LDAI	04640	ERROR CODE	03	00568
000665	004640	A							
000666	024125	A	1999		LDB	FURQST	REQUEST ADDRESS	03	00569
000667	001000	A	2000		JMP	FUZO		03	00570
000670	000752	R							
			2001 *					03	00571
000671	024124	A	2002	FUAA1	LDB	FULCW		03	00572
	000002	A	2003	LCW	SET	B		03	00573
000672	016006	A	2004		LDA	LCLCB,LCW		03	00574
000673	110437	A	2005		DRA	BS14	NBC BIT 14 SET	03	00575
000674	056006	A	2006		STA	LCLCB,LCW		03	00576
000675	001000	A	2007		JMP	FUZO		03	00577
000676	000750	R							
			2008 *					03	00578
			2009 *	EJEC				03	00579
			2010 *					03	00580
000677	024116	A	2011	FUBB	LDB	FULCW	RESET THE NBC (BIT 14) BIT IN LCLCB	03	00581
	000002	A	2012	LCW	SET	B		03	00582
000700	016006	A	2013		LDA	LCLCB,LCW		03	00583
000701	150457	A	2014		ANA	BR14	RESET BIT 14	03	00584
000702	056006	A	2015		STA	LCLCB,LCW		03	00585
000703	001000	A	2016		JMP	FUZO		03	00586
000704	000750	R							
			2017 *					03	00587
			2018 *	EJEC				03	00588
			2019 *					03	00589
			2020 *					03	00590
			2021 *					03	00591
000705	010433	A	2022	FUCC	LDA	BS10	ERROR IF NOT IN BSC MODE	03	00592
000706	054036	A	2023		STA	FUMODE		03	00593
000707	001000	A	2024		JMP	FUCF		03	00594
000710	000721	R							
			2025 *					03	00595
			2026 *	EJEC				03	00596
			2027 *	FUNC 30	SET ASCII WITH TRANSPARENT CAPABILITY			03	00597
			2028 *					03	00598
000711	010434	A	2029	FUDD	LDA	BS11		03	00599
000712	054032	A	2030		STA	FUMODE		03	00600
000713	001000	A	2031		JMP	FUCF		03	00601
000714	000721	R							
			2032 *					03	00602
			2033 *	EJEC				03	00603
			2034 *	FUNC 31	SET EBCDIC MODE			03	00604
000715	005001	A	2035	FUEE	TZA			03	00605
000716	054026	A	2036		STA	FUMODE		03	00606
000717	001000	A	2037		JMP	FUCF		03	00607
000720	000721	R							
			2038 *	FUCF	TESTF	LSD,LSBSC,LSBSCB,LSBSCZ	SET IF IN BSC	03	00608
000721	015020	A							
000722	150437	A							
000723	001016	A	2039		JANZ	FUCCF1	OK	03	00609
000724	000732	R							
000725	000010	A	2040		LDAI	04640	ERROR CODE	03	00610
000726	004640	A							
000727	024064	A	2041		LDB	FURQST	REQUEST ADDRESS	03	00611
000730	001000	A	2042		JMP	FUZO		03	00612
000731	000752	R							
000732	024063	A	2043	FUCCF1	LDB	FULCW	LCW ADDRESS	03	00613
	000002	A	2044	LCW	SET	B		03	00614
000733	016006	A	2045		LDA	LCLCB,LCW	PCW	03	00615
000734	150474	A	2046		ANA	BM77	LINE NUMBER	03	00616
000735	110430	A	2047		DRA	BS7	SET MODE SELECT AB=10	03	00617
000736	114006	A	2048		DRA	FUMODE		03	00618
000737	054005	A	2049		STA	FUMODE	MODE SELECT WORD	03	00619
000740	006506	A	2050		JSR	C52RCW,B	WRITE CONTROL SEQUENCE	03	00620
000741	000473	E							
000742	000745	R	2051		DATA	FUMODE		03	00621
000743	001000	A	2052		JMP	FUZO		03	00622
000744	000750	R							
000745	000000	A	2053	FUMODE	DATA	0		03	00623
			2054 *					03	00624
			2055 *	CONSTANTS				03	00625
			2056 *					03	00626
000746	107777	A	2057	FUULCW	DATA	0107777		03	00627
000747	000000	A	2058	FUUCW	DATA	0		03	00628

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2059      EJEC
2060 *     WRAP-UP PROCESSING
2061 *     NO DST RETURNED
000750 024043 A 2062 FUZO  LDB  FURQST
000751 005001 A 2063      TZA
                                SET REQUEST STATUS TO NO ERRORS
000752 100444 A 2064 FUZO  DINTS
000753 100747 A
2065      EXT  CC$DRQ
000754 002000 A 2066      JMPM CC$DRQ
000755 000000 E
000756 001000 A 2067      JMP  FUZ3
000757 000777 R
2068 *
2069 *     DST RETURNED
2070 *
000760 015013 A 2071 FUZ1  FETCHA LSD, LSDST, LSDSTB, LSDSTZ
000761 005012 A 2072      TAB
2073      FETCHA LSD, LSRRS, LSRRSB, LSRRSZ
000762 015016 A
000763 004350 A
000764 150467 A
000765 150422 A 2074      ANA  BS1
000766 001010 A 2075      JAZ  FUZ2
                                CHECK IF ID CLEAR
000767 000771 R
000770 010430 A 2076      LDA  BS7
000771 005031 A 2077 FUZ2  MERGE 031
                                SET ID CLEAR BIT IN STATUS
000772 024021 A 2078      LDB  FURQST
                                SET (B) TO REQUEST ADDRESS
2079      EXT  CC$CRQ
2080      DINTS
000773 100444 A
000774 100747 A
000775 002000 A 2081      JMPM CC$CRQ
                                COMPLETE THE REQUEST
000776 000000 E
000777 000777 R 2082 FUZ3  EQU  *
2083      IFT  VORTEX-2
2084      GOTO 1
2085      EXT  V$MDAL
                                DEALLOCATE MEMORY
2086      JDFN FUZ3A
                                DEALLOCATE ?
2087      STX  FUX
                                YES. SAVE X
2088      STB  *+4
2089      JSR  V$MDAL, X
2090      DATA 6
2091      BSS  1
2092      LDX  FUX
                                RESTORE X
2093 FUZ3A EQU *
2094 1     CONT
2095      EINTS
001000 100147 A
001001 005001 A 2096      TZA
                                ZERO READ COMPLETION ADDRESS
001002 055002 A 2097      STA  LSRCA, LSD
                                AND READ REQUEST STATUS
2098      SETA LSD, LSRRS, LSRRSB, LSRRSZ
001003 004250 A
001004 135016 A
001005 004350 A
001006 150467 A
001007 004250 A
001010 135016 A
001011 055016 A
001012 001000 A 2099      JMP*  C52FUN
001013 100000 R
2100      EJEC
2101 *     CONSTANTS AND TEMPORARY STORAGE
2102 *
001014 000000 A 2104 FURQST DATA 0
001015 000000 A 2105 FULCB  DATA 0
001016 000000 A 2106 FULCW  DATA 0
001017 000000 A 2107 FUFUNC DATA 0
2108      IFF  VORTEX-2
2109 FUX  DATA 0
                                SAVE X
2110      END

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ENTRY NAMES

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000000 R C52FUN
EXTERNAL NAMES
000741 E C52RCH 000171 E C52SST 000776 E CC$CRQ 000017 E CC$FCH
000755 E CC$DRQ 000230 E CC$SCW 000170 E VTPUSH
SYMBOLS
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000050 R FU01 000055 R FU02 000126 R FU10 000134 R FU11
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000145	A	MPMR1	000245	A	MPMR2	000345	A	MPMR3	000420	A	MT
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0	CC*SCW	1659	1660
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725	CTDSTZ	*	
739	CTDVA	*	
740	CTDVAB	*	
741	CTDVAZ	*	
755	CTFCB	*	
756	CTFCBB	*	
757	CTFCBZ	*	
763	CTFRC	*	
764	CTFRCB	*	
765	CTFRCZ	*	
767	CTFRE	*	
768	CTFREB	*	
769	CTFREZ	*	
711	CTIDB	*	
712	CTIDBB	*	
713	CTIDBZ	*	
743	CTIDA	*	
744	CTIDAB	*	
745	CTIDAZ	*	
719	CTOPM	*	
720	CTOPMB	*	
721	CTOPMZ	*	
735	CTRCN	*	
736	CTRCNB	*	
737	CTRCNZ	*	
727	CTRQB	*	
728	CTRQBB	*	
729	CTRQBZ	*	
731	CTRTR	*	
732	CTRTRB	*	
733	CTRTRZ	*	
747	CTSTA	*	
748	CTSTAB	*	
749	CTSTAZ	*	
759	CTWDS	*	
760	CTWDSB	*	
761	CTWDSZ	*	
688	DCBUFF	*	
691	DCCHR	*	
692	DCCHRB	*	
693	DCCHRZ	*	
689	DCCNT	1494	
687	DCRECL	*	
187	DINTS	*	
569	DISCLK	189	
589	DISMP	*	
584	DISPIN	188	
813	DMBCA	*	
814	DMBCAB	*	
815	DMBCAZ	*	
805	DMCWA	1679	
806	DMCWAB	*	
807	DMCWAZ	*	
785	DMFPA	*	
786	DMFPAB	*	
787	DMFPAZ	*	
793	DMLCA	*	
794	DMLCAB	*	
795	DMLCAZ	*	
797	DMLTA	*	
798	DMLTAB	*	
799	DMLTAZ	*	
801	DMPTA	*	

865	LCIKEZ	*								
931	LCITB	*								
932	LCITBB	*								
933	LCITBZ	*								
353	LCJJP	354	355	356	363	364	365	366	367	370
879	LCLCB	1640	1663	1666	1672	1687	1689	1732	1953	2004
		2006	2013	2015	2045					
880	LCLCBB	*								
881	LCLCBZ	*								
927	LCLDB	*								
928	LCLDBB	*								
929	LCLDBZ	*								
915	LCLTB	1667								
916	LCLTBB	1667								
917	LCLTBZ	1667								
875	LCOBA	1934								
876	LCOBAB	*								
877	LCOBAZ	*								
867	LCOBF	1929								
868	LCOBFB	*								
869	LCOBFZ	*								
871	LCOBL	*								
872	LCOBLB	*								
873	LCOBLZ	*								
935	LCOKE	1958								
936	LCOKEB	*								
937	LCOKEZ	*								
847	LCRCC	*								
848	LCRCCB	*								
849	LCRCCZ	*								
827	LCSMB	*								
828	LCSMBB	*								
829	LCSMBZ	*								
1634	LCW	1635	1652	1663	1666	1667	1687	1689	1716	1724
		1889	1894	1899	1924	1929	1934	1953	1958	1960
		1962	2004	2006	2013	2015	2045			
503	LHW	1750	1758							
1049	LSABH	1845	1851	1912						
1050	LSABNB	1845	1851	1912						
1051	LSABNZ	1845	1851	1912						
1057	LSASC	1857	1863	1883						
1058	LSASCB	1857	1863	1883						
1059	LSASCZ	1857	1863	1883						
1001	LSASY	1523	1917	1944	1970					
1002	LSASYB	1523	1917	1944	1970					
1003	LSASYZ	1523	1917	1944	1970					
1069	LSBSC	1961	1965	1996	2038					
1070	LSBSCB	1961	1965	1996	2038					
1071	LSBSCZ	1961	1965	1996	2038					
1013	LSCC1	1708	1898							
1014	LSCC1B	*								
1015	LSCC1Z	*								
1017	LSCC2	*								
1018	LSCC2B	*								
1019	LSCC2Z	*								
1061	LSCHN	1959	1984	1988						
1062	LSCHNB	1959	1984	1988						
1063	LSCHNZ	1959	1984	1988						
1053	LSCRC	1908								
1054	LSCRCB	1908								
1055	LSCRCZ	1908								
985	LSCTA	1677								
986	LSCTAB	*								
987	LSCTAZ	*								
1474	LSD	1478	1509	1523	1585	1589	1598	1599	1607	1609
		1614	1619	1620	1621	1627	1669	1677	1695	1708
		1766	1770	1791	1799	1807	1815	1821	1827	1833
		1839	1845	1851	1857	1863	1869	1883	1898	1904
		1908	1912	1917	1939	1944	1947	1959	1961	1965
		1970	1984	1988	1996	2038	2071	2073	2097	2098
1041	LSDSF	1807	1815	1939						
1042	LSDSFB	1807	1815	1939						
1043	LSDSFZ	1807	1815	1939						
989	LSDSY	1593	1619	2071						
990	LSDSYB	2071								
991	LSDSYZ	2071								
1025	LSEPF	1791	1799	1947						
1026	LSEPFB	1791	1799	1947						
1027	LSEPFZ	1791	1799	1947						
1009	LSLSP	*								
1010	LSLSPB	*								
1011	LSLSPZ	*								
993	LSNDB	*								
994	LSNDBB	*								
995	LSNDBZ	*								
1073	LSNTB	*								
1074	LSNTBB	*								
1075	LSNTBZ	*								
997	LSPAR	*								
998	LSPARB	*								
999	LSPARZ	*								
1037	LSPLA	1869								
1038	LSPLAB	1869								
1039	LSPLAZ	1869								
953	LSRCA	1509	1585	1627	1695	2097				


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1351 PCNTDZ *
1337 PCPCH *
1338 PCPCHB *
1339 PCPCHZ *
1333 PCSWL *
1334 PCSWLB *
1335 PCSWLZ *
1345 PCTYP *
1346 PCTYPB *
1347 PCTYPZ *
1325 PCXMM *
1326 PCXMMB *
1327 PCXMMZ *
575 PIM1 *
576 PIM2 *
577 PIM3 *
578 PIM4 *
579 PIM5 *
580 PIM6 *
581 PIM7 *
582 PIM8 *
699 POST *
1287 PSABN *
1288 PSABNB *
1289 PSABNZ *
1239 PSASY *
1240 PSASYB *
1241 PSASYZ *
670 PSBADT *
666 PSBEG *
1299 PSBSC *
1300 PSBSCB *
1301 PSBSCZ *
1251 PSCC1 *
1252 PSCC1B *
1253 PSCC1Z *
1255 PSCC2 *
1256 PSCC2B *
1257 PSCC2Z *
1291 PSCRC *
1292 PSCRCB *
1293 PSCRCZ *
1271 PSDEF *
1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 POLSP *
1248 POLSPB *
1249 POLSPZ *
1231 FSMDD *
1232 FSMDDB *
1233 FSMDDZ *
671 PENSEC *
1235 PSAPR *
1236 PSAPRB *
1237 PSAPRZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
667 PSPROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYN CZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1395 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
32 PUSH *
288 PUTQ *
532 RA0 *
533 RA1 *
651 RADNR *
534 RBO *
535 RB1 *
649 RFCP 1486
504 RHN *
645 ROPND *
1479 ROST 1486 1977

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642 RSTPR *
650 RTIDB 1977 *
96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169 *
510 SIX 147 171 1526 *
26 SPACE *
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT *
282 TBID *
277 TBISA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY *
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMIMG *
291 TBNUCL *
267 TBPL *
269 TBRSA *
270 TBRSE *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBRSX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBSIZ *
266 TBST *
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDCC *
1188 TCDCCB *
1189 TCDCCZ *
1195 TCDTD *
1196 TCDTDB *
1197 TCDTDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *

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1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTQ *
1180 TCSTQB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
  514 TEN 139 163
  205 TESTF *
  507 THREE 153 177
1978 TIDB 1979
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIQDN *
1380 TIQDNB *
1381 TIQDNZ *
1387 TIQDP *
1388 TIQDPB *
1389 TIQDPZ *
1383 TIQSC *
1384 TIQSCB *
1385 TIQSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPA B *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPA B *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPA B *
1219 TPWPAZ *
  506 TWO 155 179
  440 V$1MIN *
  458 V$BFC *
  366 V$EGLP *
  363 V$BIC1 *

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000001 A 1 VORTEX SET 1 04 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 04 00002
3 * 04 00003
4 * V.D.M. PART NO. 92L1105-040B 04 00004
5 * 04 00005
6 * RELEASED 3-1-74 04 00006
7 * 04 00007
8 * 04 00008
9 * 04 00009
10 * C52IWP 04 00010
11 * 04 00011
12 * TITLE C52IWP 04 00012
13 * NLIS 04 00013
1443 * LIST *****
1444 * 04 00014
1445 * EJEC 04 00015
1446 ***** 04 00016
1447 ***** 04 00017
1448 * PROGRAM NAME - 04 00018
1449 * C52IWP - INTERRUPT WORD PROCESSOR **04 00019
1450 * ENTRY CONDITIONS - **04 00020
1451 * C52IWP EXECUTES AS A TASK UNDER VORTEX. IT IS MADE **04 00021
1452 * ACTIVE BY C52LIP. **04 00022
1453 * EXIT CONDITIONS - **04 00023
1454 * UPON EXIT FROM C52IWP, THE CIRCULAR INTERRUPT BUFFER **04 00024
1455 * IS EMPTY, LSDS CORRESPONDING TO THE LINES FOR WHICH **04 00025
1456 * INTERRUPTS HAVE OCCURRED HAVE BEEN UPDATED AND CC$CEX, **04 00026
1457 * THE COMMUNICATIONS EXECUTIVE, IS ACTIVATED. **04 00027
1458 ***** 04 00028
1459 ***** 04 00029
1460 * EJEC 04 00030
1461 * NAME C52IWP 04 00031
1462 C52IWP DINTS DISABLE INTERRUPTS 04 00032

000000 100444 A 1463 EXT CC$CBF 04 00033
000001 100747 A 1464 JMPM CC$CBF 04 00034
000002 002000 A 1465 DATA IWINTW AND STORE AT THIS ADDRESS 04 00035
000003 000000 E 1466 JAZ IW00 BUFFER EMPTY 04 00036
000004 000276 R 1467 EINTS 04 00037
000005 001010 A
000006 000051 R

000007 100244 A
000010 100147 A
000011 024264 A 1468 LDB IWINTW 04 00038
000012 004143 A 1469 LSRB 3 USING MUX ORDINAL FROM INTERRUPT WORD 04 00039
000013 005122 A 1470 IBR GET THE CONTROLLER TABLE ADDRESS FROM 04 00040
1471 EXT CC$MET THE MULTIPLEXOR EQUIPMENT TABLE 04 00041
000014 006026 A 1472 LDBE CC$MET,B 04 00042
000015 000000 E

1473 * CALCULATE LSD ADDRESS 04 00043
000016 000002 A 1474 CTB SET B 04 00044
000017 014260 A 1475 LDA IWINTW+1 04 00045
000020 150474 A 1476 ANA BM7 LINE NUMBER 04 00046
000021 126023 A 1477 ADD DMPTA,CTB + PHYSICAL LINE TABLE BASE ADDRESS 04 00047
000022 005014 A 1478 TAX 04 00048
000023 015001 A 1479 LDA 1,X +1 = PLT ENTRY ADDRESS FOR LINE 04 00049
000024 150460 A 1480 ANA BR15 LINE NOT OPENED, FLUSH 04 00050
000025 001010 A 1481 JAZ C52IWP 04 00051
000026 000000 R
000026 005014 A 1482 TAX 04 00052
000001 A 1483 LSD SET X 04 00053
1484 * CALCULATE LCM ADDRESS 04 00054
000027 014247 A 1485 LDA IWINTW+1 04 00055
000030 150474 A 1486 ANA BM7 LINE NUMBER 04 00056
000031 004243 A 1487 LRLA 3 *8 BSC 04 00057
000032 126021 A 1488 ADD DMLOA,CTB + LCM BASE ADDRESS 04 00058
000033 054244 A 1489 STA IWLCWA 04 00059
1490 * DISPATCH DEPENDING ON INTERRUPT CODE 04 00060
000034 014241 A 1491 LDA IWINTW 04 00061
000035 150467 A 1492 ANA BM7 04 00062
000036 006120 A 1493 ADDI IWVECT 04 00063
000037 000044 R
000040 005012 A 1494 TAB 04 00064
000041 026000 A 1495 LDB 0,B 04 00065
000042 006706 A 1496 JMP 0,B 04 00066
000043 000000 A

1497 * 04 00067
1498 * JUMP VECTOR TABLE 04 00068
1499 * 04 00069
000044 000044 R 1500 IWVECT EQU * 04 00070
000045 000057 R 1501 DATA IW00 INPUT BYTE COUNT = 0 04 00071
000046 000071 R 1502 DATA IW00 OUTPUT BYTE COUNT = 0 04 00072
000047 000113 R 1503 DATA IW00 LINE ERROR 04 00073
000050 000141 R 1504 DATA IW00 CONTROL CHARACTER DETECTED 04 00074
000051 000165 R 1505 DATA IW00 STATUS CHANGE 04 00075
000051 030300 A 1506 IW00 LDX V$CTL BUFFER EMPTY, DEFEND TASK 04 00076
000051 000001 A 1507 TIDB SET B 04 00077
000052 015001 A 1508 LDA TBST,TIDB 04 00078
000053 110437 A 1509 ORA BS14 04 00079
000054 055001 A 1510 STA TBST,TIDB 04 00080
1511 EXT V$DISP 04 00081
000055 001000 A 1512 JMP V$DISP EXIT TO DISPATCHER 04 00082
000056 000000 E

1513 EJEC 04 00083

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1514 *
1515 *
1516 *
000057 010421 A 1517 IWA0 LDA ONE
1518 SETA LSD,LSRRS,LSRRSB,LSRRSZ 04 00084
04 00085
04 00086
04 00087
04 00088
000060 004250 A
000061 135016 A
000062 004350 A
000063 150467 A
000064 004250 A
000065 135016 A
000066 055016 A
000067 001000 A 1519 JMP IWFO 04 00089
000070 000266 R EJECT 04 00090
1520 *
1521 *
1522 *
1523 *
000071 024206 A 1524 IWBO LDB IWLCHA 04 00091
000002 A 1525 LCW SET B 04 00092
1526 TESTF LCW,LCLTB,LCLTBB,LCLTBZ 04 00093
04 00094
04 00095
04 00096
000072 016007 A
000073 150440 A
000074 001010 A 1527 JAZ IWFO LINE NOT TRANSMITTING BREAKS, IGNORE. 04 00097
000075 000266 R
000076 010421 A 1528 LDA ONE LINE IS BREAKING, SET READ COMPLETE 04 00098
1529 SETA LSD,LSRRS,LSRRSB,LSRRSZ 04 00099
000077 004250 A
000100 135016 A
000101 004350 A
000102 150467 A
000103 004250 A
000104 135016 A
000105 055016 A
1530 CLEARF LCW,LCLTB,LCLTBB,LCLTBZ 04 00100
000106 016007 A
000107 150460 A
000110 056007 A
000111 001000 A 1531 JMP IWFO 04 00101
000112 000266 R EJECT 04 00102
1532 *
1533 *
1534 *
1535 *
000113 014163 A 1536 IWC0 LDA IWINTW+1 04 00103
1537 * 04 00104
1538 * 04 00105
1539 * IF 'AB' = 0, BREAK OR FRAMING ERROR ON ASYNC LINE ADAPTOR 04 00106
1540 * A ZERO BYTE IDENTIFIES A BREAK CONDITION 04 00107
04 00108
04 00109
04 00110
000114 006150 A 1541 ANAI 0300 D.1 04 00111
000115 000300 A
1542 *
1543 *
1544 *
000116 020431 A 1544 LDB BS8 04 00112
000117 001010 A 1545 JAZ IWC4 04 00113
04 00114
04 00115
000120 000132 R
000121 005001 A 1546 IWC1 TZA 04 00116
000122 024154 A 1547 LDB IWINTW+1 04 00117
000123 006466 A 1548 BT RB0+B6,IWC2 TEST PARITY ERROR 04 00118
000124 000126 R
000125 110426 A 1549 ORA BS5 SET BIT IN LSDST 04 00119
000126 006467 A 1550 IWC2 BT RB0+B7,IWC3 TEST OVERFLOW 04 00120
000127 000131 R
000130 110432 A 1551 ORA BS9 04 00121
000131 005012 A 1552 IWC3 TAB 04 00122
000132 015013 A 1553 IWC4 LDA LSDST,LSD 04 00123
000133 006150 A 1554 ANAI 0176337 04 00124
000134 176337 A
000135 005031 A 1555 MERGE 031 A = A .OR. B 04 00125
000136 055013 A 1556 STA LSDST,LSD 04 00126
000137 001000 A 1557 JMP IWFO 04 00127
000140 000266 R EJECT 04 00128
1558 *
1559 *
1560 *
1561 *
1562 *
000141 015013 A 1563 IWD0 LDA LSDST,LSD SET BIT IN LSDST 04 00129
000142 110427 A 1564 ORA BS6 04 00130
000143 055013 A 1565 STA LSDST,LSD 04 00131
1566 TESTF LSD,LSBSC,LSBSCB,LSBSCZ #IF BSC, FORCE COMPLETION 04 00132
04 00133
04 00134
04 00135
04 00136
000144 015020 A
000145 150437 A
000146 001010 A 1567 JAZ IWFO NOT BSC 04 00137
000147 000266 R
1568 *
000150 024126 A 1569 LDB IWINTW+1 04 00138
000151 006473 A 1570 BT RB0+B11,IWE1 IF 'CD' NOT SET. MAY BE REGULAR STATUS CHNG 04 00139
000152 000230 R
1571 *
000153 010421 A 1572 LDA SET READ COMPLETE 04 00141
1573 SETA ONE 04 00142
LSD,LSRRS,LSRRSB,LSRRSZ 04 00143
000154 004250 A
000155 135016 A
000156 004350 A

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000157 150467 A
000160 004250 A
000161 135016 A
000162 055016 A
000163 001000 A 1574 JMP IWF0 04 00144
000164 000266 R
1575 EJEC 04 00145
1576 * 04 00146
1577 * STATUS CHANGE 04 00147
1578 * 04 00148
1579 * OUTPUT COMPLETE IN BSC ENTERS HERE AS STATUS CHANGE 04 00149
1580 * 04 00150
1581 * 04 00151
1582 IWE0 TESTF LSD,LSBSC,LSBSCB,LSBSCZ SET IF BSC 04 00152
000165 015020 A
000166 150437 A
000167 001010 A 1583 JAZ IWE0B NOT BSC 04 00153
000170 000214 R
1584 * 04 00154
1585 * BSC ADAPTER. TEST IF UNDERFLOW SET OUTPUT COMPLETE 04 00155
1586 * 04 00156
000171 010421 A 1587 LDA ONE 04 00157
1588 SETA LSD,LSWRS,LSWRSB,LSWRSZ SET COMPLETE BIT 04 00158
000172 004253 A
000173 135016 A
000174 004353 A
000175 150467 A
000176 004253 A
000177 135016 A
000200 055016 A
000201 024075 A 1589 LDB IWINTW+1 04 00159
000202 006470 A 1590 BT RB0+B8,IWE01 0 IF NOT UNDERFLOW 04 00160
000203 000210 R
000204 005001 A 1591 TZA 04 00161
000205 110432 A 1592 ORA BS9 SET UNDERFLOW/OVERFLOW IN STATUS 04 00162
000206 001000 A 1593 JMP IWE2A 04 00163
000207 000241 R
000210 006474 A 1594 IWE01 BT RB0+B12,IWE1 JMP IF OUTPUT COMPLETE 'OC' NOT SET 04 00164
000211 000230 R
000212 001000 A 1595 JMP IWF0 04 00165
000213 000266 R
000214 024062 A 1596 IWE0B LDB IWINTW+1 04 00166
000215 006470 A 1597 BT RB0+B8,IWE1 JUMP IF 'U' BIT NOT SET 04 00167
000216 000230 R
000217 010421 A 1598 LDA ONE 'U' SET, LAST BYTE TRANSMITTED FROM LAD 04 00168
1599 SETA LSD,LSWRS,LSWRSB,LSWRSZ 04 00169
000220 004253 A
000221 135016 A
000222 004353 A
000223 150467 A
000224 004253 A
000225 135016 A
000226 055016 A
000227 024047 A 1600 IWE0A LDB IWINTW+1 04 00170
1601 IWE1 FETCHA LSD,LSMOD,LSMODB,LSMODZ 04 00171
000230 015014 A
000231 004356 A
000232 001016 A 1602 JANZ IWE2 04 00172
000233 000240 R
000234 006010 A 1603 LDAI 013 DIRECT CONNECT, FORCE DATA-SET-READY, 04 00173
000235 000013 A 1604 JMP IWE6 CARRIER AND CLEAR-TO-SEND ON 04 00174
000237 000255 R
000240 005001 A 1605 IWE2 TZA 04 00175
000241 006477 A 1606 IWE2A BT RB0+B15,IWE3 TEST DATA-SET-READY 04 00176
000242 000244 R
000243 110422 A 1607 ORA BS1 04 00177
000244 006476 A 1608 IWE3 BT RB0+B14,IWE4 TEST CARRIER 04 00178
000245 000247 R
000246 110424 A 1609 ORA BS3 04 00179
000247 006475 A 1610 IWE4 BT RB0+B13,IWE5 TEST CLEAR-TO-SEND 04 00180
000250 000252 R
000251 110421 A 1611 ORA BS0 04 00181
000252 006472 A 1612 IWE5 BT RB0+B10,IWE6 TEST RING 04 00182
000253 000255 R
000254 110423 A 1613 ORA BS2 04 00183
000255 006471 A 1614 IWE6 BT RB0+B9,IWE7 TEST REVERSE CHANNEL 04 00184
000256 000260 R
000257 110425 A 1615 ORA BS4 04 00185
000260 005012 A 1616 IWE7 TAB 04 00186
000261 015013 A 1617 LDA LSDST,LSD PICK UP DYNAMIC STATUS FIELD FROM LSD 04 00187
000262 006150 A 1618 ANAI 01740 MASK OUT BIT POSITION WHICH ARE BEING 04 00188
000263 001740 A
000264 005031 A 1619 MERGE 031 UPDATED AND 'DR' IN NEW STATUS 04 00189
000265 055013 A 1620 STA LSDST,LSD 04 00190
1621 * 04 00191
1622 * WIND UP INTERRUPT WORD PROCESSING 04 00192
1623 * 04 00193
1624 EXT CCSACE 04 00194
1625 IWF0 DINTS 04 00195
000266 100444 A
000267 100747 A
000270 002000 A 1626 JMPM CCSACE 04 00196
000271 000000 E 1627 EXT CCSRCF 04 00197

```

```

000272 006047 A 1628      INRE      CC$RCF
000273 000000 E
000274 001000 A 1629      JMP      C52IWP
000275 000000 R
1630      EJEC
1631 *
1632 *
1633 *
000276 000000 A 1634  IWINTW DATA  0,0      INTERRUPT WORD STORAGE
000277 000000 A
000300 000000 A 1635  IWLCHA DATA  0      LINE CONTROL WORD ADDRESS
1636      END
04 00198
04 00199
04 00200
04 00201
04 00202
04 00203
04 00204
04 00205
04 00206
    
```

ENTRY NAMES

```

000000 R C52IWP
EXTERNAL NAMES
000271 E CC$ACE 000003 E CC$CBF 000015 E CC$MET 000273 E CC$RCF
000056 E V$DISP
    
```

SYMBOLS

```

000044 A APIM      000002 A B          000000 A B0         000001 A B1
000012 A B10     000013 A B11     000014 A B12     000015 A B13
000016 A B14     000017 A B15     000002 A B2         000003 A B3
000004 A B4       000005 A B5         000006 A B6         000007 A B7
000010 A B8       000011 A B9         000000 A BICNUM  000421 A BM1
000472 A BM17    000475 A BM177   000477 A BM1777  000464 A BM3
000473 A BM37    000463 A BM377   000467 A BM7       000474 A BM77
000476 A BM777   000441 A BR0     000442 A BR1     000453 A BR10
000454 A BR11    000455 A BR12    000456 A BR13    000457 A BR14
000460 A BR15    000443 A BR2     000444 A BR3     000445 A BR4
000446 A BR5     000447 A BR6     000450 A BR7     000451 A BR8
000452 A BR9     000421 A BS0     000422 A BS1     000433 A BS10
000434 A BS11    000435 A BS12    000436 A BS13    000437 A BS14
000440 A BS15    000423 A BS2     000424 A BS3     000425 A BS4
000426 A BS5     000427 A BS6     000430 A BS7     000431 A BS8
000432 A BS9     000000 R C52IWP 000271 E CC$ACE 000003 E CC$CBF
000015 E CC$MET 000273 E CC$RCF 000000 A CHAFP  000000 A CHAFPB
000020 A CHAFPZ  000001 A CHARP  000000 A CHARPB  000020 A CHARPZ
000002 A CHCFP  000000 A CHCFPB  000020 A CHCFPZ  000003 A CHCRP
000000 A CHCRPB  000020 A CHCRPZ  000004 A CHRBL  000000 A CHRBLB
000020 A CHRBLZ  000047 A CLOCK  000000 A COTAD1  000000 A CTACT
000017 A CTACTB  000001 A CTACTZ  000001 A CTADN  000000 A CTADNB
000020 A CTADNZ  000002 A CTB     000011 A CTBIC  000000 A CTBICB
000020 A CTBICZ  000003 A CTDST  000000 A CTDSTB  000020 A CTDSTZ
000006 A CTDVA  000000 A CTDVAB  000020 A CTDVAZ  000012 A CTFCB
000000 A CTFCBB  000020 A CTFCBZ  000014 A CTFRC  000010 A CTFRCB
000010 A CTFRCZ  000014 A CTFRE  000000 A CTFREB  000010 A CTFREZ
000000 A CTIDB  000000 A CTIDBB  000017 A CTIDBZ  000007 A CTIDA
000000 A CTIDAB  000020 A CTIDAZ  000002 A CTDPM  000000 A CTDPMB
000020 A CTDPMZ  000005 A CTRCN  000000 A CTRCNB  000010 A CTRCNZ
000004 A CTRQB  000000 A CTRQBB  000020 A CTRQBZ  000005 A CTRTR
000010 A CTRTRB  000010 A CTRTRZ  000010 A CTSTA  000000 A CTSTAB
000020 A CTSTAZ  000013 A CTWDS  000000 A CTWDSB  000020 A CTWDSZ
000001 A DCBUFF  000003 A DCCHR  000000 A DCCHRB  000020 A DCCHRZ
000002 A DCCNT  000000 A DCRECL  000747 A DISCLK  000745 A DISMP
000444 A DISPIM  000026 A DMBCA  000000 A DMBCAB  000020 A DMBCAZ
000024 A DMCWA  000000 A DMCWAB  000020 A DMCWAZ  000017 A DMFPA
000000 A DMFPAB  000020 A DMFPAB  000021 A DMLCA  000000 A DMLCAB
000020 A DMLCAZ  000022 A DMLTA  000000 A DMLTAB  000020 A DMLTAZ
000023 A DMPTA  000000 A DMPTAB  000020 A DMPTAZ  000016 A DMRPA
000000 A DMRPAB  000020 A DMRPAZ  000020 A DMSTA  000000 A DMSTAB
000020 A DMSTAZ  000025 A DMSWA  000000 A DMSWAB  000020 A DMSWAZ
000015 A DMTPA  000000 A DMTPAB  000020 A DMTPAZ  000002 A DSCTAD
000000 A DSDASS  000000 A DSDVDN  000002 A DSLCKO  000001 A DSNAME
000000 A DSNDRQ  000002 A DSOPCM  000002 A DSPSTI  000002 A DSREWD
000000 A DSUNAM  000002 A DSUNTN  000424 A EIGHT  000147 A ENACLK
000645 A ENAMP  000244 A ENAPIM  000465 A FIVE   000423 A FOUR
000003 A IBIBF  000017 A IBIBFB  000001 A IBIBFZ  000003 A IBLAS
000000 A IBLASB  000017 A IBLASZ  000001 A IBLEN  000000 A IBLENB
000020 A IBLENZ  000000 A IBLNK  000000 A IBLNKB  000020 A IBLNKZ
000002 A IBSTA  000000 A IBSTAB  000020 A IBSTAZ  000004 A IBSTS
000000 A IBSTSB  000017 A IBSTSZ  000051 R IW00   000057 R IW00
000071 R IW01   000113 R IW01   000121 R IW01   000126 R IW02
000131 R IW02   000132 R IW02   000141 R IW02   000165 R IW02
000210 R IW03   000227 R IW03   000214 R IW03   000230 R IW03
000240 R IW04   000241 R IW04   000244 R IW04   000247 R IW04
000252 R IW05   000255 R IW05   000260 R IW05   000266 R IW05
000276 R IWINTW 000300 R IWLCHA 000044 R IWVECT 000300 A LC
000003 A LCABN  000013 A LCABNB  000001 A LCABNZ  000003 A LCASY
000012 A LCASYB  000001 A LCASYZ  000007 A LCBSC  000015 A LCBSCB
000001 A LCBSCZ  000007 A LCCHN  000016 A LCCHNB  000001 A LCCHNZ
000003 A LCCRC  000014 A LCCRCB  000003 A LCCRCZ  000006 A LCCWB
000014 A LCCWBB  000001 A LCCWBZ  000006 A LCCWC  000015 A LCCWCB
000001 A LCCWCZ  000006 A LCCWD  000013 A LCCWDB  000001 A LCCWDZ
000006 A LCCWI  000016 A LCCWIB  000001 A LCCWIZ  000006 A LCCWP
000012 A LCCWPB  000001 A LCCWPZ  000006 A LCCWR  000011 A LCCWRB
000001 A LCCWRZ  000006 A LCCWS  000017 A LCCWSB  000001 A LCCWSZ
000006 A LCCWT  000010 A LCCWTB  000001 A LCCWTZ  000001 A LCIBA
000000 A LCIBAB  000017 A LCIBAZ  000000 A LCIBF  000017 A LCIBFB
000001 A LCIBFZ  000000 A LCIBL  000000 A LCIBLB  000014 A LCIBLZ
000002 A LCIC1  000010 A LCIC1B  000010 A LCIC1Z  000002 A LCIC2
000000 A LCIC2B  000010 A LCIC2Z  000003 A LCIKE  000000 A LCIKEB
000004 A LCIKEZ  000007 A LCITB  000013 A LCITBB  000001 A LCITBZ
000050 A LCJJP  000006 A LCLCB  000000 A LCLCBB  000020 A LCLCBZ
000007 A LCLDB  000014 A LCLDBB  000001 A LCLDBZ  000007 A LCLTB
000017 A LCLTBB  000001 A LCLTBZ  000005 A LCOBA  000000 A LCOBAB
000017 A LCOBAZ  000004 A LCOBF  000017 A LCOBFB  000001 A LCOBFZ
    
```



```

000000 A TIDSPB 000007 A TIDSPZ 000002 A TIDWN 000017 A TIDWNB
000001 A TIDWNZ 000000 A TINET 000000 A TINETYB 000020 A TINETZ
000003 A TIDDN 000017 A TIDDNB 000001 A TIDDNZ 000003 A TIDDP
000000 A TIDDPB 000007 A TIDDPZ 000003 A TIDSC 000007 A TIDSCB
000010 A TIDSCZ 000002 A TISEC 000007 A TISECB 000010 A TISECZ
000000 A TITU1 000000 A TITU1B 000020 A TITU1Z 000001 A TITU2
000000 A TITU2B 000020 A TITU2Z 000017 A TPFPA 000000 A TPFPAZ
000020 A TPFPAZ 000015 A TPRPA 000000 A TPRPAB 000020 A TPRPAZ
000016 A TPWPA 000000 A TPWPAB 000020 A TPWPABZ 000422 A TWO
000403 A V$1MIN 000415 A V$BFC 000075 A V$BGLB 000056 A V$BIC1
000315 A V$BTB 000331 A V$BTBM 000414 A V$BVN 000334 A V$CAM
000353 A V$CKB 000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL
000076 A V$CRDM 000341 A V$CRDR 000354 A V$CRM 000302 A V$CRS
000360 A V$CTAD 000300 A V$CTL 000351 A V$CTMS 000070 A V$DATE
000056 E V$DISP 000355 A V$DSTB 000376 A V$ERFGB 000347 A V$FGLB
000306 A V$FLRS 000350 A V$FREE 000332 A V$GFCB 000320 A V$IM
000410 A V$IDA 000412 A V$JCB 000055 A V$JCFB 000077 A V$JCTM
000050 A V$JNAM 000377 A V$JOP 000340 A V$KEY 000054 A V$LCNT
000313 A V$LER 000356 A V$LIT 000317 A V$LLUP 000317 A V$LPP
000307 A V$LRSK 000312 A V$LSAL 000345 A V$LUNT 000316 A V$LUP
000400 A V$LUT1 000401 A V$LUT2 000402 A V$LUT3 000330 A V$MAP
000333 A V$MIMG 000330 A V$MPM 000362 A V$NCTR 000316 A V$NPAG
000413 A V$OCB 000346 A V$OPCF 000311 A V$OPCL 000357 A V$PGT
000363 A V$PIMN 000074 A V$PLCT 000305 A V$PTVB 000361 A V$SCTL
000352 A V$SCV 000375 A V$SLFG 000334 A V$STO 000335 A V$ST1
000336 A V$ST2 000337 A V$ST3 000303 A V$TB 000342 A V$TBGT
000416 A V$TFC 000314 A V$TJCP 000344 A V$TMN 000343 A V$TMS
000304 A V$UTB 000001 A VORTEX 000001 A X 000420 A ZERO
0 ERRORS ASSEMBLY COMPLETE

```

```

159 ADAT *
39 ANAM *
90 ANAN *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1472 1474
1495 1496 1525

88 B& 82
83 B&0 40
80 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46

543 B0 *
544 B1 *
553 B10 1612
554 B11 1570
555 B12 1594
556 B13 1610
557 B14 1608
558 B15 1606
545 B2 *
546 B3 *
547 B4 *
548 B5 *
549 B6 1548
550 B7 1550
551 B8 1590 1597
552 B9 1614

630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
322 BM377 51
517 BM7 71 1492
520 BM77 59 1476 1486
523 BM777 47

486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 *
501 BR15 1480
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *
495 BR9 *
470 BS0 195 209 1611
471 BS1 1607
480 BS10 *

```

481	BS11	*			
482	BS12	*			
483	BS13	*			
484	BS14	1509			
485	BS15	*			
472	BS2	1613			
473	BS3	1609			
474	BS4	1615			
475	BS5	1549			
476	BS6	1564			
477	BS7	*			
478	BS8	1544			
479	BS9	1551	1592		
1462	C52IWP	12	1461	1481	1629
0	CC\$ACE	1624	1626		
0	CC\$CBF	1463	1464		
0	CC\$MET	1471	1472		
0	CC\$RCF	1627	1628		
1397	CHAFF	*			
1398	CHAFFB	*			
1399	CHAFFZ	*			
1401	CHARP	*			
1402	CHARPB	*			
1403	CHARPZ	*			
1405	CHCFP	*			
1406	CHCFPB	*			
1407	CHCFPZ	*			
1409	CHCRP	*			
1410	CHCRPB	*			
1411	CHCRPZ	*			
1413	CHRBL	*			
1414	CHRBLB	*			
1415	CHRBLZ	*			
198	CLEARF	*			
567	CLOCK	569	570		
622	COTAD1	*			
707	CTACT	*			
708	CTACTB	*			
709	CTACTZ	*			
715	CTADN	*			
716	CTADNB	*			
717	CTADNZ	*			
1474	CTB	1477	1488		
751	CTBIC	*			
752	CTBICB	*			
753	CTBICZ	*			
723	CTDST	*			
724	CTDSTB	*			
725	CTDSTZ	*			
739	CTDVA	*			
740	CTDVAB	*			
741	CTDVAZ	*			
755	CTFCB	*			
756	CTFCBB	*			
757	CTFCBZ	*			
763	CTFRC	*			
764	CTFRCB	*			
765	CTFRCZ	*			
767	CTFRE	*			
768	CTFREB	*			
769	CTFREZ	*			
711	CTIDB	*			
712	CTIDBB	*			
713	CTIDBZ	*			
743	CTIOA	*			
744	CTIOAB	*			
745	CTIOAZ	*			
719	CTOPM	*			
720	CTOPMB	*			
721	CTOPMZ	*			
735	CTRCN	*			
736	CTRCNB	*			
737	CTRCNZ	*			
727	CTROB	*			
728	CTROBB	*			
729	CTROBZ	*			
731	CTRTR	*			
732	CTRTRB	*			
733	CTRTRZ	*			
747	CTSTA	*			
748	CTSTAB	*			
749	CTSTAZ	*			
759	CTWDS	*			
760	CTWDSB	*			
761	CTWDSZ	*			
688	DCBUFF	*			
691	DCCHR	*			
692	DCCHRB	*			
693	DCCHRZ	*			
689	DCCNT	*			
687	DCRECL	*			
187	DINTS	*			
569	DISCLK	189			
589	DISMP	*			
584	DISPIM	188			

813	DMBCA	*								
814	DMBCAB	*								
815	DMBCAZ	*								
805	DMCWA	*								
806	DMCWAB	*								
807	DMCWAZ	*								
785	DMFPA	*								
786	DMFPAB	*								
787	DMFPAZ	*								
793	DMLCA	*	1488							
794	DMLCAB	*								
795	DMLCAZ	*								
797	DMLTA	*								
798	DMLTAB	*								
799	DMLTAZ	*								
801	DMPTA	*	1477							
802	DMPTAB	*								
803	DMPTAZ	*								
781	DMRPA	*								
782	DMRPAB	*								
783	DMRPAZ	*								
789	DMSTA	*								
790	DMSTAB	*								
791	DMSTAZ	*								
809	DMSWA	*								
810	DMSWAB	*								
811	DMSWAZ	*								
777	DMTPA	*								
778	DMTPAB	*								
779	DMTPAZ	*								
615	DSCTAD	*								
601	DSDBASS	*								
600	DSDDVDN	*								
612	DSLCKD	*								
609	DSNAME	*								
608	DSNRQ	*								
613	DSOPCM	*								
614	DSPSTI	*								
610	DSREWD	*								
606	DSUNAM	*								
611	DSUNTH	*								
512	EIGHT	*	143	167						
183	EINTS	*								
570	ENACLK	*	185							
590	ENAMP	*								
585	ENAPIM	*	184							
0	ERROR	*	113	193	200	207				
128	FETCHA	*								
509	FIVE	*	149	173						
508	FOUR	*	151	175						
251	GETQ	*								
1432	IBIBF	*								
1433	IBIBFB	*								
1434	IBIBFZ	*								
1436	IBLAS	*								
1437	IBLASB	*								
1438	IBLASZ	*								
1424	IBLEN	*								
1425	IBLENB	*								
1426	IBLENZ	*								
1420	IBLNK	*								
1421	IBLNKB	*								
1422	IBLNKZ	*								
1428	IBSTA	*								
1429	IBSTAB	*								
1430	IBSTAZ	*								
1440	IBSTS	*								
1441	IBSTSB	*								
1442	IBSTSZ	*								
1506	IW00	*	1466							
1517	IWA0	*	1501							
1524	IWB0	*	1502							
1536	IWC0	*	1503							
1546	IWC1	*								
1550	IWC2	*	1548							
1552	IWC3	*	1550							
1553	IWC4	*	1545							
1563	IWD0	*	1504							
1582	IWE0	*	1505							
1594	IWE01	*	1590							
1600	IWE0A	*								
1596	IWE0B	*	1583							
1601	IWE1	*	1570	1594	1597					
1605	IWE2	*	1602							
1606	IWE2A	*	1593							
1608	IWE3	*	1606							
1610	IWE4	*	1609							
1612	IWE5	*	1610							
1614	IWE6	*	1604	1612						
1616	IWE7	*	1614							
1625	IWF0	*	1519	1527	1531	1557	1567	1574	1595	
1634	IWINTW	*	1465	1468	1475	1485	1491	1536	1547	1569 1589
		*	1596	1600						
1635	IWLCHA	*	1489	1524						
1500	IWYECT	*	1493							

1525	LCW	1526	1530							
503	LHW	*								
1049	LSABN	*								
1050	LSABNB	*								
1051	LSABNZ	*								
1057	LSASC	*								
1058	LSASCB	*								
1059	LSASCZ	*								
1001	LSASY	*								
1002	LSASYB	*								
1003	LSASYZ	*								
1069	LSBSC	1566	1582							
1070	LSBSCB	1566	1582							
1071	LSBSCZ	1566	1582							
1013	LSCC1	*								
1014	LSCC1B	*								
1015	LSCC1Z	*								
1017	LSCC2	*								
1018	LSCC2B	*								
1019	LSCC2Z	*								
1061	LSCHN	*								
1062	LSCHNB	*								
1063	LSCHNZ	*								
1053	LSCRC	*								
1054	LSCRCB	*								
1055	LSCRCZ	*								
985	LSCTA	*								
986	LSCTAB	*								
987	LSCTAZ	*								
1483	LSD	1518	1529	1553	1556	1563	1565	1566	1573	1582
		1588	1599	1601	1617	1620				
1041	LSDSF	*								
1042	LSDSFB	*								
1043	LSDSFZ	*								
989	LSDST	1553	1556	1563	1565	1617	1620			
990	LSDSTB	*								
991	LSDSTZ	*								
1025	LSEPF	*								
1026	LSEPFB	*								
1027	LSEPFZ	*								
1009	LSLSP	*								
1010	LSLSPB	*								
1011	LSLSPZ	*								
993	LSMOD	1601								
994	LSMODB	1601								
995	LSMODZ	1601								
1073	LSNTO	*								
1074	LSNTOB	*								
1075	LSNTOZ	*								
997	LSPAR	*								
998	LSPARB	*								
999	LSPARZ	*								
1037	LSPLA	*								
1038	LSPLAB	*								
1039	LSPLAZ	*								
953	LSRCA	*								
954	LSRCAB	*								
955	LSRCAZ	*								
957	LSREM	*								
958	LSREMB	*								
959	LSREMZ	*								
1033	LSRRS	1518	1529	1573						
1034	LSRRSB	1518	1529	1573						
1035	LSRRSZ	1518	1529	1573						
949	LSRRT	*								
950	LSRRTB	*								
951	LSRRTZ	*								
961	LSRTO	*								
962	LSRTOB	*								
963	LSRTOZ	*								
965	LSRRS	*								
966	LSRRSB	*								
967	LSRRSZ	*								
981	LSRWS	*								
982	LSRWSB	*								
983	LSRWSZ	*								
1021	LSTER	*								
1022	LSTERB	*								
1023	LSTERZ	*								
945	LSTHD	*								
946	LSTHDB	*								
947	LSTHDZ	*								
969	LSWCA	*								
970	LSWCAB	*								
971	LSWCZ	*								
973	LSWEM	*								
974	LSWEMB	*								
975	LSWEMZ	*								
1029	LSWRS	1588	1599							
1030	LSWRSB	1588	1599							
1031	LSWRSZ	1588	1599							
977	LSWTD	*								
978	LSWTOB	*								
979	LSWTOZ	*								
1005	LSXMM	*								


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1291 PSCRC *
1292 PSCRCB *
1293 PSCRCZ *
1271 PSDEF *
1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
 672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMODB *
1233 PSMODZ *
 671 PSMSEC *
1235 PSPAR *
1236 PSPARB *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
 667 PSPROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYN CZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
 32 PUSH *
 228 PUTQ *
 532 RAO *
 533 RAI *
 651 RADNR *
 534 RBO 1540 1550 1570 1590 1594 1597 1606 1608 1610
      1612 1614
535 RB1 *
649 RFCB *
504 RHU *
645 ROPWD *
642 RSTPR *
650 RTIDB *
 96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169
510 SIX 147 171
 26 SPACE *
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT *
282 TBID *
277 TBISA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY *
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMIMG *
291 TBNUCL *
267 TBPL *
269 TBRSA *
270 TBR SB *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBR SX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *

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304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBS12 *
266 TBS1 1508 1510
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDCC *
1188 TCDCCB *
1189 TCDCCZ *
1195 TCDTD *
1196 TCDTDB *
1197 TCDTDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRND *
1156 TCRNDB *
1157 TCRNDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTO *
1180 TCSTOB *
1181 TCSTOZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *

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1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
514 TEN 139 163
205 TESTF *
507 THREE 153 177
1507 TIDB 1508 1510
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIODN *
1380 TIODNB *
1381 TIODNZ *
1387 TIODP *
1388 TIODPB *
1389 TIODPZ *
1383 TIOSC *
1384 TIOSCB *
1385 TIOSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPA B *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPA B *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPA B *
1219 TPWPAZ *
506 TWO 155 179
440 V$1MIN *
458 V$BFC *
366 V$BGLB *
363 V$BICI *
392 V$BTB *
400 V$BTBM *
457 V$BVN *
408 V$CAM *
420 V$CKB *
448 V$CKIT *
387 V$CKPT *
380 V$CPL *
367 V$CRDM *
410 V$CRDR *
421 V$CRM *
381 V$CRS *
426 V$CTAD *
379 V$CTL 1506
418 V$CTMS *
364 V$DATE *
0 V$DISP 1511 1512
422 V$DSTB *
435 V$ERFG *
416 V$FGLB *
385 V$FLRS *
417 V$FREE *
401 V$GFCB *
397 V$IM *
447 V$IOA *
449 V$JCB *
356 V$JCFG *
370 V$JCTM *
354 V$JNAM *
436 V$JOP *
407 V$KEY *
355 V$LCNT *
390 V$LER *
423 V$LIT *
395 V$LLUP *
396 V$LPP *
386 V$LRSK *
389 V$LSAL *
414 V$LUNT *

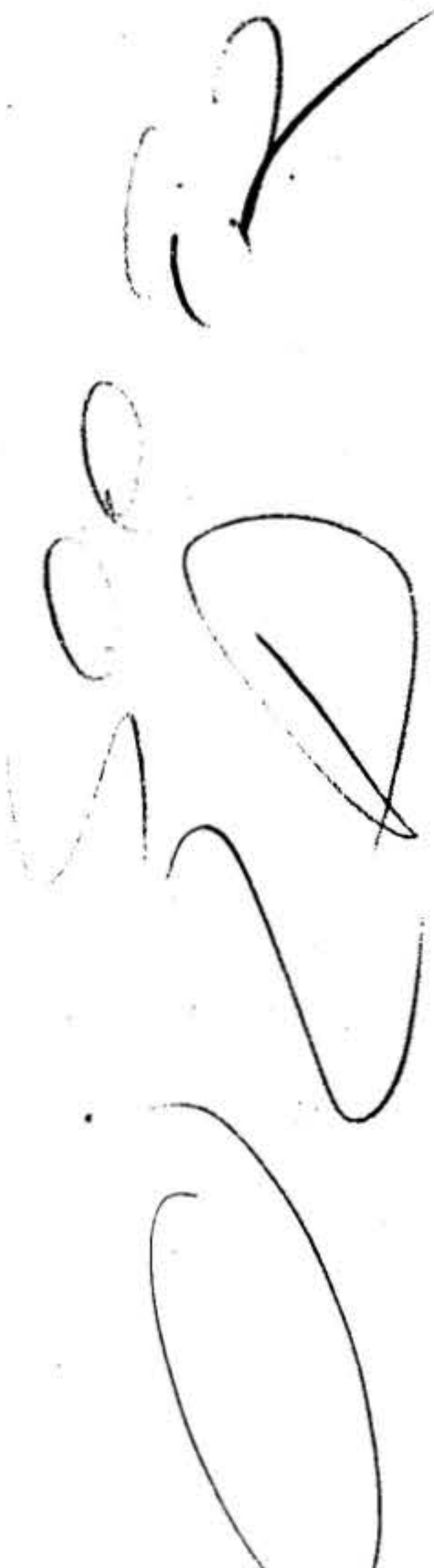
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394	V\$LUP	*				
437	V\$LUT1	*				
438	V\$LUT2	*				
439	V\$LUT3	*				
399	V\$MAP	*				
402	V\$MING	*				
398	V\$MPM	*				
428	V\$NCTR	*				
393	V\$NPAG	*				
452	V\$QCB	*				
415	V\$QPCF	*				
388	V\$QPCL	*				
424	V\$PGT	*				
429	V\$PIMN	*				
365	V\$PLCT	*				
384	V\$PTVB	*				
427	V\$SCTL	*				
419	V\$SCV	*				
434	V\$SLFG	*				
403	V\$ST0	*				
404	V\$ST1	*				
405	V\$ST2	*				
406	V\$ST3	*				
382	V\$TB	*				
411	V\$TBGT	*				
459	V\$TFC	*				
391	V\$TJCP	*				
413	V\$TMN	*				
412	V\$TMS	*				
383	V\$UTB	*				
1	VORTEX	*				
0	VTPUSH	*				
697	X	*	33	35		
469	ZERO	*	232	254	1479	1483 1507

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000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 04 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 04 00002
3 * 04 00003
4 * V.D.M. PART NO. 92L1105-041B 04 00004
5 * 04 00005
6 * RELEASED 3-1-74 04 00006
7 * 04 00007
8 * 04 00008
9 * C52LIP 04 00009
10 * 04 00010
11 * 04 00011
12 * TITLE C52LIP 04 00012
13 * NLIS 04 00013
1443 * LIST *****
1444 * 04 00014
1445 * EJEC 04 00015
1446 ***** 04 00016
1447 ***** 04 00017
1448 * PROGRAM NAME - 04 00018
1449 * C52LIP - 520X LINE INTERRUPT HANDLER 04 00019
1450 * 04 00020
1451 * ENTRY CONDITIONS - 04 00021
1452 * C52LIP IS ENTERED AS A CONSEQUENCE OF A 520X DCM LINE 04 00022
1453 * INTERRUPT. THE FIVE LINE INTERRUPTS ( INPUT BYTE COUNT= 04 00023
1454 * 0, OUTPUT BYTE COUNT = 0, LINE ERROR, CONTROL CHARACTER= 04 00024
1455 * AND STATUS CHANGE) ARE SERVICED BY THIS COMMON PROGRAM. 04 00025
1456 * INTERRUPTS ARE DISTINGUISHED BY MEANS OF UNIQUE 04 00026
1457 * INTERRUPT EVENT WORDS IN THE DIRECT CONNECT INTERRUPT 04 00027
1458 * HANDLERS AS FOLLOWS. 04 00028
1459 * INTERRUPT TYPE INTERRUPT EVENT WORD 04 00029
1460 * INPUT BYTE COUNT = 0 0 04 00030
1461 * OUTPUT BYTE COUNT = 0 1 04 00031
1462 * LINE ERROR 2 04 00032
1463 * CONTROL CHARACTER 3 04 00033
1464 * STATUS CHANGE 4 04 00034
1465 * 04 00035
1466 * VOLATILE REGISTERS AND OVERFLOW REFLECT THE INTERRUPTED 04 00036
1467 * PROGRAMS ENVIRONMENT TO BE RESTORED UPON RETURN 04 00037
1468 * 04 00038
1469 * EXIT CONDITIONS - 04 00039
1470 * UPON EXIT FROM C52LIP THE CONDITION CAUSING THE 04 00040
1471 * INTERRUPT IS RECORDED IN THE CIRCULAR INTERRUPT BUFFER 04 00041
1472 * AND ALL FUNCTIONS NECESSARY TO SERVICE THE HARDWARE ARE 04 00042
1473 * PERFORMED. VOLATILE REGISTERS AND OVERFLOW ARE RESTORED 04 00043
1474 * AND CONTROL IS RETURNED TO THE INTERRUPTED PROGRAM AT 04 00044
1475 * THE POINT WHERE THE INTERRUPT OCCURRED. INTERRUPTS ARE 04 00045
1476 * ENABLED. 04 00046
1477 * 04 00047
1478 ***** 04 00048
1479 ***** 04 00049
1480 * EJEC 04 00050
1481 * NAME C52LIP 04 00051
000000 000800 A 1482 * C52LIP ENTR ENTERED WITH ALL INTERRUPTS OFF AS A 04 00052
1483 * IFF VORTEX-2 V2 04 00053
1484 * GOTO 1 V2 04 00054
1485 * CONSEQUENCE OF A DCM INTERRUPT 04 00055
1486 * * DISABLE INTERRUPTS AND SAVE REGISTERS 04 00056
000001 054622 A 1487 * STA LISA SAVE A REGISTER 04 00057
000002 005001 A 1488 * TZA 04 00058
000003 005511 A 1489 * ADFA 04 00059
000004 054610 A 1490 * STA LISD SAVE OVERFLOW 04 00060
000005 064617 A 1491 * STB LISB SAVE B REGISTER 04 00061
000006 074617 A 1492 * STX LISX SAVE X REGISTER 04 00062
000007 006027 A 1493 * LDBE# C52LIP 04 00063
000010 100000 R
000334 A 1494 * 1 V$STO 04 00064
1495 * SET 0334 V2 04 00065
1496 * IFF VORTEX-1 V2 04 00066
1497 * GOTO 1 V2 04 00067
1498 * EXT V$VTAM D.1 04 00068
1499 * TAB EVENT WORD IS IN A V2 04 00069
1500 * 1 CONT V2 04 00070
000011 005001 A 1501 * TZA 04 00071
000012 054610 A 1502 * STA LIINTR 04 00072
000013 064573 A 1503 * STB LINTWD 04 00073
1504 * SAVE EVENT WORD TO BE USED TO BUILD 04 00074
000014 004143 A 1505 * LSRB 3 INTERRUPT WORD ENTRY FOR CIRCULAR BUFFER 04 00075
000015 005122 A 1506 * IBR (B) IS THE MUX NUMBER 04 00076
1507 * EXT CC$MET EQUIPMENT TABLE TO OBTAIN THE 04 00077
000016 006036 A 1508 * LDXE CC$MET,B CONTROLLER TABLE ADDRESS 04 00078
000017 000000 E
000001 A 1509 * CTB SET X 04 00079
000020 015006 A 1510 * LDA CTDVA,CTB 04 00080
000021 006120 A 1511 * ADDI 0102500 04 00081
000022 102500 A
000023 054565 A 1512 * STA LICIA CIA AND 04 00082
000024 120431 A 1513 * ADD BSB AND 04 00083
000025 054564 A 1514 * STA LIDAR 04 00084
1515 * 04 00085
1516 * INPUT STATUS WORD 04 00086
1517 * 04 00087
000026 003000 A 1518 * XEC LICIA 04 00088
000027 000611 R
000030 054557 A 1519 * STA LINTWD+1 04 00089
1520 * 04 00090

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Address	Op	Opnd	Comment	Hex	Dec
1521	*		CALCULATE LCH ADDRESS	04	00091
1522	*			04	00092
000031	A	150474	ANA BM77 LINE NUMBER	04	00093
000032	A	054565	STA LILND SAVE LINE NUMBER	04	00094
000033	A	125026	ADD DMBCA,CTB COMPUTE CHR ADDRESS AND	104	00095
000034	A	005012	TAB	04	00096
000035	A	026000	LDB 0,B	04	00097
000036	A	064560	STB LICHR	04	00098
000037	A	014560	LDA LILND LINE NUMBER	04	00099
000040	A	004203	ASLA 3 *8	04	00100
000041	A	125021	ADD DMLCA,CTB +LCH TABLE BASE ADDRESS	04	00101
000042	A	005014	TAX	04	00102
000043	A	054555	STA LILCH SAVE LCH ADDR. FOR LATER	04	00103
1534			IFF VORTEX-1	BCV204	00104
1535			GOTO 1	BCV204	00105
1536			LDAI 017	BCV204	00106
1537			ANA LCIKE,LCH	BCV204	00107
1538			STA LIKEY	BCV204	00108
1539			DRAI 040040	BCV204	00109
1540			STA LIMAPD	BCV204	00110
1541			LDA LIKEY	BCV204	00111
1542			DRAI 040400	BCV204	00112
1543			STA LIMAP3	BCV204	00113
1544			CONT	BCV204	00114
1545	*			04	00115
1546	*		TEST IF IN CHAIN MODE AND SET	04	00116
1547	*		LICHF ACCORDINGLY	04	00117
000001	A	1548	LCH SET X	04	00118
1549			TESTF LCH,LCCHN,LCCHNB,LCCHNZ	04	00119
000044	A	015007	STA LICHF	04	00120
000045	A	150437		04	00121
000046	A	054547	CHAIN FLAG FOR LIP USE	04	00122
1550				04	00123
1551	*		BRANCH TO APPROPRIATE INTERRUPT PROCESSING ROUTINE	04	00124
1552	*			04	00125
1553	*			04	00126
1554	*			04	00127
000047	A	014537	LIOA LDA LINTWD	04	00128
000050	A	150467	ANA BM7	04	00129
000051	A	005012	TAB	04	00130
000052	A	006026	LDBE LIVECT,B	04	00131
000053	R	000056		04	00132
000054	A	006706	IJMP 0,B	04	00133
000055	A	000000		04	00134
1556	*			04	00135
1557	*			04	00136
000056	R	000147	LIVECT EQU *	04	00137
000057	R	000063	DATA LIB0	04	00138
000060	R	000107	DATA LIA0	04	00139
000061	R	000250	DATA LICO	04	00140
000062	R	000372	DATA LIDO	04	00141
1568			DATA LIE0	04	00142
1569	*		EJEC	04	00143
1570	*		OUTPUT BYTE COUNT = 0 INTERRUPT	04	00144
1571	*			04	00145
000001	A	1572	LCH SET X	04	00146
1573	*		IGNORE IF IN BSC MODE	04	00147
1574	LIA0	TESTF	LCH,LCBSC,LCBSCB,LCBSCZ	04	00148
000063	A	015007		04	00149
000064	A	150436		04	00150
000065	A	001016	JANZ LIFO	04	00151
000066	R	000515		04	00152
1576	*			04	00153
1577	*		STORE INTERRUPT WORDS IN CIRCULAR BUFFER	04	00154
1578			EXT CC4CBS	04	00155
1579			JMPM CC4CBS	04	00156
000067	A	002000		04	00157
000070	E	000000		04	00158
000071	R	000607	DATA LINTWD	04	00159
000072	A	015000	LDA LCLOB,LCH	04	00160
000073	A	150451	ANA PLS	04	00161
000074	A	110407	DRA BS14	04	00162
000075	A	005000	LDB LCARY,LCH	04	00163
000076	A	000422	BI	04	00164
000077	R	000102	BI	04	00165
000100	A	006110	DRAI 010400	04	00166
000101	A	010400	SYNC LAB, SET 'T' AND 'ARMSD' BIT	04	00167
000102	A	025006	LIA1 LDB LCLOB,LCH	04	00168
000103	A	005006	STA LCLOB,LCH	04	00169
000104	A	005001	TEB	04	00170
000105	A	001000	JMP LIFO1	04	00171
000106	R	000517		04	00172
1581			EJEC	04	00173
000001	A	1582	LCH SET X	04	00174
1583	*			04	00175
1584	*		LINE ERROR INTERRUPT SERVICING	04	00176
1585	*			04	00177
1586	*		STORE INTERRUPT WORD IN CIRCULAR BUFFER	04	00178
000107	A	002000	LICO JMPM CC4CBS	04	00179
000110	E	000070		04	00180
000111	R	000607	DATA LINTWD	04	00181
1588			TESTF LCH,LCBSC,LCBSCB,LCBSCZ	BSC	04 00182
1589				04	00183
000112	A	015007		04	00184
000113	A	150436		04	00185
000114	A	001010	JAZ LICO1	BSC	04 00186
000115	R	000127	JMP IF NOT BSC MODE	BSC	04 00187

000116	015006	A	1601	CLEARF	LCW,LCCWR,LCCNRB,LCCWRZ	CLEAR R BIT	BSC	04	00171
000117	150452	A							
000120	055006	A							
000121	014465	A	1602	LDA	LINTWD		BSC	04	00172
000122	006150	A	1603	ANAI	0177770	SET INTERRUPT TO BYTE COUNT 0	BSC	04	00173
000123	177770	A							
000124	054462	A	1604	STA	LINTWD		BSC	04	00174
000125	001000	A	1605	JMP	LIE3		BSC	04	00175
000126	000446	R							
000127	015003	A	1606	LIC01	TESTF	LCW,LCABN,LCABNB,LCABNZ		04	00176
000130	150434	A							
000131	001016	A	1607	JANZ	LIC1	IF ABN. TERMINATION SELECTED IN LSD		04	00177
000132	000140	R							
			1608	*				04	00178
			1609	*		ABN. TERMINATION NOT SELECTED, CHECK AND SEE IF A BREAK		04	00179
			1610	*		HAS OCCURRED		04	00180
			1611	*				04	00181
000133	014454	A	1612	LDA	LINTWD+1	IF BREAK HAS OCCURRED 'AB' BITS AND INPUT		04	00182
000134	006150	A	1613	ANAI	0177700	DATA BYTES WILL BE ZERO		04	00183
000135	177700	A							
000136	001016	A	1614	JANZ	LIFO			04	00184
000137	000515	R							
			1615	*				04	00185
			1616	*		ABN. TERMINATION SELECTED OR LINE BREAK DETECTED		04	00186
			1617	*		OR		04	00187
			1618	*		CONTROL CHARACTER DETECTED AND NEW BYTE COUNT = 0		04	00188
			1619	*		(FROM LID0)		04	00189
			1620	*				04	00190
000140	014446	A	1621	LIC1	LDA	LINTWD	SET INTERRUPT WORD TO BYTE COUNT = 0	04	00191
000141	006150	A	1622	ANAI	0177770			04	00192
000142	177770	A							
000143	054443	A	1623	STA	LINTWD			04	00193
000144	002000	A	1624	JMPM	CC\$CBS			04	00194
000145	000110	E							
000146	000607	R	1625		DATA	LINTWD		04	00195
			1626	*				04	00196
			1627	*		INPUT BYTE COUNT=0		04	00197
			1628	*		CHECK IF IN CHAIN MODE		04	00198
			1629	*				04	00199
000147	014446	A	1630	LIB0	LDA	LICHF	BUFFER CHAIN MODE FLAG	04	00200
000150	001010	A	1631	JAZ	LIB0B	NOT BUFFER CHAINING		04	00201
000151	000223	R							
			1632	*		REMOVE ITEM FROM ACTIVE CHAIN AND ADD IT TO		04	00202
			1633	*		THE COMPLETED CHAIN		04	00203
000152	002000	A	1634	JMPM	LIG0			04	00204
000153	000453	R							
			1635	*				04	00205
			1636	*		SEE IF NO MORE BUFFERS AVAILABLE		04	00206
			1637	*				04	00207
000154	000001	A	1638	CHR	SET	X		04	00208
	034442	A	1639	LDX	LICHR	CHAIN HEADER ADDRESS		04	00209
			1640	IFF	VORTEX-2			BCV204	00210
			1641	OME	MAP,LIMAP3	SET STATE NN		BCV204	00211
000155	035000	A	1642	LDX	CHAFP,CHR	ACTIVE QUEUE POINTER		04	00212
			1643	IFF	VORTEX-2			BCV204	00213
			1644	OME	MAP,V\$ST0	SET STATE 00		04	00214
000156	001040	A	1645	JXZ	LIB0B	TREAT AS NOT IN CHAIN MODE		04	00215
000157	000223	R							
			1646	*				04	00216
			1647	*		RESET THE LCW FROM THE NEW IBH IN LINE. CONTINUATION		04	00217
			1648	*		OF INPUT INTO THE IBH'S POINTED BUFFER WILL FOLLOW		04	00218
			1649	*		WITHOUT USER INTERVENTION		04	00219
			1650	*				04	00220
000160	024440	A	1651	LDB	LILCW		BSC	04	00221
	000002	A	1652	SET	B		BSC	04	00222
	000001	A	1653	SET	X	X POINTS AT THE NEW ACTIVE IBH		04	00223
			1654	TESTF	LCW,LCLDB,LCLDBB,LCLDBZ	LAST DATA BLOCK FLAG	BC	04	00224
000161	016007	A							
000162	150435	A							
000163	001010	A	1655	JAZ	LIB04	NOT LAST BLOCK IN CHAIN - JUMP		04	00225
000164	000172	R							
			1656	CLEARF	LCW,LCLDB,LCLDBB,LCLDBZ	CLEAR LAST DATA BLK FLAG		04	00226
000165	016007	A							
000166	150455	A							
000167	056007	A							
000170	001000	A	1657	JMP	LIB0B	TO CLEAR RECEIVE BIT	BC	04	00227
000171	000223	R							
	000172	R	1658	LIB04	EQU	*		04	00228
			1659	IFF	VORTEX-2			BCV204	00229
			1660	OME	MAP,LIMAP3	SET STATE NN		BCV204	00230
000172	015001	A	1661	LDA	IBLEN,IBH	BUFFER LENGTH		04	00231
			1662	IFF	VORTEX-2			BCV204	00232
			1663	OME	MAP,V\$ST0	SET STATE 00		04	00233
000173	024425	A	1664	LDB	LILCW	LCW ADDRESS		04	00234
	000002	A	1665	SET	B			04	00235
000174	154417	A	1666	ANA	BM7777	ONLY 12 BITS ARE USED		04	00236
000175	006130	A	1667	LIB05	ERAI	ONES COMPLEMENT		04	00237
000176	107777	A							
000177	054422	A	1668	STA	LITEMP			04	00238
000200	016000	A	1669	LDA	LCIBL,LCW	FORMER LCW		04	00239
000201	154425	A	1670	ANA	BM7000	USE ONLY BITS 14-12		04	00240
000202	114417	A	1671	DRA	LITEMP	OR WITH CURRENT LENGTH 1'S COMPLEMENT		04	00241
000203	056000	A	1672	STA	LCIBL,LCW	STORE IN NEW LCW ENTRY		04	00242

Address	Label	Op	Comments	BCV	Address	Op	Address
1856	IFF	VORTEX-2		BCV204	00426		
000504 010460 A 1857	DME	MAP, V\$STO	SET STATE 00	04	00427		
000505 156001 A 1858	LDA	BR15		04	00428		
1859	ANA	LCIBA, LCH	CURRENT BUFFER ADDRESS	04	00429		
1860	IFF	VORTEX-2		BCV204	00430		
000506 115003 A 1861	DME	MAP, LIMAP9	SET STATE NN	BCV204	00431		
000507 055003 A 1862	DRA	IBLAS, IBH		04	00432		
1863	STA	IBLAS, IBH	FIRST FREE BYTE ADDRESS	04	00433		
1864	IFF	VORTEX-2		BCV204	00434		
000510 001000 A 1865	DME	MAP, V\$STO	SET STATE 00	04	00435		
000511 100453 R 1866	JMP#	LIGO		04	00436		
1867	* CHAIN MODE BUT NO INPUT BUFFER			04	00437		
000512 034106 A 1868	LIGOA LDX	LILCH	CONTINUE AS NO CHAINING	04	00438		
000513 001000 A 1869	JMP	LIOA		04	00439		
000514 000047 R 1870	EJEC			04	00440		
1871	EJEC			04	00441		
000001 A 1872	LCH	SET	X	04	00442		
1873	*		WRAP UP PROCESSING OF INTERRUPTS	04	00443		
1874	*			04	00444		
000515 034103 A 1875	LIFO LDX	LILCH		04	00445		
000516 015006 A 1876	LDA	LCLCB, LCH		04	00446		
000517 003000 A 1877	LIF01 XEC	LIDAR		04	00447		
000520 000612 R 1878	*	FIND OUT IF INTERMEDIATE BLOCK		04	00448		
000521 014101 A 1879	LIF1 LDA	LIINTR		04	00449		
000522 001016 A 1880	JANZ	LIHO	INTERMEDIATE BLOCK	04	00450		
000523 000531 R 1881	EXT	TIDIWP		04	00451		
000524 006020 A 1882	LDBI	TIDIWP		04	00452		
000525 000000 E 1883	TIDB	SET	B	04	00453		
000526 016001 A 1884	LDA	TBST, TIDB	CLEAR SUSPEND BIT IN C52IWP TIDB	04	00454		
000527 150457 A 1885	ANA	BR14		04	00455		
000530 056001 A 1886	STA	TBST, TIDB		04	00456		
000531 006017 A 1887	*	RETURN PROCEDURE		04	00457		
000532 000000 R 1888	LIHO LDAE	C52LIP	TO GO BACK	04	00458		
1889	IFF	VORTEX-2		V2	04	00459	
000533 140423 A 1890	GOTO	1		V2	04	00460	
000534 005014 A 1891	SUB	FOUR	TO THE	04	00461		
000535 015000 A 1892	TAX			04	00462		
000536 006057 A 1893	LDA	0, X		04	00463		
000537 000000 R 1894	STAE	C52LIP	INTERRUPT HANDLER	04	00464		
000540 010300 A 1895	LDA	V\$CTL		D.1	04	00465	
000541 001004 A 1896	EXT	V\$DISP	IF INTERRUPTED FROM DISPATCHER THAN	D.1	04	00466	
000542 000000 E 1897	JAN	V\$DISP	GO BACK TO DISP	D.1	04	00467	
000543 130473 A 1898	ERA	BM37	CHECK IF FROM CLOCK	D.1	04	00468	
000544 001016 A 1899	JANZ	LIH1	CONTINUE IF YES . ELSE JUMP	D.1	04	00469	
000545 000561 R 1900	LDA	LISO	RESTORE OVERFLOW	04	00470		
000546 014046 A 1901	SOF			04	00471		
000547 007401 A 1902	XAZ	LISOF		04	00472		
000550 003010 A 1903	LDA	LISA	RESTORE REGISTERS	04	00473		
000551 000606 R 1904	LDB	LISB		04	00474		
000552 014051 A 1905	LDX	LISX		04	00475		
000553 024051 A 1906	EINTS			04	00476		
000554 034051 A 1907	I	CONT		V2	04	00477	
000555 100244 A 1908	IFF	VORTEX-2		V2	04	00478	
000556 100147 A 1909	JMP	V\$VTAM	EXIT (V2 ONLY)	D.1	04	00479	
000557 001000 A 1910	JMP#	C52LIP		04	00480		
000560 100000 R 1911	IFF	VORTEX-2		04	00481		
1912	GOTO	1		04	00482		
000561 030300 A 1913	LIH1 LDX	V\$CTL	RESTORE REGISTERS AND OVERFLOW	D.1	04	00483	
000562 014041 A 1914	LDA	LISA	TO TASK'S TIDB AND GO TO	D.1	04	00484	
000563 055014 A 1915	STA	TBISA, X	THE DISPATCHER	D.1	04	00485	
000564 014040 A 1916	LDA	LISB		D.1	04	00486	
000565 055015 A 1917	STA	TBISB, X		D.1	04	00487	
000566 014037 A 1918	LDA	LISX		D.1	04	00488	
000567 055016 A 1919	STA	TBISX, X		D.1	04	00489	
000570 006017 A 1920	LDAE	C52LIP		D.1	04	00490	
000571 000000 R 1921	LDB	LISO		D.1	04	00491	
000572 024022 A 1922	JBZ	*+3		D.1	04	00492	
000574 000576 R 1923	DRA	BS15		D.1	04	00493	
000575 110440 A 1924	STA	TBISP, X		D.1	04	00494	
000576 055017 A 1925	LDA	V\$CRS		D.1	04	00495	
000577 010302 A 1926	STA	TBISRS, X		D.1	04	00496	
000600 055020 A 1927	LDA	TBST, X		D.1	04	00497	
000601 015001 A 1928	DRA	BS15	INTERRUPT SUSPENDED	D.1	04	00498	
000602 110440 A 1929	STA	TBST, X		D.1	04	00499	
000603 055001 A 1930	JMP	V\$DISP		D.1	04	00500	
000604 001000 A 1931	I	CONT		04	00501		
000606 007400 A 1932	LISDF	RDF	RESET OVERFLOW	04	00502		
1933	EJEC			04	00503		
1934	*		TEMPORARY STORAGE AND CONSTANTS	04	00504		


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000000 A LCIKEB 000004 A LCIKEZ 000007 A LCITYB 000013 A LCITBB
000001 A LCITBZ 000050 A LCJJP 000006 A LCLCBB 000000 A LCLCBBB
000002 A LCLCBZ 000007 A LCLDBB 000014 A LCLDBBZ 000001 A LCLDBBZ
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000017 A LCRCCB 000001 A LCRCCZ 000000 A LCSMB 000016 A LCSMBB
000001 A LCSMBZ 000001 A LCH 000462 A LHM 000047 R LIOA
000063 R LIA0 000102 R LIA1 000147 R LIA0 000172 R LIB04
000175 R LIB05 000223 R LIB0B 000613 R LIBL 000107 R LICO
000127 R LIC01 000140 R LIC1 000616 R LICHF 000617 R LICHR
000611 R LICIA 000250 R LID0 000326 R LID0A 000306 R LID0B
000360 R LID1 000364 R LID2 000372 R LID0 000413 R LIE1
000424 R LIE2 000446 R LIE3 000515 R LIFO 000517 R LIFO1
000521 R LIF1 000453 R LIGO 000512 R LIGO 000531 R LIHO
000561 R LIH1 000623 R LIINTR 000621 R LILCH 000620 R LILND
000607 R LINTWD 000612 R LIDAR 000624 R LISA 000625 R LISB
000615 R LISD 000606 R LISDF 000626 R LISX 000622 R LITEMP
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000013 A LSASYB 000001 A LSASYZ 000020 A LSBSC 000016 A LSBSCB
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000045 A MP 000045 A MPMR0 000145 A MPMR1 000245 A MPMR2
000345 A MPMR3 000420 A MT 000461 A NEG 000470 A NINE
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000000 A PCPCHB 000010 A PCPCHZ 000001 A PCSWL 000010 A PCSWLB
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000001 A PCXMM 000012 A PCXMMB 000002 A PCXMMZ 000040 A PIM1
000041 A PIM2 000042 A PIM3 000043 A PIM4 000040 A PIM5
000040 A PIM6 000040 A PIM7 000040 A PIM8 000200 A PDST
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000013 A PSASYB 000001 A PSASYZ 000002 A PSBADT 000000 A PSBEG
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000000 A PSYNTB 000010 A PSYNTZ 000040 A RAO 000000 A RA1
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000463 A RHW 000001 A ROPWD 000002 A RQBLK 000000 A RSTPR
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000403 A V$1MIN 000415 A V$BFC 000075 A V$BGLB 000056 A V$BIC1
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000353 A V$CKB 000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL
000076 A V$CRDM 000341 A V$CRDR 000354 A V$CRM 000302 A V$CRS
000360 A V$CTAD 000300 A V$CTL 000351 A V$CTMS 000070 A V$DATE
000605 E V$DISP 000355 A V$DSTB 000376 A V$ERFG 000347 A V$FGLB
000306 A V$FLRS 000350 A V$FREE 000332 A V$GFCB 000320 A V$IM
000410 A V$IDA 000412 A V$JCB 000055 A V$JCFG 000077 A V$JCTM
000050 A V$JNAM 000377 A V$JOP 000340 A V$KEY 000054 A V$LCNT
000313 A V$LER 000356 A V$LIT 000317 A V$LLUP 000317 A V$LPP
000307 A V$LRSK 000312 A V$LSAL 000345 A V$LUNT 000316 A V$LUP
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000333 A V$MING 000330 A V$MPM 000362 A V$NCTR 000316 A V$NPAG
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0 ERRORS ASSEMBLY COMPLETE

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1494 1 *
159 ADAT *
38 ANAM *
90 ANAN *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1508 1527
1558 1559 1652 1665 1689 1745 1847 1893
88 B& 82
83 B&0 40
80 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 *
553 B10 *
554 B11 *
555 B12 1796
556 B13 *
557 B14 *
558 B15 *
545 B2 *
546 B3 *
547 B4 *
548 B5 *
549 B6 *
550 B7 *
551 B8 1806
552 B9 *
630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63 1898
522 BM377 51
517 BM7 71 1556
1950 BM7000 1670
520 BM77 59 1523
523 BM777 47
1939 BM7777 1666 1772 1780

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486	BR0	202							
487	BR1	*							
496	BR10	*							
497	BR11	*							
498	BR12	*							
499	BR13	*							
500	BR14	1885							
501	BR15	1858							
488	BR2	*							
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493	BR7	*							
494	BR8	1582							
495	BR9	*							
470	BS0	195	209						
471	BS1	*							
480	BS10	*							
481	BS11	*							
482	BS12	*							
483	BS13	*							
484	BS14	1583							
485	BS15	1851	1923	1928					
472	BS2	*							
473	BS3	*							
474	BS4	*							
475	BS5	*							
476	BS6	*							
477	BS7	*							
478	BS8	1513							
479	BS9	*							
1482	C52LIP	12	1481	1493	1888	1894	1910	1920	
0	CC#CBS	1578	1579	1597	1624	1709	1728	1820	1825
0	CC#MET	1507	1508						
1397	CHAFP	1642	1739						
1398	CHAFPB	*							
1399	CHAFPZ	*							
1401	CHARP	*							
1402	CHARPB	*							
1403	CHARPZ	*							
1405	CHCFP	*							
1406	CHCFPB	*							
1407	CHCFPZ	*							
1409	CHCRP	*							
1410	CHCRPB	*							
1411	CHCRPZ	*							
1638	CHR	1642	1686	1739					
1413	CHRBL	1686							
1414	CHRBLB	*							
1415	CHRBLZ	*							
198	CLEARF	*							
567	CLOCK	569	570						
622	COTAD1	*							
707	CTACT	*							
708	CTACTB	*							
709	CTACTZ	*							
715	CTADN	*							
716	CTADNB	*							
717	CTADNZ	*							
1509	CTB	1510	1525	1531					
751	CTBIC	*							
752	CTBICB	*							
753	CTBICZ	*							
723	CTDST	*							
724	CTDSTB	*							
725	CTDSTZ	*							
739	CTDVA	1510							
740	CTDVAB	*							
741	CTDVAZ	*							
755	CTFCB	*							
756	CTFCBB	*							
757	CTFCBZ	*							
763	CTFRC	*							
764	CTFRCB	*							
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767	CTFRE	*							
768	CTFREB	*							
769	CTFREZ	*							
711	CTIDB	*							
712	CTIDBB	*							
713	CTIDBZ	*							
743	CTIDA	*							
744	CTIDAB	*							
745	CTIDAZ	*							
719	CTOPM	*							
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735	CTRCN	*							
736	CTRCNB	*							
737	CTRCNZ	*							
727	CTROB	*							
728	CTROBB	*							
729	CTROBZ	*							
731	CTRTR	*							

732	CTRTRB	*							
733	CTRTRZ	*							
747	CTSTA	*							
748	CTSTAB	*							
749	CTSTAZ	*							
759	CTWDS	*							
760	CTWDSB	*							
761	CTWDSZ	*							
688	DCBUFF	*							
691	DCCHR	*							
692	DCCHRB	*							
693	DCCHRZ	*							
689	DCCNT	*							
687	DCRECL	*							
187	DINTS	*							
569	DISCLK	*	189						
589	DISMP	*							
584	DISPIM	*	188						
813	DMBCA	*	1525						
814	DMBCAB	*							
815	DMBCAZ	*							
805	DMCWA	*							
806	DMCWAB	*							
807	DMCWAZ	*							
785	DMFPA	*							
786	DMFPAB	*							
787	DMFPAZ	*							
793	DMLCA	*	1531						
794	DMLCAB	*							
795	DMLCAZ	*							
797	DMLTA	*							
798	DMLTAB	*							
799	DMLTAZ	*							
801	DMPTA	*							
802	DMPTAB	*							
803	DMPTAZ	*							
781	DMRPA	*							
782	DMRPAB	*							
783	DMRPAB	*							
789	DMSTA	*							
790	DMSTAB	*							
791	DMSTAZ	*							
809	DMSWA	*							
810	DMSWAB	*							
811	DMSWAZ	*							
777	DMTPA	*							
778	DMTPAB	*							
779	DMTPAZ	*							
615	DSCTAD	*							
601	DSDASS	*							
600	DSDVDN	*							
612	DSLCKD	*							
609	DSNAME	*							
608	DSNDRQ	*							
613	DSOPCM	*							
614	DSPSTI	*							
610	DSREWD	*							
606	DSUNAM	*							
611	DSURTH	*							
512	EIGHT	*	143	167					
183	EINTG	*							
570	ENACLK	*	185						
590	ENAMP	*							
505	ENAPTM	*	184						
0	ERROR	*	113	193	200	207			
128	FETCHA	*							
509	FIVE	*	149	173					
508	FOUR	*	151	175	1891				
251	GETO	*							
1653	IBH	*	1661	1675	1756	1855	1862	1863	
1432	IBIBF	*							
1433	IBIBFB	*							
1434	IBIBFZ	*							
1436	IBLAS	*	1855	1862	1863				
1437	IBLACB	*							
1438	IBLACZ	*							
1424	IBLEN	*	1661	1756					
1425	IBLENB	*	1756						
1426	IBLENZ	*	1756						
1420	IBLNK	*							
1421	IBLNKB	*							
1422	IBLNKZ	*							
1428	IBSTA	*	1675						
1429	IBSTAB	*	1675						
1430	IBSTAZ	*	1675						
1440	IBSTS	*							
1441	IBSTOB	*							
1442	IBSTSZ	*							
378	LC	*	379	380	381	382	383	384	385
		*	388	389	390	391	392	393	394
		*	397	398	399	400	401	402	403
		*	406	407	408	410	411	412	413
		*	416	417	418	419	420	421	422
		*	426	427	428	429	434	435	436
		*	439	440	442	448	449	452	453
		*							386
		*							387
		*							395
		*							396
		*							404
		*							405
		*							414
		*							415
		*							424
		*							438
		*							458

1555	LIOA	1869							
1574	LIA0	1564							
1587	LIA1	1585							
1630	LIB0	1563							
1658	LIB04	1655							
1667	LIB05	1763							
1706	LIB0B	1631	1645	1657	1786				
1938	LIBL	1753	1759	1762	1769	1774	1779		
1597	LICO	1565							
1606	LIC01	1600							
1621	LIC1	1607							
1941	LICHF	1550	1630	1732	1818	1835			
1942	LICHR	1528	1639	1682	1736	1836			
1936	LICIA	1512	1518						
1725	LIDO	1566							
1765	LID0A	1733							
1750	LID0B	1747							
1779	LID1	1742	1752	1760	1771				
1782	LID2	1749							
1792	LIE0	1567							
1805	LIE1	1793							
1812	LIE2	1796							
1825	LIE3	1605	1799	1804	1806	1810	1819		
1875	LIF0	1575	1614	1699	1708	1717	1719	1727	1731
		1775	1777	1781	1823	1827			1767
1877	LIF01	1590							
1879	LIF1	*							
1833	LIG0	1634	1734	1822	1866				
1868	LIG0A	1840							
1888	LIH0	1880							
1913	LIH1	1899							
1946	LIINTR	1502	1696	1879					
1955	LIKEY	1538	1541						
1944	LILCW	1533	1651	1664	1706	1711	1744	1765	1850
		1875							1868
1943	LILND	1524	1529						
1953	LIMAP0	1540							
1954	LIMAP3	1543	1641	1660	1674	1685	1738	1755	1838
		1861							1854
1935	LINTWD	1503	1519	1555	1580	1598	1602	1604	1612
		1623	1625	1710	1729	1783	1785	1795	1805
		1817	1821	1826					1815
1937	LIDAR	1514	1877						
1947	LISA	1487	1903	1914					
1948	LISB	1491	1904	1916					
1940	LISD	1490	1900	1921					
1932	LISDF	1902							
1949	LISX	1492	1905	1918					
1945	LITEMP	1668	1671						
1562	LIVECT	1558							
1049	LSABN	*							
1050	LSABNB	*							
1051	LSABNZ	*							
1057	LSASC	*							
1058	LSASCB	*							
1059	LSASCZ	*							
1001	LSASY	*							
1002	LSASYB	*							
1003	LSASYZ	*							
1069	LSBSC	*							
1070	LSBSCB	*							
1071	LSBSCZ	*							
1013	LSCC1	*							
1014	LSCC1B	*							
1015	LSCC1Z	*							
1017	LSCC2	*							
1018	LSCC2B	*							
1019	LSCC2Z	*							
1061	LSCHN	*							
1062	LSCHNR	*							
1063	LSCHNZ	*							
1053	LSCRC	*							
1054	LSCRCB	*							
1055	LSCRCZ	*							
985	LSCTA	*							
986	LSCTAB	*							
987	LSCTAZ	*							
1041	LSDSF	*							
1042	LSDSFB	*							
1043	LSDSFZ	*							
989	LSBST	*							
990	LSBSTB	*							
991	LSBSTZ	*							
1025	LSEPF	*							
1026	LSEPFB	*							
1027	LSEPFZ	*							
1009	LSLSP	*							
1010	LSLSPB	*							
1011	LSLSPZ	*							
993	LSMOD	*							
994	LSMODB	*							
995	LSMODZ	*							
1073	LSNTD	*							
1074	LSNTDB	*							
1075	LSNTDZ	*							


```

1321 PCECH *
1322 PCECHB *
1323 PCECHZ *
1313 PCLLN *
1314 PCLLNB *
1315 PCLLNZ *
1349 PCNTD *
1350 PCNTDB *
1351 PCNTDZ *
1337 PCPCH *
1338 PCPCHB *
1339 PCPCHZ *
1333 PCSWL *
1334 PCSWLB *
1335 PCSWLZ *
1345 PCTYP *
1346 PCTYPB *
1347 PCTYPZ *
1325 PCXMM *
1326 PCXMMB *
1327 PCXMMZ *
575 PIM1 *
576 PIM2 *
577 PIM3 *
578 PIM4 *
579 PIM5 *
580 PIM6 *
581 PIM7 *
582 PIM8 *
699 POST *
1287 PSABN *
1288 PSABNB *
1289 PSABNZ *
1239 PSASY *
1240 PSASYB *
1241 PSASYZ *
670 PSBADT *
666 PSBEG *
1299 PSBSC *
1300 PSBSCB *
1301 PSBSCZ *
1251 PSCC1 *
1252 PSCC1B *
1253 PSCC1Z *
1255 PSCC2 *
1256 PSCC2B *
1257 PSCC2Z *
1291 PSCRC *
1292 PSCRCB *
1293 PSCRCZ *
1271 PSDEF *
1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMODB *
1233 PSMODZ *
671 PSHSEC *
1235 PSPAR *
1236 PSPARB *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
667 PSPROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYNCZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
32 PUSH *
228 PUTQ *
532 RAO 1796 1806

```

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533 RA1 *
651 RADNR *
534 RBO 1585
535 RB1 *
649 RFCB *
504 RHW *
645 ROPWD *
1689 RQBLK 1690
642 RSTPR *
650 RTIDB 1690
96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169
510 SIX 147 171
26 SPACE *
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT 1693
282 TBID *
277 TBISA 1915
278 TBISB 1917
280 TBISP 1924
281 TBISRS 1926
294 TBIST *
279 TBISX 1919
292 TBKEY *
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMIMG *
291 TBNUCL *
267 TBPL *
269 TBRSA *
270 TBRSE *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBRSX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBSIZ *
266 TBST 1884 1886 1927 1929
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCDN *
1128 TCCDNB *
1129 TCCDNZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDCC *
1188 TCDCCB *
1189 TCDCCZ *
1195 TCDTD *
1196 TCDTDB *
1197 TCDTDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *

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1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXNM *
1120 TCXMMB *
1121 TCXMMZ *
514 TEN 139 163
205 TESTF *
507 THREE 153 177
1692 TIDB 1693 1884 1886
0 TIDIWP 1881 1882
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIQDN *
1380 TIQDNB *
1381 TIQDNZ *
1387 TIQDP *
1388 TIQDPB *
1389 TIQDPZ *
1383 TIQSC *
1394 TIQSCB *
1385 TIQSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPA B *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPA B *

```



```

1      EJECT                                01 00001
2      * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 01 00002
3      *                                     01 00003
4      * V.D.M. PART NO.          92L1105-042A 01 00004
5      *                                     01 00005
6      *                                     01 00006
7      *                                     01 00007
8      *                                     01 00008
9      *                                     01 00009
10     *                                     01 00010
11     *                                     01 00011
12     *                                     01 00012
13     *                                     01 00013
1443  *                                     *****
1444  *                                     01 00014
1445  * EJECT                                01 00015
1446  * *****                                01 00016
1447  * *****                                01 00017
1448  * PROGRAM NAME -                        **01 00018
1449  * C52RCR - READ CONTROL SEQUENCE      **01 00019
1450  * **                                     **01 00020
1451  * ENTRY CONDITIONS -                   **01 00021
1452  * (B) ADDRESS OF CONTROL WORD ADDRESS **01 00022
1453  * (X) LSD ADDRESS                      **01 00023
1454  * INTERRUPTS ENABLED                  **01 00024
1455  * **                                     **01 00025
1456  * CALLING SEQUENCE -                   **01 00026
1457  * JSR C52RCR,B                         **01 00027
1458  * DATA CWA CONTROL WORD ADDRESS      **01 00028
1459  * DATA SWA STATUS WORD ADDRESS       **01 00029
1460  * (RETURN)                             **01 00030
1461  * **                                     **01 00031
1462  * EXIT CONDITIONS -                    **01 00032
1463  * (A) DESTROYED                        **01 00033
1464  * (B) DESTROYED                        **01 00034
1465  * (X) UNCHANGED                        **01 00035
1466  * INTERRUPTS ENABLED                  **01 00036
1467  * **                                     **01 00037
1468  * *****                                01 00038
1469  * *****                                01 00039
1470  * EJECT                                01 00040
1471  * NAME C52RCR                          01 00041
1472  * C52RCR DINTS                          01 00042

000000 100444 A
000001 100747 A
000002 064054 A 1473 STB RCRTN SAVE (B) REGISTER IN RETURN 01 00043
000003 000001 A 1474 LSD SET X 01 00044
000004 025012 A 1475 LDB LSCTA,LSD 01 00045
000005 000002 A 1476 DMT SET B 01 00046
000006 016024 A 1477 LDA DMCWA,DMT 01 00047
000007 001010 A 1478 JAZ RC01 CHECK FOR CONTROL BUSY 01 00048
000008 000016 R
000009 024047 A 1479 LDB RCRTN CONTROL BUSY, RESTORE (B) 01 00049
000010 100244 A 1480 EINTS ENABLE INTERRUPTS 01 00050
000011 100147 A
000012 005000 A 1481 NOP 01 00051
000013 005000 A 1482 NOP INTERRUPT SYSTEM ENABLED FOR THIS COMMAND 01 00052
000014 001000 A 1483 JMP C52RCR LOOP UNTIL CONTROL NOT BUSY 01 00053
000015 000000 R
1484 * CONTROL NOT BUSY 01 00054
1485 *
000016 006017 A 1486 RC01 LDAE* RCRTN 01 00055
000017 100057 R
000018 056024 A 1487 STA DMCWA,DMT 01 00057
000019 044035 A 1488 INR RCRTN 01 00058
000020 006017 A 1489 LDAE* RCRTN 01 00059
000021 100057 R
000022 056025 A 1490 STA DMSWA,DMT 01 00060
000023 044031 A 1491 INR RCRTN RCRTN NOW POINTS TO RETURN 01 00061
000024 100057 R
000025 044031 A 1492 * 01 00062
1493 * BUILD ID INSTRUCTION 01 00063
1494 *
000026 000002 A 1495 CTB SET B 01 00064
000027 016006 A 1496 LDA CTDVA,CTB 01 00065
000028 006120 A 1497 ADDI 0100600 EXC 06XX 01 00066
000029 100600 A
000030 054024 A 1498 STA RCEX 01 00068
000031 100600 A 1499 * 01 00069
1500 * EXECUTE EXTERNAL CONTROL INSTRUCTION 01 00070
1501 *
000032 003000 A 1502 XEC RCEX 01 00071
000033 000056 R
000034 025012 A 1503 RC02 LDB LSCTA,LSD WAIT FOR CONTROL NOT BUSY 01 00073
000035 016024 A 1504 LDA DMCWA,DMT 01 00074
000036 001010 A 1505 JAZ RC03 01 00075
000037 000052 R
000038 024016 A 1506 LDB RCRTN 01 00076
000039 100244 A 1507 EINTS 01 00077
000040 100147 A
000041 005000 A 1508 NOP 01 00078
000042 005000 A 1509 NOP 01 00079
000043 100444 A 1510 DINTS 01 00080
000044 100444 A
000045 100444 A

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Handwritten note:
 CONTROL NOT BUSY
 CONTROL NOT BUSY

```

000046 100747 A
000047 064007 A 1511 STB RCRTN
000050 001000 A 1512 JMP RC02
000051 000034 R
1513 RC03 EINTS
000052 100244 A
000053 100147 A
000054 001000 A 1514 JMP RCRTN
000055 100057 R
1515 *
1516 * TEMPORARY STORAGE
1517 *
000056 000000 A 1518 RCEX DATA 0 EXC INSTRUCTION STORAGE
000057 000000 A 1519 RCRTM DATA 0 RETURN ADDRESS
1520 END

```

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

```

000044 A APIM 000002 A B 000000 A B0 000001 A B1
000012 A B10 000013 A B11 000014 A B12 000015 A B13
000016 A B14 000017 A B15 000002 A B2 000003 A B3
000004 A B4 000005 A B5 000006 A B6 000007 A B7
000010 A B8 000011 A B9 000000 A BICNUM 000421 A BM1
000472 A BM17 000475 A BM177 000477 A BM1777 000464 A BM3
000473 A BM37 000463 A BM377 000467 A BM7 000474 A BM77
000476 A BM777 000441 A BR0 000442 A BR1 000453 A BR10
000454 A BR11 000455 A BR12 000456 A BR13 000457 A BR14
000460 A BR15 000443 A BR2 000444 A BR3 000445 A BR4
000446 A BR5 000447 A BR6 000450 A BR7 000451 A BR8
000452 A BR9 000421 A BS0 000422 A BS1 000433 A BS10
000434 A BS11 000435 A BS12 000436 A BS13 000437 A BS14
000440 A BS15 000423 A BS2 000424 A BS3 000425 A BS4
000426 A BS5 000427 A BS6 000430 A BS7 000431 A BS8
000432 A BS9 000000 R C52RCR 000000 A CHAFP 000000 A CHAFPB
000020 A CHAFPZ 000001 A CHARP 000000 A CHARPB 000020 A CHARPZ
000002 A CHCFP 000000 A CHCFPB 000020 A CHCFPZ 000003 A CHCRP
000000 A CHCRPB 000020 A CHCRPZ 000004 A CHRBL 000000 A CHRBLB
000020 A CHRBLZ 000047 A CLOCK 000000 A COTAD1 000000 A CTA
000017 A CTACTB 000001 A CTACTZ 000001 A CTADN 000000 A CTADNB
000020 A CTADNZ 000002 A CTB 000011 A CTBIC 000000 A CTBICB
000020 A CTBICZ 000003 A CTDST 000000 A CTDSTB 000020 A CTDSTZ
000006 A CTDVA 000000 A CTDVAB 000020 A CTDVAZ 000012 A CTF
000000 A CTFCBB 000020 A CTFCBZ 000014 A CTFRC 000010 A CTFRCB
000010 A CTFRCZ 000014 A CTFRE 000000 A CTFREB 000010 A CTFREZ
000000 A CTIDB 000000 A CTIDBB 000017 A CTIDBZ 000007 A CTID
000000 A CTIDAB 000020 A CTIDAZ 000002 A CTOPM 000000 A CTOPMB
000020 A CTOPMZ 000005 A CTRCN 000000 A CTRCNB 000010 A CTRCNZ
000004 A CTRQB 000000 A CTRQBB 000020 A CTRQBZ 000005 A CTRTR
000010 A CTRTRB 000010 A CTRTRZ 000010 A CTSTA 000000 A CTSTAB
000020 A CTSTAZ 000013 A CTWDS 000000 A CTWDSB 000020 A CTWDSZ
000001 A DCBUFF 000003 A DCCHR 000000 A DCCHRB 000020 A DCCHRZ
000002 A DCCNT 000000 A DCRECL 000747 A DISCLK 000745 A DISMP
000444 A DISPIM 000026 A DMBCA 000000 A DMBCAB 000020 A DMBCAZ
000024 A DMCWA 000000 A DMCWAB 000020 A DMCWAZ 000017 A DMFPA
000000 A DMFPAB 000020 A DMFPAZ 000021 A DMLCA 000000 A DMLCAB
000020 A DMLCAZ 000022 A DMLTA 000000 A DMLTAB 000020 A DMLTAZ
000023 A DMPTA 000000 A DMPTAB 000020 A DMPTAZ 000016 A DMRPA
000000 A DMRPAB 000020 A DMRPAZ 000020 A DMSTA 000000 A DMSTAB
000020 A DMSTAZ 000025 A DMSWA 000000 A DMSWAB 000020 A DMSWAZ
000002 A DMT 000015 A DMTPA 000000 A DMTPAB 000020 A DMTPAZ
000002 A DSCTAD 000000 A DSDASS 000000 A DSDVDN 000002 A DSLCKD
000001 A DSNAME 000000 A DSNDRQ 000002 A DSOPCM 000002 A DSPSTI
000002 A DSREWD 000000 A DSUNAM 000002 A DSUNTN 000424 A EIGHT
000147 A ENACLK 000645 A ENAMP 000244 A ENAPIM 000465 A FIVE
000423 A FOUR 000003 A IBIBF 000017 A IBIBFB 000001 A IBIBFZ
000003 A IBLAS 000000 A IBLASB 000017 A IBLASZ 000001 A IBLEN
000000 A IBLENB 000020 A IBLENZ 000000 A IBLNK 000000 A IBLNKB
000020 A IBLNKZ 000002 A IBSTA 000000 A IBSTAB 000020 A IBSTAZ
000004 A IBSTS 000000 A IBSTSB 000017 A IBSTSZ 000300 A LC
000003 A LCABN 000013 A LCABNB 000001 A LCABNZ 000003 A LCASY
000012 A LCASYB 000001 A LCASYZ 000007 A LCBSC 000015 A LCBSCB
000001 A LCBSCZ 000007 A LCCHN 000016 A LCCHNB 000001 A LCCHNZ
000003 A LCCRC 000014 A LCCRCB 000003 A LCCRCZ 000006 A LCCWB
000014 A LCCWBB 000001 A LCCWBZ 000006 A LCCWC 000015 A LCCWCB
000001 A LCCWCZ 000006 A LCCWD 000013 A LCCWDB 000001 A LCCWDBZ
000006 A LCCWI 000016 A LCCWIB 000001 A LCCWIZ 000006 A LCCWP
000012 A LCCWPB 000001 A LCCWPZ 000006 A LCCWR 000011 A LCCWRB
000001 A LCCWRZ 000006 A LCCWS 000017 A LCCWSB 000001 A LCCWSZ
000006 A LCCWT 000010 A LCCWTB 000001 A LCCWTZ 000001 A LCIBA
000000 A LCIBAB 000017 A LCIBAZ 000000 A LCIBF 000017 A LCIBFB
000001 A LCIBFZ 000000 A LCIBL 000000 A LCIBLB 000014 A LCIBLZ
000002 A LCIC1 000010 A LCIC1B 000010 A LCIC1Z 000002 A LCIC2
000000 A LCIC2B 000010 A LCIC2Z 000003 A LCIKE 000000 A LCIKEB
000004 A LCIKEZ 000007 A LCITB 000013 A LCITBB 000001 A LCITBZ
000050 A LCJP 000006 A LCLCB 000000 A LCLCBB 000020 A LCLCBZ
000007 A LCLDB 000014 A LCLDBB 000001 A LCLDBZ 000007 A LCLTB
000017 A LCLTBB 000001 A LCLTBZ 000005 A LCOBA 000000 A LCOBAB
000017 A LCOBAZ 000004 A LCOBF 000017 A LCOBFB 000001 A LCOBFZ
000004 A LCOBL 000000 A LCOBLB 000014 A LCOBLZ 000007 A LCOKE
000000 A LCOKEB 000004 A LCOKEZ 000003 A LCRCC 000017 A LCRCCB
000001 A LCRCCZ 000000 A LCSMB 000016 A LCSMBB 000001 A LCSMBZ
000462 A LHW 000017 A LSABN 000015 A LSABNB 000001 A LSABNZ
000017 A LSASC 000011 A LSASCB 000001 A LSASCZ 000014 A LSASY
000013 A LSASYB 000001 A LSASYZ 000020 A LSBSC 000016 A LSBSCB

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000000 A TITU1B 000020 A TITU1Z 000001 A TITU2 000000 A TITURB
000020 A TITU2Z 000017 A TPFPA 000000 A TPFPAZ 000020 A TPFPAZ
000015 A TPRPA 000000 A TPRPAB 000020 A TPRPAZ 000016 A TPWPA
000000 A TPWPAB 000020 A TPWPAZ 000422 A THD 000403 A V$1MIN
000415 A V$BFC 000075 A V$BGLB 000056 A V$BIC1 000315 A V$BTB
000331 A V$BTBM 000414 A V$BVN 000334 A V$CAM 000353 A V$CKB
000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL 000076 A V$CRDM
000341 A V$CRDR 000354 A V$CRM 000302 A V$CRS 000360 A V$CTAD
000300 A V$CTL 000351 A V$CTMS 000070 A V$DATE 000355 A V$DSTB
000376 A V$ERFG 000347 A V$FGLB 000306 A V$FLRS 000350 A V$FREE
000332 A V$GFCB 000320 A V$IM 000410 A V$IDA 000412 A V$JCB
000055 A V$JCFG 000077 A V$JCTM 000050 A V$JNAM 000377 A V$JDP
000340 A V$KEY 000054 A V$LCNT 000313 A V$LER 000356 A V$LIT
000317 A V$LLUP 000317 A V$LPP 000307 A V$LRSK 000312 A V$LSAL
000345 A V$LUNT 000316 A V$LUP 000400 A V$LUT1 000401 A V$LUT2
000402 A V$LUT3 000330 A V$MAP 000333 A V$MING 000330 A V$MPM
000362 A V$NCTR 000316 A V$NPAG 000413 A V$OCB 000346 A V$OPCF
000311 A V$OPCL 000357 A V$PGT 000363 A V$PIMN 000074 A V$PLCT
000305 A V$PTVB 000361 A V$SCTL 000352 A V$SCV 000375 A V$SLFG
000334 A V$ST0 000335 A V$ST1 000336 A V$ST2 000337 A V$ST3
000303 A V$TB 000342 A V$TBGT 000416 A V$TFC 000314 A V$TJCP
000344 A V$TMN 000343 A V$TMS 000304 A V$UTB 000001 A X
000420 A ZERO
0 ERRORS ASSEMBLY COMPLETE
    
```

```

159 ADAT *
38 ANAM *
90 ANAN *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1476 1495
88 B& 82
83 B&0 40
80 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 *
553 B10 *
554 B11 *
555 B12 *
556 B13 *
557 B14 *
558 B15 *
545 B2 *
546 B3 *
547 B4 *
548 B5 *
549 B6 *
550 B7 *
551 B8 *
552 B9 *
630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
522 BM377 51
517 BM7 71
520 BM77 59
523 BM777 47
486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 *
501 BR15 *
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *
495 BR9 *
470 BS0 195 209
471 BS1 *
480 BS10 *
481 BS11 *
482 BS12 *
483 BS13 *
484 BS14 *
485 BS15 *
472 BS2 *
    
```

473	BS3	*			
474	BS4	*			
475	BS5	*			
476	BS6	*			
477	BS7	*			
478	BS8	*			
479	BS9	*			
1472	C52RCR	*	12	1471	1483
1397	CHAFF	*			
1398	CHAFFB	*			
1399	CHAFFZ	*			
1401	CHARP	*			
1402	CHARPB	*			
1403	CHARPZ	*			
1405	CHCFP	*			
1406	CHCFPB	*			
1407	CHCFPZ	*			
1409	CHCRP	*			
1410	CHCRPB	*			
1411	CHCRPZ	*			
1413	CHRBL	*			
1414	CHRBLB	*			
1415	CHRBLZ	*			
198	CLEARF	*			
567	CLOCK	*	569	570	
622	CDTAD1	*			
707	CTACT	*			
708	CTACTB	*			
709	CTACTZ	*			
715	CTADN	*			
716	CTADNB	*			
717	CTADNZ	*			
1495	CTB	*	1496		
751	CTBIC	*			
752	CTBICB	*			
753	CTBICZ	*			
723	CTDST	*			
724	CTDSTB	*			
725	CTDSTZ	*			
739	CTDVA	*	1496		
740	CTDVAB	*			
741	CTDVAZ	*			
755	CTFCB	*			
756	CTFCBB	*			
757	CTFCBZ	*			
763	CTFRC	*			
764	CTFRCB	*			
765	CTFRCZ	*			
767	CTFRE	*			
768	CTFREB	*			
769	CTFREZ	*			
711	CTIDB	*			
712	CTIDBB	*			
713	CTIDBZ	*			
743	CTIDA	*			
744	CTIDAB	*			
745	CTIDAZ	*			
719	CTOPM	*			
720	CTOPMB	*			
721	CTOPMZ	*			
735	CTRCN	*			
736	CTRCNB	*			
737	CTRCNZ	*			
727	CTROB	*			
728	CTROBB	*			
729	CTROBZ	*			
731	CTRTP	*			
732	CTRTPB	*			
733	CTRTPZ	*			
747	CTSTA	*			
748	CTSTAB	*			
749	CTSTAZ	*			
759	CTWDS	*			
760	CTWDSB	*			
761	CTWDSZ	*			
688	DCBUFF	*			
691	DCCHR	*			
692	DCCHRB	*			
693	DCCHRZ	*			
689	DCCNT	*			
687	DCRECL	*			
187	DINTS	*			
569	DISCLK	*	189		
589	DISHP	*			
584	DISPTM	*	188		
813	DMECA	*			
814	DMECAB	*			
815	DMECAZ	*			
805	DMCWA	*	1477	1487	1504
806	DMCWAB	*			
807	DMCWAZ	*			
785	DMFPA	*			
786	DMFPAB	*			
787	DMFPAC	*			
793	DNLCR	*			

```

794 DMLCAB *
795 DMLCAZ *
797 DMLTA *
798 DMLTAB *
799 DMLTAZ *
801 DMPTA *
802 DMPTAB *
803 DMPTAZ *
781 DMRPA *
782 DMRPAB *
783 DMRPAZ *
789 DMSTA *
790 DMSTAB *
791 DMSTAZ *
809 DMSWA 1490
810 DMSWAB *
811 DMSWAZ *
1476 DMT 1477 1487 1490 1504
777 DMTPA *
778 DMTPAB *
779 DMTPAZ *
615 DSCTAD *
601 DSDIASS *
600 DSDVDN *
612 DSLCKO *
609 DSNAME *
608 DSNDRQ *
613 DSOPCM *
614 DSPSTI *
610 DSREWD *
606 DSUNAM *
611 DSUNTN *
512 EIGHT 143 167
183 EINTS *
570 ENACLK 185
590 ENAMP *
585 ENAPIM 184
0 ERROR 113 193 200 207
128 FETCHA *
509 FIVE 149 173
508 FOUR 151 175
251 GETQ *
1432 IBIBF *
1433 IBIBFB *
1434 IBIBFZ *
1436 IBLAS *
1437 IBLASB *
1438 IBLASZ *
1424 IBLEN *
1425 IBLENB *
1426 IBLENZ *
1420 IBLNK *
1421 IBLNKB *
1422 IBLNKZ *
1428 IBSTA *
1429 IBSTAB *
1430 IBSTAZ *
1440 IBSTS *
1441 IBSTSB *
1442 IBSTSZ *
378 LC 379 380 381 382 383 384 385 386 387
388 389 390 391 392 393 394 395 396
397 398 399 400 401 402 403 404 405
406 407 408 410 411 412 413 414 415
416 417 418 419 420 421 422 423 424
426 427 428 429 434 435 436 437 438
439 440 447 448 449 452 457 458 459

855 LCABN *
856 LCABNB *
857 LCABNZ *
859 LCASY *
860 LCASYB *
861 LCASYZ *
923 LCBSC *
924 LCBSCB *
925 LCBSCZ *
919 LCCHN *
920 LCCHNB *
921 LCCHNZ *
851 LCCRC *
852 LCCRCB *
853 LCCRCZ *
895 LCCWB *
896 LCCWBB *
897 LCCWBZ *
891 LCCWC *
892 LCCWCB *
893 LCCWCZ *
899 LCCWD *
900 LCCWDB *
901 LCCWDZ *
887 LCCWI *
888 LCCWIB *
889 LCCWIZ *
903 LCCWP *

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904 LCCWPB *
905 LCCWPZ *
907 LCCWR *
908 LCCWRB *
909 LCCWRZ *
883 LCCWS *
884 LCCWSB *
885 LCCWSZ *
911 LCCWT *
912 LCCWTB *
913 LCCWTZ *
835 LCIBA *
836 LCIBAB *
837 LCIBAZ *
823 LCIBF *
824 LCIBFB *
825 LCIBFZ *
831 LCIBL *
832 LCIBLB *
833 LCIBLZ *
839 LCIC1 *
840 LCIC1B *
841 LCIC1Z *
843 LCIC2 *
844 LCIC2B *
845 LCIC2Z *
863 LCIKE *
864 LCIKEB *
865 LCIKEZ *
931 LCITB *
932 LCITBB *
933 LCITBZ *
353 LCJP 354 355 356 363 364 365 366 367 370
879 LCLCB *
880 LCLCBB *
881 LCLCBZ *
927 LCLDB *
928 LCLDBB *
929 LCLDBZ *
915 LCLTB *
916 LCLTBB *
917 LCLTBZ *
875 LCOBA *
876 LCOBAB *
877 LCOBAZ *
867 LCOBF *
868 LCOBFB *
869 LCOBFZ *
871 LCOBL *
872 LCOBLB *
873 LCOBLZ *
935 LCOKE *
936 LCOKEB *
937 LCOKEZ *
847 LCRCC *
848 LCRCCB *
849 LCRCCZ *
827 LCSMB *
828 LCSMBB *
829 LCSMBZ *
503 LHW *
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSBSC *
1070 LSBSCB *
1071 LSBSCZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA 1475 1503
986 LSCTAB *
987 LSCTAZ *
1474 LSD 1475 1503
1041 LSDSF *
1042 LSDSFB *
1043 LSDSFZ *
989 LSDST *
990 LSDSTB *
991 LSDSTZ *

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1025	LSEPF									
1026	LSEPF B									
1027	LSEPF Z									
1009	LSLSP									
1010	LSLSP B									
1011	LSLSP Z									
993	LSMOD									
994	LSMOD B									
995	LSMOD Z									
1073	LSNTO									
1074	LSNTO B									
1075	LSNTO Z									
997	LSPAR									
998	LSPAR B									
999	LSPAR Z									
1037	LSPLA									
1038	LSPLA B									
1039	LSPLA Z									
953	LSRCA									
954	LSRCA B									
955	LSRCA Z									
957	LSREM									
958	LSREM B									
959	LSREM Z									
1033	LSRRS									
1034	LSRRS B									
1035	LSRRS Z									
949	LSRRT									
950	LSRRT B									
951	LSRRT Z									
961	LSRTO									
962	LSRTO B									
963	LSRTO Z									
965	LSRS									
966	LSRS B									
967	LSRS Z									
981	LSWS									
982	LSWS B									
983	LSWS Z									
1021	LSTER									
1022	LSTER B									
1023	LSTER Z									
945	LSTHD									
946	LSTHD B									
947	LSTHD Z									
969	LSWCA									
970	LSWCA B									
971	LSWCA Z									
973	LSWEM									
974	LSWEM B									
975	LSWEM Z									
1029	LSWRS									
1030	LSWRS B									
1031	LSWRS Z									
977	LSWTO									
978	LSWTO B									
979	LSWTO Z									
1005	LSXMM									
1006	LSXMM B									
1007	LSXMM Z									
1045	LSYNC									
1046	LSYNC B									
1047	LSYNC Z									
1077	LSYNR									
1078	LSYNR B									
1079	LSYNR Z									
1065	LSYNT									
1066	LSYNT B									
1067	LSYNT Z									
591	MAP									
588	MP	589	590	592	593	594	595			
592	MPMR0									
593	MPMR1									
594	MPMR2									
595	MPMR3									
468	MT	469	470	471	472	473	474	475	476	477
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		487	488	489	490	491	492	493	494	495
		496	497	498	499	500	501	502	503	504
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		514	515	516	517	518	519	520	521	522
		523	524							
502	NEG									
513	NINE	141	165							
505	ONE	157	181							
0	P	27	29	30	36	39	41	45	49	53
		57	61	65	69	73	77	81	84	85
		85	86	87	91	92	92	93	94	97
		99	100	101	101	102	103	104	105	106
		107	107	109	109	112	114	115	115	116
		118	118	119	120	121	123	124	125	125
		129	129	130	131	132	132	133	136	137
		138	140	142	144	146	148	150	152	154
		156	160	161	162	164	166	168	170	172
		174	176	178	180	192	194	194	195	196

1189	TCDCZ	*		
1195	TCDTD	*		
1196	TCDTDB	*		
1197	TCDTDZ	*		
1123	TCECH	*		
1124	TCECHB	*		
1125	TCECHZ	*		
1199	TCID1	*		
1200	TCID1B	*		
1201	TCID1Z	*		
1203	TCID2	*		
1204	TCID2B	*		
1205	TCID2Z	*		
1171	TCLDF	*		
1172	TCLDFB	*		
1173	TCLDFZ	*		
1103	TCLLN	*		
1104	TCLLNB	*		
1105	TCLLNZ	*		
1143	TCNOD	*		
1144	TCNODB	*		
1145	TCNODZ	*		
1139	TCNTD	*		
1140	TCNTDB	*		
1141	TCNTDZ	*		
1107	TCFCH	*		
1108	TCFCHB	*		
1109	TCFCHZ	*		
1135	TCRBC	*		
1136	TCRBCB	*		
1137	TCRBCZ	*		
1191	TCRBF	*		
1192	TCRBFB	*		
1193	TCRBFZ	*		
1175	TCRCA	*		
1176	TCRCAB	*		
1177	TCRCAZ	*		
1155	TCRMD	*		
1156	TCRMDB	*		
1157	TCRMDZ	*		
1091	TCRQH	*		
1092	TCRQHB	*		
1093	TCRQHZ	*		
1163	TCRRS	*		
1164	TCRRSB	*		
1165	TCRRSZ	*		
1179	TCSTD	*		
1180	TCSTDB	*		
1181	TCSTDZ	*		
1111	TCSWL	*		
1112	TCSWLB	*		
1113	TCSWLZ	*		
1087	TCTCD	*		
1088	TCTCDB	*		
1089	TCTCDZ	*		
1147	TCTYP	*		
1148	TCTYPB	*		
1149	TCTYPZ	*		
1131	TCWBC	*		
1132	TCWBCB	*		
1133	TCWBCZ	*		
1183	TCWCA	*		
1184	TCWCAB	*		
1185	TCWCAZ	*		
1159	TCWMD	*		
1160	TCWMDB	*		
1161	TCWMDZ	*		
1167	TCWRS	*		
1168	TCWRSB	*		
1169	TCWRSZ	*		
1119	TCXMH	*		
1120	TCXMHB	*		
1121	TCXMHZ	*		
514	TEN	*	139	163
205	TESTF	*		
507	THREE	*	153	177
1375	TIDSP	*		
1376	TIDSPB	*		
1377	TIDSPZ	*		
1367	TIDWN	*		
1368	TIDWNB	*		
1369	TIDWNZ	*		
1391	TINET	*		
1392	TINETB	*		
1393	TINETZ	*		
1379	TIODN	*		
1380	TIODNB	*		
1381	TIODNZ	*		
1387	TIODP	*		
1388	TIODPB	*		
1389	TIODPZ	*		
1383	TIOSC	*		
1384	TIOSCB	*		
1385	TIOSCZ	*		
1371	TISEC	*		

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1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPAZ *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPAB *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPAB *
1219 TPWPAZ *
506 TWO *
440 V$1MIN *
458 V$BFC *
366 V$BGLB *
363 V$BIC1 *
392 V$BTB *
400 V$BTBM *
457 V$BVN *
408 V$CAM *
420 V$CKB *
448 V$CKIT *
387 V$CKPT *
380 V$CPL *
367 V$CRDM *
410 V$CRDR *
421 V$CRM *
381 V$CRS *
426 V$CTAD *
379 V$CTL *
418 V$CTMS *
364 V$DATE *
422 V$DSTB *
435 V$ERFG *
416 V$FGLB *
385 V$FLRS *
417 V$FREE *
401 V$GFCB *
397 V$IM *
447 V$IDA *
449 V$JCB *
356 V$JCFG *
370 V$JCTM *
354 V$JNAM *
436 V$JDP *
407 V$KEY *
355 V$LCNT *
390 V$LER *
423 V$LIT *
395 V$LLUP *
396 V$LPP *
386 V$LRSK *
389 V$LSAL *
414 V$LUNT *
394 V$LUP *
437 V$LUT1 *
438 V$LUT2 *
439 V$LUT3 *
399 V$MAP *
402 V$MIMG *
398 V$MPM *
428 V$NCTR *
393 V$NPAG *
452 V$OCB *
415 V$OPCF *
388 V$OPCL *
424 V$PGT *
429 V$PINN *
365 V$PLCT *
384 V$PTVB *
427 V$SCTL *
419 V$SCV *
434 V$SLFG *
403 V$ST0 *
404 V$ST1 *
405 V$ST2 *
406 V$ST3 *
382 V$TB *
411 V$TBGT *
459 V$TFC *
391 V$TJCP *
413 V$TMN *
412 V$TMS *
383 V$UTB *
0 VTPUSH *
697 X *
469 ZERD *

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155 179

33 35
232 254 1474

67
53022

```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 04 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 04 00002
3 * 04 00003
4 * V.D.M. PART NO. 92L1105-043B 04 00004
5 * 04 00005
6 * 04 00006
7 * 04 00007
8 * 04 00008
9 * 04 00009
10 * C52RCV 04 00010
11 * 04 00011
12 * 04 00012
13 * 04 00013
1443 * 04 00014
1444 * 04 00015
1445 * 04 00016
1446 * 04 00017
1447 * 04 00018
1448 * PROGRAM NAME - 04 00019
1449 * C52RCV - DCM RECEIVE PROCEDURE 04 00020
1450 * 04 00021
1451 * ENTRY CONDITIONS - 04 00022
1452 * C52RCV IS ENTERED FROM CC$CEX, THE COMMUNICATIONS 04 00023
1453 * EXECUTIVE. 04 00024
1454 * UPON ENTRY - 04 00025
1455 * (X) = LSD ADDRESS 04 00026
1456 * 04 00027
1457 * CALLING SEQUENCE - 04 00028
1458 * JMPM C52RCV 04 00029
1459 * (RETURN) 04 00030
1460 * 04 00031
1461 * EXIT CONDITIONS - 04 00032
1462 * (A) DESTROYED 04 00033
1463 * (B) DESTROYED 04 00034
1464 * (X) UNCHANGED 04 00035
1465 * 04 00036
1466 * 04 00037
1467 * 04 00038
1468 * 04 00039
1469 * 04 00040
1470 * 04 00041
1471 * 04 00042
000000 000000 A 1472 C52RCV ENTR 04 00043
000001 000001 A 1473 LSD SET X 04 00044
1474 * 04 00045
1475 * FIND NEXT READ REQUEST ON LSD REQUEST QUEUE 04 00046
1476 * 04 00047
1477 * 04 00048
000001 002000 A 1478 * 04 00049
000002 000000 A 1479 * 04 00050
000003 001010 A 1479 JAZ RC15 NO REQUEST, EXIT 04 00051
000004 000255 R 1480 * 04 00052
000005 054301 A 1480 STA RCRQST 04 00053
1481 IFT VORTEX-2 V2 04 00054
1482 GDTD 1 V2 04 00055
1483 TAB V2 04 00056
1484 CALL VT$MAP SET UP MAP V2 04 00057
1485 1 CONT V2 04 00058
1486 * 04 00059
1487 * 04 00060
1488 * 04 00061
000006 100444 A 1488 EXT CC$FCW GET LINE CONTROL WORD ADDRESS 04 00062
000007 100747 A 1488 PUSH CC$FCW AND SAVE 04 00063
000010 002000 A 1489 * 04 00064
000011 000000 E 1489 * 04 00065
000012 000000 E 1489 * 04 00066
000013 064274 A 1489 * 04 00067
1490 * 04 00068
1491 * 04 00069
1492 * 04 00070
000014 025002 A 1493 * 04 00071
000015 001020 A 1493 LDB LSRCA, LSD 04 00072
000016 000021 R 1494 JBZ RC01 04 00073
000017 006706 A 1495 * 04 00074
000020 000000 A 1495 IJMP 0, B 04 00075
1496 * 04 00076
1497 * 04 00077
1498 * 04 00078
1499 * 04 00079
1500 * 04 00080
000021 015014 A 1500 RC01 FETCHA LSD,LSXMM,LSXMMB,LSXMMZ 04 00081
000022 004351 A 1501 * 04 00082
000023 150464 A 1501 * 04 00083
000024 130464 A 1501 ERA THREE 04 00084
000025 001010 A 1502 JAZ RC02 04 00085
000026 000033 R 1502 * 04 00086
000027 015001 A 1503 LDA LSRRT, LSD NOT FULL DUX 04 00087
000030 134256 A 1504 ERA RCRQST 04 00088
000031 001016 A 1505 JANZ RC15 AND NOT AT TOP OF QUEUE 04 00089
000032 000255 R 1505 * 04 00090
1506 * 04 00091
1507 * 04 00092
1508 * 04 00093
1509 * 04 00094
000033 002000 A 1510 RC02 JMPM RC101 04 00095

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000034 000277 R 1511 * 04 00081
1512 * UPDATE DYNAMIC STATUS 04 00082
1513 * 04 00083
000035 064253 A 1514 STB RCSTAT 04 00084
000036 065013 A 1515 STB LSDST,LSD 04 00085
000037 065005 A 1516 STB LSSRS,LSD 04 00086
1517 * 04 00087
1518 * IF NOT DATA-SET-READY, COMPLETE THE REQUEST 04 00088
1519 * 04 00089
000040 006461 A 1520 BT RB0+B1,RC13A 04 00090
000041 000231 R 1521 * 04 00091
1522 * CHECK TO SEE IF IT IS NECESSARY TO RESYNC A SYNC LAD 04 00092
1523 * 04 00093
000042 015014 A 1524 LDA LSASY,LSD CHECK IF SYNC LAD (BIT = 1) 04 00094
000043 006453 A 1525 BT RAO+LSASYB,RC04 04 00095
000044 000073 R 1526 * SYNC LAD 04 00096
1527 * FETCHA LSD,LSXMM,LSXMMB,LSXMMZ 04 00097

000045 015014 A 1528 ERA THREE 04 00098
000046 004351 A 1529 JANZ RC03 NOT FULL DUX 04 00099
000047 150464 A 1530 * FULL DUX 04 00100
000050 130464 A 1531 LDA LSYNC,LSD CHECK IF RESYNC EVERY READ REQUEST 04 00101
000051 001016 A 1532 BT RAO+LSYNCB,RC04 04 00102
000052 000056 R 1533 * RELOAD READ SYNC BYTE (FORCES LAD TO LOOK FOR SYNC PATTERN) 04 00103
1534 * 04 00104
1535 RC03 FETCHA LSD,LSYNR,LSYNRB,LSYNRZ 04 00105

000056 015020 A 1536 LRLA 8 BUILD CONTROL WORD 04 00106
000057 150463 A 1537 TAB 04 00107
000060 004250 A 1538 FETCHA LSD,LSPLA,LSPLAB,LSPLAZ 04 00108
000061 005012 A 1539 * DRAI 0300 SET 'AB' BITS 04 00109
000062 015016 A 1540 MERGE 031 04 00110
000063 150463 A 1541 STA RCSCW 04 00111
000064 006110 A 1542 * WRITE CONTROL SEQUENCE 04 00112
000065 000300 A 1543 * 04 00113
000066 005031 A 1544 * 04 00114
000067 054222 A 1545 * 04 00115
1546 * 04 00116
000070 006506 A 1547 DATA RCSCW 04 00117
000071 000000 E 1548 * 04 00118
000072 000312 R 1549 * SET UP LCW, READ EVENT MASK, SET 'R' BIT AND OUTPUT PCW 04 00119
1550 * 04 00120
000073 024213 A 1551 RC04 LDB RCRQST 04 00121
1552 EXT CC$SCH 04 00122
1553 PUSH CC$SCH 04 00123

000074 100444 A 1554 LDA BSI 04 00124
000075 100747 A 1555 STA LSREM,LSD 04 00125
000076 002000 A 1556 LDB RCLCW 04 00126
000077 000011 E 1557 LCW SET B 04 00127
000100 000000 E 1558 SETF LCW,LCCWR,LCCWRB,LCCWRZ 04 00128
000101 010422 A 1559 * 04 00129
000102 055003 A 1560 * WRITE PCW 04 00130
000103 024204 A 1561 * 04 00131
000104 016006 A 1562 TBA CALCULATE CWP ADDRESS 04 00132
000105 110432 A 1563 ADAT LCLCB 04 00133
000106 056006 A 1564 STA RC05 111 STA RC05 04 00134
1565 * 04 00135
1566 * 04 00136
1567 * 04 00137
000110 006506 A 1568 RC05 JSR C52RCW,B 112 LDA 16,X 04 00138
000111 054002 A 1569 * 113 AWAI 0174377 04 00139
1570 * 115 STA 16,X 04 00140
000112 000071 E 1571 * SET READ REQUEST STATUS = 0 AND ESTABLISH 1 SECOND TIMEOUT 04 00141
000113 000000 A 1572 * IF LINE IS DIAL UP 116 JSR C52RCW,B 04 00142
000114 000000 A 1573 RC06 TZA 120 RC05 DATA 0 04 00143
000115 005001 A 1574 SETA LSD,LSRRS,LSRRSB,LSRRSZ 04 00144
121 NOP
122 NOP
123 NOP
124 WOP

```

PATCH
BRALCEW
8-7-75

```

1575      FETCHA  LSD,LSMOD,LSMODB,LSMODZ          04 00145
000125 015014 A
000126 004356 A
000127 130422 A 1576      ERA      TWO          04 00146
000130 001016 A 1577      JANZ    RC07          04 00147
000131 000135 R
000132 006010 A 1578      LDAI    200          DIAL-UP LINE          04 00148
000133 000310 A
000134 055004 A 1579      STA     LSRTD,LSD
000135 002000 A 1580 RC07  JMPM    RC100        WAIT FOR INTERRUPT OR TIMEOUT 04 00149
000136 000271 R
1581 *
1582 *      INTERRUPT/TIMEOUT ENTRY          04 00151
1583 *
000137 002000 A 1584 RC08  JMPM    RC101        GET LATEST LINE/MODEM STATUS IN (B) 04 00152
000140 000277 R
000141 064147 A 1585      STB     RCSTAT          04 00153
000142 005021 A 1586      TBA
000143 150422 A 1587      ANA     BS1          IS DATA-SET-READY ON 04 00154
000144 001010 A 1588      JAZ     RC09          NO
000145 000154 R
1589 *
1590 *      DATA-SET-READY, CHECK IF TIMEOUT ONLY          04 00159
1591 *
1592      FETCHA  LSD,LSRRS,LSRRSB,LSRRSZ          04 00160
000146 015016 A
000147 004350 A
000150 150467 A
000151 130423 A 1593      ERA     FOUR          04 00163
000152 001010 A 1594      JAZ     RC06          04 00164
000153 000115 R
1595 RC09  FETCHA  LSD,LSRRS,LSRRSB,LSRRSZ          04 00165
000154 015016 A
000155 004350 A
000156 150467 A
000157 130421 A 1596      ERA     ONE          04 00166
000160 001010 A 1597      JAZ     RC11          04 00167
000161 000207 R
000162 024125 A 1598      LDB     RCLW          04 00168
0000002 A 1599 LCW    SET     B          04 00169
1600 *
1601 *      LINE HAS TIMED OUT AND DATA-SET-READY IS OFF          04 00170
1602 *      CLEAR THE 'R' BIT IN THE PCW          04 00171
1603 *
1604      DINTS          04 00172
000163 100444 A
000164 100747 A
1605      CLEARF  LCW,LCCWR,LCCWRB,LCCWRZ          04 00173
000165 016006 A
000166 150452 A
000167 056006 A
1606 *
1607 *      IF LINE ADAPTOR TYPE IS ASYNCHRONOUS, CLEAR 'E' BIT IN PCW          04 00174
1608 *
1609      TESTF   LSD,LSASY,LSASYB,LSASYZ          04 00175
000170 015014 A
000171 150434 A
000172 001016 A 1610      JANZ    RC09A          04 00176
000173 000177 R
1611      CLEARF  LCW,LCCWP,LCCWPB,LCCWPZ          04 00177
000174 016006 A
000175 150453 A
000176 056006 A
1612 RC09A  EINTS          04 00178
000177 100244 A
000200 100147 A
1613 *
1614 *      WRITE PCW          04 00179
1615 *
000201 005021 A 1616      TBA
1617      ADAT    LCLCB          04 00180
000202 120466 A
000203 054002 A 1618      STA     RC10          04 00181
000204 006506 A 1619      JSR     C52RCW,B
000205 000113 E
000206 000000 A 1620 RC10  DATA  0          04 00182
1621 *
1622 *      REQUEST COMPLETE          04 00183
1623 *      CALCULATE NO. WORDS/BYTES TRANSFERRED AND STORE IN RSTPR          04 00184
1624 *
000207 024100 A 1625 RC11  LDB     RCLW          04 00185
0000002 A 1626 LCW    SET     B          04 00186
1627      TESTF   LCW,LCIBF,LCIBFB,LCIBFZ          04 00187
000210 016000 A
000211 150440 A
000212 004357 A 1628      LSPA    LCIBFB          04 00188
000213 054077 A 1629      STA     RCIBF          04 00189
000214 016001 A 1630      LDA     LCIBA,LCW        LAST WORD TRANSMITTED 04 00190
000215 024071 A 1631      LDB     RCRQST          04 00191
0000002 A 1632 RQST  SET     B          04 00192
000216 026002 A 1633      LDB     RFCB,RQST          04 00193
0000002 A 1634 LCB    SET     B          04 00194
1635      IFF     VORTEX-2          04 00195
1636      OMC     MAP,V#ST3        SET EXEC STATE TO NN          04 00196
000217 146001 A 1637      SUB     DCBUFF,LCB        SUBTRACT FIRST WORD ADDRESS 04 00197

```

V2
V2

```

1638 IFF VORTEX-2
1639 DME MAP,V$STO SET EXEC STATE TO 00
1640 JAP RC12
V2 04 00208
V2 04 00209
V2 04 00210
000220 001002 A 1641 LRLA 1 BYTE MODE CONVERT WORD COUNT
000221 000225 R 1642 JMP RC13
04 00211
04 00212
000222 004241 A 1643 RC12 IAR ADJUST IF WORD COUNT
000223 001000 A 1644 RC13 SUB RCIBF ADJUST FOR LAST BYTE
04 00213
04 00214
000224 000226 R 1645 * STORE WORD/BYTE COUNT IN REQUEST
04 00215
04 00216
000225 005111 A 1646 *
04 00217
000226 144064 A 1647 *
04 00218
04 00219
000227 024057 A 1648 LDB RCRQST
000002 A 1649 RQST SET B
04 00220
04 00221
000230 056000 A 1650 STA RSTPR,RQST
04 00222
04 00223
1651 * TEST IF IO CLEAR
04 00224
1652 *
04 00225
1653 *
04 00226
000231 024057 A 1654 RC13A LDB RCSTAT
000232 015013 A 1655 LDA LSDST,LSD
04 00227
04 00228
000233 006150 A 1656 ANAI 0177740
04 00229
04 00230
000234 177740 A 1657 MERGE 032
000235 005032 A 1658 FETCHA LSD,LSRRS,LSRRSB,LSRRSZ
04 00231
04 00232
04 00233
04 00234
04 00235
04 00236
04 00237
04 00238
000236 015016 A 1659 ANA BS1
000237 004350 A 1660 JAZ RC14
04 00239
04 00230
000241 150422 A 1661 LDA BS7
000242 001010 A 1662 RC14 MERGE 031
04 00231
04 00232
000243 000245 R 1663 LDB RCRQST
04 00233
04 00234
000244 010430 A 1664 * COMPLETE THE REQUEST
04 00235
000245 005031 A 1665 *
04 00236
000246 024040 A 1666 *
04 00237
1667 EXT CC$CRQ
04 00238
1668 DINTS
04 00239
000247 100444 A 1669 JMPM CC$CRQ
04 00239
000250 100747 A
000251 002000 A
000252 000000 E
1670 IFT VORTEX-2
1671 GOTO 1
V2 04 00240
V2 04 00241
1672 EXT V$MDAL DEALLOCATE MEMORY
V2 04 00242
1673 JOFN RC14A DEALLOCATE RQBLK ?
V2 04 00243
1674 STX RCX SAVE X
V2 04 00244
1675 STB *+4 YES
V2 04 00245
1676 JSR V$MDAL,X
V2 04 00246
1677 DATA 6
V2 04 00247
1678 BSS 1
V2 04 00248
1679 LDX RCX RESTORE X
V2 04 00249
1680 RC14A EQU *
V2 04 00250
1681 1
V2 04 00251
1682 EINTS
V2 04 00252
000253 100244 A 1683 * ZERO LSRCA, LSRRS AND LSRTD
000254 100147 A 1684 *
04 00253
04 00254
1685 *
04 00255
000255 005001 A 1686 RC15 TZA
04 00256
000256 055004 A 1687 STA LSRTD,LSD
04 00257
000257 055002 A 1688 STA LSRCA,LSD
04 00258
1689 SETA LSD,LSRRS,LSRRSB,LSRRSZ
04 00259
000260 004250 A
000261 135016 A
000262 004350 A
000263 150467 A
000264 004250 A
000265 135016 A
000266 055016 A
1690 * EXIT BACK TO COMMUNICATIONS EXECUTIVE
04 00260
1691 *
04 00261
1692 *
04 00262
000267 001000 A 1693 JMP# C52RCV
04 00263
000270 100000 R
1694 * WAIT FOR INTERRUPT
04 00264
1695 *
04 00265
1696 *
04 00266
000271 000000 A 1697 RC100 ENTR
000272 006017 A 1698 LDAE RC100
04 00267
04 00268
000273 000271 R
000274 055002 A 1699 STA LSRCA,LSD
04 00269
000275 001000 A 1700 JMP# C52RCV
04 00270
000276 100000 R
1701 * SUBROUTINE TO BUILD MODEM STATUS WORD
04 00271
1702 *
04 00272
1703 *
04 00273
000277 000000 A 1704 RC101 ENTR GET MODEM/LINE STATUS
04 00274
1705 EXT C52SST
04 00275
1706 PUSH C52SST
04 00276
000300 100444 A
000301 100747 A
000302 002000 A
000303 000077 E

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000304 000000 E
000305 001000 A 1707 JMP* RC101 STATUS IN (B) 04 00277
000306 100277 R
1708 * 04 00278
1709 * TEMPORARY STORAGE AND CONSTANTS 04 00279
1710 * 04 00280
000307 000000 A 1711 RCRQST DATA 0 REQUEST ADDRESS 04 00281
000310 000000 A 1712 RCLCW DATA 0 LINE CONTROL WORD ADDRESS 04 00282
000311 000000 A 1713 RCSTAT DATA 0 STATUS WORD 04 00283
000312 000000 A 1714 RCSCW DATA 0 LOAD RECEIVE CONTROL WORD 04 00284
000313 000000 A 1715 RCIBF DATA 0 INPUT BUFFER FLAG 04 00285
1716 IFF VORTEX-2 04 00286
1717 RCX BSS 1 SAVE X V2 04 00287
1718 END V2 04 00288

```

ENTRY NAMES

```

000000 R C52RCV
EXTERNAL NAMES
000205 E C52RCW 000304 E C52SST 000252 E CC$CRQ 000012 E CC$FCW
000002 E CC$FRR 000100 E CC$SCW 000303 E VTPUSH

```

SYMBOLS

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000044 A APIM 000002 A B 000000 A B0 000001 A B1
000012 A B10 000013 A B11 000014 A B12 000015 A B13
000016 A B14 000017 A B15 000002 A B2 000003 A B3
000004 A B4 000005 A B5 000006 A B6 000007 A B7
000010 A B8 000011 A B9 000000 A BICNUM 000421 A BM1
000472 A BM17 000475 A BM177 000477 A BM1777 000464 A BM3
000473 A BM37 000463 A BM377 000467 A BM7 000474 A BM77
000476 A BM777 000441 A BR0 000442 A BR1 000453 A BR10
000454 A BR11 000455 A BR12 000456 A BR13 000457 A BR14
000460 A BR15 000443 A BR2 000444 A BR3 000445 A BR4
000446 A BR5 000447 A BR6 000450 A BR7 000451 A BR8
000452 A BR9 000421 A BS0 000422 A BS1 000433 A BS10
000434 A BS11 000435 A BS12 000436 A BS13 000437 A BS14
000440 A BS15 000423 A BS2 000424 A BS3 000425 A BS4
000426 A BS5 000427 A BS6 000430 A BS7 000431 A BS8
000432 A BS9 000000 R C52RCV 000205 E C52RCW 000304 E C52SST
000252 E CC$CRQ 000012 E CC$FCW 000002 E CC$FRR 000100 E CC$SCW
000000 A CHAFP 000000 A CHAFPB 000002 A CHAFPZ 000001 A CHARP
000000 A CHARPB 000020 A CHARPZ 000002 A CHCFP 000000 A CHCFPB
000020 A CHCFPZ 000003 A CHCRP 000000 A CHCRPB 000020 A CHCRPZ
000004 A CHRBL 000000 A CHRBLB 000020 A CHRBLZ 000047 A CLOCK
000000 A CTAD1 000000 A CTACT 000017 A CTACTB 000001 A CTACTZ
000001 A CTADN 000000 A CTADNB 000020 A CTADNZ 000011 A CTBIC
000000 A CTBICB 000020 A CTBICZ 000003 A CTDST 000000 A CTDSTB
000020 A CTDSTZ 000006 A CTDVA 000000 A CTDVAB 000020 A CTDVAZ
000012 A CTFCB 000000 A CTFCBB 000020 A CTFCBZ 000014 A CTFRC
000010 A CTFRCB 000010 A CTFRCZ 000014 A CTFRE 000000 A CTFREB
000010 A CTFREZ 000000 A CTIDB 000000 A CTIDBB 000017 A CTIDBZ
000007 A CTIDA 000000 A CTIDAB 000020 A CTIDAZ 000002 A CTOPM
000000 A CTOPMB 000020 A CTOPMZ 000005 A CTRCN 000000 A CTRCNB
000010 A CTRCNZ 000004 A CTRQB 000000 A CTRQBB 000020 A CTRQEZ
000005 A CTRTR 000010 A CTRTRB 000010 A CTRTRZ 000010 A CTSTA
000000 A CTSTAB 000020 A CTSTAZ 000013 A CTWDS 000000 A CTWDSB
000020 A CTWDSZ 000001 A DCBUFF 000003 A DCCHR 000000 A DCCHRZ
000020 A DCCHRZ 000002 A DCINT 000000 A DCRECL 000747 A DISCLK
000745 A DISMP 000444 A DISPM 000026 A DMBCA 000000 A DMBCAB
000020 A DMBCAZ 000024 A DMCWA 000000 A DMCWAB 000020 A DMCWAZ
000017 A DMFPA 000000 A DMFPAB 000020 A DMFPAZ 000021 A DMLCA
000000 A DMLCAB 000020 A DMLCAZ 000022 A DMLTA 000000 A DMLTAB
000020 A DMLTAZ 000023 A DMPTA 000000 A DMPTAB 000020 A DMPTAZ
000016 A DMRPA 000000 A DMRPAB 000020 A DMRPAZ 000020 A DMSTA
000000 A DMSTAB 000020 A DMSTAZ 000025 A DMSWA 000000 A DMSWAB
000020 A DMSWAZ 000015 A DMTPA 000000 A DMTPAB 000020 A DMTPAZ
000002 A DSCTAD 000000 A DSDASS 000000 A DSDVDN 000002 A DSLOCK
000001 A DSNAME 000000 A DSNORA 000002 A DSOPCM 000002 A DSPSTI
000002 A DSREWD 000000 A DSUNAM 000002 A DSUNTN 000424 A EIGHT
000147 A ENACLK 000645 A ENAMP 000244 A ENAPIM 000465 A FIVE
000423 A FOUR 000003 A IBIBF 000017 A IBIBFB 000001 A IBIBFZ
000003 A IBLAS 000000 A IBLASB 000017 A IBLASZ 000001 A IBLEN
000000 A IBLNB 000020 A IBLNBZ 000000 A IBLNK 000000 A IBLNBZ
000020 A IBLNKZ 000002 A IBSTA 000000 A IBSTAB 000020 A IBSTAZ
000004 A IBSTS 000000 A IBSTSB 000017 A IBSTSZ 000300 A LC
000003 A LCABN 000013 A LCABNB 000001 A LCABNZ 000003 A LCASY
000012 A LCASYB 000001 A LCASYZ 000002 A LCB 000007 A LCBSC
000015 A LCBSCB 000001 A LCBSCZ 000007 A LCCHN 000016 A LCCHNB
000001 A LCCHNZ 000003 A LCCRC 000014 A LCCRCB 000003 A LCCRCZ
000006 A LCCWB 000014 A LCCWBB 000001 A LCCWBE 000006 A LCCWC
000015 A LCCWCB 000001 A LCCWCZ 000006 A LCCWD 000013 A LCCWDB
000001 A LCCWDZ 000006 A LCCWI 000016 A LCCWIB 000001 A LCCWIZ
000006 A LCCWP 000012 A LCCWPB 000001 A LCCWPZ 000006 A LCCWR
000011 A LCCWRB 000001 A LCCWRZ 000006 A LCCWS 000017 A LCCWSB
000001 A LCCWSZ 000006 A LCCWT 000010 A LCCWTB 000001 A LCCWTZ
000001 A LCIBA 000000 A LCIBAB 000017 A LCIBAZ 000000 A LCIBF
000017 A LCIBFB 000001 A LCIBFZ 000000 A LCIBL 000000 A LCIBLB
000014 A LCIBLZ 000002 A LCIC1 000010 A LCIC1B 000010 A LCIC1Z
000002 A LCIC2 000000 A LCIC2B 000010 A LCIC2Z 000003 A LCIKE
000000 A LCIKEB 000004 A LCITB 000007 A LCITB 000013 A LCITER
000001 A LCITBZ 000050 A LCJP 000006 A LCLCB 000000 A LCLCBB
000020 A LCLCBZ 000007 A LCLDB 000014 A LCLDBB 000001 A LCLDBZ
000007 A LCLTB 000017 A LCLTBB 000001 A LCLTBZ 000005 A LCOBA
000000 A LCOBAB 000017 A LCOBAZ 000004 A LCOBF 000017 A LCOBFZ
000001 A LCOBFZ 000004 A LCOBL 000000 A LCOBLB 000014 A LCOBLZ
000007 A LCOKE 000000 A LCOKEB 000004 A LCOKEZ 000003 A LCRCC
000017 A LCRCCB 000001 A LCRCCZ 000000 A LCSMB 000016 A LCSMBB
000001 A LCSMBZ 000002 A LCN 000462 A LHW 000017 A LSABN

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0000006 A TCWRS 0000011 A TCWRSB 0000003 A TCWRSZ 0000004 A TCXMM
0000012 A TCXMMB 0000002 A TCXMMZ 0000471 A TEN 000464 A THREE
0000002 A TIDSP 0000000 A TIDSPB 0000007 A TIDSPZ 0000002 A TIDWN
0000017 A TIDWNB 0000001 A TIDWNZ 0000000 A TINET 0000000 A TINETB
0000020 A TINETZ 0000003 A TIDDB 0000017 A TIDDBN 0000001 A TIDDBZ
0000003 A TIDDBP 0000000 A TIDDBPB 0000007 A TIDDBPZ 0000003 A TIDSC
0000007 A TIDSCB 0000010 A TIDSCZ 0000002 A TISEC 0000007 A TISECB
0000010 A TISECZ 0000000 A TITU1 0000000 A TITU1B 0000020 A TITU1Z
0000001 A TITU2 0000000 A TITU2B 0000020 A TITU2Z 0000017 A TPFPA
0000000 A TPFPAZ 0000020 A TPFPAZ 0000015 A TPRPA 0000000 A TPRPAB
0000020 A TPRPAZ 0000016 A TPWPA 0000000 A TPWPAZ 0000020 A TPWPAZ
000422 A TWO 000403 A VS1MIN 000415 A VSBFC 000075 A VSBGLB
000056 A VSBIC1 000315 A VSBTB 000331 A VSBTBM 000414 A VSBVN
000334 A VSCAM 000353 A VSCKB 000411 A VSCKIT 000310 A VSCKPT
000301 A VSCPL 000076 A VSCRD 000341 A VSCRDR 000354 A VSCRM
000302 A VSCRS 000360 A VSCSTAD 000300 A VSCSTL 000351 A VSCSTMS
000070 A VSDATE 000355 A VSDSTB 000376 A VSERFG 000347 A VSFGLB
000306 A VSFLRS 000350 A VSFREE 000332 A VSGFCB 000320 A V$IM
000410 A VSIDA 000412 A VSJCB 000055 A VSJCFG 000077 A VSJCTM
000050 A VSJNAM 000377 A VSJOB 000340 A VSKEY 000054 A V$LCNT
000313 A VSLER 000356 A VSLIT 000317 A V$LLUP 000317 A V$LPP
000307 A VSLRSK 000312 A V$LSAL 000345 A V$LUNT 000316 A V$LUP
000400 A V$LUT1 000401 A V$LUT2 000402 A V$LUT3 000330 A V$MAP
000393 A V$MIMG 000330 A V$MMP 000362 A V$NCTR 000316 A V$NPAG
000413 A V$OCB 000346 A V$OPCF 000311 A V$OPCL 000357 A V$PGT
000363 A V$PIMN 000074 A V$PLCT 000305 A V$PTVB 000361 A V$SCTL
000352 A V$SCV 000375 A V$SLFG 000334 A V$ST0 000335 A V$ST1
000336 A V$ST2 000337 A V$ST3 000303 A V$TB 000342 A V$TBGT
000416 A V$TFC 000314 A V$TJCP 000344 A V$TMN 000343 A V$TMS
000304 A V$UTB 000001 A VORTEX 000303 E VTPUSH 000001 A X
000420 A ZERO

```

0 ERRORS ASSEMBLY COMPLETE

```

1485 1 *
159 ADAT *
38 ANAM *
90 ANAN *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1495 1546
1557 1567 1599 1619 1626 1632 1634 1649

88 B& 82
89 B&0 40
90 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 1520
553 B10 *
554 B11 *
555 B12 *
556 B13 *
557 B14 *
558 B15 *
545 B2 *
546 B3 *
547 B4 *
548 B5 *
549 B6 *
550 B7 *
551 B8 *
552 B9 *
630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
522 BM377 51
517 BM7 71
520 BM77 59
523 BM777 47
486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 *
501 BR15 *
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *

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495	BR9	*				
470	BS0		195	209		
471	BS1		1554	1587	1659	
480	BS10	*				
481	BS11	*				
482	BS12	*				
483	BS13	*				
484	BS14	*				
485	BS15	*				
472	BS2	*				
473	BS3	*				
474	BS4	*				
475	BS5	*				
476	BS6	*				
477	BS7		1661			
478	BS8	*				
479	BS9	*				
1472	C52RCV		12	1469	1693	1700
0	C52RCW		1545	1546	1567	1619
0	C52SST		1705	1706		
0	CC*CRQ		1667	1669		
0	CC*FCW		1487	1488		
0	CC*FRR		1477	1478		
0	CC*SCW		1552	1553		
1397	CHAFP	*				
1398	CHAFPB	*				
1399	CHAFPZ	*				
1401	CHARP	*				
1402	CHARPB	*				
1403	CHARPZ	*				
1405	CHCFP	*				
1406	CHCFPB	*				
1407	CHCFPZ	*				
1409	CHCRP	*				
1410	CHCRPB	*				
1411	CHCRPZ	*				
1413	CHRBL	*				
1414	CHRBLB	*				
1415	CHRBLZ	*				
198	CLEARF	*				
567	CLOCK		569	570		
622	CDTAD1	*				
707	CTACT	*				
708	CTACTB	*				
709	CTACTZ	*				
715	CTADN	*				
716	CTADNB	*				
717	CTADNZ	*				
751	CTBIC	*				
752	CTBICB	*				
753	CTBICZ	*				
723	CTDST	*				
724	CTDSTB	*				
725	CTDSTZ	*				
739	CTDVA	*				
740	CTDVAB	*				
741	CTDVAZ	*				
755	CTFCB	*				
756	CTFCBB	*				
757	CTFCBZ	*				
763	CTFRC	*				
764	CTFRCB	*				
765	CTFRCZ	*				
767	CTFRE	*				
768	CTFREB	*				
769	CTFREZ	*				
711	CTIDB	*				
712	CTIDBB	*				
713	CTIDBZ	*				
743	CTIOA	*				
744	CTIOAB	*				
745	CTIOAZ	*				
719	CTOPM	*				
720	CTOPMB	*				
721	CTOPMZ	*				
735	CTRCN	*				
736	CTRCNB	*				
737	CTRCNZ	*				
727	CTRQB	*				
728	CTRQBB	*				
729	CTRQBZ	*				
731	CTRTR	*				
732	CTRTRB	*				
733	CTRTRZ	*				
747	CTSTA	*				
748	CTSTAB	*				
749	CTSTAZ	*				
759	CTWDS	*				
760	CTWDSB	*				
761	CTWDSZ	*				
688	DCBUFF		1637			
691	DCCHR	*				
692	DCCHRB	*				
693	DCCHRZ	*				
689	DCCNT	*				

1061	LSCHN	*									
1062	LSCHNB	*									
1063	LSCHNZ	*									
1053	LSCRC	*									
1054	LSCRCB	*									
1055	LSCRCZ	*									
985	LSCTA	*									
986	LSCTAB	*									
987	LSCTAZ	*									
1473	LSD	*	1493	1500	1503	1515	1516	1524	1527	1531	1535
		*	1538	1555	1574	1575	1579	1592	1595	1609	1655
		*	1658	1687	1688	1689	1699				
1041	LSDSF	*									
1042	LSDSFB	*									
1043	LSDSFZ	*									
989	LSDIST	*	1515	1655							
990	LSDISTB	*									
991	LSDISTZ	*									
1025	LSEPF	*									
1026	LSEPFB	*									
1027	LSEPFZ	*									
1009	LSLSP	*									
1010	LSLSPB	*									
1011	LSLSPZ	*									
993	LSMOD	*	1575								
994	LSMODB	*	1575								
995	LSMODZ	*	1575								
1073	LSNTD	*									
1074	LSNTDB	*									
1075	LSNTDZ	*									
997	LSPAR	*									
998	LSPARB	*									
999	LSPARZ	*									
1037	LSPLA	*	1538								
1038	LSPLAB	*	1538								
1039	LSPLAZ	*	1538								
953	LSRCA	*	1493	1688	1699						
954	LSRCAB	*									
955	LSRCAZ	*									
957	LSREM	*	1555								
958	LSREMB	*									
959	LSREMZ	*									
1033	LSRRS	*	1574	1592	1595	1658	1689				
1034	LSRRSB	*	1574	1592	1595	1658	1689				
1035	LSRRSZ	*	1574	1592	1595	1658	1689				
949	LSRRT	*	1503								
950	LSRRTB	*									
951	LSRRTZ	*									
961	LSRTO	*	1579	1687							
962	LSRTDB	*									
963	LSRTDZ	*									
965	LSSRS	*	1516								
966	LSSRSB	*									
967	LSSRSZ	*									
981	LSSWS	*									
982	LSSWSB	*									
983	LSSWSZ	*									
1021	LSTER	*									
1022	LSTERB	*									
1023	LSTERZ	*									
945	LSTHD	*									
946	LSTHDB	*									
947	LSTHDZ	*									
969	LSWCA	*									
970	LSWCAB	*									
971	LSWCABZ	*									
973	LSWEM	*									
974	LSWEMB	*									
975	LSWEMZ	*									
1029	LSWRS	*									
1030	LSWRB	*									
1031	LSWRSZ	*									
977	LSWTD	*									
978	LSWTDB	*									
979	LSWTDZ	*									
1005	LSXMM	*	1500	1527							
1006	LSXMMB	*	1500	1527							
1007	LSXMMZ	*	1500	1527							
1045	LSYNC	*	1531								
1046	LSYNCB	*	1532								
1047	LSYNCZ	*									
1077	LSYNR	*	1535								
1078	LSYNRB	*	1535								
1079	LSYNRZ	*	1535								
1065	LSYNT	*									
1066	LSYNTB	*									
1067	LSYNTZ	*									
591	MAP	*	1636	1639							
588	MP	*	589	590	592	593	594	595			
592	MPMR0	*									
593	MPMR1	*									
594	MPMR2	*									
595	MPMR3	*									
468	MT	*	469	470	471	472	473	474	475	476	477
		*	478	479	480	481	482	483	484	485	486

487	488	489	490	491	492	493	494	495
496	497	498	499	500	501	502	503	504
505	506	507	508	509	510	511	512	513
514	515	516	517	518	519	520	521	522
523	524							

502 NEG
513 NINE
505 ONE
0 P

141	165							
157	181	1596						
27	29	30	36	39	41	45	49	53
57	61	65	69	73	77	81	84	85
85	86	87	91	92	92	93	94	97
99	100	101	101	102	103	104	105	106
107	107	109	109	112	114	115	115	116
118	118	119	120	121	123	124	125	125
129	129	130	131	132	132	133	136	137
138	140	142	144	146	148	150	152	154
156	160	161	162	164	166	168	170	172
174	176	178	180	192	194	194	195	196
196	199	201	201	202	203	203	206	208
208	209							

1329 PCBSL
1330 PCBSLB
1331 PCBSLZ
1317 PCCLN
1318 PCCLNB
1319 PCCLNZ
1341 PCCTP
1342 PCCTPB
1343 PCCTPZ
1321 PCECH
1322 PCECHB
1323 PCECHZ
1313 PCLLN
1314 PCLLNB
1315 PCLLNZ
1349 PCNTD
1350 PCNTDB
1351 PCNTDZ
1337 PCPCH
1338 PCPCHB
1339 PCPCHZ
1333 PCSWL
1334 PCSWLB
1335 PCSWLZ
1345 PCTYP
1346 PCTYPB
1347 PCTYPZ
1325 PCXMM
1326 PCXMMB
1327 PCXMMZ
575 PIM1
576 PIM2
577 PIM3
578 PIM4
579 PIM5
580 PIM6
581 PIM7
582 PIM8
699 POST
1287 PSABN
1288 PSABNB
1289 PSABNZ
1239 PSASY
1240 PSASYB
1241 PSASYZ
670 PSBADT
666 PSBEG
1299 PSBSC
1300 PSBSCB
1301 PSBSCZ
1251 PSSCC1
1252 PSSCC1B
1253 PSSCC1Z
1254 PSSCC2
1255 PSSCC2B
1256 PSSCC2Z
1257 PSSCC3
1291 PSSCRC
1292 PSSCRCB
1293 PSSCRCZ
1271 PSDEF
1272 PSDEFB
1273 PSDEFZ
1279 PSDSF
1280 PSDSFB
1281 PSDSFZ
1267 PSDUN
1268 PSDUNB
1269 PSDUNZ
672 PSEND
1263 PSEPT
1264 PSEPTB
1265 PSEPTZ
1247 PSLSP
1248 PSLSPB
1249 PSLSPZ

1231	PSMOD	*							
1232	PSMODB	*							
1233	PSMODZ	*							
671	PSNSEC	*							
1235	PSPAR	*							
1236	PSPARB	*							
1237	PSPARZ	*							
1275	PSPLA	*							
1276	PSPLAB	*							
1277	PSPLAZ	*							
667	PSPROT	*							
1259	PSTER	*							
1260	PSTERB	*							
1261	PSTERZ	*							
1243	PSXMM	*							
1244	PSXMMB	*							
1245	PSXMMZ	*							
1283	PSYNC	*							
1284	PSYNCB	*							
1285	PSYN CZ	*							
1303	PSYNR	*							
1304	PSYNRB	*							
1305	PSYNRZ	*							
1295	PSYNT	*							
1296	PSYNTB	*							
1297	PSYNTZ	*							
32	PUSH	*							
228	PUTO	*							
532	RA0	*	1525		1532				
533	RA1	*							
651	RADNR	*							
534	RB0	*	1520						
535	RB1	*							
1500	RC01	*	1494						
1510	RC02	*	1502						
1535	RC03	*	1529						
1551	RC04	*	1525		1532				
1568	RC05	*	1564						
1573	RC06	*	1594						
1580	RC07	*	1577						
1584	RC08	*							
1595	RC09	*	1588						
1612	RC09A	*	1610						
1620	RC10	*	1618						
1697	RC100	*	1580		1698				
1704	RC101	*	1510		1584		1707		
1625	RC11	*	1597						
1643	RC12	*	1640						
1644	RC13	*	1642						
1654	RC13A	*	1520						
1662	RC14	*	1660						
1680	RC14A	*	1673						
1686	RC15	*	1479		1505				
1715	RCIBF	*	1629		1644				
1712	RCLCW	*	1489		1556		1598	1625	
1711	RCROST	*	1480		1504		1551	1631	1648
1714	RCSCW	*	1541		1547				1663
1713	RCSTAT	*	1514		1585		1654		
1717	RCX	*	1674		1679				
649	RFCB	*	1633						
504	RHW	*							
645	RDPWD	*							
1632	RQST	*	1633		1650				
642	RSTPR	*	1650						
650	RTIDB	*							
96	SETA	*							
111	SETB	*							
191	SETF	*							
511	SEVEN	*	145		169				
510	SIX	*	147		171				
26	SPACE	*							
195	SUBAT	*							
268	TBATSX	*							
287	TBCPTH	*							
274	TBENTY	*							
268	TBEVNT	*							
282	TBID	*							
277	TBISA	*							
278	TBISB	*							
280	TBISP	*							
281	TBISRS	*							
294	TBIST	*							
279	TBISX	*							
292	TBKEY	*							
283	TBKN1	*							
284	TBKN2	*							
285	TBKN3	*							
293	TBMIMG	*							
291	TBNUCL	*							
267	TBPL	*							
269	TBRSA	*							
270	TBRSE	*							
269	TBRSE	*							
272	TBRSP	*							
273	TBRSTS	*							

```
271 TBR SX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBSIZ *
266 TBSI *
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBT RD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDCC *
1188 TCDCCB *
1189 TCDCCZ *
1195 TCDTD *
1196 TCDTDB *
1197 TCDTDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRC A *
1176 TCRCAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
```

```

1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
 514 TEN 139 163
 205 TESTF *
 507 THREE 153 177 1501 1528
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIDDN *
1380 TIDDNB *
1381 TIDDNZ *
1387 TIDDP *
1388 TIDDPB *
1389 TIDDPZ *
1383 TIDSC *
1384 TIDSCB *
1385 TIDSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPA B *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPA B *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPA B *
1219 TPWPAZ *
 506 TWO 155 179 1576
 440 V$IMIN *
 458 V$BFC *
 366 V$BGLB *
 363 V$BIC1 *
 392 V$BTB *
 400 V$BTBM *
 457 V$BVN *
 408 V$SCAM *
 420 V$CKB *
 448 V$CKIT *
 387 V$CKPT *
 380 V$CPL *
 367 V$CRDM *
 410 V$CRDR *
 421 V$CRM *
 381 V$CRS *
 426 V$CTAD *
 379 V$CTL *
 418 V$CTMS *
 364 V$DATE *
 422 V$DSTB *
 435 V$ERFG *
 416 V$FGLB *
 385 V$FLRS *
 417 V$FREE *
 401 V$GFCB *
 397 V$IM *
 447 V$IDA *
 449 V$JCB *
 356 V$JCFG *
 370 V$JCTM *
 354 V$JNAM *
 436 V$JOP *
 407 V$KEY *
 355 V$LCNT *
 390 V$LER *
 423 V$LIT *

```

395	V\$LLUP	*					
396	V\$LPP	*					
386	V\$LRSK	*					
389	V\$LSAL	*					
414	V\$LUNT	*					
394	V\$LUP	*					
437	V\$LUT1	*					
438	V\$LUT2	*					
439	V\$LUT3	*					
399	V\$MAP	*					
0	V\$MDAL	1672	1676				
402	V\$MING	*					
398	V\$MPM	*					
428	V\$NCTR	*					
393	V\$NPAG	*					
452	V\$OCB	*					
415	V\$OPCF	*					
388	V\$OPCL	*					
424	V\$PGT	*					
429	V\$PIMN	*					
365	V\$PLCT	*					
384	V\$PTVB	*					
427	V\$SCTL	*					
419	V\$SCV	*					
434	V\$SLFG	*					
403	V\$ST0	1639					
404	V\$ST1	*					
405	V\$ST2	*					
406	V\$ST3	1636					
382	V\$TB	*					
411	V\$TBGT	*					
459	V\$TFC	*					
391	V\$TJCP	*					
413	V\$TMN	*					
412	V\$TMS	*					
383	V\$UTB	*					
1	VORTEX	1470	1481	1635	1638	1670	1716
0	VT\$MAP	1471	1484				
0	VTPUSH	33	35				
697	X	232	254	1473	1676		
469	ZERO	*					

```

1      EJEC
2      * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES
3      *
4      * V.D.M. PART NO.          92L1105-044A
5      *
6      *                               RELEASED    03-26-73
7      *
8      *
9      *                               C52RCW
10     *
11     *
12     * TITLE    C52RCW
13     * NLIS
1443  * LIST
1444  *
1445  * EJEC
1446  * *****
1447  * *****
1448  * PROGRAM NAME -
1449  * C52RCW - CONTROL WRITE SEQUENCE
1450  *
1451  * ENTRY CONDITIONS -
1452  * (B) ADDRESS OF CONTROL WORD ADDRESS
1453  * (X) LSD ADDRESS
1454  * INTERRUPTS ENABLED
1455  *
1456  * CALLING SEQUENCE -
1457  * JSR    C52RCW,B
1458  * DATA  CWA          CONTROL WORD ADDRESS
1459  * (RETURN)
1460  *
1461  * EXIT CONDITIONS -
1462  * (A) DESTROYED
1463  * (B) DESTROYED
1464  * (X) UNCHANGED
1465  * INTERRUPTS ENABLED
1466  *
1467  * *****
1468  * *****
1469  * EJEC
1470  * NAME    C52RCW
1471  * C52RCW DINTS
000000 100444 A
000001 100747 A
000002 064032 A 1472 STB    RWRTN
000003 000001 A 1473 LSD   SET    X
000004 025012 A 1474 LDB   LSCA,LSD
000005 000002 A 1475 DMT   SET    B
000006 016024 A 1476 LDA   DMCWA,DMT
000007 001010 A 1477 JAZ   RW01          JUMP IF CONTROL NOT BUSY
000008 000016 R
000009 024025 A 1478 LDB   RWRTN          RESTORE (B)
000010 100244 A 1479 EINTS          ENABLE INTERRUPTS
000011 100147 A
000012 005000 A 1480 NOP
000013 005000 A 1481 NOP
000014 001000 A 1482 JMP   C52RCW
000015 000000 R
1483 * CONTROL NOT BUSY
1484 *
000016 006017 A 1485 RW01 LDAE* RWRTN
000017 100035 R
000020 056024 A 1486 STA   DMCWA,DMT
000021 044013 A 1487 INR   RWRTN          RWRTN POINTS TO RETURN
1488 *
1489 * BUILD ID INSTRUCTION
1490 *
000022 000002 A 1491 CTB   SET    B
000023 016006 A 1492 LDA   CTDVA,CTB
000024 006120 A 1493 ADDI  0100500      EXC 05XX
000025 054006 A 1494 STA   RWEX
1495 *
1496 * EXECUTE EXTERNAL CONTROL INSTRUCTION
1497 *
000026 003000 A 1498 XEC   RWEX
000027 000034 R
1499 EINTS
000030 100244 A
000031 100147 A
000032 001000 A 1500 JMP*  RWRTN
000033 100035 R
1501 EJEC
1502 * TEMPORARY STORAGE AND CONSTANTS
1503 *
000034 000000 A 1504 RWEX  DATA  0
000035 000000 A 1505 RWRTN DATA  0
1506 END

```

ENTRY NAMES
000000 R C52RCW
EXTERNAL NAMES
SYMBOLS

000044 A APIM 000002 A B 000000 A B0 000001 A B1
000012 A B10 000013 A B11 000014 A B12 000015 A B13

INTERMIT


```

1415 CHRBLZ *
198 CLEARF *
567 CLOCK 569 570
622 CDTAD1 *
707 CTACT *
708 CTACTB *
709 CTACTZ *
715 CTADN *
716 CTADNB *
717 CTADNZ *
1491 CTB 1492
751 CTBIC *
752 CTBICB *
753 CTBICZ *
723 CTDST *
724 CTDSTB *
725 CTDSTZ *
739 CTDVA 1492
740 CTDVAB *
741 CTDVAZ *
755 CTFCB *
756 CTFCBB *
757 CTFCBZ *
763 CTFRC *
764 CTFRCB *
765 CTFRCZ *
767 CTFRE *
768 CTFREB *
769 CTFREZ *
711 CTIDB *
712 CTIDBB *
713 CTIDBZ *
743 CTIOA *
744 CTIOAB *
745 CTIOAZ *
719 CTOPM *
720 CTOPMB *
721 CTOPMZ *
735 CTRCN *
736 CTRCNB *
737 CTRCNZ *
727 CTRQB *
728 CTRQBB *
729 CTRQBZ *
731 CTRTR *
732 CTRTRB *
733 CTRTRZ *
747 CTSTA *
748 CTSTAB *
749 CTSTAZ *
759 CTWDS *
760 CTWDSB *
761 CTWDSZ *
688 DCBUFF *
691 DCCHR *
692 DCCHRB *
693 DCCHRZ *
689 DCCNT *
687 DCRECL *
187 DINTS *
569 DISCLK 189
589 DISMP *
584 DISPIM 188
813 DMBCA *
814 DMBCAB *
815 DMBCAZ *
805 DMCWA 1476 1486
806 DMCWAB *
807 DMCWAZ *
785 DMFPA *
786 DMFPAB *
787 DMFPAZ *
793 DMLCA *
794 DMLCAB *
795 DMLCAZ *
797 DMLTA *
798 DMLTAB *
799 DMLTAZ *
801 DMPTA *
802 DMPTAB *
803 DMPTAZ *
781 DMRPA *
782 DMRPAB *
783 DMRPAZ *
789 DMSTA *
790 DMSTAB *
791 DMSTAZ *
809 DMSWA *
810 DMSWAB *
811 DMSWAZ *
1475 DMT 1476 1486
777 DMTPA *
778 DMTPAB *
779 DMTPAZ *
815 DSCTAD *

```


1339	PCPCHZ	*
1333	PCSWL	*
1334	PCSWLB	*
1335	PCSWLZ	*
1345	PCTYP	*
1346	PCTYPB	*
1347	PCTYPZ	*
1325	PCXMM	*
1326	PCXMMB	*
1327	PCXMMZ	*
575	PIM1	*
576	PIM2	*
577	PIM3	*
578	PIM4	*
579	PIM5	*
580	PIM6	*
581	PIM7	*
582	PIM8	*
699	POST	*
1287	PSABN	*
1288	PSABNB	*
1289	PSABNZ	*
1239	PSASY	*
1240	PSASYB	*
1241	PSASYZ	*
670	PSEADT	*
666	PSEBEG	*
1299	PSEBSC	*
1300	PSEBSCB	*
1301	PSEBSCZ	*
1251	PSCC1	*
1252	PSCC1B	*
1253	PSCC1Z	*
1255	PSCC2	*
1256	PSCC2B	*
1257	PSCC2Z	*
1291	PSCRC	*
1292	PSCRCB	*
1293	PSCRCZ	*
1271	PSEDEF	*
1272	PSEDEFB	*
1273	PSEDEFZ	*
1279	PSEDSF	*
1280	PSEDSFB	*
1281	PSEDSFZ	*
1267	PSEDDN	*
1268	PSEDDNB	*
1269	PSEDDNZ	*
672	PSEEND	*
1263	PSEEPF	*
1264	PSEEPFB	*
1265	PSEEPFZ	*
1247	PSELSP	*
1248	PSELSPB	*
1249	PSELSPZ	*
1231	PSEMOD	*
1232	PSEMODB	*
1233	PSEMODZ	*
671	PSESECO	*
1235	PSEPAR	*
1236	PSEPARB	*
1237	PSEPARZ	*
1275	PSEPLA	*
1276	PSEPLAB	*
1277	PSEPLAZ	*
667	PSEPROT	*
1259	PSETER	*
1260	PSETERB	*
1261	PSETERZ	*
1243	PSEMM	*
1244	PSEMMB	*
1245	PSEMMZ	*
1283	PSEYHC	*
1284	PSEYHCB	*
1285	PSEYHCZ	*
1303	PSEYNR	*
1304	PSEYNRB	*
1305	PSEYNRZ	*
1295	PSEYNT	*
1296	PSEYNTB	*
1297	PSEYNTZ	*
32	PUSH	*
228	PUTO	*
532	RA0	*
533	RA1	*
651	RADNR	*
534	RBO	*
535	RB1	*
649	RFCB	*
504	RHW	*
645	RDPWD	*
642	RSTPR	*
650	RTIOF	*
1485	RH01	1477
1504	RHEV	1494 1498

1505	RWRTN	1472	1478	1485	1487	1500
96	SETA	**				
111	SETB	**				
191	SETF	**				
511	SEVEN	145	169			
510	SIX	147	171			
26	SPACE	**				
135	SUBAT	**				
288	TBATSX	**				
287	TBCPTH	**				
274	TBENTY	**				
268	TBEVNT	**				
282	TBID	**				
277	TBISA	**				
278	TBISB	**				
280	TBISP	**				
281	TBISRS	**				
294	TBIST	**				
279	TBISX	**				
292	TBKEY	**				
283	TBKN1	**				
284	TBKN2	**				
285	TBKN3	**				
293	TBMIMG	**				
291	TBNUCL	**				
267	TBPL	**				
269	TBRSA	**				
270	TBRSE	**				
289	TBRSE	**				
272	TBRSP	**				
273	TBRSTS	**				
271	TBRSX	**				
322	TBS0	**				
321	TBS1	**				
309	TBS10	**				
308	TBS11	**				
306	TBS12	**				
305	TBS13	**				
304	TBS14	**				
302	TBS15	**				
320	TBS2	**				
318	TBS3	**				
317	TBS4	**				
316	TBS5	**				
314	TBS6	**				
313	TBS7	**				
312	TBS8	**				
310	TBS9	**				
290	TBS1Z	**				
266	TBST	**				
286	TBTLC	**				
276	TBTMIN	**				
275	TBTMS	**				
265	TBTRD	**				
1115	TCBSL	**				
1116	TCBSLB	**				
1117	TCBSLZ	**				
1099	TCCLN	**				
1100	TCCLNB	**				
1101	TCCLNZ	**				
1127	TCCON	**				
1128	TCCONB	**				
1129	TCCONZ	**				
1095	TCCTA	**				
1096	TCCTAB	**				
1097	TCCTAZ	**				
1151	TCCTP	**				
1152	TCCTPB	**				
1153	TCCTPZ	**				
1187	TCUCC	**				
1188	TCUCCB	**				
1189	TCUCCZ	**				
1195	TCUTD	**				
1196	TCUTDB	**				
1197	TCUTDZ	**				
1183	TCECH	**				
1184	TCECHB	**				
1185	TCECHZ	**				
1199	TCID1	**				
1200	TCID1B	**				
1201	TCID1Z	**				
1203	TCID2	**				
1204	TCID2B	**				
1205	TCID2Z	**				
1171	TCLDF	**				
1172	TCLDFB	**				
1173	TCLDFZ	**				
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1104	TCLLNB	**				
1105	TCLLNZ	**				
1143	TCNOD	**				
1144	TCNODB	**				
1145	TCNODZ	**				
1139	TCNTD	**				
1140	TCNTDB	**				

1141	TCNTDZ	*		
1107	TCPCH	*		
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1109	TCPCHZ	*		
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1137	TCRBCZ	*		
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1192	TCRBFB	*		
1193	TCRBFZ	*		
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1176	TCRCAB	*		
1177	TCRCAZ	*		
1155	TCRMD	*		
1156	TCRMDB	*		
1157	TCRMDZ	*		
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1092	TCRQHB	*		
1093	TCRQHZ	*		
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1164	TCRRSB	*		
1165	TCRRSZ	*		
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1180	TCSTOB	*		
1181	TCSTOZ	*		
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1112	TCSWLB	*		
1113	TCSWLZ	*		
1087	TCTCD	*		
1088	TCTCDB	*		
1089	TCTCDZ	*		
1147	TCTYP	*		
1148	TCTYPB	*		
1149	TCTYPZ	*		
1131	TCWBC	*		
1132	TCWBCB	*		
1133	TCWBCZ	*		
1183	TCWCA	*		
1184	TCWCAB	*		
1185	TCWCAZ	*		
1159	TCWMD	*		
1160	TCWMDB	*		
1161	TCWMDZ	*		
1167	TCWRS	*		
1168	TCWRSB	*		
1169	TCWRSZ	*		
1119	TCXMM	*		
1120	TCXMMB	*		
1121	TCXNMZ	*		
514	TEN	*	139	163
205	TESTF	*		
507	THREE	*	153	177
1375	TIDSP	*		
1376	TIDSPB	*		
1377	TIDSPZ	*		
1367	TIDWN	*		
1368	TIDWNB	*		
1369	TIDWNZ	*		
1391	TINET	*		
1392	TINETB	*		
1393	TINETZ	*		
1379	TIOBN	*		
1380	TIOBNB	*		
1381	TIOBNZ	*		
1387	TIOBP	*		
1388	TIOBPB	*		
1389	TIOBPZ	*		
1383	TIOSC	*		
1384	TIOSCB	*		
1385	TIOSCZ	*		
1371	TISEC	*		
1372	TISECB	*		
1373	TISECZ	*		
1359	TITUI	*		
1360	TITUIB	*		
1361	TITUIZ	*		
1363	TITU2	*		
1364	TITUCB	*		
1365	TITUCZ	*		
1221	TPFPA	*		
1222	TPFPAB	*		
1223	TPFPAZ	*		
1213	TPRPA	*		
1214	TPRPAB	*		
1215	TPRPAZ	*		
1217	TPWPA	*		
1218	TPWPAB	*		
1219	TPWPAZ	*		
506	TWO	*	155	179
440	V\$IMIN	*		
458	V\$BFC	*		
366	V\$EGLB	*		
363	V\$EIO1	*		
392	V\$ETE	*		
400	V\$RTFM	*		

457	V\$BYN	*			
408	V\$CAM	*			
420	V\$CKB	*			
448	V\$CKIT	*			
387	V\$CKPT	*			
380	V\$CPL	*			
367	V\$CRDM	*			
410	V\$CRDR	*			
421	V\$CRM	*			
381	V\$CRS	*			
426	V\$CTAD	*			
379	V\$CTL	*			
418	V\$CTMS	*			
364	V\$DATE	*			
422	V\$DSTB	*			
435	V\$ERFG	*			
416	V\$FGLB	*			
385	V\$FLRS	*			
417	V\$FREE	*			
401	V\$GFCB	*			
397	V\$IM	*			
447	V\$IDA	*			
449	V\$JCB	*			
356	V\$JCFG	*			
370	V\$JCTM	*			
354	V\$JNAM	*			
436	V\$JOP	*			
407	V\$KEY	*			
355	V\$LCNT	*			
390	V\$LER	*			
423	V\$LIT	*			
395	V\$LLUP	*			
396	V\$LPP	*			
386	V\$LRSK	*			
389	V\$LSAL	*			
414	V\$LUNT	*			
394	V\$LUP	*			
437	V\$LUT1	*			
438	V\$LUT2	*			
439	V\$LUT3	*			
399	V\$MAP	*			
402	V\$MING	*			
398	V\$MPM	*			
428	V\$NCTR	*			
393	V\$NPAG	*			
452	V\$OCB	*			
415	V\$OPCF	*			
388	V\$OPCL	*			
424	V\$PGT	*			
429	V\$PIMN	*			
365	V\$PLCT	*			
384	V\$PTVB	*			
427	V\$SCTL	*			
419	V\$SCV	*			
434	V\$SLFG	*			
403	V\$ST0	*			
404	V\$ST1	*			
405	V\$ST2	*			
406	V\$ST3	*			
382	V\$TB	*			
411	V\$TBGT	*			
459	V\$TFC	*			
391	V\$TJCP	*			
413	V\$TMN	*			
412	V\$TMS	*			
383	V\$UTB	*			
0	VTPUSH	*	33	35	
697	X	*	232	254	1473
469	ZERO	*			


```

000001 A 1 VORTEX SET 1 03 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 03 00002
3 * 03 00003
4 * V.D.M. PART NO. 92L1105-045B 03 00004
5 * 03 00005
6 * RELEASED 3-1-74 03 00006
7 * 03 00007
8 * 03 00008
9 * C52SST 03 00009
10 * 03 00010
11 * 03 00011
12 * TITLE C52SST 03 00012
13 * NLIS 03 00013
1443 * LIST *****
1444 * 03 00014
1445 * EJEC 03 00015
1446 ***** 03 00016
1447 ***** 03 00017
1448 * PROGRAM NAME - **03 00018
1449 * C52SST - BUILD DCM STATUS WORD IN VTAM FORMAT **03 00019
1450 * **03 00020
1451 * ENTRY CONDITIONS - **03 00021
1452 * (VTSTAK+1) A REGISTER VALUE OF CALLING PROGRAM **03 00022
1453 * (VTSTAK+2) B REGISTER VALUE OF CALLING PROGRAM **03 00023
1454 * (VTSTAK+3) X REGISTER VALUE OF CALLING PROGRAM **03 00024
1455 * INTERRUPTS DISABLED **03 00025
1456 * **03 00026
1457 * CALLING SEQUENCE - **03 00027
1458 * DINTS DISABLE INTERRUPTS **03 00028
1459 * JPM VTPUSH REENTRANT CALL VIA VOLATILE STACK **03 00029
1460 * DATA C52SST ADDRESS OF C52SST **03 00030
1461 * (RETURN WITH INTERRUPTS ON) **03 00031
1462 * **03 00032
1463 * EXIT CONDITIONS - **03 00033
1464 * (VTSTAK+1) DESTROYED **03 00034
1465 * (VTSTAK+2) STATUS WORD **03 00035
1466 * (VTSTAK+3) UNCHANGED **03 00036
1467 * EXIT TO VTPOP WHERE VTSTAK+1 THRU VTSTAK+3 ARE RESTORED **03 00037
1468 * TO (A), (B) AND (X) RESPECTIVLY **03 00038
1469 * **03 00039
1470 ***** 03 00040
1471 ***** 03 00041
1472 * EJEC 03 00042
1473 * NAME C52SST 03 00043
000000 000006 A 1474 C52SST DATA 6 NUMBER OF ADDITIONAL WORDS TO ALLOCATE 03 00044
1475 * EINTS IN STACK. 03 00045
000001 100244 A 1476 * EXT VTSTAK 03 00046
000002 100147 A 1477 * LD BE VTSTAK 03 00047
000003 006027 A 1478 * LD X 3,B 03 00048
000004 000000 E 1479 * SET X 03 00049
000005 036003 A 1480 * 03 00050
1481 * READ STATUS FROM DCM 03 00051
1482 * 03 00052
1483 * FETCHA LSD,LSPLA,LSPLAB,LSPLAZ 03 00053
000006 015016 A 1484 * 03 00054
000007 150463 A 1485 * DRA BS6 03 00055
000010 110427 A 1486 * STA 1,B STORE CONTROL WORD IN STACK 'A' CELL 03 00056
000011 056001 A 1487 * TBA 03 00057
000012 005021 A 1488 * IAR 03 00058
000013 005111 A 1489 * STA 7,B SET CONTROL WORD POINTER 03 00059
000014 056007 A 1490 * IAR 03 00060
000015 005111 A 1491 * STA 8,B SET STATUS WORD POINTER 03 00061
000016 056010 A 1492 * 03 00062
000017 014053 A 1493 * LDA SSJSR 03 00063
000020 056005 A 1494 * STA 5,B STORE JSR INSTRUCTION 03 00064
000021 014052 A 1495 * LDA SSJSRA 03 00065
000022 056006 A 1496 * STA 6,B STORE JSR ADDRESS 03 00066
000023 014051 A 1497 * LDA SSJMP 03 00067
000024 056011 A 1498 * STA 9,B STORE JMP INSTRUCTION 03 00068
000025 014050 A 1499 * LDA SSJMPA 03 00069
000026 056012 A 1500 * STA 10,B STORE JMP ADDRESS 03 00070
000027 006706 A 1501 * 03 00071
000030 000005 A 1502 * RETURN AFTER READ CONTROL SEQUENCE 03 00072
1503 * 03 00073
000031 006027 A 1504 SS01 LD BE VTSTAK 03 00074
000032 000004 E 1505 * 03 00075
000033 036003 A 1506 * LD X 3,B 03 00076
1506 * FETCHA LSD,LSMOD,LSMODB,LSMODZ
000034 015014 A 1507 * 03 00077
000035 004356 A 1508 * JANZ SS02 IF NOT DIRECT CONNECT, JUMP 03 00078
000036 001016 A 1509 * LD AI 013 DIRECT CONNECT, SET STATUS FOR DC MODEM 03 00079
000037 000044 R 1510 * JMP SS03 03 00080
000040 006010 A 1511 SS02 TZA 03 00081
000041 000013 A 1512 SS03 LD X SEVEN LOOP COUNTER AND MASK SELECTOR 03 00082
000042 001000 A 03 00083
000043 000045 R 03 00084
000044 005001 A 03 00085
000045 030467 A 03 00086
000046 026002 A 03 00087

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000047 006477 A 1513 SS04 BT RBO+B15,SS05 03 00083
000050 000053 R
000051 006115 A 1514 DRAE SSBM-1,X SET BIT IN (A) IF BIT SET IN STATUS 03 00084
000052 000063 R
000053 004041 A 1515 SS05 LRLB 1 SHIFT NEXT STATUS BIT TO BIT POSITION 15 03 00085
000054 005344 A 1516 DXR DECREMENT LOOP COUNTER 03 00086
000055 001046 A 1517 JXNZ SS04 03 00087
000056 000047 R
1518 *
1519 * STORE DCM STATUS WORD IN STACK 'B' CELL 03 00088
1520 * 03 00089
1521 * 03 00090
000057 006027 A 1521 LDDB VTSTAK 03 00091
000060 000032 E
000061 056002 A 1522 STA 2,B 03 00092
1523 * 03 00093
1524 * RETURN TO REQUESTOR 03 00094
1525 * 03 00095
1526 * 03 00096
000062 001000 A 1527 EXT VTPOP 03 00097
000063 000000 E JMP VTPOP
1528 * 03 00098
1529 * BIT MASK TABLE 03 00099
1530 * 03 00100
000064 000020 A 1531 SSBM DATA 020 2**4 CONTROL LINE (REVERSE CHANNEL) 03 00101
000065 000004 A 1532 DATA 4 2**2 RING 03 00102
000066 000000 A 1533 DATA 0 0 03 00103
000067 000000 A 1534 DATA 0 0 03 00104
000070 000001 A 1535 DATA 1 2**0 CLEAR-TO-SEND 03 00105
000071 000010 A 1536 DATA 010 2**3 CARRIER-ON 03 00106
000072 000002 A 1537 DATA 2 2**1 DATA-SET-READY 03 00107
1538 * 03 00108
1539 * READ CONTROL SEQUENCE 03 00109
1540 * 03 00110
1541 * 03 00111
000073 006506 A 1542 SSJSR JSR C52RCR 03 00112
000074 000000 E JSR C52RCR,B
000074 000074 R 1543 SSJSRA EQU *-1 03 00113
000075 001000 A 1544 SSJMP JMP SS01 03 00114
000076 000031 R
000076 000076 R 1545 SSJMPA EQU *-1 03 00115
1546 END 03 00116

```

ENTRY NAMES

000000 R C52SST

EXTERNAL NAMES

000074 E C52RCR 000063 E VTPOP 000060 E VTSTAK

SYMBOLS

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000044 A APIM 000002 A B 000000 A B0 000001 A B1
000012 A B10 000013 A B11 000014 A B12 000015 A B13
000016 A B14 000017 A B15 000002 A B2 000003 A B3
000004 A B4 000005 A B5 000006 A B6 000007 A B7
000010 A B8 000011 A B9 000000 A BICNUM 000421 A BM1
000472 A BM17 000475 A BM177 000477 A BM1777 000464 A BM3
000473 A BM37 000463 A BM377 000467 A BM7 000474 A BM77
000476 A BM777 000441 A BR0 000442 A BR1 000453 A BR10
000454 A BR11 000455 A BR12 000456 A BR13 000457 A BR14
000460 A BR15 000443 A BR2 000444 A BR3 000445 A BR4
000446 A BR5 000447 A BR6 000450 A BR7 000451 A BR8
000452 A BR9 000421 A BS0 000422 A BS1 000433 A BS10
000434 A BS11 000435 A BS12 000436 A BS13 000437 A BS14
000440 A BS15 000423 A BS2 000424 A BS3 000425 A BS4
000426 A BS5 000427 A BS6 000430 A BS7 000431 A BS8
000432 A BS9 000074 E C52RCR 000000 R C52SST 000000 A CHAFP
000000 A CHAFPB 000020 A CHAFPZ 000001 A CHARP 000000 A CHARPB
000020 A CHARPZ 000002 A CHCFP 000000 A CHCFPB 000020 A CHCFPZ
000003 A CHCRP 000000 A CHCRPB 000020 A CHCRPZ 000004 A CHRBL
000000 A CHRBLB 000020 A CHRBLZ 000047 A CLOCK 000000 A COTAD1
000000 A CTRACT 000017 A CTRACTB 000001 A CTRACTZ 000001 A CTADN
000000 A CTADNB 000020 A CTADNZ 000011 A CTBIC 000000 A CTBICB
000020 A CTBICZ 000003 A CTDST 000000 A CTDSTB 000020 A CTDSTZ
000006 A CTDVA 000000 A CTDVAB 000020 A CTDVAZ 000012 A CTFCB
000000 A CTFCBZ 000020 A CTFCBZ 000014 A CTFRC 000010 A CTFRCB
000010 A CTFRCZ 000014 A CTFRE 000000 A CTFREB 000010 A CTFREZ
000000 A CTIDB 000000 A CTIDBB 000017 A CTIDBZ 000007 A CTIDA
000000 A CTIDAB 000020 A CTIDAZ 000002 A CTIDPM 000000 A CTIDPMB
000020 A CTIDPMZ 000005 A CTRCN 000000 A CTRCNB 000010 A CTRCNZ
000004 A CTRQB 000000 A CTRQBB 000020 A CTRQBZ 000005 A CTRTR
000010 A CTRTRB 000010 A CTRTRZ 000010 A CTSTA 000000 A CTSTAB
000020 A CTSTAZ 000013 A CTWDS 000000 A CTWDSB 000020 A CTWDSZ
000001 A DCBUFF 000003 A DCCHR 000000 A DCCHRZ 000020 A DCCHRZ
000002 A DCCNT 000000 A DCRECL 000747 A DISCLK 000745 A DISMP
000444 A DISPIM 000026 A DMBCA 000000 A DMBCAB 000020 A DMBCAZ
000024 A DMCWA 000000 A DMCWAB 000020 A DMCWAZ 000017 A DMFPA
000000 A DMFPAB 000020 A DMFPAZ 000021 A DMLCA 000000 A DMLCAB
000020 A DMLCAZ 000022 A DMLTA 000000 A DMLTAB 000020 A DMLTAZ
000023 A DMPTA 000000 A DMPTAB 000020 A DMPTAZ 000016 A DMRPA
000000 A DMRPAB 000020 A DMRPAZ 000020 A DMSTA 000000 A DMSTAB
000020 A DMSTAZ 000025 A DMSWA 000000 A DMSWAB 000020 A DMSWAZ
000015 A DMTPA 000000 A DMTPAZ 000020 A DMTPAZ 000002 A DSCTAD
000000 A DSDASS 000000 A DSDVDN 000002 A DSLCKD 000001 A DSNAME
000000 A DSHDRQ 000002 A DSPPCM 000002 A DSPSTI 000002 A DSREWD
000000 A DSUNAM 000002 A DSUNTN 000424 A EIGHT 000147 A ENACKL
000645 A ENAMP 000244 A ENAPIM 000465 A FIVE 000423 A FOUR
000003 A IBIBF 000017 A IBIBFB 000001 A IBIBFZ 000003 A IBLAS
000000 A IBLASB 000017 A IBLASZ 000001 A IBLEN 000000 A IBLENB
000020 A IBLENZ 000000 A IBLNK 000000 A IBLNKB 000020 A IBLNKZ

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0000001 A TCBSLZ 0000003 A TCCLN 0000000 A TCCLNB 0000010 A TCCLNZ
0000004 A TCCDN 0000015 A TCCDNB 0000001 A TCCDNZ 0000002 A TCCTA
0000000 A TCCTAB 0000020 A TCCTAZ 0000005 A TCCTP 0000014 A TCCTPB
0000004 A TCCTPZ 0000012 A TCDCC 0000000 A TCDCCB 0000020 A TCDCCZ
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0000000 A TCRQHB 0000020 A TCRQHZ 0000006 A TCRRS 0000006 A TCRRSB
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0000000 A TCTCDB 0000020 A TCTCDZ 0000005 A TCTYP 0000010 A TCTYPB
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0000003 A TCWMDB 0000003 A TCWMDZ 0000006 A TCWRS 0000011 A TCWRSB
0000003 A TCWRSZ 0000004 A TCXMM 0000012 A TCXMMB 0000002 A TCXMMZ
000471 A TEN 000464 A THREE 0000002 A TIDSP 0000000 A TIDSPB
0000007 A TIDSPZ 0000002 A TIDWN 0000017 A TIDWNB 0000001 A TIDWNZ
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0000017 A TIDDNB 0000001 A TIDDNZ 0000003 A TIDDP 0000000 A TIDDPB
0000007 A TIDDPZ 0000003 A TIDSC 0000007 A TIDSCB 0000010 A TIDSCZ
0000002 A TISEC 0000007 A TISECB 0000010 A TISECZ 0000000 A TITU1
0000000 A TITU1B 0000020 A TITU1Z 0000001 A TITU2 0000000 A TITU2B
0000020 A TITU2Z 0000017 A TPFPA 0000000 A TPFPAZ 0000020 A TPFPAZ
0000015 A TPRPA 0000000 A TPRPAB 0000020 A TPRPAZ 0000016 A TPWPA
0000000 A TPWPAB 0000020 A TPWPAB 000422 A TWO 000403 A V$1MIN
000415 A V$BFC 0000075 A V$BGLB 0000056 A V$BIC1 000315 A V$BTB
000331 A V$BTBM 000414 A V$BVN 000334 A V$CAM 000353 A V$CKB
000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL 000076 A V$CRDM
000341 A V$CRDR 000354 A V$CRM 000302 A V$CRS 000360 A V$CTAD
000300 A V$CTL 000351 A V$CTMS 000070 A V$DATE 000355 A V$DSTB
000376 A V$ERFG 000347 A V$FGLB 000306 A V$FLRS 000350 A V$FREE
000332 A V$GFCB 000320 A V$IM 000410 A V$IDA 000412 A V$JCB
000055 A V$JCFG 000077 A V$JCTM 000050 A V$JNAM 000377 A V$JDP
000340 A V$KEY 000054 A V$LCNT 000313 A V$LER 000356 A V$LIT
000317 A V$LLUP 000317 A V$LPP 000307 A V$LRSK 000312 A V$LSAL
000345 A V$LUNT 000316 A V$LUP 000400 A V$LUT1 000401 A V$LUT2
000402 A V$LUT3 000330 A V$MAP 000333 A V$MIMG 000330 A V$MPM
000362 A V$NCTR 000316 A V$NPAG 000413 A V$DCB 000346 A V$OPCF
000311 A V$OPCL 000357 A V$PGT 000363 A V$PIMN 000074 A V$PLCT
000305 A V$PTVB 000361 A V$SCTL 000352 A V$SCV 000375 A V$SLFG
000334 A V$STO 000335 A V$ST1 000336 A V$ST2 000337 A V$ST3
000303 A V$TB 000342 A V$TBGT 000416 A V$TFC 000314 A V$TJCP
000344 A V$TMN 000343 A V$TMS 000304 A V$UTB 000001 A VORTEX
000063 E VTPOP 000060 E VTSTAK 000001 A X 000420 A ZERO
0 ERRORS ASSEMBLY COMPLETE

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159 ADAT *
38 ANAM *
90 ANAN *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1478 1485
1488 1490 1493 1495 1497 1499 1500 1505 1512
1522 1542
88 B& 82
89 B&0 40
90 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 *
553 B10 *
554 B11 *
555 B12 *
556 B13 *
557 B14 *
558 B15 1513
545 B2 *
546 B3 *
547 B4 *
548 B5 *
549 B6 *
550 B7 *
551 B8 *
552 B9 *
630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75

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519	BM37	63	
522	BM377	51	
517	BM7	71	
520	BM77	59	
523	BM777	47	
486	BR0	202	
487	BR1	*	
496	BR10	*	
497	BR11	*	
498	BR12	*	
499	BR13	*	
500	BR14	*	
501	BR15	*	
488	BR2	*	
489	BR3	*	
490	BR4	*	
491	BR5	*	
492	BR6	*	
493	BR7	*	
494	BR8	*	
495	BR9	*	
470	BS0	195	209
471	BS1	*	
480	BS10	*	
481	BS11	*	
482	BS12	*	
483	BS13	*	
484	BS14	*	
485	BS15	*	
472	BS2	*	
473	BS3	*	
474	BS4	*	
475	BS5	*	
476	BS6	1484	
477	BS7	*	
478	BS8	*	
479	BS9	*	
0	C52RCR	1541	1542
1474	C52SST	12	1473
1397	CHAFP	*	
1398	CHAFPB	*	
1399	CHAFPZ	*	
1401	CHARP	*	
1402	CHARPB	*	
1403	CHARPZ	*	
1405	CHCFP	*	
1406	CHCFPB	*	
1407	CHCFPZ	*	
1409	CHCRP	*	
1410	CHCRPB	*	
1411	CHCRPZ	*	
1413	CHRBL	*	
1414	CHRBLB	*	
1415	CHRBLZ	*	
198	CLEARF	*	
567	CLOCK	569	570
622	CDTAD1	*	
707	CTACT	*	
708	CTACTB	*	
709	CTACTZ	*	
715	CTADN	*	
716	CTADNB	*	
717	CTADNZ	*	
751	CTBIC	*	
752	CTBICB	*	
753	CTBICZ	*	
723	CTDST	*	
724	CTDSTB	*	
725	CTDSTZ	*	
739	CTDVA	*	
740	CTDVAB	*	
741	CTDVAZ	*	
755	CTFCB	*	
756	CTFCBB	*	
757	CTFCBZ	*	
763	CTFRC	*	
764	CTFRCB	*	
765	CTFRCZ	*	
767	CTFRE	*	
768	CTFREB	*	
769	CTFREZ	*	
711	CTIDB	*	
712	CTIDBB	*	
713	CTIDBZ	*	
743	CTIOA	*	
744	CTIOAB	*	
745	CTIOAZ	*	
719	CTOPM	*	
720	CTOPMB	*	
721	CTOPMZ	*	
735	CTRCN	*	
736	CTRCNB	*	
737	CTRCNZ	*	
727	CTROB	*	
728	CTROBB	*	

729	CTRQBZ	*									
731	CTRTR	*									
732	CTRTRB	*									
733	CTRTRZ	*									
747	CTSTA	*									
748	CTSTAB	*									
749	CTSTAZ	*									
759	CTWDS	*									
760	CTWDSB	*									
761	CTWDSZ	*									
688	DCBUFF	*									
691	DCCHR	*									
692	DCCHRB	*									
693	DCCHRZ	*									
689	DCCNT	*									
687	DCRECL	*									
187	DINTS	*									
569	DISCLK	*	189								
589	DISMP	*									
584	DISPIM	*	188								
813	DMBCA	*									
814	DMBCAB	*									
815	DMBCAZ	*									
805	DMCHA	*									
806	DMCHAB	*									
807	DMCHAZ	*									
785	DMFPA	*									
786	DMFPAB	*									
787	DMFPAZ	*									
793	DMLCA	*									
794	DMLCAB	*									
795	DMLCAZ	*									
797	DMLTA	*									
798	DMLTAB	*									
799	DMLTAZ	*									
801	DMPTA	*									
802	DMPTAB	*									
803	DMPTAZ	*									
781	DMRPA	*									
782	DMRPAB	*									
783	DMRPAB	*									
783	DMRPAB	*									
789	DMSTA	*									
790	DMSTAB	*									
791	DMSTAZ	*									
809	DMSWA	*									
810	DMSWAB	*									
811	DMSWAZ	*									
777	DMTPA	*									
778	DMTPAB	*									
779	DMTPAZ	*									
615	DSCTAD	*									
601	DSDASS	*									
600	DSDVDN	*									
612	DSLCKD	*									
609	DSNAME	*									
608	DSNDRQ	*									
613	DSOPCM	*									
614	DSPSTI	*									
610	DSREWD	*									
606	DSUNAM	*									
611	DSUNTN	*									
512	EIGHT	*	143	167							
183	EINTS	*									
570	ENACLK	*	185								
590	ENAMP	*									
585	ENAPIM	*	184								
0	ERROR	*	113	193	200	207					
128	FETCHA	*									
509	FIVE	*	149	173							
508	FOUR	*	151	175							
251	GETQ	*									
1432	IBIBF	*									
1433	IBIBFB	*									
1434	IBIBFZ	*									
1436	IBLAS	*									
1437	IBLASB	*									
1438	IBLASZ	*									
1424	IBLEN	*									
1425	IBLENB	*									
1426	IBLENZ	*									
1420	IBLNK	*									
1421	IBLNKB	*									
1422	IBLNKZ	*									
1428	IBSTA	*									
1429	IBSTAB	*									
1430	IBSTAZ	*									
1440	IBSTS	*									
1441	IBSTSB	*									
1442	IBSTSZ	*									
378	LC	*	379	380	381	382	383	384	385	386	387
			388	389	390	391	392	393	394	395	396
			397	398	399	400	401	402	403	404	405
			406	407	408	410	411	412	413	414	415
			416	417	418	419	420	421	422	423	424
			426	427	428	429	434	435	436	437	438


```

1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSBSC *
1070 LSBSCB *
1071 LSBSCZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA *
986 LSCTAB *
987 LSCTAZ *
1479 LSD 1483 1506
1041 LSDSF *
1042 LSDSFB *
1043 LSDSFZ *
989 LSDST *
990 LSDSTB *
991 LSDSTZ *
1025 LSEPF *
1026 LSEPFB *
1027 LSEPFZ *
1009 LSLSP *
1010 LSLSPB *
1011 LSLSPZ *
993 LSMOD 1506
994 LSMODB 1506
995 LSMODZ 1506
1073 LSNTD *
1074 LSNTDB *
1075 LSNTDZ *
997 LSPAR *
998 LSPARB *
999 LSPARZ *
1037 LSPLA 1483
1038 LSPLAB 1483
1039 LSPLAZ 1483
953 LSRCA *
954 LSRCAB *
955 LSRCAZ *
957 LSREM *
958 LSREMB *
959 LSREMZ *
1033 LSRRS *
1034 LSRRSB *
1035 LSRRSZ *
949 LSRRT *
950 LSRRTB *
951 LSRRTZ *
961 LSRTD *
962 LSRTDB *
963 LSRTDZ *
965 LSSRS *
966 LSSRSB *
967 LSSRSZ *
981 LSSWS *
982 LSSWSB *
983 LSSWSZ *
1021 LSTER *
1022 LSTERB *
1023 LSTERZ *
945 LSTHD *
946 LSTHDB *
947 LSTHDZ *
969 LSWCA *
970 LSWCAB *
971 LSWCAZ *
973 LSWEM *
974 LSWEMB *
975 LSWEMZ *
1029 LSWRS *
1030 LSWRSB *
1031 LSWRSZ *
977 LSWTD *
978 LSWTDB *
979 LSWTDZ *
1005 LSXMM *
1006 LSXMMB *
1007 LSXMMZ *
1045 LSYNC *
1046 LSYNCB *
1047 LSYNCZ *
1077 LSYNR *
1078 LSYNRB *
1079 LSYNRZ *

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1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMODB *
1233 PSMODZ *
671 PSMSEC *
1235 PSPAR *
1236 PSPARB *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
667 PSPROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYNCZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
32 PUSH *
228 PUTQ *
532 RAO *
533 RA1 *
651 RADNR *
534 RBO 1513
535 RB1 *
649 RFCB *
504 RHW *
645 ROPWD *
642 RSTPR *
650 RTIDB *
96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169 1511
510 SIX 147 171
26 SPACE *
1504 SS01 1544
1510 SS02 1507
1511 SS03 1509
1513 SS04 1517
1515 SS05 1513
1531 SSBM 1514
1544 SSJMP 1496
1545 SSJMPA 1498
1542 SSJSR 1492
1543 SSJSRA 1494
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT *
282 TBID *
277 TBICA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY *
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMING *
291 TBNUCL *
267 TBPL *
269 TBRSA *
270 TBRSB *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBRSX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *

```

305	TBS13	*
304	TBS14	*
302	TBS15	*
320	TBS2	*
318	TBS3	*
317	TBS4	*
316	TBS5	*
314	TBS6	*
313	TBS7	*
312	TBS8	*
310	TBS9	*
290	TBS12	*
266	TBST	*
286	TBTLC	*
276	TBTMIN	*
275	TBTMS	*
265	TBTRD	*
1115	TCBSL	*
1116	TCBSLB	*
1117	TCBSLZ	*
1099	TCCLN	*
1100	TCCLNB	*
1101	TCCLNZ	*
1127	TCCDN	*
1128	TCCDNB	*
1129	TCCDNZ	*
1095	TCCTA	*
1096	TCCTAB	*
1097	TCCTAZ	*
1151	TCCTP	*
1152	TCCTPB	*
1153	TCCTPZ	*
1187	TCDC	*
1188	TCDCB	*
1189	TCDCZ	*
1195	TCDT	*
1196	TCDTB	*
1197	TCDTZ	*
1123	TCECH	*
1124	TCECHB	*
1125	TCECHZ	*
1199	TCID1	*
1200	TCID1B	*
1201	TCID1Z	*
1203	TCID2	*
1204	TCID2B	*
1205	TCID2Z	*
1171	TCLDF	*
1172	TCLDFB	*
1173	TCLDFZ	*
1103	TCLLN	*
1104	TCLLNB	*
1105	TCLLNZ	*
1143	TCNOD	*
1144	TCNODB	*
1145	TCNODZ	*
1139	TCNTD	*
1140	TCNTDB	*
1141	TCNTDZ	*
1107	TCPC	*
1108	TCPCB	*
1109	TCPCZ	*
1135	TCRBC	*
1136	TCRBCB	*
1137	TCRBCZ	*
1191	TCRBF	*
1192	TCRBFB	*
1193	TCRBFZ	*
1175	TCRCA	*
1176	TCRCAB	*
1177	TCRCAZ	*
1155	TCRMD	*
1156	TCRMDB	*
1157	TCRMDZ	*
1091	TCRQH	*
1092	TCRQHB	*
1093	TCRQHZ	*
1163	TCRRS	*
1164	TCRRSB	*
1165	TCRRSZ	*
1179	TCSTD	*
1180	TCSTDB	*
1181	TCSTDZ	*
1111	TCSWL	*
1112	TCSWLB	*
1113	TCSWLZ	*
1087	TCTCD	*
1088	TCTCDB	*
1089	TCTCDZ	*
1147	TCTYP	*
1148	TCTYPB	*
1149	TCTYPZ	*
1131	TCWBC	*
1132	TCWBCB	*
1133	TCWBCZ	*

1183	TCWCA	*		
1184	TCWCAB	*		
1185	TCWCAZ	*		
1159	TCWMD	*		
1160	TCWMDB	*		
1161	TCWMDZ	*		
1167	TCWRS	*		
1168	TCWRSB	*		
1169	TCWRSZ	*		
1119	TCXMM	*		
1120	TCXMMB	*		
1121	TCXMMZ	*		
514	TEN	*	139	163
205	TESTF	*		
507	THREE	*	153	177
1375	TIDSP	*		
1376	TIDSPB	*		
1377	TIDSPZ	*		
1367	TIDWN	*		
1368	TIDWNB	*		
1369	TIDWNZ	*		
1391	TINET	*		
1392	TINETB	*		
1393	TINETZ	*		
1379	TIOBN	*		
1380	TIOBNB	*		
1381	TIOBNZ	*		
1387	TIOBP	*		
1388	TIOBPB	*		
1389	TIOBPZ	*		
1383	TIOSC	*		
1384	TIOSCB	*		
1385	TIOSCZ	*		
1371	TISEC	*		
1372	TISECB	*		
1373	TISECZ	*		
1359	TITU1	*		
1360	TITU1B	*		
1361	TITU1Z	*		
1363	TITU2	*		
1364	TITU2B	*		
1365	TITU2Z	*		
1221	TPFPA	*		
1222	TPFPAB	*		
1223	TPFPAZ	*		
1213	TPRPA	*		
1214	TPRPAB	*		
1215	TPRPAZ	*		
1217	TPWPA	*		
1218	TPWPAB	*		
1219	TPWPAZ	*		
506	TWO	*	155	179
440	V\$1MIN	*		
458	V\$BFC	*		
366	V\$BGLB	*		
363	V\$BICI	*		
392	V\$BTB	*		
400	V\$BTBM	*		
457	V\$BYN	*		
408	V\$CAM	*		
420	V\$CKB	*		
448	V\$CKIT	*		
387	V\$CKPT	*		
380	V\$CPL	*		
367	V\$CRDM	*		
410	V\$CRDR	*		
421	V\$CRM	*		
381	V\$CRS	*		
426	V\$CTAD	*		
379	V\$CTL	*		
418	V\$CTMS	*		
364	V\$DATE	*		
422	V\$DSTB	*		
435	V\$ERFG	*		
416	V\$FGLB	*		
385	V\$FLRS	*		
417	V\$FREE	*		
401	V\$GFCB	*		
397	V\$IM	*		
447	V\$IDA	*		
449	V\$JCB	*		
356	V\$JCFG	*		
370	V\$JCTM	*		
354	V\$JNAM	*		
436	V\$JOP	*		
407	V\$KEY	*		
353	V\$LCNT	*		
390	V\$LER	*		
423	V\$LIT	*		
395	V\$LLUP	*		
396	V\$LPP	*		
386	V\$LRSK	*		
389	V\$LSAL	*		
414	V\$LUNT	*		
394	V\$LUP	*		

437	V\$LUT1	*				
438	V\$LUT2	*				
439	V\$LUT3	*				
399	V\$MAP	*				
402	V\$MIMG	*				
398	V\$MPM	*				
428	V\$NCTR	*				
393	V\$NPAG	*				
452	V\$OCB	*				
415	V\$OPCF	*				
388	V\$OPCL	*				
424	V\$PGT	*				
429	V\$PIMN	*				
365	V\$PLCT	*				
384	V\$PTVB	*				
427	V\$SCTL	*				
419	V\$SCV	*				
434	V\$SLFG	*				
403	V\$ST0	*				
404	V\$ST1	*				
405	V\$ST2	*				
406	V\$ST3	*				
382	V\$TB	*				
411	V\$TBGT	*				
459	V\$TFC	*				
391	V\$TJCP	*				
413	V\$TMN	*				
412	V\$TMS	*				
383	V\$UTB	*				
1	VORTEX	*				
0	VTPDP		1526	1527		
0	VTPUSH		33	35		
0	VTSTAK		1476	1477	1504	1521
697	X		232	254	1479	1514
469	ZERD	*				

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000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 03 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 03 00002
3 * 03 00003
4 * V.D.M. PART NO. 92L1105-046B 03 00004
5 * 03 00005
6 * RELEASED 3-1-74 03 00006
7 * 03 00007
8 * 03 00008
9 * C52XMT 03 00009
10 * 03 00010
11 * 03 00011
12 * TITLE C52XMT 03 00012
13 * NLIS 03 00013
1443 * LIST ***** 03 00014
1444 * 03 00015
1445 * EJECT ***** 03 00016
1446 * ***** 03 00017
1447 * ***** 03 00018
1448 * PROGRAM NAME - ***** 03 00019
1449 * C52XMT - TRANSMIT DATA PROCEDURE ***** 03 00020
1450 * ***** 03 00021
1451 * ENTRY CONDITIONS - ***** 03 00022
1452 * C52XMT IS ENTERED FROM CC$CEX, THE COMMUNICATIONS ***** 03 00023
1453 * EXECUTIVE, ***** 03 00024
1454 * REGISTER VALUES - ***** 03 00025
1455 * (X) LSD ADDRESS ***** 03 00026
1456 * ***** 03 00027
1457 * CALLING SEQUENCE - ***** 03 00028
1458 * JPM C52XMT ***** 03 00029
1459 * (RETURN) ***** 03 00030
1460 * ***** 03 00031
1461 * EXIT CONDITIONS - ***** 03 00032
1462 * (A) DESTROYED ***** 03 00033
1463 * (B) DESTROYED ***** 03 00034
1464 * (X) UNCHANGED ***** 03 00035
1465 * ***** 03 00036
1466 * ***** 03 00037
1467 * ***** 03 00038
1468 * EJECT ***** 03 00039
1469 * NAME C52XMT ***** 03 00040
1470 * IFF VORTEX-2 V2 03 00041
1471 * EXT VT$MAP V2 03 00042
000000 000000 A 1472 C52XMT ENTR ***** 03 00043
000001 000001 A 1473 LSD SET X ***** 03 00044
1474 * ***** 03 00045
1475 * FIND NEXT WRITE REQUEST ON LSD REQUEST QUEUE ***** 03 00046
1476 * ***** 03 00047
1477 * EXT CC$FWR ***** 03 00048
1478 * JPM CC$FWR ***** 03 00049
000001 002000 A 1479 JAZ XM99 NO REQUEST, EXIT 03 00050
000002 000000 E ***** 03 00051
000003 001010 A ***** 03 00052
000004 000166 R ***** 03 00053
000005 054215 A 1480 STA XMRQST ***** 03 00054
1481 IFT VORTEX-2 V2 03 00055
1482 GOTO 1 V2 03 00056
1483 TAB ***** 03 00057
1484 CALL VT$MAP SET UP MAP V2 03 00058
1485 1 ***** 03 00059
1486 * ***** 03 00060
1487 * EXT CC$FCW ***** 03 00061
1488 * PUSH CC$FCW FIND LINE CONTROL WORD ADDRESS 03 00062
000006 100444 A ***** 03 00063
000007 100747 A ***** 03 00064
000010 002000 A ***** 03 00065
000011 000000 E ***** 03 00066
000012 000000 E ***** 03 00067
000013 064210 A 1489 STB XMLCW 03 00068
1490 * ***** 03 00069
1491 * IF LSWCA = 0, INITIATION ENTRY ***** 03 00070
1492 * ***** 03 00071
000014 025006 A 1493 LDB LSWCA,LSD ***** 03 00072
000015 001020 A 1494 JBZ XM01 ***** 03 00073
000016 000021 R ***** 03 00074
000017 006706 A 1495 IJMP 0,B GO TO CONTINUATION ENTRY 03 00075
000020 000000 A ***** 03 00076
1496 * ***** 03 00077
1497 * IF LINE NOT FULL DUX, RQST MUST BE AT TOP OF QUEUE TO BE ***** 03 00078
1498 * INITIATED ***** 03 00079
1499 * ***** 03 00080
1500 XM01 FETCHA LSD,LSXMM,LSXMMB,LSXMMZ 03 00081
000021 015014 A ***** 03 00082
000022 004351 A ***** 03 00083
000023 150464 A ***** 03 00084
000024 130464 A 1501 ERA THREE 03 00085
000025 001010 A 1502 JAZ XM02 03 00086
000026 000033 R ***** 03 00087
000027 015001 A 1503 LDA LSRRT,LSD NOT FULL DUX 03 00088
000030 134172 A 1504 ERA XMRQST ***** 03 00089
000031 001016 A 1505 JANZ XM99 NOT ON TOP OF QUEUE 03 00090
000032 000166 R ***** 03 00091
1506 * ***** 03 00092
1507 * ***** 03 00093
1508 * ***** 03 00094
000033 002000 A 1509 XM02 JPM XM101 GET LINE/MODEM STATUS 03 00095
000034 000207 R ***** 03 00096

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E.2
51272

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000035 055013 A 1510 STA LSDST, LSD SAVE COMPOSITE READ/WRITE STATUS 03 00080
000036 065011 A 1511 STB LSSWS, LSD SAVE MODEM/LINE STATUS 03 00081
1512 *
1513 * IF DATA-SET-READY NOT ON, GO TO COMPLETE REQUEST AND EXIT 03 00082
1514 *
000037 006461 A 1515 BT RBO+B1, XM98 03 00084
000040 000142 R 1516 * 03 00085
1517 * SET UP CONTROL WORDS 03 00086
1518 * 03 00087
000041 024161 A 1519 LDB XMRQST 03 00088
1520 * SAVE RQST MODE. IF MODE = 1 THEN ITB WAS SENT BSC 03 00089
000042 016001 A 1521 LDA 1, B 03 00090
000043 006150 A 1522 ANAI 070000 BITS 14-12 BSC 03 00091
000044 070000 A 1523 STA XMTMP BSC 03 00093
000045 054160 A 1524 EXT CC$SCH 03 00094
1525 PUSH CC$SCH 03 00095

000046 100444 A
000047 100747 A
000050 002000 A
000051 000011 E
000052 000000 E

1526 *
1527 * SET 'T' AND CLEAR 'I' BITS IN PCW 03 00096
1528 * 03 00097
000002 A 1529 LCM SET B 03 00098
1530 * CLEAR ITB FLAG BSC 03 00099
1531 * CLEARF LCM, LCITB, LCITBB, LCITBZ BSC 03 00100

000053 016007 A
000054 150454 A
000055 056007 A

1532 TESTF LCM, LCBSC, LCBSCB, LCBSCZ BSC 03 00102

000056 016007 A
000057 150436 A
000060 001016 A 1533 JANZ XM21 JMP IF BSC ADAPTER BSC 03 00103
000061 000065 R
000062 016006 A 1534 LDA LCLCB, LCM 03 00104
000063 150457 A 1535 ANA BR14 03 00105
000064 056006 A 1536 STA LCLCB, LCM BSC 03 00106
000065 016006 A 1537 LDA LCLCB, LCM BSC 03 00107
000066 110431 A 1538 ORA BSR 03 00108
000067 056006 A 1539 STA LCLCB, LCM 03 00109
1540 * IF MODE > 1. SET LCITB FLAG IN LCM BSC 03 00110
000070 014135 A 1541 LDA XMTMP BSC 03 00111
000071 001010 A 1542 JAZ XM22 BSC 03 00112
000072 000076 R

1543 SETF LCM, LCITB, LCITBB, LCITBZ BSC 03 00113

000073 016007 A
000074 110434 A
000075 056007 A
000076 000076 R 1544 XM22 EQU * BSC 03 00114
1545 * 03 00115
1546 * SET LSWRS = 0 03 00116
1547 * SET LSWEM TO RECOGNIZE DATA-SET-READY CHANGES 03 00117
1548 * 03 00118
000076 005001 A 1549 TZA 03 00119
1550 SETA LSD, LSWRS, LSWRSB, LSWRSZ 03 00120

000077 004253 A
000100 135016 A
000101 004353 A
000102 150467 A
000103 004253 A
000104 135016 A
000105 055016 A
000106 010422 A
000107 055007 A

1551 LDA BS1 03 00121
1552 STA LSNEM, LSD 03 00122
1553 *
1554 * CALCULATE PCW ADDRESS AND PERFORM OUTPUT CONTROL SEQUENCE 03 00123
1555 * 03 00124
000110 005021 A 1556 TBA (A) = LCM ADDRESS 03 00125
1557 ABAT LCLCB 03 00126

000111 120466 A
000112 054002 A 1558 STA XM03 03 00128
1559 EXT C52RCW 03 00129
000113 006506 A 1560 JSR C52RCW, B 03 00130
000114 000000 E
000115 000000 A 1561 XM03 DATA 0 03 00131
1562 * 03 00132
1563 *
000116 002000 A 1564 JMPM XM100 WAIT FOR INTERRUPT 03 00133
000117 000201 R

1565 *
1566 * RETURN HERE WHEN REQUEST IS COMPLETE 03 00135
1567 * 03 00136
1568 * CALCULATE NUMBER OF WORDS OR BYTES TRANSMITTED 03 00137
1569 * 03 00138
000120 024103 A 1570 LDB XMLCM 03 00139
000002 A 1571 LCM SET B 03 00140
1572 TESTF LCM, LCOBF, LCOBFB, LCOBFZ 03 00141

000121 016004 A
000122 150440 A
000123 004357 A 1573 LSRA LCOBFB SHIFT LCOBF FLAG TO 2**0 AND 03 00143
000124 054100 A 1574 STA XM0BF SAVE IN XM0BF 03 00144
000125 016005 A 1575 LDA LCOBA, LCM 03 00145

```


516

1641 # CONSTANTS AND TEMPDRARY STORAGE
 1642 #
 000223 000000 A 1643 XMRQST DATA 0
 000224 000000 A 1644 XMLCH DATA 0
 000225 000000 A 1645 XMOBF DATA 0
 1646 IFF VORTEX-2
 1647 XMX DATA 0
 000226 000000 A 1648 XMTMP DATA 0
 1649 END

MODE OF REQST , BITS 14-12 SAVED HERE

V2 03 00216
 V2 03 00217
 BSC 03 00218
 03 00219

ENTRY NAMES

000000 R C52XMT

EXTERNAL NAMES

000114 E C52RCW 000214 E C52SST 000163 E CC\$CRQ 000012 E CC\$FCW
 000002 E CC\$FWR 000052 E CC\$SCH 000213 E VTPUSH

SYMBOLS

000044 A APIM 000002 A B 000000 A B0 000001 A B1
 000012 A B10 000013 A B11 000014 A B12 000015 A B13
 000016 A B14 000017 A B15 000002 A B2 000003 A B3
 000004 A B4 000005 A B5 000006 A B6 000007 A B7
 000010 A B8 000011 A B9 000000 A BICNUM 000421 A BM1
 000472 A BM17 000475 A BM177 000477 A BM1777 000464 A BM3
 000473 A BM37 000463 A BM377 000467 A BM7 000474 A BM77
 000476 A BM777 000441 A BR0 000442 A BR1 000453 A BR10
 000454 A BR11 000455 A BR12 000456 A BR13 000457 A BR14
 000460 A BR15 000443 A BR2 000444 A BR3 000445 A BR4
 000446 A BR5 000447 A BR6 000450 A BR7 000451 A BR8
 000452 A BR9 000421 A BS0 000422 A BS1 000433 A BS10
 000434 A BS11 000435 A BS12 000436 A BS13 000437 A BS14
 000440 A BS15 000423 A BS2 000424 A BS3 000425 A BS4
 000426 A BS5 000427 A BS6 000430 A BS7 000431 A BS8
 000432 A BS9 000114 E C52RCW 000214 E C52SST 000000 R C52XMT
 000163 E CC\$CRQ 000012 E CC\$FCW 000002 E CC\$FWR 000052 E CC\$SCH
 000000 A CHAFP 000000 A CHAFPB 000020 A CHAFPZ 000001 A CHARP
 000000 A CHARPB 000020 A CHARPZ 000002 A CHCFP 000000 A CHCFPB
 000020 A CHCFPZ 000003 A CHCRP 000000 A CHCRPB 000020 A CHCRPZ
 000004 A CHRBL 000000 A CHRBLB 000020 A CHRBLZ 000047 A CLOCK
 000000 A COTAD1 000000 A COTACT 000017 A COTACTB 000001 A COTACTZ
 000001 A CTADN 000000 A CTADNB 000020 A CTADNZ 000011 A CTBIC
 000000 A CTBICB 000020 A CTBICZ 000003 A CTDST 000000 A CTDSTB
 000020 A CTDSTZ 000006 A CTDVA 000000 A CTDVAB 000020 A CTDVAZ
 000012 A CTFCB 000000 A CTFCBB 000020 A CTFCBZ 000014 A CTFRC
 000010 A CTFRCB 000010 A CTFRCBZ 000014 A CTFRE 000000 A CTFREB
 000010 A CTFREZ 000000 A CTIDB 000000 A CTIDBB 000017 A CTIDBZ
 000007 A CTIDA 000000 A CTIDAB 000020 A CTIDAZ 000002 A CTOPM
 000000 A CTOPMB 000020 A CTOPMZ 000005 A CTRCN 000000 A CTRCNB
 000010 A CTRCNZ 000004 A CTRQB 000000 A CTRQBB 000020 A CTRQBZ
 000005 A CTRTR 000010 A CTRTRB 000010 A CTRTRZ 000010 A CTSTA
 000000 A CTSTAB 000020 A CTSTAZ 000013 A CTWDS 000000 A CTWDSB
 000020 A CTWDSZ 000001 A DCBUFF 000003 A DCCHR 000000 A DCCHRb
 000020 A DCCHRZ 000002 A DCCNT 000000 A DCCRECL 000747 A DISCLK
 000745 A DISMP 000444 A DISPIM 000026 A DMBCA 000000 A DMBCAB
 000020 A DMBCAZ 000024 A DMCHA 000000 A DMCHAB 000020 A DMCHAZ
 000017 A DMFPA 000000 A DMFPAB 000020 A DMFPAZ 000021 A DMLCA
 000000 A DMLCAB 000020 A DMLCAZ 000022 A DMLTA 000000 A DMLTAB
 000020 A DMLTAZ 000023 A DMFTA 000000 A DMPTAB 000020 A DMPTAZ
 000016 A DMRPA 000000 A DMRPAB 000020 A DMRPAZ 000020 A DMSTA
 000000 A DMSTAB 000020 A DMSTAZ 000025 A DMSWA 000000 A DMSWAB
 000020 A DMSWAZ 000015 A DMTFA 000000 A DMTPAB 000020 A DMTPAZ
 000002 A DSOCTAD 000000 A DSDBAS 000000 A DSBDVDN 000002 A DSLOCK
 000001 A DSNAME 000000 A DSHGR0 000002 A DSOPCM 000002 A DSPNT1
 000002 A DSREND 000000 A DSHGRN 000002 A DSUNTN 000424 A EIGHT
 000147 A ENACLK 000645 A ENAMP 000244 A ENAPIM 000455 A FIVE
 000423 A FOUR 000003 A IBIBF 000017 A IBIBFB 000001 A IBIBFZ
 000003 A IBLAS 000000 A IBLASB 000017 A IBLASZ 000001 A IBLFN
 000000 A IBLFNZ 000020 A IBLKZ 000000 A IBLNK 000000 A IBLNKB
 000020 A IBLNKZ 000002 A IBSTA 000000 A IBSTAB 000020 A IBSTAZ
 000004 A IBSTS 000000 A IBSTSB 000017 A IBSTSZ 000000 A L
 000003 A LCABN 000013 A LCABNB 000001 A LCABNZ 000003 A LCHBY
 000012 A LCASYS 000011 A LCASYZ 000002 A LCP 000007 A LCPCC
 000015 A LCPSCB 000001 A LCPSCZ 000007 A LCOHN 000016 A LCOHNB
 000001 A LCOHNZ 000003 A LCCRC 000014 A LCCRCB 000003 A LCCRCZ
 000006 A LCCWB 000014 A LCCWBB 000001 A LCCWBZ 000006 A LCCNC
 000015 A LCCWCB 000001 A LCCWCBZ 000006 A LCCWB 000013 A LCCWDB
 000001 A LCCWDBZ 000006 A LCCWI 000016 A LCCWIB 000001 A LCCWIZ
 000006 A LCCWP 000012 A LCCWPB 000001 A LCCWPZ 000006 A LCCWR
 000011 A LCCWRB 000001 A LCCWRZ 000006 A LCCWS 000017 A LCCWSB
 000001 A LCCWSZ 000006 A LCCWT 000010 A LCCWTB 000001 A LCCWTZ
 000001 A LCIBA 000000 A LCIBAB 000017 A LCIBAZ 000000 A LCIBF
 000017 A LCIBFB 000001 A LCIBFZ 000000 A LCIBL 000000 A LCIBLB
 000014 A LCIBLZ 000002 A LCIC1 000010 A LCIC1B 000010 A LCIC1Z
 000002 A LCIC2 000000 A LCIC2B 000010 A LCIC2Z 000003 A LCIKE
 000000 A LCIKEB 000004 A LCIKEZ 000007 A LCITB 000013 A LCITBB
 000001 A LCITBZ 000000 A LCJ 000006 A LCLCB 000000 A LCLCBB
 000020 A LCLCBZ 000007 A LCLDB 000014 A LCLDBB 000001 A LCLDBZ
 000007 A LCLTB 000017 A LCLTBB 000001 A LCLTBZ 000005 A LCOBA
 000000 A LCOBAB 000017 A LCOBP 000004 A LCOBS 000017 A LCOBFB
 000001 A LCOBFBZ 000004 A LCOBL 000000 A LCOBLB 000014 A LCOBLZ
 000007 A LCOKE 000000 A LCOKEB 000004 A LCOKEZ 000003 A LCOCC
 000017 A LCOCCB 000001 A LCOCCZ 000000 A LCSMB 000016 A LCSMBB
 000001 A LCSMBZ 000002 A LCH 000462 A LHN 000017 A LSABN
 000015 A LSABNB 000001 A LSABNBZ 000017 A LSASC 000011 A LSASCB
 000001 A LSASCZ 000014 A LSASY 000013 A LSASYB 000001 A LSASYZ
 000020 A LSRSC 000016 A LSRSCB 000001 A LSRSCZ 000015 A LSCC1
 000010 A LSCC1B 000010 A LSCC1Z 000015 A LSCC2 000000 A LSCC2B
 000010 A LSCC2Z 000017 A LSCHN 000010 A LSCHNB 000001 A LSCHNZ


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000422 A TWO 000403 A V$1MIN 000415 A V$BFC 000075 A V$BGLB
000056 A V$BIC1 000315 A V$BTB 000331 A V$BTBM 000414 A V$BVN
000334 A V$CAM 000353 A V$CKB 000411 A V$CKIT 000310 A V$CKPT
000301 A V$CPL 000076 A V$CRDM 000341 A V$CRDR 000354 A V$CRM
000302 A V$CRS 000360 A V$CTAD 000300 A V$CTL 000351 A V$CTMS
000070 A V$DATE 000355 A V$DSTB 000376 A V$ERFG 000347 A V$FGLB
000306 A V$FLRS 000350 A V$FREE 000332 A V$GFCB 000320 A V$IM
000410 A V$IDA 000412 A V$JCB 000055 A V$JCFG 000077 A V$JCTM
000050 A V$JNAM 000377 A V$JOP 000340 A V$KEY 000054 A V$LCNT
000313 A V$LER 000356 A V$LIT 000317 A V$LLUP 000317 A V$LPP
000307 A V$LRSK 000312 A V$LSAL 000345 A V$LUNT 000316 A V$LUP
000400 A V$LUT1 000401 A V$LUT2 000402 A V$LUT3 000330 A V$MAP
000333 A V$MING 000330 A V$MPM 000362 A V$NCTR 000316 A V$NPAG
000413 A V$OCB 000346 A V$OPCF 000311 A V$OPCL 000357 A V$PGT
000363 A V$PIMN 000074 A V$PLCT 000305 A V$PTVB 000361 A V$SCTL
000352 A V$SCV 000375 A V$SLFG 000334 A V$STO 000335 A V$ST1
000336 A V$ST2 000337 A V$ST3 000303 A V$TB 000342 A V$TBGT
000416 A V$TFC 000314 A V$TJCP 000344 A V$TMN 000343 A V$TMS
000304 A V$UTB 000001 A V$VTEX 000213 E VTPUSH 000001 A X
000021 R XM01 000033 R XM02 000115 R XM03 000136 R XM04
000137 R XM05 000201 R XM100 000207 R XM101 000065 R XM21
000076 R XM22 000142 R XM98 000156 R XM98A 000166 R XM99
000224 R XMLCW 000225 R XMDBF 000223 R XMRQT 000226 R XMTMP
000420 A ZERO

```

0 ERRORS ASSEMBLY COMPLETE

```

1485 1 *
159 ADAT *
38 ANAM *
90 ANAN *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1495 1521
1529 1560 1571 1577 1579 1591
88 B& 82
83 B&0 40
80 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 1515
553 B10 *
554 B11 *
555 B12 *
556 B13 *
557 B14 *
558 B15 *
545 B2 *
546 B3 *
547 B4 *
548 B5 *
549 B6 *
550 B7 *
551 B8 *
552 B9 *
600 BIGNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
522 BM377 51
517 BM7 71
520 BM77 59
523 BM777 47
486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 1535
501 BR15 *
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *
495 BR9 *
470 B30 195 209
471 B31 1551
480 B310 *
481 B311 *
482 B312 *
483 B313 *

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484	BS14	*			
485	BS15	*			
472	BS2	*			
473	BS3	*			
474	BS4	*			
475	BS5	*			
476	BS6	*			
477	BS7	*	1603		
478	BS8	*	1538		
479	BS9	*			
0	C52RCW	*	1559	1560	
0	C52SST	*	1634	1635	
1472	C52XMT	*	12	1469	1625 1632
0	CC\$CRQ	*	1607	1608	
0	CC\$FCW	*	1487	1488	
0	CC\$FWR	*	1477	1478	
0	CC\$SCW	*	1524	1525	
1397	CHAFP	*			
1398	CHAFPB	*			
1399	CHAFPZ	*			
1401	CHARP	*			
1402	CHARPB	*			
1403	CHARPZ	*			
1405	CHCFP	*			
1406	CHCFPB	*			
1407	CHCFPZ	*			
1409	CHCRP	*			
1410	CHCRPB	*			
1411	CHCRPZ	*			
1413	CHRBL	*			
1414	CHRBLB	*			
1415	CHRBLZ	*			
198	CLEARF	*			
567	CLOCK	*	569	570	
622	COTAD1	*			
707	CTACT	*			
708	CTACTB	*			
709	CTACTZ	*			
715	CTADN	*			
716	CTADNB	*			
717	CTADNZ	*			
751	CTBIC	*			
752	CTBICB	*			
753	CTBICZ	*			
723	CTDST	*			
724	CTDSTB	*			
725	CTDSTZ	*			
739	CTDVA	*			
740	CTDVAB	*			
741	CTDVAZ	*			
755	CTFCB	*			
756	CTFCBB	*			
757	CTFCBZ	*			
763	CTFRC	*			
764	CTFRCB	*			
765	CTFRCZ	*			
767	CTFRE	*			
768	CTFREB	*			
769	CTFREZ	*			
711	CTIDB	*			
712	CTIDBB	*			
713	CTIDBZ	*			
743	CTIDA	*			
744	CTIDAB	*			
745	CTIDAZ	*			
719	CTOPM	*			
720	CTOPMB	*			
721	CTOPMZ	*			
735	CTRCN	*			
736	CTRCNB	*			
737	CTRCNZ	*			
727	CTRQB	*			
728	CTRQBB	*			
729	CTRQBZ	*			
731	CTRTR	*			
732	CTRTRB	*			
733	CTRTRZ	*			
747	CTSTA	*			
748	CTSTAB	*			
749	CTSTAZ	*			
759	CTWDS	*			
760	CTWDSB	*			
761	CTWDSZ	*			
688	DCBUFF	*	1582		
691	DCCHR	*			
692	DCCHRB	*			
693	DCCHRZ	*			
689	DCCNT	*			
687	DCRECL	*			
187	DINTS	*			
569	DISCLK	*	189		
589	DISMP	*			
584	DISPIM	*	188		
813	DMBCA	*			
814	DMBCAB	*			


```

893 LCCWCZ *
899 LCCWD *
900 LCCWDB *
901 LCCWDZ *
887 LCCWI *
888 LCCWIB *
889 LCCWIZ *
903 LCCWP *
904 LCCWPB *
905 LCCWPZ *
907 LCCWR *
908 LCCWRB *
909 LCCWRZ *
883 LCCWS *
884 LCCWSB *
885 LCCWSZ *
911 LCCWT *
912 LCCWTB *
913 LCCWTZ *
835 LCIBA *
836 LCIBAB *
837 LCIBAZ *
823 LCIBF *
824 LCIBFB *
825 LCIBFZ *
831 LCIBL *
832 LCIBLB *
833 LCIBLZ *
839 LCIC1 *
840 LCIC1B *
841 LCIC1Z *
843 LCIC2 *
844 LCIC2B *
845 LCIC2Z *
863 LCIKE *
864 LCIKEB *
865 LCIKEZ *
931 LCITB 1531 1543
932 LCITBB 1531 1543
933 LCITBZ 1531 1543
353 LCJP 354 355 356 363 364
879 LCLCB 1534 1536 1537 1539 1557 365 366 367 370
880 LCLCBB *
881 LCLCBZ *
927 LCLDB *
928 LCLDBB *
929 LCLDBZ *
915 LCLTB *
916 LCLTBB *
917 LCLTBZ *
875 LCOBA 1575
876 LCOBAB *
877 LCOBAZ *
867 LCOBF 1572
868 LCOBFB 1572 1573
869 LCOBFZ 1572
871 LCOBL *
872 LCOBLB *
873 LCOBLZ *
935 LCOKE *
936 LCOKEB *
937 LCOKEZ *
847 LCRCC *
848 LCRCCB *
849 LCRCCZ *
827 LCSMB *
828 LCSMBB *
829 LCSMBZ *
1529 LCW 1531 1532 1534 1536 1537 1539 1543 1572 1575
503 LHW *
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSESC *
1070 LSESCB *
1071 LSESCZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA *

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1276	PSPLAB	*		
1277	PSPLAZ	*		
667	PSPROT	*		
1259	PSTER	*		
1260	PSTERB	*		
1261	PSTERZ	*		
1243	PSXMM	*		
1244	PSXMMB	*		
1245	PSXMMZ	*		
1283	PSYNC	*		
1284	PSYNCB	*		
1285	PSYNCZ	*		
1303	PSYNR	*		
1304	PSYNRB	*		
1305	PSYNRZ	*		
1295	PSYNT	*		
1296	PSYNTB	*		
1297	PSYNTZ	*		
32	PUSH	*		
228	PUTQ	*		
532	RA0	*		
533	RA1	*		
651	RADHR	*		
534	RBO	*	1515	
535	RB1	*		
649	RFCB	*	1578	
504	RHW	*		
645	RDPWD	*		
1577	RQST	*	1578	1592
642	RSTPR	*	1592	
650	RTIDB	*		
96	SETA	*		
111	SETB	*		
191	SETF	*		
511	SEVEN	*	145	169
510	SIX	*	147	171
26	SPACE	*		
135	SUBAT	*		
288	TBATSX	*		
287	TBCPTH	*		
274	TBENTY	*		
268	TBEVNT	*		
282	TBID	*		
277	TBISA	*		
278	TBISB	*		
280	TBISP	*		
281	TBISRS	*		
294	TBIST	*		
279	TBISX	*		
292	TBKEY	*		
283	TBKN1	*		
284	TBKN2	*		
285	TBKN3	*		
293	TBMING	*		
291	TBNUCL	*		
267	TBPL	*		
269	TBRSA	*		
270	TBRSE	*		
289	TBRSE	*		
272	TBRSP	*		
273	TBRSTS	*		
271	TBRSX	*		
322	TBS0	*		
321	TBS1	*		
309	TBS10	*		
308	TBS11	*		
306	TBS12	*		
305	TBS13	*		
304	TBS14	*		
302	TBS15	*		
320	TBS2	*		
318	TBS3	*		
317	TBS4	*		
316	TBS5	*		
314	TBS6	*		
313	TBS7	*		
312	TBS8	*		
310	TBS9	*		
290	TBS1Z	*		
266	TBST	*		
286	TBTLC	*		
276	TBTMIN	*		
275	TBTMS	*		
265	TBTMD	*		
1115	TCBSL	*		
1116	TCBSLB	*		
1117	TCBSLZ	*		
1099	TCCLN	*		
1100	TCCLNB	*		
1101	TCCLNZ	*		
1127	TCCDN	*		
1128	TCCDNB	*		
1129	TCCDNZ	*		
1095	TCCFA	*		
1096	TCCFAB	*		

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1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDCC *
1188 TCDCCB *
1189 TCDCCZ *
1195 TCDTO *
1196 TCDTOB *
1197 TCDTOZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTOZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
514 TEN 139 163
205 TESTF *
507 THREE 153 177 1501
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIODN *
1380 TIODNB *
1381 TIODNZ *
1382 TIODP *

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1388 TIQDPB *
1389 TIQDPZ *
1383 TIQSC *
1384 TIQSCB *
1385 TIQSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPAZ *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPAB *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPAB *
1219 TPWPAZ *
506 TWO 155 179 1601
440 VS1MIN *
458 VSBFC *
366 VSBGLB *
363 VSBIC1 *
392 VSBTB *
400 VSBTBM *
457 VSBVN *
408 VSCAM *
420 VSCKB *
448 VSCKIT *
387 VSCKPT *
380 VSCPL *
367 VSCRDM *
410 VSCRDR *
421 VSCRM *
381 VSCRS *
426 VSCYAD *
379 VSCYL *
418 VSCYMS *
364 VSDATE *
422 VSDSTB *
435 VSEFRG *
416 VSFGLB *
385 VSFLRS *
417 VSFREE *
401 VSGFCB *
397 VSHM *
447 VSHDA *
449 VSHCB *
356 VSHJCFG *
370 VSHJCTM *
354 VSHJHAM *
436 VSHJOP *
407 VSHKEY *
355 VSHLONT *
390 VSHLER *
423 VSHLIT *
395 VSHLLUP *
396 VSHLPP *
386 VSHLRCK *
389 VSHLSAL *
414 VSHLUNT *
394 VSHLUP *
437 VSHLUT1 *
438 VSHLUT2 *
439 VSHLUT3 *
399 VSHMAP *
0 VSHMDAL 1611 1615
402 VSHMING *
396 VSHNPM *
428 VSHNCTR *
393 VSHNFRG *
450 VSHOON *
415 VSHOPCF *
388 VSHOPCL *
424 VSHPGT *
429 VSHPIHM *
365 VSHPLCT *
384 VSHPTVB *
427 VSHSCTL *
419 VSHSOV *
434 VSHSLFG *
403 VSHST0 1584
404 VSHST1 *
405 VSHST2 *
406 VSHST3 1581
382 VSHTB *
411 VSHTBGT *
459 VSHTFC *
391 VSHTJCF *
413 VSHTMH *

```

412	VSTMS	*						
393	V\$UTB	*						
1	VORTEX		1470	1481	1580	1583	1609	1646
0	VT\$MAP		1471	1484				
0	VTPUSH		33	35				
697	X		232	254	1473	1615		
1500	XM01		1494					
1509	XM02		1502					
1561	XM03		1558					
1588	XM04		1585					
1589	XM05		1587					
1629	XM100		1564	1630				
1633	XM101		1509	1597	1639			
1537	XM21		1533					
1544	XM22		1542					
1597	XM98		1515					
1604	XM98A		1602					
1622	XM99		1479	1505				
1619	XM99A		1612					
1644	XMLCW		1489	1570				
1645	XMOBF		1574	1589				
1643	XMRQST		1480	1504	1519	1576	1590	1605
1648	XMTMP		1523	1541				
1647	XX		1613	1618				
469	ZERO	*						

```

1      EJECT
2      * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES
3      *
4      * V.D.M. PART NO.          92L1105-047A
5      *
6      *
7      *
8      *
9      *
10     *
11     *
12     *
13     *
1443   *
1444   *
1445   *
1446   *
1447   *
1448   *
1449   *
1450   *
1451   *
1452   *
1453   *
1454   *
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1460   *
1461   *
1462   *
1463   *
1464   *
1465   *
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1467   *
1468   *
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1471   *
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1473   *
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1477   *
1478   *
1479   *
1480   *
1481   *

```

ADDRESS	MODE	OPERATOR	OPERAND	OPERATION	COMMENT	ADDRESS	MODE	OPERATOR	OPERAND	OPERATION	COMMENT
000000	R	CC\$ACE	ENTR	CC\$ACE	ACTIVATE COMEXEC	1467	A	0			
000001	A	054010	STA	ACSAVA	IN WORD TEST IN TIDB	1468	A	0			
000002	A	064010	STB	ACSAVB		1469	A	0			
000003	A	024010	LDB	ACTIDB	(B) = BASE ADDRESS OF TIDB	1470	A	0			
000004	A	010421	LDA	ONE		1471	A	0			
000005	A	056003	STA	TBEVNT, B	SET EVENT WORD .NE. 0	1472	A	0			
000006	A	014003	LDA	ACSAVA	RESTORE (A) AND (B)	1473	A	0			
000007	A	024003	LDB	ACSAVB		1474	A	0			
000010	A	001000	JMP*	CC\$ACE	RETURN - REGISTERS UNCHANGED	1475	A	0			
000011	R	100000				1476	R				
000012	A	000000	ACSAVA	DATA	0	1477	A	0			
000013	A	000000	ACSAVB	DATA	0	1478	A	0			
000014	E	000000	ACTIDB	DATA	TIDCEX	1479	E				
				END	TIDCEX	1480					
					ADDRESS OF COM EXEC TIDB	1481					

```

ENTRY NAMES
000000 R CC$ACE
EXTERNAL NAMES
000014 E TIDCEX
SYMBOLS
000012 R ACSAVA 000013 R ACSAVB 000014 R ACTIDB 000044 A APIM
000002 A B 000000 A BA 000001 A B1 000012 A B10
000013 A B11 000014 A B12 000015 A B13 000016 A B14
000017 A B15 000002 A B2 000003 A B3 000004 A B4
000005 A B5 000006 A B6 000007 A B7 000010 A B8
000011 A B9 000000 A BICNUM 000421 A BM1 000472 A BM17
000475 A BM177 000477 A BM1777 000464 A BM3 000473 A BM37
000463 A BM377 000467 A BM7 000474 A BM77 000476 A BM777
000441 A BR0 000442 A BR1 000453 A BR10 000454 A BR11
000455 A BR12 000456 A BR13 000457 A BR14 000460 A BR15
000443 A BR2 000444 A BR3 000445 A BR4 000446 A BR5
000447 A BR6 000450 A BR7 000451 A BR8 000452 A BR9
000421 A BS0 000422 A BS1 000433 A BS10 000434 A BS11
000435 A BS12 000436 A BS13 000437 A BS14 000440 A BS15
000423 A BS2 000424 A BS3 000425 A BS4 000426 A BS5
000427 A BS6 000430 A BS7 000431 A BS8 000432 A BS9
000000 R CC$ACE 000000 A CHAFP 000000 A CHAFPB 000020 A CHAFPZ
000001 A CHARP 000000 A CHCRPB 000020 A CHCRPZ 000002 A CHCRP
000000 A CHCRPB 000020 A CHCRPZ 000003 A CHCRP 000000 A CHCRPB
000020 A CHCRPZ 000004 A CHRBL 000000 A CHRBLB 000020 A CHRBLZ
000047 A CLOCK 000000 A COTAD1 000000 A CTA CTACT 000017 A CTACTB
000001 A CTACTZ 000001 A CTADN 000000 A CTADNB 000020 A CTADNZ
000011 A CTBIC 000000 A CTBICB 000020 A CTBICZ 000003 A CTBICZ
000000 A CTBSTB 000020 A CTBSTZ 000006 A CTDVA 000000 A CTDVAB
000020 A CTDVAZ 000012 A CTFCB 000000 A CTFCBB 000020 A CTFCBZ
000014 A CTFCB 000010 A CTFCBZ 000010 A CTFCB 000014 A CTFCBZ
000000 A CTFCB 000010 A CTFCBZ 000010 A CTFCB 000014 A CTFCBZ
000017 A CTIDBZ 000007 A CTIDB 000000 A CTIDB 000020 A CTIDBZ
000002 A CTIDB 000000 A CTIDB 000000 A CTIDB 000005 A CTIDB
000000 A CTIDB 000010 A CTIDB 000000 A CTIDB 000000 A CTIDB
000020 A CTIDB 000003 A CTIDB 000010 A CTIDB 000010 A CTIDB
000010 A CTIDB 000000 A CTIDB 000000 A CTIDB 000013 A CTIDB
000000 A CTIDB 000000 A CTIDB 000001 A CTIDB 000003 A CTIDB
000000 A CTIDB 000000 A CTIDB 000000 A CTIDB 000000 A CTIDB
000747 A DISCLK 000745 A DISCAR 000444 A DISPIM 000026 A DMPCH
000000 A DMCAB 000020 A DMCAB 000024 A DMCAB 000000 A DMCAB
000020 A DMCAB 000017 A DMPAB 000000 A DMPAB 000020 A DMPAB

```



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000034 A TBIST 000016 A TBISX 000032 A TBKEY 000022 A TBKN1
000023 A TBKN2 000024 A TBKN3 000033 A TBMIMG 000032 A TBNUCL
000002 A TBPL 000004 A TBRSA 000005 A TBRSE 000030 A TBRSE
000007 A TBRSP 000010 A TBRSTS 000006 A TBRSE 000000 A TBS0
000001 A TBS1 000012 A TBS10 000013 A TBS11 000014 A TBS12
000015 A TBS13 000016 A TBS14 000017 A TBS15 000002 A TBS2
000003 A TBS3 000004 A TBS4 000005 A TBS5 000006 A TBS6
000007 A TBS7 000010 A TBS8 000011 A TBS9 000031 A TBSIZ
000001 A TBST 000025 A TBTL 000013 A TBTMIN 000012 A TBTMS
000000 A TBTRD 000004 A TCBSL 000011 A TCBSLB 000001 A TCBSLZ
000003 A TCCLN 000000 A TCCLNB 000010 A TCCLNZ 000004 A TCCDN
000015 A TCCDNB 000001 A TCCDNZ 000002 A TCCTA 000000 A TCCTAB
000020 A TCCTAZ 000005 A TCCTP 000014 A TCCTPB 000004 A TCCTPZ
000012 A TCDC 000000 A TCDCCB 000020 A TCDCZ 000014 A TCDD
000000 A TCDDTB 000020 A TCDDTZ 000004 A TCECH 000014 A TCECHB
000001 A TCECHZ 000015 A TCID1 000000 A TCID1B 000020 A TCID1Z
000016 A TCID2 000000 A TCID2B 000020 A TCID2Z 000006 A TCLDF
000014 A TCLDFB 000001 A TCLDFZ 000003 A TCLLN 000010 A TCLLNZ
000010 A TCLLNZ 000005 A TCNDB 000004 A TCNDBZ 000004 A TCNDBZ
000005 A TCNTD 000000 A TCNTDB 000004 A TCNTDZ 000004 A TCPCH
000000 A TCPCHB 000010 A TCPCHZ 000004 A TCRBC 000017 A TCRBCB
000001 A TCRBCZ 000013 A TCRBF 000000 A TCRBFB 000020 A TCRBFZ
000007 A TCRCA 000000 A TCRCAZ 000020 A TCRCAZ 000006 A TCRMD
000000 A TCRMDB 000003 A TCRMDZ 000001 A TCRQH 000000 A TCRQHB
000020 A TCRQHZ 000006 A TCRRS 000006 A TCRRSB 000003 A TCRRSZ
000010 A TCSTD 000000 A TCSTDB 000020 A TCSTDZ 000004 A TCSWL
000010 A TCSWLB 000001 A TCSWLZ 000000 A TCTCD 000000 A TCTCDB
000020 A TCTCDZ 000005 A TCTYP 000010 A TCTYPB 000004 A TCTYPZ
000004 A TCWBC 000016 A TCWBCB 000001 A TCWBCZ 000011 A TCWCA
000000 A TCWCAB 000020 A TCWCAZ 000006 A TCWMD 000003 A TCWMDZ
000003 A TCWMDZ 000006 A TCWRS 000011 A TCWRSB 000003 A TCWRSZ
000004 A TCXMM 000012 A TCXMMB 000002 A TCXMMZ 000471 A TEN
000464 A THREE 000014 E TIDCEX 000002 A TIDSP 000000 A TIDSPB
000007 A TIDSPZ 000002 A TIDWN 000017 A TIDWNB 000001 A TIDWNZ
000000 A TINET 000000 A TINETB 000020 A TINETZ 000003 A TIQDN
000017 A TIQDNB 000001 A TIQDNZ 000003 A TIQDP 000000 A TIQDPB
000007 A TIQDPZ 000003 A TIQSC 000007 A TIQSCB 000010 A TIQSCZ
000002 A TISEC 000007 A TISECB 000010 A TISECZ 000000 A TITU1
000000 A TITU1B 000020 A TITU1Z 000001 A TITU2 000000 A TITU2B
000020 A TITU2Z 000017 A TPFPA 000000 A TPFPAZ 000020 A TPFPAZ
000015 A TPRPA 000000 A TPRPAB 000020 A TPRPAZ 000016 A TPWPA
000000 A TPWPAZ 000020 A TPWPAZ 000422 A THD 000403 A V$IMIN
000415 A V$BFC 000075 A V$BGLB 000056 A V$BIC1 000315 A V$BTB
000331 A V$BTBM 000414 A V$BVN 000334 A V$CAM 000353 A V$CKB
000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL 000076 A V$CRDM
000341 A V$CRDR 000354 A V$CRM 000302 A V$CRS 000360 A V$CTAD
000300 A V$CTL 000351 A V$CTMS 000070 A V$DATE 000355 A V$DSTB
000376 A V$ERFG 000347 A V$FGLB 000306 A V$FLRS 000350 A V$FREE
000332 A V$GFCB 000320 A V$SIM 000410 A V$IDA 000412 A V$JCB
000055 A V$JCFG 000077 A V$JCTM 000050 A V$JNAM 000377 A V$JOP
000340 A V$KEY 000054 A V$LCNT 000313 A V$LER 000356 A V$LIT
000317 A V$LLUP 000317 A V$LPP 000307 A V$LPSK 000312 A V$LSAL
000345 A V$LUNT 000316 A V$LUP 000400 A V$LUT1 000401 A V$LUT2
000402 A V$LUT3 000330 A V$MAP 000333 A V$MING 000330 A V$MPM
000362 A V$NCTR 000316 A V$NPAG 000413 A V$OCB 000346 A V$OPCF
000311 A V$OPCL 000357 A V$PGT 000363 A V$PIMH 000074 A V$PLCT
000305 A V$PTVB 000361 A V$SCTL 000352 A V$SCV 000375 A V$SLFG
000334 A V$STO 000335 A V$ST1 000336 A V$ST2 000337 A V$ST3
000303 A V$TB 000342 A V$TBGT 000416 A V$TFC 000314 A V$TJCP
000344 A V$TMN 000343 A V$TMS 000304 A V$UTB 000001 A X
000420 A ZERO
0 ERRORS ASSEMBLY COMPLETE

```

```

1477 ACCAVA 1468 1473
1478 ACCAVB 1469 1474
1480 ACTIDB 1470
159 ADAT *
38 ANAM *
90 ANAH *
574 APIM 584 585
108 B 98 117 229 230 252 255 257 1472
88 B& 82
83 B&0 40
30 B&1 73
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 *
553 B10 *
554 B11 *
555 B12 *
556 B13 *
557 B14 *
558 B15 *
545 B2 *
546 B3 *
547 B4 *

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548 B5 *
549 B6 *
550 B7 *
551 B8 *
552 B9 *
630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
522 BM377 51
517 BM7 71
520 BM77 59
523 BM777 47
486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 *
501 BR15 *
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *
495 BR9 *
470 BS0 195 209
471 BS1 *
480 BS10 *
481 BS11 *
482 BS12 *
483 BS13 *
484 BS14 *
485 BS15 *
472 BS2 *
473 BS3 *
474 BS4 *
475 BS5 *
476 BS6 *
477 BS7 *
478 BS8 *
479 BS9 *
1467 CC$ACE 12 1466 1475
1397 CHAFP *
1398 CHAFP B *
1399 CHAFP Z *
1401 CHARP *
1402 CHARP B *
1403 CHARP Z *
1405 CHCFP *
1406 CHCFP B *
1407 CHCFP Z *
1409 CHCRP *
1410 CHCRP B *
1411 CHCRP Z *
1413 CHRBL *
1414 CHRBL B *
1415 CHRBL Z *
198 CLEARF *
567 CLOCK 569 570
622 COTAD1 *
707 CTA CT *
708 CTA CT B *
709 CTA CT Z *
715 CTA DN *
716 CTA DN B *
717 CTA DN Z *
751 CTB IC *
752 CTB IC B *
753 CTB IC Z *
723 CTD ST *
724 CTD ST B *
725 CTD ST Z *
739 CTD VA *
740 CTD VA B *
741 CTD VA Z *
755 CTF CB *
756 CTF CB B *
757 CTF CB Z *
763 CTF RC *
764 CTF RC B *
765 CTF RC Z *
767 CTF RE *
768 CTF RE B *
769 CTF RE Z *
711 CTID B *
712 CTID B B *
713 CTID B Z *
743 CTID A *

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744 CTIOAB *
745 CTIOAZ *
719 CTOPM *
720 CTOPMB *
721 CTOPMZ *
735 CTRCN *
736 CTRCNB *
737 CTRCNZ *
727 CTRQB *
728 CTRQBB *
729 CTRQBZ *
731 CTRTR *
732 CTRTRB *
733 CTRTRZ *
747 CTSTA *
748 CTSTAB *
749 CTSTAZ *
759 CTWDS *
760 CTWDSB *
761 CTWDSZ *
698 DCBUFF *
691 DCCHR *
692 DCCHRB *
693 DCCHRZ *
689 DCCNT *
697 DCRECL *
187 DINTS *
569 DISCLK * 189
589 DISMP *
584 DISPIM * 188
813 DMBCA *
814 DMBCAB *
815 DMBCAZ *
805 DMCWA *
806 DMCWAB *
807 DMCWAZ *
785 DMFPA *
786 DMFPAB *
787 DMFPAZ *
793 DMLCA *
794 DMLCAB *
795 DMLCAZ *
797 DMLTA *
798 DMLTAB *
799 DMLTAZ *
801 DMPTA *
802 DMPTAB *
803 DMPTAZ *
781 DMRPA *
782 DMRPAB *
783 DMRPAZ *
789 DMSTA *
790 DMSTAB *
791 DMSTAZ *
809 DMSWA *
810 DMSWAB *
811 DMSWAZ *
777 DMTPA *
778 DMTPAB *
779 DMTPAZ *
615 DSCTAB *
601 DSIASS *
600 BEDVDH *
612 BALCKD *
609 DSNANI *
608 DSNORI *
613 ASDPCI *
614 ASPST *
610 DSREWA *
606 DSUNAN *
611 DSUNTN *
512 EIGHT * 143 167
183 EINTS *
570 ENACKL * 185
590 ENAMP *
585 ENAPIM * 184
0 ERROR * 113 193 200 207
128 FETCHA *
509 FIVE * 149 173
508 FDUR * 151 178
251 GETQ *
1432 IBIBF *
1433 IBIBFB *
1434 IBIBFZ *
1436 IBLAS *
1437 IBLAB *
1438 IBLAZ *
1424 IBLFN *
1425 IBLFNB *
1426 IBLFNZ *
1420 IBLHF *
1421 IBLHFB *
1422 IBLHFZ *
1428 IBSTB *
1429 IBSTAB *

```



```
849 LCRCCZ *
827 LCSMB *
828 LCSMBB *
829 LCSMBZ *
503 LHM *
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSBSC *
1070 LSBSCB *
1071 LSBSCZ *
1013 LSCC1 *
1014 LSCC1B *
1015 LSCC1Z *
1017 LSCC2 *
1018 LSCC2B *
1019 LSCC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA *
986 LSCTAB *
987 LSCTAZ *
1041 LSDSF *
1042 LSDSFB *
1043 LSDSFZ *
989 LSDST *
990 LSDSTB *
991 LSDSTZ *
1025 LSEPF *
1026 LSEPFB *
1027 LSEPFZ *
1009 LSLSP *
1010 LSLSPB *
1011 LSLSPZ *
993 LSMOD *
994 LSMODB *
995 LSMODZ *
1073 LSNTD *
1074 LSNTDB *
1075 LSNTDZ *
997 LSPAR *
998 LSPARB *
999 LSPARZ *
1037 LSPLA *
1038 LSPLAB *
1039 LSPLAZ *
953 LSRCA *
954 LSRCAB *
955 LSRCAZ *
957 LSREM *
958 LSREMB *
959 LSREMNZ *
1033 LSRRS *
1034 LSRRSB *
1035 LSRRSZ *
949 LSRRT *
950 LSRRTB *
951 LSRRTZ *
961 LSRTD *
962 LSRTDB *
963 LSRTDZ *
965 LSRRS *
966 LSRRSB *
967 LSRRSZ *
981 LSWS *
982 LSWSB *
983 LSWSZ *
1021 LSTER *
1022 LSTERB *
1023 LSTERZ *
945 LSTHE *
946 LSTHDB *
947 LSTHDZ *
969 LSNCA *
970 LSN CAB *
971 LSNCAZ *
973 LSNEM *
974 LSNEMB *
975 LSNEMZ *
1029 LSWRS *
1030 LSWRSB *
1031 LSWRSZ *
977 LSWTD *
978 LSWTDB *
979 LSWTDZ *
```



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1257 FSCC2Z *
1291 PSCRC *
1292 PSCRCB *
1293 PSCRCZ *
1271 PSDEF *
1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMODB *
1233 PSMODZ *
671 PSNSEC *
1235 PSPAR *
1236 PSPARB *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
667 PSPROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYN CZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
32 PUSH *
228 PUTQ *
532 RAO *
533 RA1 *
651 RADNR *
534 RBO *
535 RB1 *
649 RFCB *
504 RHW *
645 ROPWD *
642 RSTPR *
650 RTIDB *
96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169
510 SIX 147 171
26 SPACE *
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVMT 1472
282 TBID *
277 TBISA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY *
293 TBKN1 *
284 TBKN2 *
295 TBKN3 *
299 TBMING *
291 TBNUCL *
267 TBPL *
269 TBRSE *
270 TBRST *
289 TBRSE *
272 TBRSE *
273 TBRST *
271 TBRSX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *

```

```
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBS12 *
266 TBST *
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDC *
1188 TCDCB *
1189 TCDCZ *
1195 TCDD *
1196 TCDDB *
1197 TCDDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNDD *
1144 TCNDDB *
1145 TCNDDZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRC *
1176 TCRCB *
1177 TCRCZ *
1155 TCRND *
1156 TCRNDB *
1157 TCRNDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
```

1184	TCWCAB	*		
1185	TCWCAZ	*		
1159	TCWMP	*		
1160	TCWMBB	*		
1161	TCWMDZ	*		
1167	TCWRS	*		
1168	TCWRSB	*		
1169	TCWRSZ	*		
1119	TCXMM	*		
1120	TCXMMB	*		
1121	TCXMMZ	*		
514	TEN	*	139	163
205	TESTF	*		
507	THREE	*	153	177
0	TIDCEX	*	1479	1480
1375	TIDSP	*		
1376	TIDSPB	*		
1377	TIDSPZ	*		
1367	TIDWN	*		
1368	TIDWNB	*		
1369	TIDWNZ	*		
1391	TINET	*		
1392	TINETB	*		
1393	TINETZ	*		
1379	TIDDN	*		
1380	TIDDNB	*		
1381	TIDDNZ	*		
1387	TIDDP	*		
1388	TIDDPB	*		
1389	TIDDPZ	*		
1383	TIDSC	*		
1384	TIDSCB	*		
1385	TIDSCZ	*		
1371	TISEC	*		
1372	TISECB	*		
1373	TISECZ	*		
1359	TITU1	*		
1360	TITU1B	*		
1361	TITU1Z	*		
1363	TITU2	*		
1364	TITU2B	*		
1365	TITU2Z	*		
1221	TPFPA	*		
1222	TPFPAB	*		
1223	TPFPAZ	*		
1213	TPRPA	*		
1214	TPRPAB	*		
1215	TPRPAZ	*		
1217	TPWPA	*		
1218	TPWPAB	*		
1219	TPWPAZ	*		
306	TWO	*	155	179
340	V\$1MIN	*		
358	V\$BFC	*		
366	V\$BGLB	*		
363	V\$BIC1	*		
392	V\$BTB	*		
400	V\$BTBM	*		
457	V\$BVN	*		
408	V\$CAM	*		
420	V\$CKB	*		
448	V\$CKIT	*		
397	V\$CKPT	*		
380	V\$CPL	*		
367	V\$CRDM	*		
410	V\$CRDR	*		
421	V\$CPM	*		
381	V\$CRS	*		
406	V\$CTAD	*		
379	V\$CTL	*		
418	V\$CTMS	*		
364	V\$DATE	*		
422	V\$DSTB	*		
435	V\$DFRG	*		
416	V\$FGLB	*		
385	V\$FLRS	*		
417	V\$FREE	*		
401	V\$GFCB	*		
387	V\$IM	*		
447	V\$IDB	*		
449	V\$JCB	*		
356	V\$JCFG	*		
370	V\$JCTM	*		
354	V\$JNAM	*		
436	V\$JOP	*		
407	V\$KEY	*		
355	V\$LCNT	*		
390	V\$LER	*		
423	V\$LIT	*		
395	V\$LLUP	*		
396	V\$LFP	*		
386	V\$LRSK	*		
389	V\$LCAL	*		
414	V\$LUNT	*		
394	V\$LUP	*		

437	V\$LUT1	*		
438	V\$LUT2	*		
439	V\$LUT3	*		
399	V\$MAP	*		
402	V\$MIMG	*		
398	V\$MPM	*		
428	V\$NCTR	*		
393	V\$NPAG	*		
452	V\$OCB	*		
415	V\$OPCF	*		
388	V\$OPCL	*		
424	V\$PGT	*		
429	V\$PIMN	*		
365	V\$PLCT	*		
384	V\$PTVB	*		
427	V\$SCTL	*		
419	V\$SCV	*		
434	V\$SLFG	*		
403	V\$ST0	*		
404	V\$ST1	*		
405	V\$ST2	*		
406	V\$ST3	*		
382	V\$TB	*		
411	V\$TBGT	*		
459	V\$TFC	*		
391	V\$TJCP	*		
413	V\$TMN	*		
412	V\$TMS	*		
383	V\$UTB	*		
0	VTPUSH	*	33	35
697	X	*	232	254
469	ZERO	*		


```

1      EJEC
2      * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES
3      *
4      * V.D.M. PART NO.          92L1105-048A
5      *
6      *
7      *
8      *
9      *          CCSCBS
10     *
11     *
12     *          TITLE  CCSCBS
13     *          NLIS
1443    *          LIST
1444    *
1445    *          E JEC
1446    * *****
1447    * *****
1448    *          PROGRAM NAME -
1449    *          CCSCBS - CIRCULAR BUFFER STORE
1450    *
1451    *          ENTRY CONDITIONS -
1452    *          (CCSCBS) IS ADDRESS OF WORD CONTAINING ADDRESS OF
1453    *          TWO WORD INTERRUPT ENTRY.
1454    *          INTERRUPTS OFF
1455    *
1456    *          CALLING SEQUENCE -
1457    *          JMPM  CCSCBS
1458    *          DATA INTWD          INTERRUPT WORD ADDRESS
1459    *          (RETURN)
1460    *
1461    *          EXIT CONDITIONS -
1462    *          (A) = 0, BUFFER OVERFLOW
1463    *          (A) .NE. 0, ENTRY INSERTED
1464    *          (B) AND (X) UNCHANGED
1465    *          INTERRUPTS OFF
1466    *
1467    * *****
1468    * *****
1469    *          EXT  CCSEND
1470    *          EXT  CCSEMT
1471    *          EXT  CCSTR
1472    *          EXT  CCFLG
1473    *          EXT  CCFIL
1474    *          NAME  CCSCBS
1475    *          CCSCBS ENTR
1476    *          STX   CBSAVX
1477    *          LDXE* CCSCBS          (X) POINTS TO INTERRUPT WORD ENTRY
1478    *
1479    *          INRE  CCSCBS
1480    *
1481    *          LDAE  CCFLG
1482    *          JAZ*  CCSCBS          IF OVERFLOW FLAG SET (CBFLAG = 0) ERROR
1483    *          LDA   0,X
1484    *          STAE* CCFIL
1485    *
1486    *          INRE  CCFIL
1487    *          LDAE  CCSEMT
1488    *          SUBE  CCFIL
1489    *          IAN   CB02
1490    *          LDAE  CCFIL
1491    *          ERAE  CCSEMT
1492    *          STAE  CCFLG          IF FILL = EMPTY SET OVERFLOW FLAG FOR NEXT
1493    *          CB01 LDX   CBSAVX          CALL
1494    *          JMP*  CCSCBS
1495    *          CB02 LDAE  CCSTR
1496    *          STAE  CCFIL
1497    *          JMP   CB01
1498    *
1499    * *****
1500    * *****
1501    *          PROGRAM NAME -
1502    *          CCSCBF - CIRCULAR BUFFER FETCH
1503    *
1504    *          ENTRY CONDITIONS -
1505    *          (CCSCBF) IS ADDRESS OF WORD CONTAINING ADDRESS OF TWO
1506    *          WORD AREA TO RECEIVE INTERRUPT ENTRY

```

```

000000 000000 A
000001 074112 A
000002 006037 A
000003 100000 R
000004 006047 A
000005 000000 R
000006 006017 A
000007 000000 E
000010 001010 A
000011 100000 R
000012 015000 A
000013 006057 A
000014 100000 E
000015 006047 A
000016 000014 E
000017 015001 A
000020 006057 A
000021 100016 E
000022 006047 A
000023 000021 E
000024 006017 A
000025 000000 E
000026 006147 A
000027 000020 E
000030 001004 A
000031 000042 R
000032 006017 A
000033 000027 E
000034 006137 A
000035 000000 E
000036 006057 A
000037 000007 E
000040 034053 A
000041 001000 A
000042 100000 R
000043 006017 A
000044 000000 E
000045 006057 A
000046 000033 A
000047 001000 R
000050 000040 R

```

```

02 00001
02 00002
02 00003
02 00004
02 00005
02 00006
02 00007
02 00008
02 00009
02 00010
02 00011
02 00012
02 00013
*****
02 00014
02 00015
02 00016
02 00017
**02 00018
**02 00019
**02 00020
**02 00021
**02 00022
**02 00023
**02 00024
**02 00025
**02 00026
**02 00027
**02 00028
**02 00029
**02 00030
**02 00031
**02 00032
**02 00033
**02 00034
**02 00035
**02 00036
**02 00037
**02 00038
**02 00039
**02 00040
**02 00041
**02 00042
**02 00043
**02 00044
**02 00045
**02 00046
**02 00047
**02 00048
**02 00049
**02 00050
**02 00051
**02 00052
**02 00053
**02 00054
**02 00055
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**02 00057
**02 00058
**02 00059
**02 00060
**02 00061
**02 00062
**02 00063
**02 00064
**02 00065
**02 00066
**02 00067
**02 00068
**02 00069

```

```

1507 **          INTERRUPTS OFF                                02 00077
1508 **
1509 **          CALLING SEQUENCE -                               02 00078
1510 **          JMPM      CC$CBF                                02 00079
1511 **          DATA    INTWD          ADDR OF TWO WORD BUFFER 02 00080
1512 **          (RETURN)                                       02 00081
1513 **
1514 **          EXIT CONDITIONS -                                  02 00082
1515 **          (A) = 0, BUFFER EMPTY                            02 00083
1516 **          (A) .NE. 0, ENTRY STORED                        02 00084
1517 **          (B) AND (X) UNCHANGED                           02 00085
1518 **          INTERRUPTS OFF                                  02 00086
1519 **
1520 *****
1521 *****
1522 *****
000051 000000 A 1523 CC$CBF NAME CC$CBF                                02 00092
000052 074041 A 1524          ENTR                                02 00093
000053 006037 A 1525          STX      CBSAVX                                02 00094
000054 100051 R          LDXE*    CC$CBF          PICK UP ADDR OF LOCATION WHICH WILL RECEIVE 02 00095
000055 006047 A 1526          INRE    CC$CBF          INTERRUPT WORD. ADJUST RETURN ADDR.          02 00096
000056 000051 R          LDAE    CC$FIL                                02 00097
000057 006017 A 1527          ERAE    CC$EMT                                02 00098
000060 000046 E          JAZ*     CC$CBF          IF FILL = EMPTY, NO MORE WORDS IN BUFFER 02 00099
000061 006137 A 1528          LDAE*   CC$EMT          MOVE INTERRUPT WORDS AND MOVE EMPTY POINTER 02 00100
000062 000035 E          STA      0,X          TO NEXT ENTRY                                02 00101
000063 001010 A 1529          INRE    CC$EMT                                02 00102
000064 100051 R          LDAE*   CC$EMT                                02 00103
000065 006017 A 1530          STA      1,X                                02 00104
000066 100062 E          INRE    CC$EMT                                02 00105
000067 055000 A 1531          LDAE*   CC$EMT                                02 00106
000070 006047 A 1532          STA      1,X                                02 00107
000071 000066 E          INRE    CC$EMT                                02 00108
000072 006017 A 1533          JAN      CF01                                02 00109
000073 100071 E          LDAE    CC$STR                                02 00110
000074 055001 A 1534          STAE    CC$EMT                                02 00111
000075 006047 A 1535          LDX     CBSAVX          RESTORE (X)                                02 00112
000076 000073 E          JMP*    CC$CBF          EXIT
000077 006017 A 1536          LDCB01 0                                02 00113
000100 000076 E          LDCB02 0                                02 00114
000101 006147 A 1537          LDCB03 0                                02 00115
000102 000025 E          LDCB04 0                                02 00116
000103 001004 A 1538          LDCB05 0                                02 00117
000104 000111 R          LDCB06 0                                02 00118
000105 006017 A 1539          LDCB07 0                                02 00119
000106 000044 E          LDCB08 0                                02 00120
000107 006057 A 1540          LDCB09 0                                02 00121
000110 000100 E          LDCB10 0                                02 00122
000111 034002 A 1541 CF01  LDX     CBSAVX          RESTORE (X)                                02 00123
000112 001000 A 1542          JMP*    CC$CBF          EXIT
000113 100051 R          LDCB11 0                                02 00124
000114 000000 A 1543 CBSAVX DATA 0                                02 00125
1544          END

```

ENTRY NAMES

```

000051 R CC$CBF 000000 R CC$CBS
EXTERNAL NAMES
000110 E CC$EMT 000102 E CC$END 000060 E CC$FIL 000037 E CC$FLG
000106 E CC$STR
SYMBOLS
000044 A APIM      000002 A B          000000 A B0         000001 A B1
000012 A B10      000013 A B11        000014 A B12        000015 A B13
000016 A B14      000017 A B15        000002 A B2         000003 A B3
000004 A B4        000005 A B5         000006 A B6         000007 A B7
000010 A B8        000011 A B9         000000 A BICNUM    000421 A BM1
000472 A BM17     000475 A BM177    000477 A BM1777    000464 A BM3
000473 A BM37     000463 A BM377    000467 A BM7       000474 A BM77
000476 A BM777   000441 A BR0       000442 A BR1       000453 A BR10
000454 A BR11    000455 A BR12    000456 A BR13    000457 A BR14
000460 A BR15    000443 A BR2       000444 A BR3       000445 A BR4
000446 A BR5     000447 A BR6       000450 A BR7       000451 A BR8
000452 A BR9     000421 A BS0       000422 A BS1       000433 A BS10
000434 A BS11    000435 A BS12    000436 A BS13    000437 A BS14
000440 A BS15    000423 A BS2       000424 A BS3       000425 A BS4
000426 A BS5     000427 A BS6       000430 A BS7       000431 A BS8
000432 A BS9     000040 R CB01     000043 R CB02     000114 R CBSAVX
000051 R CC$CBF 000000 R CC$CBS 000110 E CC$EMT 000102 E CC$END
000060 E CC$FIL 000037 E CC$FLG 000106 E CC$STR 000111 R CF01
000000 A CHAFP 000000 A CHAFPZ 000020 A CHAFPZ 000001 A CHARP
000000 A CHARPB 000020 A CHARPZ 000002 A CHCFP 000000 A CHCFPB
000020 A CHCFPZ 000003 A CHCRP 000000 A CHCRPB 000020 A CHCRPZ
000004 A CHRBL 000000 A CHRBLB 000020 A CHRBLZ 000047 A CLOCK
000000 A CTAD1 000000 A CTACT 000017 A CTACTB 000001 A CTACTZ
000001 A CTADN 000000 A CTADNB 000020 A CTADNZ 000011 A CTBIC
000000 A CTBICB 000020 A CTBICZ 000003 A CTDST 000000 A CTDSTB
000020 A CTDSTZ 000006 A CTDVA 000000 A CTDVAB 000020 A CTDVAZ
000012 A CTFCB 000000 A CTFCBZ 000020 A CTFCBZ 000014 A CTFRC
000010 A CTFRCB 000010 A CTFRCZ 000014 A CTFRE 000000 A CTFREB
000010 A CTFREZ 000000 A CTIDB 000000 A CTIDBB 000017 A CTIDBZ
000007 A CTIDA 000000 A CTIDAB 000020 A CTIDAZ 000002 A CTOPM
000000 A CTOPMB 000020 A CTOPM2 000005 A CTRCN 000000 A CTRCNB
000010 A CTRCNZ 000004 A CTRQB 000000 A CTRQBB 000020 A CTRQBBZ
000005 A CTRTR 000010 A CTRTRB 000010 A CTRTRZ 000010 A CTSTA
000000 A CTSTAB 000020 A CTSTAZ 000013 A CTWDS 000000 A CTWDSB
000020 A CTWDSZ 000001 A DCBUFF 000003 A DCCHR 000000 A DCCHRB
000020 A DCCHRZ 000002 A DCENT 000000 A DCRECL 000747 A DISCLK

```



```

000467 A SEVEN 000466 A SIX 000027 A TBATSK 000026 A TBCPTH
000011 A TBENTY 000003 A TBEVNT 000021 A TBID 000014 A TBISA
000015 A TBISB 000017 A TBISP 000020 A TBISRS 000034 A TBIST
000016 A TBISX 000032 A TBKEY 000022 A TBKN1 000023 A TBKN2
000024 A TBKN3 000033 A TBKMG 000032 A TBNUCL 000002 A TBPL
000004 A TBRSA 000005 A TBRSE 000030 A TBRSE 000007 A TBRSP
000010 A TBRSTS 000006 A TBRSE 000000 A TBS0 000001 A TBS1
000012 A TBS10 000013 A TBS11 000014 A TBS12 000015 A TBS13
000016 A TBS14 000017 A TBS15 000002 A TBS2 000003 A TBS3
000004 A TBS4 000005 A TBS5 000006 A TBS6 000007 A TBS7
000010 A TBS8 000011 A TBS9 000031 A TBSIZ 000001 A TBST
000025 A TBTLC 000013 A TBTMIN 000012 A TBTMS 000000 A TBTRD
000004 A TCBSL 000011 A TCBSLB 000001 A TCBSLZ 000003 A TCCLN
000000 A TCCLNB 000010 A TCCLNZ 000004 A TCCDN 000015 A TCCDNB
000001 A TCCDNZ 000002 A TCCTA 000000 A TCCTAB 000020 A TCCTAZ
000005 A TCCTP 000014 A TCCTPB 000004 A TCCTPZ 000012 A TCDCC
000000 A TCDCCB 000020 A TCDCCZ 000014 A TCDTO 000000 A TCDTOB
000020 A TCDTOZ 000004 A TCECH 000014 A TCECHB 000001 A TCECHZ
000015 A TCID1 000000 A TCID1B 000020 A TCID1Z 000016 A TCID2
000000 A TCID2B 000020 A TCID2Z 000006 A TCLDF 000014 A TCLDFB
000001 A TCLDFZ 000003 A TCLLN 000010 A TCLLNB 000010 A TCLLNZ
000005 A TCNDD 000004 A TCNDDB 000004 A TCNDDZ 000005 A TCNTD
000000 A TCNTDB 000004 A TCNTDZ 000004 A TCPCH 000000 A TCPCHB
000010 A TCPCHZ 000004 A TCRBC 000017 A TCRBCB 000001 A TCRBCZ
000013 A TCRBF 000000 A TCRBFB 000020 A TCRBFZ 000007 A TCRCA
000000 A TCR CAB 000020 A TCRCAZ 000006 A TCRND 000000 A TCRMDB
000003 A TCRMDZ 000001 A TCRQH 000000 A TCRQHB 000020 A TCRQHZ
000006 A TCRRS 000006 A TCRRSB 000003 A TCRRSZ 000010 A TCSTD
000000 A TCSTDB 000020 A TCSTDZ 000004 A TCSWL 000010 A TCSWLB
000001 A TCSWLZ 000000 A TCTCD 000000 A TCTCDB 000020 A TCTCDZ
000005 A TCTYP 000010 A TCTYPB 000004 A TCTYPZ 000004 A TCWBC
000016 A TCWBCB 000001 A TCWBCZ 000011 A TCWCA 000000 A TCWCAB
000020 A TCWCAZ 000006 A TCWMD 000003 A TCWMDB 000003 A TCWMDZ
000006 A TCWRS 000011 A TCWRSB 000003 A TCWRSZ 000004 A TCXMM
000012 A TCXMMB 000002 A TCXMMZ 000471 A TEN 000464 A THREE
000002 A TIDSP 000000 A TIDSPB 000007 A TIDSPZ 000002 A TIDWN
000017 A TIDWNB 000001 A TIDWNZ 000000 A TINET 000000 A TINETB
000020 A TINETZ 000003 A TIDDN 000017 A TIDDNB 000001 A TIDDNZ
000003 A TIDDP 000000 A TIDDPB 000007 A TIDDPZ 000003 A TIDSC
000007 A TIDSCB 000010 A TIDSCZ 000002 A TISEC 000007 A TISECB
000010 A TISECZ 000000 A TITU1 000000 A TITU1B 000020 A TITU1Z
000001 A TITU2 000000 A TITU2B 000020 A TITU2Z 000017 A TPFPA
000000 A TPFPAZ 000020 A TPFPAZ 000015 A TPRPA 000000 A TPRPAB
000020 A TPRPAZ 000016 A TPWPA 000000 A TPWPAZ 000020 A TPWPAZ
000422 A TWO 000403 A V$1MIN 000415 A V$BFC 000075 A V$BGLB
000056 A V$BIC1 000315 A V$BTB 000331 A V$BTBM 000414 A V$BVN
000334 A V$CAM 000353 A V$CKB 000411 A V$CKIT 000310 A V$CKPT
000301 A V$CPL 000076 A V$CRDM 000341 A V$CRDR 000354 A V$CRM
000302 A V$CRS 000360 A V$CTAD 000300 A V$CTL 000351 A V$CTMS
000070 A V$DATE 000355 A V$DSTB 000376 A V$ERFG 000347 A V$FGLB
000306 A V$FLRS 000350 A V$FREE 000332 A V$GFCB 000320 A V$IM
000410 A V$IDA 000412 A V$JCB 000055 A V$JCFG 000077 A V$JCTM
000050 A V$JNAM 000377 A V$JOP 000340 A V$KEY 000054 A V$LCNT
000313 A V$LER 000356 A V$LIT 000317 A V$LLUP 000317 A V$LPP
000307 A V$LRSK 000312 A V$LSAL 000345 A V$LUNT 000316 A V$LUP
000400 A V$LUT1 000401 A V$LUT2 000402 A V$LUT3 000330 A V$MAP
000333 A V$MIMG 000330 A V$MPM 000362 A V$NCTR 000316 A V$NPAG
000413 A V$OCB 000346 A V$OPCF 000311 A V$OPCL 000357 A V$PGT
000363 A V$PIMN 000074 A V$PLCT 000305 A V$PTVB 000361 A V$SCTL
000352 A V$SCV 000375 A V$SLFG 000334 A V$STO 000335 A V$ST1
000336 A V$ST2 000337 A V$ST3 000303 A V$TB 000342 A V$TBGT
000416 A V$TFC 000314 A V$TJCP 000344 A V$TMN 000343 A V$TMS
000304 A V$UTB 000001 A X
000420 A ZERO
0 ERRORS ASSEMBLY COMPLETE

```

```

159 ADAT *
38 ANAM **
90 ANAN *
574 APIM 594 585
108 B 98 117 229 230 252 255 257
88 B& 82
88 B&0 40
44 B&1 78
44 B&10 42
76 B&2 74
72 B&3 70
68 B&4 66
64 B&5 62
60 B&6 58
56 B&7 54
52 B&8 50
48 B&9 46
543 B0 *
544 B1 ***
553 B10 *****
554 B11 *****
555 B12 *****
556 B13 *****
557 B14 *****
558 B15 *****
545 B2 *****
546 B3 *****
547 B4 *****
548 B5 *

```

```

549 B6 *
550 B7 *
551 B8 *
552 B9 *
630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
522 BM377 51
517 BM7 71
520 BM77 59
523 BM777 47
486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 *
501 BR15 *
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *
495 BR9 *
470 BS0 195 209
471 BS1 *
480 BS10 *
481 BS11 *
482 BS12 *
483 BS13 *
484 BS14 *
485 BS15 *
472 BS2 *
473 BS3 *
474 BS4 *
475 BS5 *
476 BS6 *
477 BS7 *
478 BS8 *
479 BS9 *
1493 CB01 1497
1495 CB02 1489
1543 CBSAVX 1476 1493 1524 1541
1523 CC$CBF 1522 1525 1526 1529 1542
1475 CC$CBS 12 1474 1477 1478 1480 1494
0 CC$EMT 1470 1491 1528 1530 1532 1533 1535 1536 1540
0 CC$END 1469 1487 1537
0 CC$FIL 1473 1482 1485 1486 1488 1490 1496 1527
0 CC$FLG 1472 1479 1480
0 CC$STR 1471 1495 1538
1541 CF01 1538
1397 CHAFP *
1398 CHAFPB *
1399 CHAFPZ *
1401 CHARP *
1402 CHARPB *
1403 CHARPZ *
1405 HCIFP *
1406 HCIFPB *
1407 HCIFPZ *
1409 CHCRP *
1410 CHCRPB *
1411 CHCRPZ *
1413 CHRFL *
1414 CHRFLB *
1415 CHRFLZ *
198 CLEARF *
567 CLOCK 569 570
682 COTAP1 *
707 CFACT *
708 CFACTB *
709 CFACTZ *
715 CTAGM *
716 CTAGMB *
717 CTAGMZ *
751 CTB10 *
752 CTB10B *
753 CTB10Z *
723 CTDXT *
724 CTDSTB *
725 CTDSTZ *
739 CTDVH *
740 CTDVHB *
741 CTDVAZ *
755 CTF0B *
756 CTF0BB *
757 CTF0BZ *
763 CTF0L *

```

764	CTFRCB	*				
765	CTFR CZ	*				
767	CTFRE	*				
768	CTFRE B	*				
769	CTFRE Z	*				
711	CTIDB	*				
712	CTIDBB	*				
713	CTIDBZ	*				
743	CTIDA	*				
744	CTIDAB	*				
745	CTIDAZ	*				
719	CTOPM	*				
720	CTOPMB	*				
721	CTOPMZ	*				
735	CTRCN	*				
736	CTRCNB	*				
737	CTRCNZ	*				
727	CTRQB	*				
728	CTRQBB	*				
729	CTRQBZ	*				
731	CTRTR	*				
732	CTRTRB	*				
733	CTRTRZ	*				
747	CTSTA	*				
748	CTSTAB	*				
749	CTSTAZ	*				
759	CTWDS	*				
760	CTWDSB	*				
761	CTWDSZ	*				
688	DCBUFF	*				
691	DCCHR	*				
692	DCCHRB	*				
693	DCCHRZ	*				
689	DCCNT	*				
687	DCRECL	*				
187	DINTS	*				
559	DISCLK	*	189			
589	DISMP	*				
584	DISPIM	*	188			
813	DMBCA	*				
814	DMBCAB	*				
815	DMBCAZ	*				
805	DMCWA	*				
806	DMCWAB	*				
807	DMCWAZ	*				
785	DMFPA	*				
786	DMFPAB	*				
787	DMFPAZ	*				
793	DMLCA	*				
794	DMLCAB	*				
795	DMLCAZ	*				
797	DMLTA	*				
798	DMLTAB	*				
799	DMLTAZ	*				
801	DMPTA	*				
802	DMPTAB	*				
803	DMPTAZ	*				
781	DMRPA	*				
782	DMRPAB	*				
783	DMRPAZ	*				
789	DMSTA	*				
790	DMSTAB	*				
791	DMSTAZ	*				
809	DMSWA	*				
810	DMSWAB	*				
811	DMSWAZ	*				
777	DMTPA	*				
778	DMTPAB	*				
779	DMTPAZ	*				
615	DSC TAD	*				
601	DSDASS	*				
600	DS D VDN	*				
612	DSLCKO	*				
609	DSNAME	*				
608	DSNDRQ	*				
613	DSOPCM	*				
614	DSPSTI	*				
610	DSREWD	*				
606	DSUNAM	*				
611	DSUNTN	*				
512	EIGHT	*	143	167		
183	EINTS	*				
570	ENACLK	*	185			
590	ENAMP	*				
585	ENAPIM	*	184			
0	ERROR	*	113	193	200	207
128	FETCHA	*				
509	FIVE	*	149	173		
508	FOUR	*	151	175		
051	GETQ	*				
1432	IBIBF	*				
1433	IBIBFB	*				
1434	IBIBFZ	*				
1436	IBLAS	*				
1437	IBLASB	*				

1438 IBLASZ *
1424 IBLN *
1425 IBLNBN *
1426 IBLNZN *
1420 IBLNK *
1421 IBLNKB *
1422 IBLNKZ *
1428 IBSTA *
1429 IBSTAB *
1430 IBSTAZ *
1440 IBSTS *
1441 IBSTSB *
1442 IBSTSZ *

378	LC	379	380	381	382	383	384	385	386	387
		388	389	390	391	392	393	394	395	396
		397	398	399	400	401	402	403	404	405
		406	407	408	410	411	412	413	414	415
		416	417	418	419	420	421	422	423	424
		426	427	428	429	434	435	436	437	438
		439	440	447	448	449	452	457	458	459

855 LCABN *
856 LCABNB *
857 LCABNZ *
859 LCASY *
860 LCASYB *
861 LCASYZ *
923 LCBSC *
924 LCBSCB *
925 LCBSCZ *
919 LCCHN *
920 LCCHNB *
921 LCCHNZ *
851 LCCRC *
852 LCCRCB *
853 LCCRCZ *
895 LCCWB *
896 LCCWBB *
897 LCCWBZ *
891 LCCWC *
892 LCCWCB *
893 LCCWCZ *
899 LCCWD *
900 LCCWDB *
901 LCCWDZ *
887 LCCWI *
888 LCCWIB *
889 LCCWIZ *
903 LCCWP *
904 LCCWPB *
905 LCCWPZ *
907 LCCWR *
908 LCCWRB *
909 LCCWRZ *
883 LCCWS *
884 LCCWSB *
885 LCCWSZ *
911 LCCWT *
912 LCCWTB *
913 LCCWTZ *
835 LCIBA *
836 LCIBAB *
837 LCIBAZ *
823 LCIBF *
824 LCIBFB *
825 LCIBFZ *
831 LCIBL *
832 LCIBLB *
833 LCIBLZ *
839 LCIC1 *
840 LCIC1B *
841 LCIC1Z *
842 LCIC2 *
844 LCIC2B *
845 LCIC2Z *
863 LCIKE *
864 LCIKEB *
865 LCIKEZ *
901 LCITB *
902 LCITRB *
903 LCITBZ *

353	LCJF	354	355	356	363	364	365	366	367	370
-----	------	-----	-----	-----	-----	-----	-----	-----	-----	-----

879 LCLCB *
880 LCLCBB *
881 LCLCBZ *
927 LCLDB *
928 LCLDBB *
929 LCLDBZ *
915 LCLTB *
916 LCLTBB *
917 LCLTBZ *
875 LCOBA *
876 LCOBAE *
877 LCOBAZ *
867 LCDEF *
868 LCDEFB *

```
869 LCOBFZ *
871 LCOBL *
872 LCOBLB *
873 LCOBLZ *
935 LCOKE *
936 LCOKEB *
937 LCOKEZ *
847 LCRCC *
848 LCRCCB *
849 LCRCCZ *
827 LCSMB *
828 LCSMBB *
829 LCSMBZ *
503 LHM *
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSBSC *
1070 LSBSCB *
1071 LSBSCZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA *
986 LSCTAB *
987 LSCTAZ *
1041 LSDSF *
1042 LSDSFB *
1043 LSDSFZ *
989 LSDST *
990 LSDSTB *
991 LSDSTZ *
1025 LSEPF *
1026 LSEPFB *
1027 LSEPFZ *
1009 LSLSP *
1010 LSLSPB *
1011 LSLSPZ *
993 LSMOD *
994 LSMODB *
995 LSMODZ *
1073 LSNTD *
1074 LSNTDB *
1075 LSNTDZ *
997 LSPAR *
998 LSPARB *
999 LSPARZ *
1037 LSPLA *
1038 LSPLAB *
1039 LSPLAZ *
953 LSRCB *
954 LSRCAB *
955 LSRCAN *
957 LSREN *
958 LSREMB *
959 LSREMN *
1033 LSRRS *
1034 LSRRSB *
1035 LSRRSZ *
949 LSRRT *
950 LSRRTB *
951 LSRRTZ *
961 LSRTD *
962 LSRTDB *
963 LSRTDZ *
965 LSRSB *
966 LSRSBB *
967 LSRSBZ *
981 LSSWS *
982 LSSWSB *
983 LSSWSZ *
1021 LSTER *
1022 LSTERB *
1023 LSTERZ *
945 LSTHD *
946 LSTHDB *
947 LSTHDZ *
969 LSWCA *
970 LSWCAB *
971 LSWCAZ *
```


666	PSBEG	*		
1299	PSBSC	*		
1300	PSBSCB	*		
1301	PSBSCZ	*		
1251	PSCC1	*		
1252	PSCC1B	*		
1253	PSCC1Z	*		
1255	PSCC2	*		
1256	PSCC2B	*		
1257	PSCC2Z	*		
1291	PSCRC	*		
1292	PSCRCB	*		
1293	PSCRCZ	*		
1271	PSDEF	*		
1272	PSDEFB	*		
1273	PSDEFZ	*		
1279	PSDSF	*		
1280	PSDSFB	*		
1281	PSDSFZ	*		
1267	PSDWN	*		
1268	PSDWNB	*		
1269	PSDWNZ	*		
1272	PSEND	*		
1263	PSEPF	*		
1264	PSEPFB	*		
1265	PSEPFZ	*		
1247	PSLSP	*		
1248	PSLSPB	*		
1249	PSLSPZ	*		
1231	PSMOD	*		
1232	PSMODB	*		
1233	PSMODZ	*		
1271	PSNSEC	*		
1235	PSPAR	*		
1236	PSPARB	*		
1237	PSPARZ	*		
1275	PSPLA	*		
1276	PSPLAB	*		
1277	PSPLAZ	*		
1267	PSPROT	*		
1259	PSTER	*		
1260	PSTERB	*		
1261	PSTERZ	*		
1243	PSXMM	*		
1244	PSXMMB	*		
1245	PSXMMZ	*		
1283	PSYNC	*		
1284	PSYNCB	*		
1285	PSYNCZ	*		
1303	PSYNR	*		
1304	PSYNRB	*		
1305	PSYNRZ	*		
1295	PSYNT	*		
1296	PSYNTB	*		
1297	PSYNTZ	*		
32	PUSH	*		
228	PUTQ	*		
532	RA0	*		
533	RA1	*		
551	RADNR	*		
534	RBO	*		
535	RB1	*		
649	RFCB	*		
504	RHW	*		
645	REPWD	*		
642	RSTPR	*		
600	RTIDB	*		
35	SETA	*		
111	SETB	*		
191	SETF	*		
511	SEVEN	*	145	169
510	SIX	*	147	171
26	SPACE	*		
135	SUBAT	*		
288	TBATSX	*		
287	TBCPTH	*		
274	TBENTY	*		
200	TBEVNT	*		
267	TBID	*		
277	TBISA	*		
278	TBISB	*		
280	TBISP	*		
281	TBISRS	*		
294	TBIST	*		
279	TBISX	*		
292	TBKEY	*		
283	TBKN1	*		
284	TBKN2	*		
285	TBKN3	*		
293	TBNIMG	*		
291	TBNUCL	*		
267	TBPL	*		
269	TBRSA	*		
270	TBRSE	*		
269	TBRSE	*		

```

272 TBRCP *
273 TBRSTS *
271 TBRX *
322 TBS *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
370 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBSIZ *
266 TBST *
286 TBTLC *
278 TBTMIN *
275 TBTMS *
265 TBTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1199 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCDN *
1128 TCCDNB *
1129 TCCDNZ *
1195 TCCTA *
1196 TCCTAB *
1197 TCCTAZ *
1151 TCCTF *
1152 TCCTFB *
1153 TCCTFZ *
1187 TCDC *
1188 TCDCB *
1189 TCDCZ *
1195 TCDTB *
1196 TCDTBB *
1197 TCDTBZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOB *
1144 TCNOBB *
1145 TCNOBZ *
1139 TCNTB *
1140 TCNTBB *
1141 TCNTBZ *
1107 TCFCH *
1108 TCFCHB *
1109 TCFCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1101 TCRFB *
1192 TCRFBZ *
1193 TCRFBZ *
1175 TCRCA *
1176 TCRCAB *
1177 TCRCAZ *
1135 TCRMB *
1136 TCRMBB *
1137 TCRMBZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRFB *
1164 TCRFBZ *
1165 TCRFBZ *
1175 TCSTB *
1180 TCSTOB *
1181 TCSTOZ *
1111 TCSSL *
1112 TCSSLB *
1113 TCSSLZ *
1087 TCPCD *

```

1088	TCTCDB	*		
1089	TCTCDZ	*		
1147	TCTYP	*		
1148	TCTYPB	*		
1149	TCTYPZ	*		
1131	TCWBC	*		
1132	TCWBCB	*		
1133	TCWBCZ	*		
1183	TCWCA	*		
1184	TCWCAB	*		
1185	TCWCAZ	*		
1159	TCWMD	*		
1160	TCWMDB	*		
1161	TCWMDZ	*		
1167	TCWRS	*		
1168	TCWRSB	*		
1169	TCWRSZ	*		
1119	TCXMM	*		
1120	TCXMMB	*		
1121	TCXMMZ	*		
514	TEN	*	139	163
205	TESTF	*		
307	THREE	*	153	177
1375	TIDSP	*		
1376	TIDSPB	*		
1377	TIDSPZ	*		
1367	TIDWN	*		
1368	TIDWNB	*		
1369	TIDWNZ	*		
1391	TINET	*		
1392	TINETB	*		
1393	TINETZ	*		
1379	TIODN	*		
1380	TIODNB	*		
1381	TIODNZ	*		
1382	TIODP	*		
1388	TIODPB	*		
1389	TIODPZ	*		
1383	TIOSC	*		
1384	TIOSCB	*		
1385	TIOSCZ	*		
1371	TISEC	*		
1372	TISECB	*		
1373	TISECZ	*		
1359	TITU1	*		
1360	TITU1B	*		
1361	TITU1Z	*		
1363	TITU2	*		
1364	TITU2B	*		
1365	TITU2Z	*		
1221	TPFPA	*		
1222	TPFPAB	*		
1223	TPFPAZ	*		
1213	TPRPA	*		
1214	TPRPAB	*		
1215	TPRPAZ	*		
1217	TPWPA	*		
1218	TPWPAB	*		
1219	TPWPAZ	*		
506	TWO	*	155	179
440	V\$1MIN	*		
458	V\$BFC	*		
366	V\$BGLB	*		
363	V\$BIC1	*		
392	V\$BTB	*		
400	V\$BTBM	*		
457	V\$BVN	*		
408	V\$CAM	*		
420	V\$CKB	*		
443	V\$CKIT	*		
387	V\$CKPT	*		
400	V\$CPL	*		
367	V\$CRDM	*		
410	V\$CRDR	*		
421	V\$CRM	*		
381	V\$CRS	*		
426	V\$CTAD	*		
379	V\$CTL	*		
418	V\$CTMS	*		
364	V\$DATE	*		
422	V\$DSTB	*		
435	V\$ERFG	*		
416	V\$FGLB	*		
385	V\$FLRS	*		
417	V\$FREE	*		
401	V\$GFCB	*		
397	V\$IN	*		
447	V\$IDA	*		
449	V\$JCB	*		
356	V\$JCFG	*		
370	V\$JCTM	*		
354	V\$JNAM	*		
436	V\$JOP	*		
407	V\$KEY	*		
355	V\$LCNT	*		

390	V\$LER	*					
423	V\$LIT	*					
395	V\$LLUP	*					
396	V\$LPP	*					
386	V\$LRSK	*					
389	V\$LSAL	*					
414	V\$LUNT	*					
394	V\$LUP	*					
437	V\$LUT1	*					
438	V\$LUT2	*					
439	V\$LUT3	*					
399	V\$MAP	*					
402	V\$MIMG	*					
398	V\$MPM	*					
428	V\$NCTR	*					
393	V\$NPAG	*					
452	V\$OCB	*					
415	V\$OPCF	*					
388	V\$OPCL	*					
424	V\$PGT	*					
429	V\$PIMN	*					
365	V\$PLCT	*					
384	V\$PTVB	*					
427	V\$SCTL	*					
419	V\$SCV	*					
434	V\$SLFG	*					
403	V\$ST0	*					
404	V\$ST1	*					
405	V\$ST2	*					
406	V\$ST3	*					
392	V\$TB	*					
411	V\$TBGT	*					
459	V\$TFC	*					
391	V\$TJCP	*					
413	V\$TMN	*					
412	V\$TMS	*					
383	V\$UTB	*					
0	VTPUSH	*	33	35			
97	X	*	232	254	1481	1484	1531 1534
369	ZERO	*					

000001 A

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1 VORTEX SET 1 PUT LAST FOR VORTEX V2 06 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 06 00002
3 * 06 00003
4 * V.D.M. PART NO. 92L1105-049B 06 00004
5 * 06 00005
6 * RELEASED 3-1-74 06 00006
7 * 06 00007
8 * 06 00008
9 * CC$CEX 06 00009
10 * 06 00010
11 * 06 00011
12 * TITLE CC$CEX 06 00012
13 * NLIS 06 00013
1443 * LIST *****
1444 * 06 00014
1445 * EJEC 06 00015
1446 ***** 06 00016
1447 ***** 06 00017
1448 * PROGRAM NAME - ***** 06 00018
1449 * CC$CEX - VTAM CCM COMMUNICATIONS EXECUTIVE ***** 06 00019
1450 * ***** 06 00020
1451 * ENTRY CONDITIONS - ***** 06 00021
1452 * CC$CEX IS SCHEDULED BY THE QUEUING PROGRAM AND THE ***** 06 00022
1453 * INTERRUPT HANDLING PROGRAMS. ENTRY IS ALWAYS BY MEANS ***** 06 00023
1454 * OF THE PRIMARY ENTRY POINT, CC$CEX ***** 06 00024
1455 * ***** 06 00025
1456 ***** 06 00026
1457 ***** 06 00027
1462 * NAME CC$CEX 06 00032
1463 * NAME CC$RCF 06 00033
1464 * EXT CC$LSD 06 00034
000000 R 1465 CC$CEX EQU * CCM COMMUNICATIONS EXECUTIVE 06 00035
000001 A 1466 * 06 00036
000001 054324 A 1467 STA CC$RCF SET REQUEST COMPLETION FLAG TO ZERO 06 00037
1468 * 06 00038
1469 * INITIALIZE SCAN OF LSD THREAD 06 00039
1470 * 06 00040
000002 006030 A 1471 LDXI CC$LSD SET (X) TO LSD THREAD POINTER 06 00041
000003 000000 E 1472 LSD SET X 06 00042
1473 * 06 00043
1474 * SCAN LSD LIST 06 00044
1475 * 06 00045
000004 035000 A 1476 CE01 LDX 0,X (X) = ADDR OF NEXT REQUEST IN THREAD 06 00046
000005 001040 A 1477 JXZ CE03 END OF THREAD 06 00047
000006 000153 R 1478 * 06 00048
000007 074317 A 1479 * 06 00049
1480 * GET CONTROLLER TABLE ADDRESS AND FETCH PROCEDURE ADDRESSES 06 00050
1481 * 06 00051
000010 025012 A 1482 LDB LSCTA,LSD 06 00052
000011 064316 A 1483 STB CECTA 06 00053
000002 A 1484 DMT SET B 06 00054
000012 016016 A 1485 LDA DMRPA,DMT RECEIVE PROCEDURE ADDRESS 06 00055
000013 054321 A 1486 STA CERPA 06 00056
000014 016015 A 1487 LDA DMTPA,DMT TRANSMIT PROCEDURE ADDRESS 06 00057
000015 054320 A 1488 STA CETPA 06 00058
000016 016017 A 1489 LDA DMFPA,DMT FUNC PROCEDURE ADDRESS 06 00059
000017 054317 A 1490 STA CEFPA 06 00060
1491 * 06 00061
1492 * CHECK READ COMPLETION ADDRESS FOR NOT ZERO. 06 00062
1493 * IF NOT ZERO, LSD IS A CANDIDATE FOR SERVICE. 06 00063
1494 * 06 00064
000020 015002 A 1495 LDA LSRCA,LSD 06 00065
000021 001010 A 1496 JAZ CE02 RCA .EQ. 0, GO CHECK FOR WRITE 06 00066
000022 000102 R 1497 * 06 00067
1498 * 06 00068
1499 * 06 00069
000023 015004 A 1500 LDA LSRTD,LSD 06 00070
000024 001010 A 1501 JAZ CE01A NO TIMEOUT ACTIVE 06 00071
000025 000034 R 1502 * 06 00072
000026 144305 A 1503 SUB CEDELT 06 00073
000027 001010 A 1504 JAZ CE01B TIMEOUT ACTIVE AND
000028 000061 R 1505 * 06 00074
000029 001004 A 1506 STA LSRTD,LSD 06 00075
000030 000061 R 1507 * 06 00076
1508 * CHECK IF EVENTS HAVE OCCURRED 06 00077
1509 * 06 00078
000034 015005 A 1509 CE01A LDA LSSRS,LSD 06 00079
000035 135013 A 1510 ERA LSDST,LSD 06 00080
000036 155003 A 1511 ANA LSREM,LSD 06 00081
000037 001016 A 1512 JANZ CE01A1 06 00082
000040 000046 R 1513 * 06 00083
1514 * CHECK IF REQUEST STATUS IS SET 06 00084
1515 * 06 00085
1516 * FETCHA LSD,LSRRS,LSRRSB,LSRRSZ 06 00086
000041 015016 A 1517 * 06 00087
000042 004350 A 1517 JAZ CE02 NO REQUEST STATUS BITS ARE SET
000043 150467 A
000044 001010 A
000045 000102 R

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1518 *
1519 * DETERMINE IF READ OR FUNC AND JUMP TO APPROPRIATE PROCEDURE
1520 *
000046 025001 A 1521 CE01A1 LDB LSRRT,LSD
000002 A 1522 RQST B
1523 FETCHA RQST,RQPWD,8,4
06 00088
06 00089
06 00090
06 00091
06 00092
06 00093

000047 016001 A
000050 004350 A
000051 150472 A
000052 140465 A 1524 SUB FIVE
000053 001016 A 1525 JANZ CE01C NOT A FUNC
06 00094
06 00095
000054 000100 R
000055 002000 A 1526 JMPM* CE01A
06 00096
000056 100337 R
000057 001000 A 1527 JMP CE02
06 00097
000060 000102 R

1528 *
1529 *
1530 CE01B FETCHA LSD,LSRRS,LSRRSB,LSRRSZ
06 00098
06 00099
06 00100

000061 015016 A
000062 004350 A
000063 150467 A
000064 110423 A 1531 ORA BS2 SET TIMEOUT FLAG IN LSRRS
1532 SETA LSD,LSRRS,LSRRSB,LSRRSZ
06 00101
06 00102

000065 004250 A
000066 135016 A
000067 004350 A
000070 150467 A
000071 004250 A
000072 135016 A
000073 055016 A
000074 005001 A 1533 TZA ZERO TIMEOUT VALUE
000075 055004 A 1534 STA LSRTO,LSD
06 00103
06 00104
000076 001000 A 1535 JMP CE01A
06 00105
000077 000046 R

1536 *
1537 * NOT FUNC, JUMP TO READ PROCEDURE
1538 *
000100 002000 A 1539 CE01C JMPM* CE01A
06 00106
06 00107
06 00108
06 00109
000101 100335 R
1540 CE02 FETCHA LSD,LSWCA,LSWCAB,LSWCAZ
06 00110
000102 015006 A
000103 001010 A 1541 JAZ CE01 NO WRITE COMPLETION ADDRESS, WRITE NOT
06 00111
000104 000004 R

1542 * ACTIVE
1543 *
1544 * CHECK FOR WRITE TIMEOUT
1545 *
1546 *
1547 FETCHA LSD,LSWTO,LSWTOB,LSWTOZ
06 00112
06 00113
06 00114
06 00115
06 00116
06 00117

000105 015010 A
000106 001010 A 1548 JAZ CE02C
06 00118
000107 000116 R
000110 144223 A 1549 SUB CEDELTA SUBTRACT DELTA TIME
000111 001004 A 1550 JAN CE02D IF (A) .LT. .DR.
06 00119
06 00120
000112 000134 R
000113 001010 A 1551 JAZ CE02D .EQ. 0, TIMEOUT IN EFFECT
06 00121
000114 000134 R

1552 SETA LSD,LSWTO,LSWTOB,LSWTOZ
06 00122
000115 055010 A
1553 CE02C FETCHA LSD,LSWSB,LSWSBB,LSWSBZ
06 00123
000116 015011 A
000117 135013 A 1554 ERA LSDST,LSD
06 00124
000120 155007 A 1555 ANA LSWEM,LSD
06 00125
000121 001016 A 1556 JANZ CE02C1 WRITE EVENTS HAVE OCCURRED
06 00126
000122 000130 R
1557 FETCHA LSD,LSWRS,LSWRSE,LSWRSEZ
06 00127

000123 015016 A
000124 004350 A
000125 150467 A
000126 001010 A 1558 JAZ CE01 NO COMPLETION EVENTS, CONSIDER NEXT LSD
06 00128
000127 000004 R
000130 002000 A 1559 CE02C1 JMPM* CE01A JUMP TO WRITE PROCEDURE
06 00129
000131 100336 R
000132 001000 A 1560 JMP CE01 CONSIDER NEXT LSD IN STRING
06 00130
000133 000004 R

1561 *
1562 * WRITE TIMEOUT
1563 *
1564 CE02D FETCHA LSD,LSWRS,LSWRSE,LSWRSEZ
06 00131
06 00132
06 00133
06 00134

000134 015000 A
000135 110423 A 1565 ORA BS2 SET TIMEOUT FLAG IN LSWRS
1566 SETA LSD,LSWRS,LSWRSE,LSWRSEZ
06 00135
06 00136

000136 004253 A
000137 135016 A
000140 004350 A
000141 150467 A
000142 004253 A
000143 135016 A
000144 055016 A
000145 005001 A 1567 TZA
06 00137
000146 055010 A 1568 STA LSWTO,LSD
06 00138
000147 002000 A 1569 JMPM* CE01A JUMP TO WRITE PROCEDURE
06 00139
000150 100336 R
000151 001000 A 1570 JMP CE01
06 00140
000152 000004 R
1571 ESEC
06 00141

```

```

1572 * NOW SCAN LSD THREAD AND LOOK FOR REQUESTS TO START. 06 00142
1573 * A FUNCTION REQUEST AT THE TOP OF THE REQUEST QUEUE 06 00143
1574 * AND READ COMPLETION ADDRESS EQUAL TO ZERO MEANS THAT 06 00144
1575 * THE FUNCTION MUST BE PERFORMED BEFORE ANY I/O REQUESTS 06 00145
1576 * MAY BE INITIATED. A FUNCTION REQUEST EFFECTIVELY BLOCKS 06 00146
1577 * THE INITIATION OF ANY READ OR WRITE REQUESTS FOLLOWING 06 00147
1578 * THE FUNCTION REQUEST UNTIL IT IS COMPLETED 06 00148
000153 006030 A 1579 CE03 LDXI CC$LSD (X) = ADDRESS OF LSD POINTER 06 00149
000154 000003 E
000155 035000 A 1581 CE03A LDX 0,X (X) = LSD ADDRESS 06 00151
000156 001040 A 1582 JXZ CE04 NO MORE LSDS IN QUEUE 06 00152
000157 000226 R
1584 * CHECK FOR A ZERO IN REQUEST QUEUE 06 00154
1585 CE03B FETCHA LSD,LSRRT,LSRRTB,LSRRTZ 06 00155
000160 015001 A 1586 JAZ CE03A NO REQUESTS QUEUED, CONSIDER NEXT LSD 06 00156
000161 001010 A
000162 000155 R
000163 005012 A 1587 TAB SAVE RQST ADDRESS IN (B) 06 00157
1588 * CHECK FOR READ COMPLETION ADDRESS EQUAL TO 06 00158
1589 * ZERO 06 00159
1590 * FETCHA LSD,LSRCA,LSRCAB,LSRCAZ 06 00160
000164 015002 A 1591 JANZ CE03H READ BUSY, GO CHECK WRITE BUSY 06 00161
000165 001016 A
000166 000213 R
1593 * READ IS NOT BUSY, LSD MAY BE A CANDIDATE 06 00162
1594 * FOR A FUNCTION OR A READ REQUEST 06 00164
1595 RQST SET B GET OP CODE FIELD FROM REQUEST 06 00165
1596 * FETCHA RQST,ROPWD,8,4 06 00166
000167 016001 A
000170 004350 A
000171 150472 A
000172 140465 A 1597 SUB FIVE FUNC OP CODE IS 101 BINARY 06 00167
000173 001016 A 1598 JANZ CE03C TOP REQUEST IS NOT A FUNC REQUEST 06 00168
000174 000205 R
1600 * READ NOT BUSY AND THE TOP REQUEST IS A FUNC 06 00169
1601 * IMPLIES THAT NEITHER READ OR WRITE IS 06 00170
1602 * ACTIVE AND THE FUNC REQUEST MUST BE ISSUED 06 00172
1603 * FETCHA LSD,LSCTA,LSCTAB,LSCTAZ 06 00173
000175 015012 A
000176 005012 A 1604 TAB GET THE FUNCTION PRIMITIVE ADDRESS FROM THE 06 00174
000002 A 1605 DMT SET B CONTROLLER TABLE (DMT TABLE IN CTBL) 06 00175
1606 * FETCHA DMT,DMFPA,DMFPAB,DMFPAZ 06 00176
000177 016017 A
000200 054130 A 1607 STA CEPEX STORE IN EXIT TO PRIMITIVE VECTOR 06 00177
000201 002000 A 1609 JMPM* CEPEX GO TO PROCESS FUNC PRIMITIVE 06 00179
000202 100331 R
000203 001000 A 1611 JMP CE03B GO BACK AND SEE IF ITS OK TO START A READ 06 00181
000204 000160 R
1614 * READ NOT BUSY, FUNC NOT THE TOP REQUEST 06 00184
1615 CE03C FETCHA LSD,LSCTA,LSCTAB,LSCTAZ 06 00185
000205 015012 A
000206 005012 A 1616 TAB GET READ PRIMITIVE ADDRESS FROM THE DMT 06 00186
000002 A 1617 DMT SET B 06 00187
1618 * FETCHA DMT,DMRPA,DMRPAB,DMRPAZ 06 00188
000207 016016 A
000210 054120 A 1619 STA CEPEX BRANCH TO READ PRIMITIVE 06 00189
000211 002000 A 1620 JMPM* CEPEX 06 00190
000212 100331 R
1621 * EJEC 06 00191
1622 * CHECK FOR WRITE BUSY (WRITE COMPLETION 06 00192
1623 * ADDRESS NON-ZERO). IF ZERO, LSD IS A 06 00193
1624 * CANDIDATE FOR A WRITE REQUEST AND CONTROL 06 00194
1625 * IS TRANSFERRED TO THE WRITE PRIMITIVE. 06 00195
1627 CE03H FETCHA LSD,LSWCA,LSWCAB,LSWCAZ 06 00197
000213 015006 A
000214 001016 A 1628 JANZ CE03A WRITE BUSY, GO TO CONSIDER NEXT LSD 06 00198
000215 000155 R
1631 * FETCHA LSD,LSCTA,LSCTAB,LSCTAZ 06 00201
000216 015012 A
000217 005012 A 1632 TAB 06 00202
000002 A 1633 DMT SET B 06 00203
1634 * FETCHA DMT,DMTPA,DMTPAB,DMTPAZ 06 00204
000220 016015 A
000221 054107 A 1635 STA CEPEX 06 00205
000222 002000 A 1636 JMPM* CEPEX GO TO WRITE PRIMITIVE 06 00206
000223 100331 R
000224 001000 A 1638 JMP CE03A CONSIDER NEXT LSD IN QUEUE 06 00208
000225 000155 R
1639 * EJEC 06 00209
1640 * ALL LSDS ARE NOW SCANNED. REQUESTS MAY 06 00210
1641 * HAVE COMPLETED SINCE ENTRY TO COMEXEC. 06 00211
1642 * IF REQUESTS HAVE COMPLETED, CC$RFC WILL BE 06 00212
1643 * SET TO A NON-ZERO VALUE (COMEXEC CLEARED 06 00213
1644 * CC$RFC TO ZERO UPON ENTRY). 06 00214
1645 * INTERRUPTS ARE DISABLED AND CC$RFC CHECKED 06 00215
1646 * FOR A NON-ZERO VALUE. IF NON-ZERO, 06 00216
1647 * TRANSFERRED TO THE BEGINNING OF COMEXEC. 06 00217
1648 * IF CC$RFC IS ZERO, CONTROL IS PASSED TO 06 00218
1649 * VORTEX EXIT ROUTINE. 06 00219
000226 100444 A 1654 CE04 EXC DISPIM 06 00224
000227 100747 A 1655 EXC DISCLK 06 00225
000230 006017 R 1657 LDAE CC$RFC 512AA IS REQUEST FLAG SET 06 00227
000231 000326 A
000232 001010 A 1658 JAZ CE05 06 00228
000233 000240 R

```

G.2
5/11/88


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1736 IFT VORTEX-2
1737 GOTO 1
1738 IFF VORTEX-1
1739 GOTO 1
1740 *****
1741 * SET UP MAP - B=RQBLK *
1742 *****
1743 NAME VT$MAP
1744 VT$MAP ENTR
1745 STB VT$SVB SAVE B
1746 LDB RTIDB,B POINT B AT USER TIDB
1747 LDA TBKEY,B GET USER MAP KEY
1748 ANA BM17
1749 LDB V$CTL
1750 STA TBIST,B STORE IN TIDB
1751 DRAI 040040 CONSTRUCT MAP FUNC WORD
1752 DAR MAP OUTPUT TO MAP
1753 STA V$ST0 SET UP LOW MEMORY
1754 ADD BS5
1755 STA V$ST1
1756 ADD BS6
1757 STA V$ST2
1758 ADD BS7
1759 STA V$ST3
1760 LDB VT$SVB RESTORE B
1761 JMP* VT$MAP
1762 VT$SVB DATA 0 SAVE B
1763 1 CNT
1764 END
    
```

```

V2 06 00306
V2 06 00307
V2 06 00308
V2 06 00309
V2 06 00310
V2 06 00311
V2 06 00312
V2 06 00313
V2 06 00314
V2 06 00315
V2 06 00316
V2 06 00317
V2 06 00318
V2 06 00319
V2 06 00320
V2 06 00321
V2 06 00322
V2 06 00323
V2 06 00324
V2 06 00325
V2 06 00326
V2 06 00327
V2 06 00328
V2 06 00329
V2 06 00330
V2 06 00331
V2 06 00332
V2 06 00333
V2 06 00334
    
```

ENTRY NAMES

```

000000 R CC#CEX 000326 R CC#RCF
EXTERNAL NAMES
000243 E CC#LSD 000274 E V$EXEC
    
```

SYMBOLS

```

000044 A APIM 000002 A B 000000 A B0 000001 A B1
000012 A B10 000013 A B11 000014 A B12 000015 A B13
000016 A B14 000017 A B15 000002 A B2 000003 A B3
000004 A B4 000005 A B5 000006 A B6 000007 A B7
000010 A B8 000011 A B9 000000 A BICNUM 000421 A BM1
000472 A BM17 000475 A BM177 000477 A BM1777 000464 A BM3
000473 A BM37 000463 A BM377 000467 A BM7 000474 A BM77
000476 A BM777 000441 A BR0 000442 A BR1 000453 A BR10
000454 A BR11 000455 A BR12 000456 A BR13 000457 A BR14
000460 A BR15 000443 A BR2 000444 A BR3 000445 A BR4
000446 A BR5 000447 A BR6 000450 A BR7 000451 A BR8
000452 A BR9 000421 A BS0 000422 A BS1 000433 A BS10
000434 A BS11 000435 A BS12 000436 A BS13 000437 A BS14
000440 A BS15 000423 A BS2 000424 A BS3 000425 A BS4
000426 A BS5 000427 A BS6 000430 A BS7 000431 A BS8
000432 A BS9 000000 R CC#CEX 000243 E CC#LSD 000326 R CC#RCF
000333 R CC#TMS 000004 R CE01 000034 R CE01A 000046 R CE01A1
000061 R CE01B 000100 R CE01C 000102 R CE02 000116 R CE02C
000130 R CE02C1 000134 R CE02D 000153 R CE03 000155 R CE03A
000160 R CE03B 000205 R CE03C 000213 R CE03H 000226 R CE04
000240 R CE05 000244 R CE05A 000255 R CE05B 000263 R CE05C
000267 R CE05E 000273 R CE05F 000317 R CE05G 000322 R CE05H
000330 R CECTA 000334 R CEDELT 000337 R CEFFPA 000327 R CELSD
000331 R CEPEX 000335 R CERPA 000332 R CESTD 000336 R CETPA
000000 A CHAFP 000000 A CHAFPB 000020 A CHAFPZ 000001 A CHARP
000000 A CHARPB 000020 A CHARPZ 000000 A CHCFPB 000000 A CHCFPB
000000 A CHCFPZ 000003 A CHCRP 000000 A CHCRPB 000020 A CHCRPZ
000004 A CHRBL 000000 A CHRBLB 000020 A CHRBLZ 000047 A CLOCK
000000 A COTAD1 000000 A CTACT 000017 A CTACTB 000001 A CTACTZ
000001 A CTADN 000000 A CTADNB 000020 A CTADNZ 000011 A CTBIC
000000 A CTBICB 000020 A CTBICZ 000003 A CTDST 000000 A CTDSTB
000020 A CTDSTZ 000006 A CTDVA 000000 A CTDVAB 000020 A CTDVAZ
000012 A CTFCE 000000 A CTFCEB 000020 A CTFCEZ 000014 A CTFRC
000010 A CTFRCB 000010 A CTFRCZ 000014 A CTFRE 000000 A CTFREB
000010 A CTFREZ 000000 A CTIDB 000000 A CTIDBB 000017 A CTIDBZ
000007 A CTIDA 000000 A CTIDAB 000020 A CTIDAZ 000002 A CTOPM
000000 A CTOPMB 000020 A CTOPMZ 000005 A CTRCN 000000 A CTRCNB
000010 A CTRCNZ 000004 A CTRQB 000000 A CTRQBB 000020 A CTRQBZ
000005 A CTRTR 000010 A CTRTRB 000010 A CTRTRZ 000010 A CTSTA
000000 A CTSTAB 000020 A CTSTAZ 000013 A CTWDS 000000 A CTWDSB
000020 A CTWDSZ 000001 A DCBUFF 000003 A DCCHR 000000 A DCCHRB
000020 A DCCHRZ 000002 A DCCNT 000000 A DCRECL 000747 A DISCLK
000745 A DISMP 000444 A DISPIM 000026 A DMBCA 000000 A DMBCAB
000020 A DMBCAZ 000024 A DMCWA 000000 A DMCWAB 000020 A DMCWAZ
000017 A DMFPA 000000 A DMFPAB 000020 A DMFPAZ 000021 A DMLCA
000000 A DMLCAB 000020 A DMLCAZ 000022 A DMLTA 000000 A DMLTAB
000020 A DMLTAZ 000023 A DMPTA 000000 A DMPTAB 000020 A DMPTAZ
000016 A DMRPA 000000 A DMRPAB 000020 A DMRPAZ 000020 A DMSTA
000000 A DMSTAB 000020 A DMSTAZ 000025 A DMSWA 000000 A DMSWAB
000020 A DMSWAZ 000002 A DMT 000015 A DMTPA 000000 A DMTPAB
000020 A DMTPAZ 000002 A DSCTAD 000000 A DSDASS 000000 A DSDVDN
000002 A DSLOCKD 000001 A DSNAME 000000 A DSNDRO 000002 A DSOPCM
000002 A DSPSTI 000002 A DSREWD 000000 A DSUNAM 000002 A DSUNTH
000424 A EIGHT 000147 A ENACKL 000645 A ENAMP 000244 A ENAPIM
000465 A FIVE 000423 A FOUR 000003 A IBIBF 000017 A IBIBFB
000001 A IBIBFZ 000003 A IBLAS 000000 A IBLASB 000017 A IBLASZ
000001 A IBLEN 000000 A IBLENB 000020 A IBLENZ 000000 A IBLNK
000000 A IBLNKB 000020 A IBLNKZ 000002 A IBSTA 000000 A IBSTAB
000020 A IBSTAZ 000004 A IBSTS 000000 A IBSTSB 000017 A IBSTSZ
000300 A LC 000003 A LCABN 000013 A LCABNB 000001 A LCABNZ
000003 A LCASY 000012 A LCASYB 000001 A LCASYZ 000007 A LCBSC
    
```


000000 A TCID1B 000020 A TCID1Z 000016 A TCID2 000000 A TCID2B
000020 A TCID2Z 000006 A TCLDF 000014 A TCLDFB 000001 A TCLDFZ
000003 A TCLLN 000010 A TCLLNZ 000005 A TCNDD
000004 A TCNDDDB 000004 A TCNDDZ 000005 A TCNTB 000000 A TCNTDB
000004 A TCNTDZ 000004 A TCPCH 000000 A TCPCHB 000010 A TCPCHZ
000004 A TCRBC 000017 A TCRBCB 000001 A TCRBCZ 000013 A TCRBF
000000 A TCRBFB 000020 A TCRBFZ 000007 A TCRCR 000000 A TCRCAB
000020 A TCRCRZ 000006 A TCRCRZ 000003 A TCRCRZ
000001 A TCRQH 000000 A TCRQHB 000020 A TCRQHZ 000006 A TCRRS
000006 A TCRRSB 000003 A TCRRSZ 000010 A TCSTO 000000 A TCSTOB
000020 A TCSTOZ 000004 A TCSWL 000010 A TCSWLB 000001 A TCSWLZ
000000 A TCTCD 000000 A TCTCDB 000020 A TCTCDZ 000005 A TCTYP
000010 A TCTYPE 000004 A TCTYPZ 000004 A TCWBC 000016 A TCWBCB
000001 A TCWBCZ 000011 A TCWCA 000000 A TCWCAB 000020 A TCWCAZ
000006 A TCWMD 000003 A TCWMDZ 000006 A TCWRS
000011 A TCWRSB 000003 A TCWRSZ 000004 A TCXMM 000012 A TCXMMB
000002 A TCXMMZ 000471 A TEN 000464 A THREE 000001 A TIDB
000002 A TIDSP 000000 A TIDSPB 000007 A TIDSPZ 000002 A TIDWN
000017 A TIDWNB 000001 A TIDWNZ 000000 A TINET 000000 A TINETB
000020 A TINETZ 000003 A TIODN 000017 A TIODNB 000001 A TIODNZ
000003 A TIODP 000000 A TIODPB 000007 A TIODPZ 000003 A TIDSC
009007 A TIDSCB 000010 A TIDSCZ 000002 A TISEC 000007 A TISECB
005010 A TISECZ 000000 A TITU1 000000 A TITU1B 000020 A TITU1Z
000001 A TITU2 000000 A TITU2B 000020 A TITU2Z 000017 A TPFPA
000000 A TPFPAZ 000020 A TPFPAZ 000015 A TPRPA 000000 A TPRPAB
000020 A TPRPAZ 000016 A TPWPA 000000 A TPWPAB 000020 A TPWPAZ
000422 A TWO 000403 A V\$1MIN 000415 A V\$BFC 000075 A V\$BGLB
000056 A V\$BIC1 000315 A V\$BTB 000331 A V\$BTBM 000414 A V\$BYN
000334 A V\$CAM 000353 A V\$CKB 000411 A V\$CKIT 000310 A V\$CKPT
000301 A V\$CPL 000076 A V\$CRDM 000341 A V\$CRDR 000354 A V\$CRM
000302 A V\$CRS 000360 A V\$CTAD 000300 A V\$CTL 000351 A V\$CTMS
000070 A V\$DATE 000355 A V\$DSTB 000376 A V\$ERFG 000274 E V\$EXEC
000347 A V\$FGLB 000306 A V\$FLRS 000350 A V\$FREE 000332 A V\$GFCB
000320 A V\$IM 000410 A V\$IDA 000412 A V\$JCB 000055 A V\$JCFG
000077 A V\$JCTM 000050 A V\$JNAM 000377 A V\$JDP 000340 A V\$KEY
000054 A V\$LCNT 000313 A V\$LER 000356 A V\$LIT 000317 A V\$LLUP
000317 A V\$LPP 000307 A V\$LRSK 000312 A V\$LSAL 000345 A V\$LUNT
000316 A V\$LUP 000400 A V\$LUT1 000401 A V\$LUT2 000402 A V\$LUT3
000330 A V\$MAP 000333 A V\$MIMG 000330 A V\$MPM 000362 A V\$NCTR
000316 A V\$NFBAG 000413 A V\$DCB 000346 A V\$QPCF 000311 A V\$QPCB
000357 A V\$PMT 000363 A V\$PIMN 000074 A V\$PLCT 000305 A V\$PTVB
000361 A V\$SCTL 000352 A V\$SCV 000375 A V\$SLFG 000334 A V\$STO
000335 A V\$ST1 000336 A V\$ST2 000337 A V\$ST3 000303 A V\$TB
000342 A V\$TBGT 000416 A V\$TFC 000314 A V\$TJCP 000344 A V\$TMN
000343 A V\$TMS 000304 A V\$UTB 000001 A VORTEX 000001 A X
000420 A ZERO

0 ERRORS ASSEMBLY COMPLETE

1763	1	*
159	ADAT	*
38	ANAM	*
90	ANAN	*
574	APIM	584 585
108	B	98 117 229 230 252 255 257 1484 1522
		1595 1605 1617 1633 1746 1747 1750
88	B&	82
83	B&0	40
80	B&1	78
44	B&10	42
76	B&2	74
72	B&3	70
68	B&4	66
64	B&5	62
60	B&6	58
56	B&7	54
52	B&8	50
48	B&9	46
540	B0	*
544	B1	*
553	B10	*
554	B11	*
555	B12	*
556	B13	*
557	B14	*
558	B15	*
545	B2	*
546	B3	*
547	B4	*
548	B5	*
549	B6	*
550	B7	*
551	B8	*
552	B9	*
530	BICNUM	*
515	BM1	79
518	BM17	67 1748
521	BM177	55
524	BM1777	43
516	BM3	75
519	BM37	63
522	BM377	51
517	BM7	71
520	BM77	59
523	BM777	47

486	BR0	202							
487	BR1	*							
496	BR10	*							
497	BR11	*							
498	BR12	*							
499	BR13	*							
500	BR14	*							
501	BR15	1670	1711						
438	BR2	*							
489	BR3	*							
490	BR4	*							
491	BR5	*							
492	BR6	*							
493	BR7	*							
494	BR8	*							
495	BR9	*							
470	BS0	195	209						
471	BS1	*							
480	BS10	*							
481	BS11	*							
482	BS12	*							
483	BS13	*							
484	BS14	*							
485	BS15	*							
472	BS2	1531	1565						
473	BS3	*							
474	BS4	*							
475	BS5	1754							
476	BS6	1756							
477	BS7	1758							
478	BS8	*							
479	BS9	*							
1465	CC\$CEX	12	1462	1661	1712	1717			
0	CC\$LSD	1464	1471	1579	1672				
1726	CC\$RCF	1463	1467	1657					
1731	CC\$TMS	1688	1714						
1476	CE01	1541	1558	1560	1570				
1509	CE01A	1501							
1521	CE01A1	1512	1535						
1530	CE01B	1503	1504						
1539	CE01C	1525							
1540	CE02	1496	1517	1527					
1553	CE02C	1548							
1559	CE02C1	1556							
1564	CE02D	1550	1551						
1579	CE03	1477							
1581	CE03A	1586	1628	1638					
1585	CE03B	1611							
1615	CE03C	1598							
1627	CE03H	1591							
1654	CE04	1582							
1670	CE05	1658							
1673	CE05A	1681	1683	1686					
1680	CE05B	1677							
1684	CE05C	1679							
1687	CE05E	1674							
1695	CE05F	1694							
1716	CE05G	1720							
1719	CE05H	1715							
1728	CECTA	1483							
1732	CEDEL T	1502	1549	1716					
1735	CEFPA	1490	1526						
1727	CELSD	1478							
1729	CEPEX	1607	1609	1619	1620	1635	1636		
1733	CEPPA	1486	1539						
1730	CESTD	1671	1678	1682	1684	1685	1693	1710	
1734	CETPA	1488	1559	1569					
1397	CHAFP	*							
1398	CHAFP B	*							
1399	CHAFP Z	*							
1401	CHARP	*							
1402	CHARP B	*							
1403	CHARP Z	*							
1405	CHCFP	*							
1406	CHCFP B	*							
1407	CHCFP Z	*							
1409	CHCRP	*							
1410	CHCRP B	*							
1411	CHCRP Z	*							
1413	CHRBL	*							
1414	CHRBL B	*							
1415	CHRBL Z	*							
198	CLEARF	*							
567	CLOCK	569	570						
622	OUTAD1	*							
707	CTACT	*							
708	CTACT B	*							
709	CTACT Z	*							
715	CTAIN	*							
716	CTADNB	*							
717	CTAINZ	*							
751	CTBIC	*							
752	CTBIC B	*							
753	CTBIC Z	*							
723	CTDST	*							

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724 CTDSTB *
725 CTDSTZ *
739 CTDVA *
740 CTDVAB *
741 CTDVAZ *
755 CTFCB *
756 CTFCBB *
757 CTFCBZ *
763 CTFRC *
764 CTFRCB *
765 CTFRCZ *
767 CTFRE *
768 CTFREB *
769 CTFREZ *
711 CTIDB *
712 CTIDBB *
713 CTIDBZ *
743 CTIDA *
744 CTIDAB *
745 CTIDAZ *
719 CTOPM *
720 CTOPMB *
721 CTOPMZ *
735 CTRCN *
736 CTRCNB *
737 CTRCNZ *
727 CTRQB *
728 CTRQBB *
729 CTRQBZ *
731 CTRTR *
732 CTRTRB *
733 CTRTRZ *
747 CTSTA *
748 CTSTAB *
749 CTSTAZ *
759 CTWDS *
760 CTWDSB *
761 CTWDSZ *
688 DCBUFF *
691 DCCHR *
692 DCCHRB *
693 DCCHRZ *
689 DCCNT *
687 DCRECL *
187 DINTS *
569 DISCLK 189 1655
589 DISMP *
584 DISPIM 188 1654
813 DMBCA *
814 DMBCAB *
815 DMBCAZ *
805 DMCWA *
806 DMCWAB *
807 DMCWAZ *
785 DMFPA 1489 1606
786 DMFPAB 1606
787 DMFPAZ 1606
793 DMLCA *
794 DMLCAB *
795 DMLCAZ *
797 DMLTA *
798 DMLTAB *
799 DMLTAZ *
801 DMPTA *
802 DMPTAB *
803 DMPTAZ *
781 DMRPA 1485 1618
782 DMRPAB 1618
783 DMRPAZ 1618
789 DMSTA *
790 DMSTAB *
791 DMSTAZ *
809 DMSWA *
810 DMSWAB *
811 DMSWAZ *
1484 DMT 1485 1487 1489 1606 1618 1634
777 DMTPA 1487 1634
778 DMTPAB 1634
779 DMTPAZ 1634
815 DSCTAD *
801 DSDASS *
800 DSDVDN *
812 DSLCKD *
809 DSNAME *
808 DSNDRG *
813 DSDPCM *
814 DSPSTI *
810 DSREHD *
806 DSUHAM *
811 DSUNTN *
817 EIGHT 143 167
108 EINTS *
570 ENACKL 185
590 ENAMP *
555 ENAPIM 184

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577 PIM3 *
578 PIM4 *
579 PIM5 *
580 PIM6 *
581 PIM7 *
582 PIM8 *
589 POST *
587 PSABN *
588 PSABNB *
589 PSABNZ *
589 PSASY *
590 PSASYE *
591 PSASYZ *
590 PSBADT *
586 PSBEG *
589 PSBSC *
590 PSBSCB *
591 PSBSCZ *
591 PSCC1 *
592 PSCC1B *
593 PSCC1Z *
595 PSCC2 *
596 PSCC2B *
597 PSCC2Z *
591 PSCRC *
592 PSRCRB *
593 PSRCR2 *
591 PSDEF *
592 PSDEFB *
593 PSDEFZ *
599 PSDSF *
590 PSDSFB *
591 PSDSFZ *
597 PSDWN *
598 PSDWNB *
599 PSDWNZ *
592 PSEND *
593 PSEPF *
594 PSEPFB *
595 PSEPFZ *
597 PSLSP *
598 PSLSPB *
599 PSLSPZ *
591 PSMOD *
592 PSMODB *
593 PSMODZ *
591 PSNSEC *
592 PSPAR *
593 PSPARB *
594 PSPARZ *
595 PSPLA *
596 PSPLAB *
597 PSPLAZ *
599 PSPROT *
590 PSTER *
591 PSTERB *
592 PSTERZ *
593 PSXMM *
594 PSXMMB *
595 PSXMMZ *
596 PSYNC *
597 PSYNCB *
598 PSYN CZ *
593 PSYNR *
594 PSYNRB *
595 PSYNRZ *
596 PSYNT *
597 PSYNTB *
598 PSYNTZ *
599 PUSH *
592 PUTQ *
593 RAO *
594 RA1 *
595 RADNR *
596 RBO *
597 RB1 *
598 RFCB *
599 RHW *
595 ROPWD 1523 1596
592 ROST 1523 1596
594 RSTPR *
590 RTIDB 1746
596 SETA *
591 SETB *
591 SETF *
591 SEVEN 145 169
590 SIX 147 171
596 SPACE *
595 SUBAT *
598 TBATSK *
597 TBCPTH *
594 TBENTY *
598 TBEVNT 1706
592 TBID *
597 TBISA *

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278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST 1750
279 TBISX *
292 TBKEY 1747
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMING *
291 TBNUCL *
267 TBPL *
269 TBRSA *
270 TBRSE *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBRSX *
302 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBS12 *
266 TBST 1702 1704
286 TBTL *
276 TBTH N *
275 TBTH *
265 TBTR0 *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCDN *
1128 TCCDNB *
1129 TCCDNZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCD00 *
1188 TCD0CB *
1189 TCD0CZ *
1195 TCD0D *
1196 TCD0DB *
1197 TCD0DZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCN0D *
1144 TCN0DB *
1145 TCN0DZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCRCAB *
1177 TCRCAZ *
1155 TCRND *

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1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTO *
1180 TCSTOB *
1181 TCSTOZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
514 TEN 139 163
205 TESTF *
507 THREE 153 177
1701 YIDB 1702 1704 1706
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIODN *
1380 TIODNB *
1381 TIODNZ *
1387 TIODP *
1388 TIODPB *
1389 TIODPZ *
1383 TIODS *
1384 TIODSB *
1385 TIODSZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPAB *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPAB *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPAB *
1219 TPWPAZ *
506 TWO 155 179
440 V$IMIN *
458 V$BFC *
366 V$BGLB *
363 V$BIC1 *
392 V$BTB *
400 V$BTBM *
457 V$BYN *
408 V$CAM *
420 V$CKB *
448 V$CKIT *
387 V$CKPT *
380 V$CPL *
367 V$CRDM *
410 V$CRDR *
421 V$CRM *
431 V$CRS *
426 V$CTAD *
374 V$CTL 1700 1749
418 V$CTMS *

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000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 05 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 05 00002
3 * 05 00003
4 * V.D.M. PART NO. 92L1105-050B 05 00004
5 * 05 00005
6 * RELEASED 3-1-74 05 00006
7 * 05 00007
8 * 05 00008
9 * CC$CRQ 05 00009
10 * 05 00010
11 * 05 00011
12 * TITLE CC$CRQ 05 00012
13 * NLIS 05 00013
1443 * LIST *****
1444 * 05 00014
1445 * EJEC 05 00015
1446 ***** 05 00016
1447 ***** 05 00017
1448 * PROGRAM NAME - ***** 05 00018
1449 * CC$CRQ - COMPLETE REQUEST PROCESSOR ***** 05 00019
1450 * ***** 05 00020
1451 * ENTRY CONDITIONS - ***** 05 00021
1452 * ENTRY POINT CC$CRQ - CCM COMPLETE REQUEST PROCESSOR ***** 05 00022
1453 * (A) 16-BIT EXTENDED STATUS WORD ***** 05 00023
1454 * (B) REQUEST ADDRESS ***** 05 00024
1455 * (X) LSD ADDRESS ***** 05 00025
1456 * INTERRUPTS DISABLED ***** 05 00026
1457 * ***** 05 00027
1458 * ENTRY POINT CC$CRQ - TU OPEN/CLOSE ENTRY POINT ***** 05 00028
1459 * (A) REQUEST STATUS FORMATTED FOR STORAGE IN RQST WORD ***** 05 00029
1460 * RSTPR ***** 05 00030
1461 * (B) REQUEST ADDRESS ***** 05 00031
1462 * (X) LSD ADDRESS ***** 05 00032
1463 * INTERRUPTS DISABLED ***** 05 00033
1464 * ***** 05 00034
1465 * EXIT CONDITIONS - ***** 05 00035
1466 * (A) DESTROYED ***** 05 00036
1467 * (B) DESTROYED ***** 05 00037
1468 * (X) UNCHANGED ***** 05 00038
1469 * INTERRUPTS DISABLED ***** 05 00039
1470 * ***** 05 00040
1471 * CALLING SEQUENCE - ***** 05 00041
1472 * JMPM CC$CRQ ***** 05 00042
1473 * OR ***** 05 00043
1474 * JMPM CC$CRQ ***** 05 00044
1475 * ***** 05 00045
1476 ***** 05 00046
1477 ***** 05 00047
1478 ***** 05 00048
000000 000000 A 1479 CC$CRQ ENTR CC$CRQ 05 00049
000001 044162 A 1480 INR CRDRQF SET FLAG 05 00050
000002 002000 A 1481 JMPM CC$CRQ JUMP TO COMPLETE REQUEST 05 00051
000003 000010 R *****
000004 005001 A 1482 TZA CLEAR FLAG 05 00052
000005 054156 A 1483 STA CRDRQF 05 00053
000006 001000 A 1484 JMPM CC$CRQ EXIT TO CALLER 05 00054
000007 100000 R *****
1485 EJEC 05 00055
1486 NAME CC$CRQ 05 00056
000010 000000 A 1487 CC$CRQ ENTR 05 00057
000011 054151 A 1488 STA CRSTAT SAVE STATUS 05 00058
1489 * 05 00059
1490 * PERFORM HOUSEKEEPING FOR DETHREADING THE REQUEST 05 00060
1491 * 05 00061
000012 064145 A 1492 STB CRQST SAVE REQUEST ADDRESS 05 00062
000013 005041 A 1493 TXA 05 00063
1494 ADAT LSRRT CALCULATE ADDRESS OF LSD RQST QUEUE THREAD 05 00064
000014 120421 A 1495 CR01 STA CRPREV POINTER 05 00065
000015 054144 A 1496 * 05 00066
1497 * FIND THE REQUEST ON THE QUEUE 05 00067
1498 * 05 00068
000016 006027 A 1499 * 05 00069
000017 100162 R *****
000020 005021 A 1500 TBA 05 00070
000021 001010 A 1501 JAZ CR04 RQST NOT ON LSD, ENTRY IS FROM VT$CCQ 05 00071
000022 000035 R *****
000023 134134 A 1502 ERA CRQST CHECK IF NEXT RQST IS OBJECT RQST 05 00072
000024 001010 A 1503 JAZ CR03 FIND 05 00073
000025 000032 R *****
000026 005021 A 1504 TBA 05 00074
1505 ADAT RADNR 05 00075
000027 120423 A *****
000030 001000 A 1506 JMP CR01 NO FIND, LOOK AGAIN 05 00076
000031 000015 R *****
1507 * 05 00077
1508 * REMOVE OBJECT REQUEST FROM QUEUE AND CLOSE THREAD 05 00078
1509 * 05 00079
000032 026004 A 1510 CR03 LDB RADNR,B 05 00080
000033 006067 A 1511 STBE* CRPREV 05 00081
000034 100162 R *****
1512 * 05 00082
000035 074123 A 1513 CR04 STX CRLSD SAVE LSD ADDRESS 05 00083
1514 * 05 00084
1515 * STORE NO WORD/BYTES TRANSFERRED IN APPROPRIATE WORD OF REQUEST 05 00085

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*E.I.
5/6/73*

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000036 024121 A 1516 LDB CRQST
000037 000002 A 1517 RQST SET B
000037 036003 A 1518 LDX RTIDB,RQST
000040 000001 A 1519 TIDB SET X
000040 074124 A 1520 STX CRTIDB SAVE TIDB ADDRESS
000041 016000 A 1521 LDA RSTPR,RQST
000042 056003 A 1522 STA RTIDB,RQST
1523 *
1524 * INITIALIZE RSTPR TO CONTAIN REQUEST PRIORITY AND COMPLETE BIT
1525 *
1526 * FETCHA TIDB,TBPL,0,5
000043 015002 A
000044 150473 A
000045 110440 A 1527 ORA BS15
000046 056000 A 1528 STA RSTPR,RQST
1529 *
1530 * CHECK WAIT BIT IN REQUEST. IF SET, ACTIVATE REQUESTING TASK.
1531 * IF WAIT BIT NOT SET, SET INTERRUPT EVENT WORD NON-ZERO.
1532 *
000047 016001 A 1533 LDA ROPWD,RQST
000050 001004 A 1534 JAN CR06 IMMEDIATE RETURN, DONT MESS WITH SUSPEND
000051 000056 R 1535 CLEARF TIDB,TBST,TBS14,1
000052 015001 A
000053 150457 A
000054 055001 A
000055 005001 A 1536 TZA
1537 *
1538 * SET TIDB INTERRUPT EVENT WORD DEPENDING UPON WAIT FLAG IN RQST
1539 *
000056 055003 A 1540 CR06 STA TBEVNT,TIDB
1541 *
1542 * DECREMENT NO ID ACTIVE AND NO ID QUEUED
000057 015021 A 1543 LDA TBID,X
000060 006140 A 1544 SUBI 0401 V2
000061 000401 A V2
000062 055021 A 1545 STA TBID,X V2
1546 *
1547 * IF COMPLETE REQUEST ENTERED VIA CC$DRQ, SET STATUS AND SKIP
1548 * ANALYSIS OF DETAIL STATUS
1549 *
000063 034074 A 1550 LDX CRQST
000064 000001 A 1551 RQST SET X
000065 014077 A 1552 LDA CRDRQF
000066 000074 R 1553 JAZ CR07
000067 014073 A 1554 LDA CRSTAT CC$DRQ ENTRY
000070 115000 A 1555 ORA RSTPR,RQST
000071 055000 A 1556 STA RSTPR,RQST
000072 001000 A 1557 JMP CR12
000073 000134 R
1558 *
1559 * ANALYZE DETAIL STATUS WORD
1560 *
000074 014066 A 1561 CR07 LDA CRSTAT STORE 16-BIT EXTENDED DETAIL STATUS
000075 055004 A 1562 STA RADNR,RQST
000076 006150 A 1563 ANAI 01642 MASK OFF IRRECOVERABLE ERROR BITS D.1
000077 001642 A
1564 * 2**1 DATA SET READY (SHOULD BE 1)
1565 * 2**5 PARITY ERROR (SHOULD BE 0)
1566 * 2**7 ID CLEAR (SHOULD BE 0)
1567 * 2**8 FRAMING ERROR (SHOULD BE 0) D.1
1568 * 2**9 OVERFLOW (SHOULD BE 0)
000100 006130 A 1569 ERAI 02 TURN OFF BITS THAT SHOULD BE 1 IF THEY BSC
000101 000002 A
1570 *
000102 001010 A 1571 JAZ CR08 ARE SET ON
000103 000110 R ALL BIT ARE NOW ZERO IF NO ERRORS
000104 006010 A 1572 LDAI 015 SET UP TO REPORT IRRECOVERABLE ERROR
000105 000015 A
000106 001000 A 1573 JMP CR11
000107 000125 R
1574 *
1575 * NOT AN IRRECOVERABLE ERROR, CHECK FOR START OF DEVICE
1576 *
000110 014052 A 1577 CR08 LDA CRSTAT ALL BITS THAT FLAG START OF DEVICE SHOULD
000111 006150 A 1578 ANAI 024 BE ON (=1), MASK.
000112 000024 A
1579 *
1580 * 2**2 RING CIRCUIT ON
000113 001010 A 1581 JAZ CR09 2**4 REVERSE CHANNEL ON
000114 000120 R NONE SET, NOT START OF DEVICE
000115 010466 A 1582 LDA SIX SET UP TO RETURN START OF DEVICE ERROR CODE
000116 001000 A 1583 JMP CR11
000117 000125 R
1584 *
1585 * CHECK FOR END OF DEVICE STATUS
1586 *
000120 014042 A 1587 CR09 LDA CRSTAT
000121 150431 A 1588 ANA BS8 CHECK FOR BREAK DETECTED
000122 001010 A 1589 JAZ CR11
000123 000125 R
000124 010467 A 1590 LDA SEVEN
1591 *
1592 * STORE STATUS IN REQUEST IOC STATUS FIELD

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1593 *
1594 CR11 SETA RQST,RSTPR,5,4
000125 004245 A
000126 135000 A
000127 004345 A
000130 150472 A
000131 004245 A
000132 135000 A
000133 055000 A
1595 *
1596 *
1597 *
1598 *
1599 *
000134 024030 A
000002 A
1600 CR12 LDB CRTIDB
1601 TIDB SET B
1602 IFT VORTEX-1
1603 GOTD 1
1604 TESTF TIDB,TBST,TBS9,1
000135 016001 A
000136 150432 A
000137 001016 A
000140 000155 R
1605 JANZ CR30
1606 1
1607 IFT VORTEX-2
1608 GOTD 1
1609 TESTF TIDB,TBST,TBS10,1
1610 ROF
1611 JAZ CR20 RESIDENT TASK ?
1612 LDA TBKEY,B YES
1613 ANA BM17
1614 JAZ CR30 NUCLEUS ?
1615 CR20
1616 1
1617 CONT
1618 LDB RADNR+1,RQST
1619 STA RADNR+1,RQST
1620 IFF VORTEX-2
1621 OME MAP,V$ST1 SET EXEC STATE TO ON
1622 LDA 0,X
1623 STA 0,B
1624 LDA 1,X
1625 STA 1,B
1626 LDA 2,X
1627 STA 2,B
1628 LDA 3,X
1629 STA 3,B
1630 LDA 4,X
1631 STA 4,B
1632 IFT VORTEX-2
1633 GOTD 1
1634 OME MAP,V$ST0 SET EXEC STATE TO 00
1635 SDP FLAG DEALLOCATE
1636 TXB SET B = RQBLK
1637 CONT
1638 *
1639 *
1640 CR30 LDX CRLSD RESTORE LSD ADDRESS
1641 JMP* CC$CRQ
1642 EJEC
1643 *
1644 *
1645 *
000160 000000 A
000161 000000 A
000162 000000 A
000163 000000 A
000164 000000 A
000165 000000 A
1646 CRQST DATA 0 REQUEST ADDRESS
1647 CRLSD DATA 0 LSD ADDRESS
1648 CRPREV DATA 0 USED FOR DETHREADING THE REQUEST
1649 CRSTAT DATA 0 (A) ON ENTRY (STATUS)
1650 CRORGF DATA 0 OPEN/CLOSE ENTRY ADDRESS
1651 CRTIDB DATA 0 REQUESTING PROGRAM TIDB ADDRESS
1652 IFT VORTEX-2
1653 GOTD 1
1654 EXT V$MDAL DEALLOCATE
1655 NAME V2*CRL
1656 V2*CRL DATA 6 COMPLETE OPEN/CLOSE
1657 LDX V$CRS
1658 INR 3,X
1659 LDB 2,X BUMP EXIT
1660 OME MAP,V$ST2 POINT B AT CALL SEQ
1661 LDB 2,B SET EXEC STATE TO NO
1662 LDA 0,B
1663 OME MAP,V$ST0 POINT B AT LCB
1664 STA 5,X SET EXEC STATE TO 00
1665 LDB 1,X SAVE LCB ADDRESS IN STACK
1666 LDB RTIDB,B B = RQBLK
1667 LDA TBKEY,B B = TIDB
1668 ANA BM17
1669 ORAI 040040
1670 DINTS
1671 DAR MAP SET UP MAP
1672 STA V$ST0
1673 ADD BS5
1674 STA V$ST1
1675 ADD BS6
1676 STA V$ST2

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517	BM7	71			
520	BM77	59			
523	BM777	47			
486	BR0	202			
487	BR1	*			
496	BR10	*			
497	BR11	*			
498	BR12	*			
499	BR13	*			
500	BR14	*			
501	BR15	*			
488	BR2	*			
489	BR3	*			
490	BR4	*			
491	BR5	*			
492	BR6	*			
493	BR7	*			
494	BR8	*			
495	BR9	*			
470	BS0	195	209		
471	BS1	*			
480	BS10	*			
481	BS11	*			
482	BS12	*			
483	BS13	*			
484	BS14	*			
485	BS15	1527			
472	BS2	*			
473	BS3	*			
474	BS4	*			
475	BS5	1673	1692		
476	BS6	1675	1694		
477	BS7	1677	1696		
478	BS8	1588			
479	BS9	*			
1487	CC\$CRQ	12	1481	1486	1641
1479	CC\$DRQ	1478	1484	1685	
1397	CHAFP	*			
1398	CHAFPB	*			
1399	CHAFPZ	*			
1401	CHARP	*			
1402	CHARPB	*			
1403	CHARPZ	*			
1405	CHCFP	*			
1406	CHCFPB	*			
1407	CHCFPZ	*			
1409	CHCRP	*			
1410	CHCRPB	*			
1411	CHCRPZ	*			
1413	CHRBL	*			
1414	CHRBLB	*			
1415	CHRBLZ	*			
198	CLEARF	*			
567	CLOCK	569	570		
622	COTAD1	*			
1495	CR01	1506			
1510	CR03	1503			
1513	CR04	1501			
1540	CR06	1534			
1561	CR07	1553			
1577	CR08	1571			
1587	CR09	1581			
1594	CR11	1573	1583	1589	
1600	CR12	1557			
1615	CR20	1611			
1640	CR30	1605	1614		
1647	CRLSD	1513	1640		
1650	CRDRQF	1480	1483	1552	
1648	CRPREV	1495	1499	1511	
1646	CRST	1492	1502	1516	1550
1649	CRSTAT	1488	1554	1561	1577 1587
1651	CRTIDB	1520	1600		
707	CTACT	*			
708	CTACTB	*			
709	CTACTZ	*			
715	CTADN	*			
716	CTADNB	*			
717	CTADNZ	*			
751	CTBIC	*			
752	CTBICB	*			
753	CTBICZ	*			
723	CTDST	*			
724	CTDSTB	*			
725	CTDSTZ	*			
739	CTDVA	*			
740	CTDVAB	*			
741	CTDVAZ	*			
755	CTFCB	*			
756	CTFCBB	*			
757	CTFCBZ	*			
763	CTFRC	*			
764	CTFRCB	*			
765	CTFRCZ	*			
767	CTFRE	*			
768	CTFREB	*			

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769 CTFREZ *
711 CTIDB *
712 CTIDBB *
713 CTIDBZ *
743 CTIDA *
744 CTIDAB *
745 CTIDAZ *
719 CTOPM *
720 CTOPMB *
721 CTOPMZ *
735 CTRCN *
736 CTRCNB *
737 CTRCNZ *
727 CTRQB *
728 CTRQBB *
729 CTRQBZ *
731 CTRTR *
732 CTRTRB *
733 CTRTRZ *
747 CTSTA *
748 CTSTAB *
749 CTSTAZ *
759 CTWDS *
760 CTWDSB *
761 CTWDSZ *
688 DCBUFF *
691 DCCHR *
692 DCCHRZ *
693 DCCHRZ *
689 DCCNT *
687 DCRECL *
187 DINTS *
569 DISCLK * 189
589 DISMP *
584 DISPIM * 188
813 DMBCA *
814 DMBCAB *
815 DMBCAZ *
805 DMCWA *
806 DMCWAB *
807 DMCWAZ *
785 DMFPA *
786 DMFPAB *
787 DMFPAZ *
793 DMLCA *
794 DMLCAB *
795 DMLCAZ *
797 DMLTA *
798 DMLTAB *
799 DMLTAZ *
801 DMPTA *
802 DMPTAB *
803 DMPTAZ *
781 DMRPA *
782 DMRPAB *
783 DMRPAZ *
789 DMSTA *
790 DMSTAB *
791 DMSTAZ *
809 DMSWA *
810 DMSWAB *
811 DMSWAZ *
777 DMTPA *
778 DMTPAB *
779 DMTPAZ *
615 DSCTAD *
601 DSDASS *
600 DSDVDN *
612 DSLCKD *
609 DSNAME *
608 DSNDRQ *
613 DSOPCM *
614 DSPSTI *
610 DSREWD *
606 DSUNAM *
611 DSUNTN *
1711 DUMLSD * 1683 1684
512 EIGHT * 143 167
183 EINTS *
570 ENACLK * 185
590 ENAMP *
585 ENAPIM * 184
0 ERROR * 113 193 200 207
128 FETCHA *
509 FIVE * 149 173
508 FOUR * 151 175
251 GETQ *
1432 IBIBF *
1433 IBIBFB *
1434 IBIBFZ *
1436 IBLAS *
1437 IBLASB *
1438 IBLASZ *
1424 IBLEN *
1425 IBLENB *

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873 LCOBLZ *
935 LCOKE *
936 LCOKEB *
937 LCOKEZ *
847 LCRCC *
848 LCRCCB *
849 LCRCCZ *
827 LCSMB *
828 LCSMBB *
829 LCSMBZ *
503 LHW *
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSBSC *
1070 LSBSCB *
1071 LSBSCZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA *
986 LSCTAB *
987 LSCTAZ *
1041 LSDSF *
1042 LSDSFB *
1043 LSDSFZ *
989 LSDST *
990 LSDSTB *
991 LSDSTZ *
1025 LSEPF *
1026 LSEPFB *
1027 LSEPFZ *
1009 LSLSP *
1010 LSLSPB *
1011 LSLSPZ *
993 LSMOD *
994 LSMODB *
995 LSMODZ *
1073 LSNTD *
1074 LSNTDB *
1075 LSNTDZ *
997 LSPAR *
998 LSPARB *
999 LSPARZ *
1037 LSPLA *
1038 LSPLAB *
1039 LSPLAZ *
953 LSRCA *
954 LSRCAB *
955 LSRCAZ *
957 LSREM *
958 LSREMB *
959 LSREMZ *
1033 LSRRS *
1034 LSRRSB *
1035 LSRRSZ *
949 LSRRT 1494 1683 1711 *
950 LSRRTB *
951 LSRRTZ *
961 LSRTD *
962 LSRTDB *
963 LSRTDZ *
965 LSRS *
966 LSRSB *
967 LSRSZ *
981 LSSWS *
982 LSSWSB *
983 LSSWSZ *
1021 LSTER *
1022 LSTERB *
1023 LSTERZ *
945 LSTHD *
946 LSTHDB *
947 LSTHDZ *
969 LSWCA *
970 LSWCAB *
971 LSWCAZ *
973 LSWEM *
974 LSWEMB *
975 LSWEMZ *

```



```

1301 PSBSCZ *
1251 PSCC1 *
1252 PSCC1B *
1253 PSCC1Z *
1255 PSCC2 *
1256 PSCC2B *
1257 PSCC2Z *
1291 PSCRC *
1292 PSCRCB *
1293 PSCRCZ *
1271 PSDEF *
1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMODB *
1233 PSMODZ *
671 PONSEC *
1235 PSPAR *
1236 PSPARB *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
667 PSFROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYN CZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
32 PUSH *
200 PUTQ *
532 RAO *
533 RA1 *
651 RADNR 1505 1510 1562 1617 1618 1682
534 RBO *
535 RB1 *
649 RFCB *
504 RHU *
645 ROPWD 1533
1517 ROST 1518 1521 1522 1528 1533 1555 1556 1562 1594
1617 1618
642 RSTPR 1521 1528 1555 1556 1594
650 RTIDB 1518 1522 1666
96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169 1590
510 SIX 147 171 1582
26 SPACE *
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT 1540
282 TBID 1543 1545
277 TBISA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY 1612 1667 1687
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMING *
291 TBNUCL *
267 TBPL 1526
269 TBRSA *
270 TBRSE *
289 TBRSE *
272 TBRSP *

```

```

273 TBRSTS *
271 TBR SX **
322 TBS0 *
321 TBS1 *
309 TBS10 1609
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 1535
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 1604
290 TBS12 *
266 TBS T 1535 1604 1609
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBT RD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDC *
1188 TCDCB *
1189 TCDCZ *
1195 TCDT *
1196 TCDTB *
1197 TCDTZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1197 TCFCH *
1133 TCFCHB *
1109 TCFCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRND *
1156 TCRNDB *
1157 TCRNDZ *
1191 TCRQH *
1192 TCRQHB *
1193 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1187 TCTCD *
1188 TCTCDB *

```

```

1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
514 TEN 139 163
205 TESTF *
507 THREE 153 177
1519 TIDB 1526 1535 1540 1604 1609
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIODN *
1380 TIODNB *
1381 TIODNZ *
1387 TIODP *
1388 TIODPB *
1389 TIODPZ *
1383 TIOSC *
1384 TIOSCB *
1385 TIOSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPAB *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPAB *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPAB *
1219 TPWPAZ *
506 TWO 155 179
440 V$1MIN *
458 V$BFC *
366 V$EGLB *
363 V$BIC1 *
392 V$BTE *
400 V$BTEM *
457 V$BYN *
408 V$CAM *
420 V$CKB *
448 V$CKIT *
397 V$CKPT *
380 V$CPL *
367 V$CRDM *
410 V$CRDR *
421 V$CRM *
381 V$CRS 1657 1704
426 V$CTAD *
379 V$CTL 1686
418 V$CTMS *
364 V$DATE *
422 V$DSTB *
435 V$ERFG *
416 V$FGLB *
385 V$FLRS *
417 V$FREE *
401 V$GFCB *
397 V$IM *
447 V$IDA *
449 V$JCB *
356 V$JCFG *
370 V$JCTM *
354 V$JNAM *
436 V$JOP *
407 V$KEY *
355 V$LONT *

```

390	V\$LER	*							
423	V\$LIT	*							
395	V\$LLUP	*							
396	V\$LPP	*							
386	V\$LRSK	*							
389	V\$LSAL	*							
414	V\$LUNT	*							
394	V\$LUP	*							
437	V\$LUT1	*							
438	V\$LUT2	*							
439	V\$LUT3	*							
399	V\$MAP	*							
0	V\$MDAL	*	1654	1700	1707				
402	V\$MIMG	*							
398	V\$MPM	*							
428	V\$NCTR	*							
393	V\$NPAG	*							
452	V\$OCB	*							
415	V\$OPCF	*							
388	V\$OPCL	*							
424	V\$PGT	*							
429	V\$PIMN	*							
365	V\$PLCT	*							
384	V\$PTVB	*							
427	V\$SCTL	*							
419	V\$SCV	*							
434	V\$SLFG	*							
403	V\$ST0	*	1633	1663	1672	1691			
404	V\$ST1	*	1620	1674	1693				
405	V\$ST2	*	1660	1676	1695				
406	V\$ST3	*	1678	1697					
382	V\$TB	*							
411	V\$TBGT	*							
459	V\$TFC	*							
391	V\$TJCP	*							
413	V\$TMN	*							
412	V\$TMS	*							
383	V\$UTB	*							
1704	V2\$1	*	1698						
1656	V2\$CRL	*	1655						
1	VORTEX	*	1602	1607	1619	1631	1652		
0	VTPUSH	*	33	35					
697	X	*	232	254	1519	1543	1545	1551	1621
		*	1627	1629	1658	1659	1664	1665	1679
		*	1700	1705	1707				1623
		*							1625
469	ZERO	*							

```

000001 A      1 VORTEX SET          1                                02 00001
2 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 02 00002
3 *                                     02 00003
4 *           V.D.M.   PART NO.      92L1105-051B                    02 00004
5 *                                     02 00005
6 *                                     02 00006
7 *                                     02 00007
8 *                                     02 00008
9 *                                     02 00009
10 *                                     02 00010
11 *                                     02 00011
12 *          TITLE   CC$FCW                                           02 00012
13 *          NLIS                                         02 00013
1443 *          LIST                                         ***
1444 *
1445 *          EJEC                                           02 00014
1446 * *****
1447 * *****
1448 *          PROGRAM NAME -                                         02 00017
1449 *          CC$FCW - FETCH LINE CONTROL WORD ADDRESS            02 00018
1450 *
1451 *          ENTRY CONDITIONS-                                       02 00020
1452 *          STACK ENTRY                                           02 00021
1453 *          (X) = LSD ADDRESS                                       02 00022
1454 *          INTERRUPTS DISABLED                                    02 00023
1455 *          EXIT CONDITIONS -                                       02 00024
1456 *          (A) UNCHANGED                                           02 00025
1457 *          (B) LCW ADDRESS                                         02 00026
1458 *          (X) UNCHANGED                                           02 00027
1459 *          INTERRUPTS ENABLED                                       02 00028
1460 *
1461 *          CALLING SEQUENCE -                                       02 00029
1462 *          DINTS                                                  02 00030
1463 *          JPM          VTPUSH                                       02 00031
1464 *          DATA       CC$FCW                                       02 00032
1465 *          (RETURN)                                               02 00033
1466 *
1467 * *****
1468 * *****
1469 * *****
1470 *          EJEC                                           02 00039
1471 *          NAME       CC$FCW                                         02 00040
1472 *          CC$FCW DATA 0                                           02 00041
1473 *
1474 *          EINTS          ENABLE INTERRUPTS                          02 00042
1475 *
1476 *          EXT          VTSTAK          PICK UP STACK ENTRY ADDRESS IN (X) 02 00045
1477 *          LD BE          VTSTAK
1478 *          STACK SET          B                                           02 00047
1479 *          LDX          3, STACK          STACK X REGISTER           02 00048
1480 *          LSD SET          X                                           02 00049
1481 *          LDB          LSCTA, LSD                                         02 00050
1482 *          CTB SET          B                                           02 00051
1483 *          FETCHA LSD, LSPLA, LSPLAB, LSPLAZ                          02 00052
1484 *
1485 *          ANA          BM77          LIMIT PHYSICAL LINE ADDRESS TO 63 02 00053
1486 *          LRLA          3          PLA#8
1487 *          ADD          DMLCA, CTB          + LCWA                    02 00054
1488 *          LDXE          VTSTAK                                           02 00055
1489 *
1490 *          STACK SET          X                                           02 00057
1491 *          STA          2, STACK          STORE LCW ADDRESS IN (B) STACK 02 00058
1492 *          EXT          VTPDP                                           02 00059
1493 *          JMP          VTPDP                                           02 00060
1494 *
1495 *          END                                           02 00061

```

Handwritten:
 50507
 50501

```

ENTRY NAMES
000000 R CC$FCW
EXTERNAL NAMES
000020 E VTPDP
SYMBOLS
000044 A APIM
000012 A B10
000016 A B14
000004 A B4
000010 A B8
000472 A BM17
000473 A BM37
000476 A BM777
000454 A BR11
000460 A BR15
000446 A BR5
000452 A BR9
000434 A BS11
000440 A BS15
000426 A BS5
000432 A BS9
000020 A CHAFPZ
000002 A CHCFP
000000 A CHCRPB
000020 A CHRBLZ
000017 A CTACTB
000002 A B
000013 A B11
000017 A B15
000005 A B5
000011 A B9
000475 A BM177
000463 A BM377
000441 A BR0
000455 A BR12
000443 A BR2
000447 A BR6
000421 A BS0
000435 A BS12
000423 A BS2
000427 A BS6
000000 R CC$FCW
000001 A CHARP
000000 A CHCFPB
000020 A CHCRPZ
000004 A CHRBL
000000 A CTAD1
000001 A CTACTZ
000000 A B0
000014 A B12
000002 A B2
000006 A B6
000000 A BICNUM
000467 A BM7
000442 A BR1
000456 A BR13
000444 A BR3
000450 A BR7
000422 A BS1
000436 A BS13
000424 A BS3
000430 A BS7
000000 A CHAFP
000000 A CHARPB
000020 A CHCFPZ
000003 A CHCRP
000000 A CHRBLB
000000 A CTACT
000000 A CTADNB
000001 A B1
000015 A B13
000003 A B3
000007 A B7
000421 A BM1
000464 A BM3
000474 A BM77
000453 A BR10
000457 A BR14
000445 A BR4
000451 A BR8
000433 A BS10
000437 A BS14
000425 A BS4
000431 A BS8
000000 A CHAFPB
000020 A CHARPZ
000003 A CHCRP
000000 A CHRBLB
000000 A CTACT
000000 A CTADNB

```


52	B&8	50	
48	B&9	46	
543	B0	*	
544	B1	*	
553	B10	*	
554	B11	*	
555	B12	*	
556	B13	*	
557	B14	*	
558	B15	*	
545	B2	*	
546	B3	*	
547	B4	*	
548	B5	*	
549	B6	*	
550	B7	*	
551	B8	*	
552	B9	*	
530	BICNUM	*	
513	BM1	79	
518	BM17	67	
521	BM177	55	
524	BM1777	43	
516	BM3	75	
519	BM37	63	
522	BM377	51	
517	BM7	71	
520	BM77	59	1483
523	BM777	47	
486	BR0	202	
487	BR1	*	
496	BR10	*	
497	BR11	*	
498	BR12	*	
499	BR13	*	
500	BR14	*	
501	BR15	*	
488	BR2	*	
489	BR3	*	
490	BR4	*	
491	BR5	*	
492	BR6	*	
493	BR7	*	
494	BR8	*	
495	BR9	*	
470	BS0	195	209
471	BS1	*	
480	BS10	*	
481	BS11	*	
482	BS12	*	
483	BS13	*	
484	BS14	*	
485	BS15	*	
472	BS2	*	
473	BS3	*	
474	BS4	*	
475	BS5	*	
476	BS6	*	
477	BS7	*	
478	BS8	*	
479	BS9	*	
1472	CC\$FCW	12	1471
1397	CHAFP	*	
1398	CHAFPB	*	
1399	CHAFPZ	*	
1401	CHARP	*	
1402	CHARPB	*	
1403	CHARPZ	*	
1405	CHCFP	*	
1406	CHCFPB	*	
1407	CHCFPZ	*	
1409	CHCRP	*	
1410	CHCRPB	*	
1411	CHCRPZ	*	
1413	CHRBL	*	
1414	CHRBLB	*	
1415	CHRBLZ	*	
198	CLEARF	*	
567	CLOCK	569	570
632	COTAD1	*	
707	CTACT	*	
708	CTACTB	*	
709	CTACTZ	*	
715	CTADN	*	
716	CTADNB	*	
717	CTADNZ	*	
1481	CTB	1485	
751	CTBIC	*	
752	CTBICB	*	
753	CTBICZ	*	
723	CTDST	*	
724	CTDSTB	*	
725	CTDSTZ	*	
739	CTDVA	*	
740	CTDVAB	*	

741	CTDVAZ	*				
755	CTFCB	*				
756	CTFCBB	*				
757	CTFCBZ	*				
763	CTFRC	*				
764	CTFRCB	*				
765	CTFRCZ	*				
767	CTFRE	*				
768	CTFREB	*				
769	CTFREZ	*				
711	CTIDB	*				
712	CTIDBB	*				
713	CTIDBZ	*				
743	CTIDA	*				
744	CTIDAB	*				
745	CTIDAZ	*				
719	CTOPM	*				
720	CTOPMB	*				
721	CTOPMZ	*				
735	CTRCN	*				
736	CTRCNB	*				
737	CTRCNZ	*				
727	CTROB	*				
728	CTROBB	*				
729	CTROBZ	*				
731	CTRTR	*				
732	CTRTRB	*				
733	CTRTRZ	*				
747	CTSTA	*				
748	CTSTAB	*				
749	CTSTAZ	*				
759	CTWDS	*				
760	CTWDSB	*				
761	CTWDSZ	*				
688	DCBUFF	*				
691	DCCHR	*				
692	DCCHRB	*				
693	DCCHRZ	*				
689	DCCNT	*				
687	DCRECL	*				
187	DINTS	*				
569	DISCLK	*	189			
589	DISMP	*				
584	DISPIM	*	188			
813	DMBCA	*				
814	DMBCAB	*				
815	DMBCAZ	*				
805	DMCWA	*				
806	DMCWAB	*				
807	DMCWAZ	*				
785	DMFPA	*				
786	DMFPAB	*				
787	DMFPAZ	*				
793	DMLCA	*	1485			
794	DMLCAB	*				
795	DMLCAZ	*				
797	DMLTA	*				
798	DMLTAB	*				
799	DMLTAZ	*				
801	DMPTA	*				
802	DMPTAB	*				
803	DMPTAZ	*				
781	DMRPA	*				
782	DMRPAB	*				
783	DMRPAZ	*				
789	DMSTA	*				
790	DMSTAB	*				
791	DMSTAZ	*				
809	DMSA	*				
810	DMSAB	*				
811	DMSAZ	*				
777	DMTPA	*				
778	DMTPAB	*				
779	DMTPAZ	*				
615	DSCTAD	*				
601	DSDASS	*				
600	DSDVDN	*				
612	DSLCKD	*				
609	DSNAME	*				
608	DSNDRQ	*				
613	DSOPCM	*				
614	DSPSTI	*				
610	DSREWD	*				
606	DSUNAM	*				
611	DSUNTN	*				
512	EIGHT	*	143	167		
183	EINTS	*				
570	ENACLK	*	185			
590	ENAMP	*				
585	ENAFIM	*	184			
0	ERROR	*	113	193	200	207
128	FETCHA	*				
509	FIVE	*	149	173		
508	FOUR	*	151	175		
251	GETO	*				

1432 IBIBF *
 1433 IBIBFB **
 1434 IBIBFZ ***
 1436 IBLAS ****
 1437 IBLASB *****
 1438 IBLASZ ****
 1424 IBLN *****
 1425 IBLNB *****
 1426 IBLNZ *****
 1420 IBLNK *****
 1421 IBLNKB *****
 1422 IBLNKZ *****
 1428 IBSTA *****
 1429 IBSTAB *****
 1430 IBSTAZ *****
 1440 IBSTS *****
 1441 IBSTSB *****
 1442 IBSTSZ *****
 378 LC

379	380	381	382	383	384	385	386	387
388	389	390	391	392	393	394	395	396
397	398	399	400	401	402	403	404	405
406	407	408	410	411	412	413	414	415
416	417	418	419	420	421	422	423	424
426	427	428	429	434	435	436	437	438
439	440	447	448	449	452	457	458	459

855 LCABN *
 856 LCABNB **
 857 LCABNZ ***
 859 LCASY ****
 860 LCASYB *****
 861 LCASYZ ****
 923 LCBSC *****
 924 LCBSCB *****
 925 LCBSCZ *****
 919 LCCHN *****
 920 LCCHNB *****
 921 LCCHNZ *****
 851 LCCRC *****
 852 LCCRCB *****
 853 LCCRCZ *****
 895 LCCWB *****
 896 LCCWBB *****
 897 LCCWBZ *****
 891 LCCWC *****
 892 LCCWCB *****
 893 LCCWCZ *****
 899 LCCWD *****
 900 LCCWDB *****
 901 LCCWDZ *****
 887 LCCWI *****
 888 LCCWIB *****
 889 LCCWIZ *****
 903 LCCWP *****
 904 LCCWPB *****
 905 LCCWPZ *****
 907 LCCWR *****
 908 LCCWRB *****
 909 LCCWRZ *****
 883 LCCWS *****
 884 LCCWSB *****
 885 LCCWSZ *****
 911 LCCWT *****
 912 LCCWTB *****
 913 LCCWTZ *****
 835 LCIBA *****
 836 LCIBAB *****
 837 LCIBAZ *****
 823 LCIBF *****
 824 LCIBFB *****
 825 LCIBFZ *****
 831 LCIBL *****
 832 LCIBLB *****
 833 LCIBLZ *****
 839 LCIC1 *****
 840 LCIC1B *****
 841 LCIC1Z *****
 842 LCIC2 *****
 844 LCIC2B *****
 845 LCIC2Z *****
 863 LCIKE *****
 864 LCIKER *****
 865 LCIKEZ *****
 931 LCITB *****
 932 LCITBB *****
 933 LCITBZ *****
 353 LCJP *
 879 LCLCB **
 880 LCLCBB ***
 881 LCLCBZ ****
 927 LCLDB *****
 928 LCLDBB *****
 929 LCLDBZ *****
 915 LCLTR *****
 916 LCLTBB *****
 917 LCLTBZ *****

354	355	356	363	364	365	366	367	370
-----	-----	-----	-----	-----	-----	-----	-----	-----

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875 LCOBA *
876 LCOBAB *
877 LCOBAZ *
867 LCOBF *
868 LCOBFB *
869 LCOBFZ *
871 LCOBL *
872 LCOBLB *
873 LCOBLZ *
935 LCOKE *
936 LCOKEB *
937 LCOKEZ *
847 LCRCC *
848 LCRCCB *
849 LCRCCZ *
827 LCSMB *
828 LCSMBB *
829 LCSMBZ *
503 LHM *
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASCZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSBSC *
1070 LSBSCB *
1071 LSBSCZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA 1480
986 LSCTAB *
987 LSCTAZ *
1479 LSI 1480 1482
1041 LSISF *
1042 LSISFB *
1043 LSISFZ *
989 LSIST *
990 LSISTB *
991 LSISTZ *
1025 LSEPF *
1026 LSEPFB *
1027 LSEPFZ *
1009 LSLSP *
1010 LSLSPB *
1011 LSLSPZ *
993 LSMOD *
994 LSMODB *
995 LSMODZ *
1073 LSNTD *
1074 LSNTDB *
1075 LSNTDZ *
997 LSPAR *
998 LSPARB *
999 LSPARZ *
1037 LSPLA 1482
1038 LSPLAB 1482
1039 LSPLAZ 1482
953 LSRCA *
954 LSRCAB *
955 LSRCAZ *
957 LSREM *
958 LSREMB *
959 LSREMZ *
1033 LSRRS *
1034 LSRRSB *
1035 LSRRSZ *
949 LSRRT *
950 LSRRTB *
951 LSRRTZ *
961 LSRTD *
962 LSRTDB *
963 LSRTDZ *
965 LSSRS *
966 LSSRSB *
967 LSSRSZ *
981 LSSWS *
982 LSSWSB *
983 LSSWSZ *
1021 LSTER *
1022 LSTERB *
1023 LSTERZ *

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1288 PSABNB *
1289 PSABNZ *
1239 PSASY *
1240 PSASYB *
1241 PSASYZ *
670 PSBADT *
666 PSBEG *
1299 PSBSC *
1300 PSBSCB *
1301 PSBSCZ *
1251 PSCC1 *
1252 PSCC1B *
1253 PSCC1Z *
1255 PSCC2 *
1256 PSCC2B *
1257 PSCC2Z *
1291 PSCRC *
1292 PSCRCB *
1293 PSCRCZ *
1271 PSDEF *
1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
672 PSEND *
1263 PSEPF *
1264 PSEPFB *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMODB *
1233 PSMODZ *
671 PSNSEC *
1235 PSPAR *
1236 PSPARB *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLAB *
1277 PSPLAZ *
667 PSPROT *
1259 PSTER *
1260 PSTERB *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMMB *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYNCZ *
1303 PSYNR *
1304 PSYNRB *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNTB *
1297 PSYNTZ *
32 PUSH *
228 PUTQ *
532 RAO *
533 RA1 *
651 RADNR *
534 RBO *
535 RB1 *
649 RFCI *
504 RHW *
645 ROPWD *
642 RSTPR *
650 RTIDB *
96 SETA *
111 SETB *
191 SETF *
511 SEVEN 145 169
510 SIX 147 171
26 SPACE *
1477 STACK 1478 1488
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT *
282 TBID *
277 TBISA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY *
283 TBKN1 *
284 TBKN2 *

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285 TBKN3 *
293 TBMIMG *
291 TBNUCL *
267 TBPL *
269 TBRSA *
270 TBRSE *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBRSX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBSIZ *
266 TBSI *
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTDR *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCDN *
1128 TCCDNB *
1129 TCCDNZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDC *
1188 TCDCB *
1189 TCDCZ *
1195 TCDB *
1196 TCDBB *
1197 TCDBZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNDD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
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1179 TCSTO *
1180 TCSTOB *
1181 TCSTOZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
 514 TEN 139 163
 205 TESTF *
 507 THREE 153 177
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIDDN *
1380 TIDDNB *
1381 TIDDNZ *
1387 TIDDP *
1388 TIDDPB *
1389 TIDDPZ *
1383 TIDSC *
1384 TIDSCB *
1385 TIDSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPAB *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPAB *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPAB *
1219 TPWPABZ *
 506 TWO 155 179
 440 V$1MIN *
 458 V$BFC *
 366 V$BGLB *
 363 V$BIC1 *
 392 V$BTR *
 400 V$BTEM *
 457 V$BVN *
 408 V$CAM *
 420 V$CKE *
 448 V$CKIT *
 387 V$CKPT *
 380 V$CPL *
 367 V$CRDM *
 410 V$CRDR *
 421 V$CRM *
 381 V$CRS *
 426 V$CTAD *
 379 V$CTL *
 418 V$CTMS *
 364 V$DATE *
 422 V$DSTB *
 435 V$ERFG *
 416 V$FGLB *
 385 V$FLRS *
 417 V$FREE *
 401 V$GFCB *
 397 V$IM *
 447 V$IDA *

```

449	V\$JCB	*				
356	V\$JCFG	*				
370	V\$JCTM	*				
354	V\$JNAM	*				
436	V\$JOP	*				
407	V\$KEY	*				
355	V\$LCNT	*				
390	V\$LER	*				
423	V\$LIT	*				
395	V\$LLUP	*				
396	V\$LPP	*				
386	V\$LRSK	*				
389	V\$LSAL	*				
414	V\$LUNT	*				
394	V\$LUP	*				
437	V\$LUT1	*				
438	V\$LUT2	*				
439	V\$LUT3	*				
399	V\$MAP	*				
402	V\$MING	*				
398	V\$MPM	*				
428	V\$NCTR	*				
393	V\$NPAG	*				
452	V\$QCB	*				
415	V\$QPCF	*				
388	V\$QPCL	*				
424	V\$PGT	*				
429	V\$PIMN	*				
365	V\$PLCI	*				
384	V\$PTVB	*				
427	V\$SCTL	*				
419	V\$SCV	*				
434	V\$SLFG	*				
403	V\$ST0	*				
404	V\$ST1	*				
405	V\$ST2	*				
406	V\$ST3	*				
382	V\$TB	*				
411	V\$TBGT	*				
459	V\$TFC	*				
391	V\$TJCP	*				
413	V\$TMN	*				
412	V\$TMS	*				
383	V\$UTB	*				
1	VORTEX	*				
0	VTPDP	*	1489	1490		
0	VTPUSH	*	33	35		
0	VTSTAK	*	1475	1476	1486	
697	X	*	232	254	1479	1487
469	ZERO	*				


```

1      EJECT 04 00001
2      * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES 04 00002
3      * 04 00003
4      * V.D.M. PART NO. 92L1105-052A 04 00004
5      * 04 00005
6      * 04 00006
7      * RELEASED 03-26-73 04 00007
8      * 04 00008
9      * CC$FRR 04 00009
10     * 04 00010
11     * 04 00011
12     TITLE CC$FRR 04 00012
13     NLIS 04 00013
1443    LIST *****
1444    * 04 00014
1445    EJECT 04 00015
1446    ***** 04 00016
1447    ***** 04 00017
1448    * PROGRAM NAME - **04 00018
1449    * CC$FWR - CC$FRR - FIND NEXT READ OR WRITE REQUEST ON **04 00019
1450    * QUEUE **04 00020
1451    * **04 00021
1452    * ENTRY CONDITIONS - **04 00022
1453    * (X) = LSD ADDRESS **04 00023
1454    * **04 00024
1455    * EXIT CONDITIONS - **04 00025
1456    * (A) .GT. 0, (A) = ADDRESS OF NEXT REQUEST OF TYPE **04 00026
1457    * (A) .EQ. 0, NO REQUEST OF TYPE DESIRED AVAILABLE **04 00027
1458    * **04 00028
1459    * CALLING SEQUENCE - **04 00029
1460    * JMPM CC$FWR **04 00030
1461    * OR **04 00031
1462    * JMPM CC$FWR **04 00032
1463    * (RETURN) **04 00033
1464    * **04 00034
1465    ***** 04 00035
1466    ***** 04 00036
1467    NAME CC$FWR,CC$FRR 04 00037
000000 000000 A 1468    CC$FWR ENTR CC$FWR WRITE ENTRY 04 00038
000001 006017 A 1469    LDAE CC$FWR SET UP EXIT 04 00039
000002 000000 R
000003 054042 A 1470    STA FWEXIT+1 04 00040
000004 010421 A 1471    LDA ONE SET REQUEST TYPE TO WRITE 04 00041
000005 001000 A 1472    JMP FW01 04 00042
000006 000014 R
000007 000000 A 1473    CC$FRR ENTR CC$FRR READ ENTRY 04 00043
000010 006017 A 1474    LDAE CC$FRR 04 00044
000011 000007 R
000012 054033 A 1475    STA FWEXIT+1 04 00045
000013 005001 A 1476    TZA SET REQUEST TYPE TO READ 04 00046
000014 054032 A 1477    FW01 STA FWOPCD 04 00047
1478    * FORM THE ADDRESS OF THE REQUEST QUEUE POINTER 04 00048
000015 005041 A 1479    TXA 04 00049
1480    ADAT LSRRT ADD POINT POSITION IN TABLE ATTRIBUTE 04 00050
000016 120421 A
000017 054030 A 1481    STA FWRQST 04 00051
000020 006017 A 1482    FW05 LDAE* FWRQST (A) = ADDRESS OF NEXT REQUEST IN THE QUEUE 04 00052
000021 100050 R
000022 001010 A 1483    JAZ FWEXIT END OF THREAD, NO FIND 04 00053
000023 000045 R
000024 005012 A 1484    TAB 04 00054
1485    RQST SET B GET REQUEST OP CODE 04 00055
1486    FETCHA RQST,ROPWD,8,4 04 00056
000025 016001 A
000026 004350 A
000027 150472 A
000030 140465 A 1487    SUB FIVE TEST FOR FUNCTION REQUEST 04 00057
000031 001010 A 1488    JAZ FWEXIT IS A FUNCTION REQUEST, NO FIND 04 00058
000032 000045 R
000033 120465 A 1489    ADD FIVE 04 00059
000034 144012 A 1490    SUB FWOPCD 04 00060
000035 001010 A 1491    JAZ FW10 04 00061
000036 000044 R
000037 005071 A 1492    TBA NOT REQUESTED TYPE, LOOK AT THE NEXT RQST 04 00062
1493    ADAT RADNR 04 00063
000040 120423 A
000041 054016 A 1494    STA FWRQST 04 00064
000042 001000 A 1495    JMP FW05 04 00065
000043 000020 R
000044 005021 A 1496    FW10 TBA FIND, SET (A) TO ADDRESS OF THE REQUEST 04 00066
000045 001000 A 1497    FWEXIT JMP * AND EXIT 04 00067
000046 000045 R
000047 000000 A 1498    FWOPCD DATA 0 USED TO SAVE THE OP CODE OF OBJECT RQST TYPE 04 00068
000050 000000 A 1499    FWRQST DATA 0 ADDRESS OF NEXT REQUEST IN THE QUEUE 04 00069
1500    END 04 00070

ENTRY NAMES
000007 R CC$FRR 000000 R CC$FWR
EXTERNAL NAMES
SYMBOLS
000044 A APIM 000002 A B 000000 A B0 000001 A B1
000012 A B10 000013 A B11 000014 A B12 000015 A B13
000016 A B14 000017 A B15 000002 A B2 000003 A B3
000004 A B4 000005 A B5 000006 A B6 000007 A B7
000010 A B8 000011 A B9 000000 A BICNUM 000421 A BM1
000472 A BM17 000475 A BM177 000477 A BM1777 000464 A BM3

```


159	ADAT	**								
38	ANAM	**								
90	ANAN	**								
574	APIM	**	584	585						
108	B	**		117	229	230	252	255	257	1485
88	B&	**	98							
83	B&0	**	82							
80	B&1	**	40							
44	B&10	**	78							
76	B&2	**	42							
72	B&3	**	74							
60	B&4	**	70							
64	B&5	**	66							
60	B&6	**	62							
56	B&7	**	58							
52	B&8	**	54							
48	B&9	**	50							
543	B0	**	46							
544	B1	**								
553	B10	**								
554	B11	**								
555	B12	**								
556	B13	**								
557	B14	**								
558	B15	**								
545	B2	**								
546	B3	**								
547	B4	**								
548	B5	**								
549	B6	**								
550	B7	**								
551	B8	**								
552	B9	**								
630	BICNUM	**								
515	BM1	**	79							
518	BM17	**	67							
521	BM177	**	55							
524	BM1777	**	43							
516	BM3	**	75							
519	BM37	**	63							
522	BM377	**	51							
517	BM7	**	71							
520	BM77	**	59							
523	BM777	**	47							
486	BR0	**	202							
487	BR1	**								
496	BR10	**								
497	BR11	**								
498	BR12	**								
499	BR13	**								
500	BR14	**								
501	BR15	**								
488	BR2	**								
489	BR3	**								
490	BR4	**								
491	BR5	**								
492	BR6	**								
493	BR7	**								
494	BR8	**								
495	BR9	**								
470	BS0	**	195	209						
471	BS1	**								
450	BS10	**								
481	BS11	**								
482	BS12	**								
483	BS13	**								
484	BS14	**								
485	BS15	**								
472	BS2	**								
473	BS3	**								
474	BS4	**								
475	BS5	**								
476	BS6	**								
477	BS7	**								
478	BS8	**								
479	BS9	**								
1473	CC\$FRR	**	12	1467	1474					
1468	CC\$FWR	**	1467	1469						
1397	CHAFP	**								
1398	CHAFPB	**								
1399	CHAFPZ	**								
1401	CHARP	**								
1402	CHARPB	**								
1403	CHARPZ	**								
1405	CHCFP	**								
1406	CHCFPB	**								
1407	CHCFPZ	**								
1409	CHCRP	**								
1410	CHCRPB	**								
1411	CHCRPZ	**								
1413	CHRBL	**								
1414	CHRBLB	**								
1415	CHRBLZ	**								
138	CLEARF	**								
567	CLOCK	**	569	570						

```

622 COTADI *
707 CTA CT *
708 CTA CTB *
709 CTA CTZ *
715 CTA DN *
716 CTA DN B *
717 CTA DN Z *
751 CTB IC *
752 CTB IC B *
753 CTB IC Z *
723 CTD ST *
724 CTD ST B *
725 CTD ST Z *
739 CTD VA *
740 CTD VA B *
741 CTD VA Z *
755 CTF CB *
756 CTF CB B *
757 CTF CB Z *
763 CTF RC *
764 CTF RC B *
765 CTF RC Z *
767 CTF RE *
768 CTF RE B *
769 CTF RE Z *
711 CTID B *
712 CTID B B *
713 CTID B Z *
743 CTID A *
744 CTID A B *
745 CTID A Z *
719 CTD PM *
720 CTD PM B *
721 CTD PM Z *
735 CTR CN *
736 CTR CN B *
737 CTR CN Z *
727 CTR OB *
728 CTR OB B *
729 CTR OB Z *
731 CTR TR *
732 CTR TR B *
733 CTR TR Z *
747 CT STA *
748 CT STA B *
749 CT STA Z *
759 CT WDS *
760 CT WDS B *
761 CT WDS Z *
688 DCB UFF *
691 DCCHR *
692 DCCHR B *
693 DCCHR Z *
689 DC CNT *
687 DC RECL *
187 DINTS *
569 DIS CLK 189
589 DIS NP *
584 DIS PIM 188
813 DMBCA *
814 DMBCA B *
815 DMBCA Z *
805 DMCHA *
806 DMCHA B *
807 DMCHA Z *
785 DMF PA *
786 DMF PA B *
787 DMF PA Z *
793 DML CA *
794 DML CA B *
795 DML CA Z *
797 DML TA *
798 DML TA B *
799 DML TA Z *
801 DMPTA *
802 DMPTA B *
803 DMPTA Z *
781 DMR PA *
782 DMR PA B *
783 DMR PA Z *
789 DM STA *
790 DM STA B *
791 DM STA Z *
809 DMS WA *
810 DMS WA B *
811 DMS WA Z *
777 DMT PA *
778 DMT PA B *
779 DMT PA Z *
615 DSCTAD *
601 DSDIASS *
600 DSDVDN *
612 DSLCKD *
609 DSNAM *
608 DSNDR *

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958 LSREMB *
959 LSREMBZ *
1033 LSRRS *
1034 LSRRSB *
1035 LSRRSZ *
949 LSRRT 1480
950 LSRRTB *
951 LSRRTZ *
961 LSRTD *
962 LSRTDB *
963 LSRTDZ *
965 LSSRS *
966 LSSRSB *
967 LSSRSZ *
981 LSSWS *
982 LSSWSB *
983 LSSWSZ *
1021 LSTER *
1022 LSTERB *
1023 LSTERZ *
945 LSTHD *
946 LSTHDB *
947 LSTHDZ *
969 LSWCA *
970 LSWCAB *
971 LSWCAZ *
973 LSWEM *
974 LSWEMB *
975 LSWEMZ *
1029 LSWRS *
1030 LSWRSB *
1031 LSWRSZ *
977 LSWTD *
978 LSWTDB *
979 LSWTDZ *
1005 LSXMM *
1006 LSXMMB *
1007 LSXMMZ *
1045 LSYNC *
1046 LSYNCB *
1047 LSYNCZ *
1077 LSYNR *
1078 LSYNRB *
1079 LSYNRZ *
1065 LSYNT *
1066 LSYNTB *
1067 LSYNTZ *
591 MAP *
588 MP 589 590 592 593 594 595
592 MPMR0 *
593 MPMR1 *
594 MPMR2 *
595 MPMR3 *
468 MT 469 470 471 472 473 474 475 476 477
478 479 480 481 482 483 484 485 486
487 488 489 490 491 492 493 494 495
496 497 498 499 500 501 502 503 504
505 506 507 508 509 510 511 512 513
514 515 516 517 518 519 520 521 522
523 524

502 NEG *
513 NINE *
505 ONE *
0 P 27 29 30 36 39 41 45 49 53
57 61 65 69 73 77 81 84 85
85 86 87 91 92 92 93 94 97
99 100 101 101 102 103 104 105 106
107 107 109 109 112 114 115 115 116
118 118 119 120 121 123 124 125 125
129 129 130 131 132 132 133 136 137
138 140 142 144 146 148 150 152 154
156 160 161 162 164 166 168 170 172
174 176 178 180 192 194 194 195 196
196 199 201 201 202 203 203 206 208
208 209

1329 PCBSL *
1330 PCBSLB *
1331 PCBSLZ *
1317 PCCLN *
1318 PCCLNB *
1319 PCCLNZ *
1341 PCCTP *
1342 PCCTPB *
1343 PCCTPZ *
1321 PCECH *
1322 PCECHB *
1323 PCECHZ *
1313 PCLLN *
1314 PCLLNB *
1315 PCLLNZ *
1349 PCNTD *
1350 PCNTDB *
1351 PCNTDZ *
1337 PCPCH *
1338 PCPCHB *
    
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1339	PCPCHZ	*
1333	PCSWL	*
1334	PCSWLB	*
1335	PCSWLZ	*
1345	PCTYP	*
1346	PCTYPB	*
1347	PCTYPZ	*
1325	PCXMM	*
1326	PCXMMB	*
1327	PCXMMZ	*
575	PIM1	*
576	PIM2	*
577	PIM3	*
578	PIM4	*
579	PIM5	*
580	PIM6	*
581	PIM7	*
582	PIM8	*
699	PDST	*
1287	PSABN	*
1288	PSABNB	*
1289	PSABNZ	*
1239	PSASY	*
1240	PSASYB	*
1241	PSASYZ	*
670	PSBADT	*
666	PSBEG	*
1299	PSBSC	*
1300	PSBSCB	*
1301	PSBSCZ	*
1251	PSCC1	*
1252	PSCC1B	*
1253	PSCC1Z	*
1255	PSCC2	*
1256	PSCC2B	*
1257	PSCC2Z	*
1291	PSCRC	*
1292	PSCRCB	*
1293	PSCRCZ	*
1271	PSDEF	*
1272	PSDEFB	*
1273	PSDEFZ	*
1279	PSDSF	*
1280	PSDSFB	*
1281	PSDSFZ	*
1267	PSDWH	*
1268	PSDWHB	*
1269	PSDWHZ	*
672	PSEND	*
1263	PSEPF	*
1264	PSEPFB	*
1265	PSEPFZ	*
1247	PSLSP	*
1248	PSLSPB	*
1249	PSLSPZ	*
1231	PSMOD	*
1232	PSMODEB	*
1233	PSMODZ	*
671	PSNSEC	*
1235	PSPAR	*
1236	PSPARB	*
1237	PSPARZ	*
1275	PSPLA	*
1276	PSPLAB	*
1277	PSPLAZ	*
667	P PROT	*
1259	PSTER	*
1260	PSTERB	*
1261	PSTERZ	*
1243	PSXMM	*
1244	PSXMMB	*
1245	PSXMMZ	*
1283	PSYNC	*
1284	PSYNCB	*
1285	PSYNCZ	*
1303	PSYNR	*
1304	PSYNRB	*
1305	PSYNRZ	*
1295	PSYNT	*
1296	PSYNTB	*
1297	PSYNTZ	*
32	PUSH	*
228	PUTQ	*
532	RA0	*
533	RA1	*
651	RADNR	1493
534	RB0	*
535	RB1	*
649	RFCB	*
504	RHW	*
645	RDPWD	1486
1485	RQST	1486
642	RSTPR	*
650	RTIDB	*
96	SETA	*

```

111 SETB *
191 SETF *
511 SEVEN 145 169
510 SIX 147 171
26 SPACE *
135 SUBAT *
288 TBATSK *
287 TBCPTH *
274 TBENTY *
268 TBEVNT *
282 TBID *
277 TBISA *
278 TBISB *
280 TBISP *
281 TBISRS *
294 TBIST *
279 TBISX *
292 TBKEY *
283 TBKN1 *
284 TBKN2 *
285 TBKN3 *
293 TBMIMG *
291 TBNUCL *
267 TBFL *
269 TBRSA *
270 TBRSEB *
289 TBRSE *
272 TBRSP *
273 TBRSTS *
271 TBRSX *
322 TBS0 *
321 TBS1 *
309 TBS10 *
308 TBS11 *
306 TBS12 *
305 TBS13 *
304 TBS14 *
302 TBS15 *
320 TBS2 *
318 TBS3 *
317 TBS4 *
316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBS1Z *
266 TBST *
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1137 TCDC *
1138 TCDCB *
1139 TCDCZ *
1195 TCDTD *
1196 TCDTDB *
1197 TCDTDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNDD *
1144 TCNDB *
1145 TCNDDZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *

```

```

1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
 514 TEN 139 163
 205 TESTF *
 507 THREE 153 177
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIODN *
1380 TIODNB *
1381 TIODNZ *
1387 TIODP *
1388 TIODPB *
1389 TIODPZ *
1383 TIOSC *
1384 TIOSCB *
1385 TIOSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPA B *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPA B *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPA B *
1219 TPWPAZ *
 506 TWO 155 179
 440 V$1MIN *
 458 V$BFC *
 366 V$BGLB *
 363 V$BIC1 *
 392 V$BTB *
 400 V$BTBM *
 457 V$EYN *
 408 V$CAM *

```

420	V\$CKB	*		
448	V\$CKIT	*		
387	V\$CKPT	*		
380	V\$CPL	*		
367	V\$CRDM	*		
410	V\$CRDR	*		
421	V\$CRM	*		
381	V\$CRS	*		
426	V\$CTAD	*		
379	V\$CTL	*		
418	V\$CTMS	*		
364	V\$DATE	*		
422	V\$DSTB	*		
435	V\$ERFG	*		
416	V\$FGLB	*		
385	V\$FLRS	*		
417	V\$FREE	*		
401	V\$GFCB	*		
397	V\$IM	*		
447	V\$IDA	*		
443	V\$JCB	*		
356	V\$JCFG	*		
370	V\$JCTM	*		
354	V\$JNAM	*		
436	V\$JOP	*		
407	V\$KEY	*		
355	V\$LCNT	*		
390	V\$LER	*		
423	V\$LIT	*		
395	V\$LLUP	*		
396	V\$LPP	*		
386	V\$LRSK	*		
389	V\$LSAL	*		
414	V\$LUNT	*		
394	V\$LUP	*		
437	V\$LUT1	*		
438	V\$LUT2	*		
439	V\$LUT3	*		
393	V\$MAP	*		
402	V\$MING	*		
398	V\$MPM	*		
428	V\$NCTR	*		
393	V\$NPAG	*		
452	V\$OCB	*		
415	V\$OPCF	*		
388	V\$OPCL	*		
424	V\$PGT	*		
433	V\$PIMN	*		
365	V\$PLCT	*		
384	V\$PTVB	*		
427	V\$SCTL	*		
419	V\$SCV	*		
434	V\$SLFG	*		
403	V\$ST0	*		
404	V\$ST1	*		
405	V\$ST2	*		
406	V\$ST3	*		
382	V\$TB	*		
411	V\$TBGT	*		
459	V\$TFC	*		
391	V\$TJCP	*		
413	V\$TMN	*		
412	V\$TMS	*		
383	V\$UTR	*		
0	VTPUSH	*	33	35
697	X	*	232	254
463	ZERO	*		

```

1      EJECT
2      * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1973 BY VARIAN DATA MACHINES
3      *
4      * V.D.M. PART NO.          92L1105-053A
5      *
6      *
7      *
8      *
9      *
10     *
11     *
12     *
13     *
1443   *
1444   *
1445   *
1446   *
1447   *
1448   *
1449   *
1450   *
1451   *
1452   *
1453   *
1454   *
1455   *
1456   *
1457   *
1458   *
1459   *
1460   *
1461   *
1462   *
1463   *
1464   *

```

```

000000 006505 A
000001 000000 E
000002 000103 A
000003 143152 A
000004 153324 A
000005 122317 A
000006 141714 A

```

```

1465 *
1466 *
1467 *
1468 *
1469 *
1470 *

```

```

ENTRY NAMES
000000 R CC$OCL
EXTERNAL NAMES
000010 E V$EXEC
SYMBOLS

```

```

000044 A APIM
000012 A B10
000016 A B14
000004 A B4
000010 A B8
000472 A BM17
000473 A BM37
000476 A BM777
000454 A BR11
000460 A BR15
000446 A BR5
000452 A BR9
000434 A BS11
000440 A BS15
000426 A BS5
000432 A BS9
000020 A CHAFPZ
000002 A CHCFP
000000 A CHCRPB
000020 A CHRBLZ
000017 A CTACTB
000020 A CTADNZ
000003 A CTDBST
000000 A CTDVAB
000020 A CTFCBZ
000014 A CTFRE
000000 A CTIDBB
000020 A CTIDAZ
000005 A CTRCN
000000 A CTRQBB
000010 A CTRTRZ
000013 A CTWDS
000003 A DCCHR
000000 A DCRECL
000026 A DMBCA
000000 A DMCWAB
000020 A DMFPAZ
000022 A DMLTA

```

```

000002 A B
000013 A B11
000017 A B15
000005 A B5
000011 A B9
000475 A BM177
000463 A BM377
000441 A BR0
000455 A BR12
000443 A BR2
000447 A BR6
000421 A BS0
000435 A BS12
000423 A BS2
000427 A BS6
000000 R CC$OCL
000001 A CHARF
000000 A CHCFPB
000020 A CHCRPZ
000047 A CLOCK
000001 A CTACTZ
000011 A CTBIC
000000 A CTDBSTB
000026 A CTDVAZ
000014 A CTFRC
000000 A CTFREB
000017 A CTIDBZ
000002 A CTOPM
000000 A CTRCNB
000020 A CTRQBZ
000010 A CTSTA
000000 A CTWDSB
000020 A DMLCA
000020 A DMLTAB

```

```

000001 A B0
000014 A B12
000002 A B2
000006 A B6
000000 A BICNUM
000477 A BM1777
000467 A BM7
000442 A BR1
000456 A BR13
000444 A BR3
000450 A BR7
000422 A BS1
000436 A BS13
000424 A BS3
000430 A BS7
000000 A CHAFP
000000 A CHARPB
000020 A CHCFPZ
000004 A CHRBL
000001 A CTADN
000000 A CTBICB
000020 A CTDBSTZ
000012 A CTFCB
000010 A CTFRCB
000010 A CTFREZ
000007 A CTIDA
000000 A CTOPMB
000010 A CTRCNZ
000004 A CTRQB
000010 A CTRTRB
000020 A CTSTAB
000001 A DCBUFF
000002 A DCCHRZ
000444 A DISMP
000024 A DMCAZ
000017 A DMFPA
000020 A DMLCAB
000023 A DMPTA

```

```

02 00001
02 00002
02 00003
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02 00005
02 00006
02 00007
02 00008
02 00009
02 00010
02 00011
02 00012
02 00013
02 00014
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02 00016
02 00017
02 00018
02 00019
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02 00029
02 00030
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02 00039
02 00040

```



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630 BICNUM *
515 BM1 79
518 BM17 67
521 BM177 55
524 BM1777 43
516 BM3 75
519 BM37 63
522 BM377 51
517 BM7 71
520 BM77 59
523 BM777 47
486 BR0 202
487 BR1 *
496 BR10 *
497 BR11 *
498 BR12 *
499 BR13 *
500 BR14 *
501 BR15 *
488 BR2 *
489 BR3 *
490 BR4 *
491 BR5 *
492 BR6 *
493 BR7 *
494 BR8 *
495 BR9 *
470 BS0 195 209
471 BS1 *
480 BS10 *
481 BS11 *
482 BS12 *
483 BS13 *
484 BS14 *
485 BS15 *
472 BS2 *
473 BS3 *
474 BS4 *
475 BS5 *
476 BS6 *
477 BS7 *
478 BS8 *
479 BS9 *
1464 CC#DCL 12 1460 1469
1397 CHAFP *
1398 CHAFPB *
1399 CHAFPZ *
1401 CHARP *
1402 CHARPB *
1403 CHARPZ *
1405 CHCFP *
1406 CHCFPB *
1407 CHCFPZ *
1409 CHCRP *
1410 CHCRPB *
1411 CHCRPZ *
1413 CHRBL *
1414 CHRBLB *
1415 CHRBLZ *
198 CLEARF *
567 CLOCK 569 570
622 COTAD1 *
707 CTA CT *
708 CTA CTB *
709 CTA CTZ *
715 CTADN *
716 CTADNB *
717 CTADNZ *
751 CTBIC *
752 CTBICR *
753 CTBICZ *
723 CTDST *
724 CTDSTB *
725 CTDSTZ *
739 CTDVA *
740 CTDVAB *
741 CTDVAZ *
755 CTFCB *
756 CTFCBB *
757 CTFCBZ *
763 CTFRC *
764 CTFRCB *
765 CTFRCZ *
767 CTFRE *
768 CTFREB *
769 CTFREZ *
711 CTIDB *
712 CTIDBB *
713 CTIDBZ *
743 CTIDA *
744 CTIDAB *
745 CTIDAZ *
719 CTOPM *
720 CTOPMB *
721 CTOPME *

```


735	CTRCN	*									
736	CTRCNB	*									
737	CTRCNZ	*									
727	CTRQB	*									
728	CTRQBB	*									
729	CTRQBZ	*									
731	CTRTR	*									
732	CTRTRB	*									
733	CTRTRZ	*									
747	CTSTA	*									
748	CTSTAB	*									
749	CTSTAZ	*									
759	CTWDS	*									
760	CTWDSB	*									
761	CTWDSZ	*									
688	DCBUFF	*									
691	DCCHR	*									
692	DCCHRZ	*									
693	DCCHRZ	*									
689	DCCNT	*									
687	DCRECL	*									
187	DINTS	*									
569	DISCLK	*	189								
589	DISMP	*									
584	DISPIM	*	188								
813	DMBCA	*									
814	DMBCAB	*									
815	DMBCAZ	*									
805	DMCHA	*									
806	DMCHAB	*									
807	DMCHAZ	*									
785	DMFPA	*									
786	DMFPAB	*									
787	DMFPAZ	*									
793	DMLCA	*									
794	DMLCAB	*									
795	DMLCAZ	*									
797	DMLTA	*									
798	DMLTAB	*									
799	DMLTAZ	*									
801	DMPTA	*									
802	DMPTAB	*									
803	DMPTAZ	*									
781	DMRPA	*									
782	DMRPAB	*									
783	DMRPAZ	*									
789	DMSTA	*									
790	DMSTAB	*									
791	DMSTAZ	*									
809	DMSWA	*									
810	DMSWAB	*									
811	DMSWAZ	*									
777	DMTPA	*									
778	DMTPAB	*									
779	DMTPAZ	*									
615	DSCTAD	*									
601	DSDASS	*									
600	DSDIVDN	*									
612	DSLCKO	*									
609	DSNAME	*									
608	DSNDRQ	*									
613	DSOPCM	*									
614	DSPSTI	*									
610	DSREWD	*									
606	DSUNAM	*									
611	DSUNTH	*									
512	EIGHT	*	143	167							
183	EINTS	*									
570	ENACLK	*	185								
590	ENAMP	*									
585	ENAPIM	*	184								
0	ERROR	*	113	193	200	207					
128	FETCHA	*									
509	FIVE	*	149	173							
508	FOUR	*	151	175							
251	GETQ	*									
1432	IBIBF	*									
1433	IBIBFB	*									
1434	IBIBFZ	*									
1436	IBLAS	*									
1437	IBLASB	*									
1438	IBLASZ	*									
1424	IBLEN	*									
1425	IBLENB	*									
1426	IBLENZ	*									
1420	IBLNK	*									
1421	IBLNKB	*									
1422	IBLNKZ	*									
1428	IBSTA	*									
1429	IBSTAB	*									
1430	IBSTAZ	*									
1440	IBSTS	*									
1441	IBSTSB	*									
1442	IBSTSZ	*									
378	LC	*	379	380	381	382	383	384	385	386	387

388	389	390	391	392	393	394	395	396
397	398	399	400	401	402	403	404	405
406	407	408	410	411	412	413	414	415
416	417	418	419	420	421	422	423	424
426	427	428	429	434	435	436	437	438
439	440	447	448	449	452	457	458	459

- 855 LCABN *
- 856 LCABNB **
- 857 LCABNBZ **
- 859 LCASY *
- 860 LCASYB **
- 861 LCASYZ **
- 923 LCBSC *
- 924 LCBSCB **
- 925 LCBSCZ **
- 919 LCCHN *
- 920 LCCHNB **
- 921 LCCHNZ **
- 851 LCCRC *
- 852 LCCRCB **
- 853 LCCRCZ **
- 893 LCCWB *
- 896 LCCWBB **
- 897 LCCWBZ **
- 891 LCCWC *
- 892 LCCWCB **
- 893 LCCWCZ **
- 899 LCCWD *
- 900 LCCWDB **
- 901 LCCWDZ **
- 887 LCCWI *
- 888 LCCWIB **
- 889 LCCWIZ **
- 903 LCCWP *
- 904 LCCWPB **
- 905 LCCWPZ **
- 907 LCCWR *
- 908 LCCWRB **
- 909 LCCWRZ **
- 883 LCCWS *
- 884 LCCWSB **
- 885 LCCWSZ **
- 911 LCCWT *
- 912 LCCWTB **
- 913 LCCWTZ **
- 835 LCIBA *
- 836 LCIBAB **
- 837 LCIBAZ **
- 823 LCIBF *
- 824 LCIBFB **
- 825 LCIBFZ **
- 831 LCIBL *
- 832 LCIBLB **
- 833 LCIBLZ **
- 839 LCIC1 *
- 840 LCIC1B **
- 841 LCIC1Z **
- 843 LCIC2 *
- 844 LCIC2B **
- 845 LCIC2Z **
- 863 LCIKE *
- 864 LCIKEB **
- 865 LCIKEZ **
- 831 LCITB *
- 832 LCITBB **
- 833 LCITBZ **
- 853 LCJP 354
- 879 LCLCB **
- 880 LCLCBB **
- 831 LCLCBZ **
- 827 LCLDB *
- 828 LCLDBB **
- 829 LCLDBZ **
- 815 LCLTB *
- 816 LCLTBB **
- 817 LCLTBZ **
- 875 LCOBA *
- 876 LCOBAB **
- 877 LCOBAZ **
- 867 LCOBF *
- 868 LCOBFB **
- 869 LCOBFZ **
- 871 LCOBL *
- 872 LCOBLB **
- 873 LCOBLZ **
- 835 LCOKE *
- 836 LCOKEB **
- 837 LCOKEZ **
- 847 LCRCC *
- 848 LCRCCB **
- 849 LCRCCZ **
- 827 LCSMB *
- 828 LCSMBB **
- 829 LCSMBZ **
- 503 LHM *

354	355	356	363	364	365	366	367	370
-----	-----	-----	-----	-----	-----	-----	-----	-----

```
1049 LSABN *
1050 LSABNB *
1051 LSABNZ *
1057 LSASC *
1058 LSASCB *
1059 LSASOZ *
1001 LSASY *
1002 LSASYB *
1003 LSASYZ *
1069 LSESC *
1070 LSESCB *
1071 LSESOZ *
1013 LSOC1 *
1014 LSOC1B *
1015 LSOC1Z *
1017 LSOC2 *
1018 LSOC2B *
1019 LSOC2Z *
1061 LSCHN *
1062 LSCHNB *
1063 LSCHNZ *
1053 LSCRC *
1054 LSCRCB *
1055 LSCRCZ *
985 LSCTA *
986 LSCTAB *
987 LSCTAZ *
1041 LSDFS *
1042 LSDFS B *
1043 LSDFSZ *
989 LSDST *
990 LSDSTB *
991 LSDSTZ *
1025 LSEPF *
1026 LSEPF B *
1027 LSEPFZ *
1009 LSLSP *
1010 LSLSP B *
1011 LSLSPZ *
993 LSMOD *
994 LSMOD B *
995 LSMODZ *
1073 LSNTD *
1074 LSNTD B *
1075 LSNTDZ *
997 LSPAR *
998 LSPAR B *
999 LSPARZ *
1037 LSPLA *
1038 LSPLA B *
1039 LSPLAZ *
953 LSRC A *
954 LSRC A B *
955 LSRC A Z *
957 LSREM *
958 LSREM B *
959 LSREM Z *
1033 LSRRS *
1034 LSRRS B *
1035 LSRRS Z *
949 LSRT *
950 LSRT B *
951 LSRT Z *
961 LSRTD *
962 LSRTD B *
963 LSRTDZ *
965 LSSRS *
966 LSSRS B *
967 LSSRSZ *
981 LSSWS *
982 LSSWS B *
983 LSSWSZ *
1021 LSTER *
1022 LSTER B *
1023 LSTERZ *
945 LSTHD *
946 LSTHD B *
947 LSTHDZ *
969 LSWCA *
970 LSWCA B *
971 LSWCAZ *
973 LSWEM *
974 LSWEM B *
975 LSWEMZ *
1029 LSWRS *
1030 LSWRS B *
1031 LSWRSZ *
977 LSWTD *
978 LSWTD B *
979 LSWTDZ *
1005 LSXMM *
1006 LSXMM B *
1007 LSXMMZ *
1045 LSYNC *
1046 LSYNC B *
```



```

1272 PSDEFB *
1273 PSDEFZ *
1279 PSDSF *
1280 PSDSFB *
1281 PSDSFZ *
1267 PSDWN *
1268 PSDWNB *
1269 PSDWNZ *
 672 PSEND *
1263 PSEPF *
1264 PSEPF B *
1265 PSEPFZ *
1247 PSLSP *
1248 PSLSPB *
1249 PSLSPZ *
1231 PSMOD *
1232 PSMOD B *
1233 PSMODZ *
 671 PSENSEC *
1235 PSPAR *
1236 PSPAR B *
1237 PSPARZ *
1275 PSPLA *
1276 PSPLA B *
1277 PSPLAZ *
 667 PSPROT *
1259 PSTER *
1260 PSTER B *
1261 PSTERZ *
1243 PSXMM *
1244 PSXMM B *
1245 PSXMMZ *
1283 PSYNC *
1284 PSYNCB *
1285 PSYN CZ *
1303 PSYNR *
1304 PSYNR B *
1305 PSYNRZ *
1295 PSYNT *
1296 PSYNT B *
1297 PSYNTZ *
 32 PUSH *
 228 PUTQ *
 532 RAO *
 533 RA1 *
 651 RADNR *
 534 RBO *
 535 RB1 *
 649 RFCB *
 504 RHW *
 645 ROPWD *
 642 RSTPR *
 650 RTIDB *
 96 SETA *
 111 SETB *
 191 SETF *
 511 SEVEN 145 169
 510 SIX 147 171
 26 SFACE *
 135 SUBAT *
 288 TBATSK *
 287 TBCPTH *
 274 TBENTY *
 268 TBEVNT *
 282 TBID *
 277 TBISA *
 278 TBISB *
 280 TBISP *
 281 TBISRS *
 294 TBIST *
 279 TBISX *
 292 TBKEY *
 283 TBKN1 *
 284 TBKN2 *
 285 TBKN3 *
 293 TBMING *
 291 TBNUCL *
 267 TBPL *
 269 TBPSA *
 270 TBPSB *
 289 TBRSE *
 272 TBRSP *
 273 TBRSTS *
 271 TBR SX *
 322 TBS0 *
 321 TBS1 *
 309 TBS10 *
 308 TBS11 *
 306 TBS12 *
 305 TBS13 *
 304 TBS14 *
 302 TBS15 *
 320 TBS2 *
 318 TBS3 *
 317 TBS4 *

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316 TBS5 *
314 TBS6 *
313 TBS7 *
312 TBS8 *
310 TBS9 *
290 TBSIZ *
266 TBST *
286 TBTLC *
276 TBTMIN *
275 TBTMS *
265 TBTRD *
1115 TCBSL *
1116 TCBSLB *
1117 TCBSLZ *
1099 TCCLN *
1100 TCCLNB *
1101 TCCLNZ *
1127 TCCON *
1128 TCCONB *
1129 TCCONZ *
1095 TCCTA *
1096 TCCTAB *
1097 TCCTAZ *
1151 TCCTP *
1152 TCCTPB *
1153 TCCTPZ *
1187 TCDCC *
1188 TCDCCB *
1189 TCDCCZ *
1195 TCDTD *
1196 TCDTDB *
1197 TCDTDZ *
1123 TCECH *
1124 TCECHB *
1125 TCECHZ *
1199 TCID1 *
1200 TCID1B *
1201 TCID1Z *
1203 TCID2 *
1204 TCID2B *
1205 TCID2Z *
1171 TCLDF *
1172 TCLDFB *
1173 TCLDFZ *
1103 TCLLN *
1104 TCLLNB *
1105 TCLLNZ *
1143 TCNOD *
1144 TCNODB *
1145 TCNODZ *
1139 TCNTD *
1140 TCNTDB *
1141 TCNTDZ *
1107 TCPCH *
1108 TCPCHB *
1109 TCPCHZ *
1135 TCRBC *
1136 TCRBCB *
1137 TCRBCZ *
1191 TCRBF *
1192 TCRBFB *
1193 TCRBFZ *
1175 TCRCA *
1176 TCR CAB *
1177 TCRCAZ *
1155 TCRMD *
1156 TCRMDB *
1157 TCRMDZ *
1091 TCRQH *
1092 TCRQHB *
1093 TCRQHZ *
1163 TCRRS *
1164 TCRRSB *
1165 TCRRSZ *
1179 TCSTD *
1180 TCSTDB *
1181 TCSTDZ *
1111 TCSWL *
1112 TCSWLB *
1113 TCSWLZ *
1087 TCTCD *
1088 TCTCDB *
1089 TCTCDZ *
1147 TCTYP *
1148 TCTYPB *
1149 TCTYPZ *
1131 TCWBC *
1132 TCWBCB *
1133 TCWBCZ *
1183 TCWCA *
1184 TCWCAB *
1185 TCWCAZ *
1159 TCWMD *
1160 TCWMDB *
1161 TCWMDZ *
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1167 TCWRS *
1168 TCWRSB *
1169 TCWRSZ *
1119 TCXMM *
1120 TCXMMB *
1121 TCXMMZ *
514 TEN 139 163
205 TESTF *
507 THREE 153 177
1375 TIDSP *
1376 TIDSPB *
1377 TIDSPZ *
1367 TIDWN *
1368 TIDWNB *
1369 TIDWNZ *
1391 TINET *
1392 TINETB *
1393 TINETZ *
1379 TIODN *
1380 TIODNB *
1381 TIODNZ *
1387 TIODP *
1388 TIODPB *
1389 TIODPZ *
1383 TIOSC *
1384 TIOSCB *
1385 TIOSCZ *
1371 TISEC *
1372 TISECB *
1373 TISECZ *
1359 TITU1 *
1360 TITU1B *
1361 TITU1Z *
1363 TITU2 *
1364 TITU2B *
1365 TITU2Z *
1221 TPFPA *
1222 TPFPAB *
1223 TPFPAZ *
1213 TPRPA *
1214 TPRPAB *
1215 TPRPAZ *
1217 TPWPA *
1218 TPWPAB *
1219 TPWPAZ *
506 TWO 155 179
440 V$1MIN *
458 V$BFC *
366 V$EGLB *
363 V$BIC1 *
392 V$BTB *
400 V$BTBM *
457 V$BVN *
408 V$CAM *
420 V$CKB *
448 V$CKIT *
387 V$CKPT *
380 V$CPL *
367 V$CRDM *
410 V$CRDR *
421 V$CRM *
381 V$CRS *
426 V$CTAD *
379 V$CTL *
418 V$CTMS *
364 V$DATE *
422 V$DSTB *
435 V$ERFG *
416 V$FGLB *
385 V$FLRS *
417 V$FREE *
401 V$GFCB *
397 V$IM *
447 V$IDA *
449 V$JCB *
356 V$JCFG *
370 V$JCTM *
354 V$JNAM *
436 V$JDP *
407 V$KEY *
355 V$LCNT *
390 V$LER *
423 V$LIT *
395 V$LLUP *
396 V$LPP *
386 V$LRSK *
389 V$LSAL *
414 V$LUNT *
394 V$LUP *
437 V$LUT1 *
438 V$LUT2 *
439 V$LUT3 *
399 V$MAP *
402 V$MING *
398 V$MPM *

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428	V\$NCTR	*		
393	V\$NPAG	*		
452	V\$QCB	*		
415	V\$OPCF	*		
388	V\$OPCL	*		
424	V\$PGT	*		
429	V\$PIMN	*		
365	V\$PLCT	*		
384	V\$PTVB	*		
427	V\$SCTL	*		
419	V\$SCV	*		
434	V\$SLFG	*		
403	V\$ST0	*		
404	V\$ST1	*		
405	V\$ST2	*		
406	V\$ST3	*		
382	V\$TB	*		
411	V\$TBGT	*		
459	V\$TFC	*		
391	V\$TJCP	*		
413	V\$TMN	*		
412	V\$TMS	*		
383	V\$UTB	*		
0	VTPUSH	*	33	35
697	X	*	232	254
469	ZERO	*		