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* V.D.M. PART NO. 92L0107-005D

* RELEASED 02-18-71

* 620 TELETYPE TEST PROGRAM

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* THIS TEST PROGRAM IS A PART OF THE SIX TWENTY

* TEST EXECUTIVE PROGRAM SYSTEM (STEPS)

* THE TTY TEST IS DESIGNED TO PROVIDE A SET OF ROUTINES
 * TO TEST THE OPERATIONAL STATUS OF THE TELETYPE UNIT. THE PROGRAM
 * IS APPLICABLE TO VDM-MODIFIED TELETYPE MODELS 33 ASR, 35 ASR,
 * AND 35 KSR.

0001
 0002
 0003
 0004
 0005
 0006
 0007
 0008
 0009
 CCCC100010
 CCCC200011
 CCCC300012
 CCCC400013
 CCCC500014
 CCCC600015
 CCCC700016
 CCCC800017
 CCCC900018
 CCC1000019
 CCC1100020
 CCC1200021
 CCC1300022
 CCC1400023
 CCC1500024
 CCC1600025
 CCC1700026
 CCC1800027
 CCC1900028
 CCC2000029
 CCC2100030
 CCC2200031
 CCC2300032
 CCC2400033
 CCC2500034
 CCC2600035
 CCC2700036
 CCC2800037
 CCC2900038
 CCC3000039
 CCC3100040
 CCC3200041
 CCC3300042

CCC3400043
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 CCC5900068
 CCC6000069
 CCC6100070
 CCC6200071
 CCC6300072
 CCC6400073
 CCC6500074
 CCC6600075
 CCC6700076
 CCC6800077
 CCC6900078
 CCC7000079
 CCC7100080
 CCC7200081
 CCC7300082

```

*****
*
* AREAS RESERVED BY EXECUTIVE *
*****
CRG      0
JMP      EXECUTIVE
CRG      040
JMPM     POWER DOWN ROUTINE
JMP      POWER UP ROUTINE
NOTE:    THE TEST EXECUTIVE ALSO RESERVES LOCATIONS 0400 TO 0477
          FOR A POINTER TABLE TO STANDARD ROUTINES, AND AS AN AREA
          FOR EXECUTIVE DATA. ALL TEST PROGRAMS WORKING WITH THE
          EXECUTIVE MUST PRESERVE THIS BLOCK.
          STANDARD ROUTINES WILL BE CALLED INDIRECTLY THRU
          THIS TABLE
*****
*****
000400  OUIG  .SET  .0400      (OUTA)
000403  OUMG  .SET  .0403      (OUTD)
000416  IOCT  .SET  .0416      (INPG)
*
000500  .CRG  .0500
*
000500  006010  TKCP  .LDAI  .0224      PNCH OFF
000501  000224
000502  002000  .CALL* .OUIG
000503  100400
000504  006010  .LDAI  .0223      RDR OFF
  
```

000505	000223						
000506	002000		.CALL*	.OU1C			CCC7400083
000507	100400						
000510	006010		.LDAI	.0201	PRINT	ENABLE	CCC7500084
000511	000201						
000512	002000		.CALL*	.OU1C			CCC7600085
000513	100400						
000514	006030	TTPI	.LDXI	.HDG1	TAPE	LOADED	CCC7700086
000515	000675	R					
000516	002000		.CALL*	.OUMG			CCC7800087
000517	100403						
000520	006030	TRDA	.LDXI	.HDG2	DA=?		CCC7900088
000521	000716	R					
000522	002000		.CALL*	.OUMG			CCC8000089
000523	100403						
000524	002000	TIDA	.CALL*	.IOCT	INPUT	DA END WITH PERIOD	CCC8100090
000525	100416						
000526	001000		.JMP	.TSSR	RESET	SS3	CCC8200091
000527	000655	R					
000530	001000		.JMP	.TRDA	BACKSLASH		CCC8300092
000531	000520	R					
000532	001000		.JMP	.*+2	.		CCC8400093
000533	000534	R					
			* NORMAL RETURN FROM INPG				CCC8500094
000534	006030		.LDXI	.STTY			CCC8600095
000535	002644	R					
000536	055000		.STA	.0,1	STORE	DA	CCC8700096
000537	006010	TATT	.LDAI	.0207	RING	BELL ON APPROPRIATE TTY	CCC8800097
000540	000207						
000541	002000		.CALL	.OUTA	AND	INITIALIZE APPROPRIATE TTY	CCC8900098
000542	002613	R					
000543	006010		.LDAI	.0224	PNCH	OFF	CCC9000099
000544	000224						
000545	002000		.CALL	.OUTA			CCC9100100
000546	002613	R					
000547	006010		.LDAI	.0223	RDR	OFF	CCC9200101
000550	000223						
000551	002000		.CALL	.OUTA			CCC9300102
000552	002613	R					
000553	006010		.LDAI	.0201	PRINT	ENABLE	CCC9400103
000554	000201						
000555	002000		.CALL	.OUTA			CCC9500104

000556	002613	R					
000557	002000		.CALL	.OUTC	CR/LF		0009600105
000560	003210	R					
000561	012644		.LDA	.STTY			0009700106
000562	006110		.CRAI	.0102500			0009800107
000563	102500						
000564	050565		.STA	.*+1			0009900108
000565	102500		.CIA	.0	CLEAR TTY INPUT BUFFER		0010000109
000566	006030		TRID	.LXI	.HDG3	TEST ID=?	0010100110
000567	000726	R					
000570	002000		.CALL	.OUTD			0010200111
000571	003243	R					
000572	002000		TIID	.CALL	.INPE	INPUT ID END WITH PERIOD	0010300112
000573	003007	R					
000574	001000		.JMP	.TRSS	RESET SS3		0010400113
000575	000665	R					
000576	001000		.JMP	.TRID	BACKSLASH		0010500114
000577	000566	R					
000600	001000		.JMP	.TRID	BACKARROW		0010600115
000601	000566	R					
			*NORMAL RETURN FROM INPE				
000602	051010		.STA	.STID	STORE ID		0010700116
000603	002000		.CALL	.INPF	. OR .		0010800117
000604	003047	R					
000605	001000		.JMP	.TATT	EXIT TO KEYBOARD CONTRCL PROGRAM		0011000119
000606	000537	R					
000607	001000		.JMP	.TRID	BACKSLASH		0011100120
000610	000566	R					
000611	001000		.JMP	.TRID	BACKARROW		0011200121
000612	000566	R					
000613	001000		.JMP	.*+2	.		0011300122
000614	000615	R					
			* NORMAL RETURN FROM INPF				
000615	002000		.CALL	.OUTC			0011400123
000616	003210	R					0011500124
000617	011010		.LDA	.STID	RESTORE ID		0011600125
000620	141002		.SUB	.KC	KEYBD CHAR		0011700126
000621	001010		.JAZ	.TKCT			0011800127
000622	001011	R					
000623	011010		.LDA	.STID			0011900128
000624	141003		.SUB	.KE	KEYBD ECHO		0012000129
000625	001010		.JAZ	.TKET			0012100130

PAGE 000006

000677 142640
000700 152305
000701 146305
000702 152331
000703 150305
000704 120324
000705 142723
000706 152240
000707 144723
000710 120314
000711 147701
000712 142305
000713 142240
000714 106612
000715 000000
000716 106612
000717 152305
000720 146305
000721 152331
000722 150305
000723 120304
000724 140675
000725 000000
000726 106612
000727 152324
000730 154640
000731 152305
000732 151724
000733 120311
000734 142305
000735 147324
000736 144706
000737 144705
000740 151240
000741 136640
000742 000000
000743 106612
000744 144716
000745 153301
000746 146311
000747 142240
000750 152305

H0G2 .DATA .0106612.'TELETYPE DA='.0

CC14700156

H0G3 .DATA .0106612.'TTY TEST IDENTIFIER ='.'C

CC14800157

H0G4 .DATA .0106612.'INVALID TEST IDENTIFIER'.0106612.0

CC14900158

000751 151724
 000752 120311
 000753 142305
 000754 147324
 000755 144706
 000756 144705
 000757 151240
 000760 106612
 000761 000000
 000762 106612
 000763 150314
 000764 142701
 000765 151705
 000766 120322
 000767 142723
 000770 142724
 000771 120323
 000772 142716
 000773 151705
 000774 120323
 000775 153711
 000776 152303
 000777 144240
 001000 131640
 001001 000000

HDG5 .DATA .0106612.'PLEASE RESET SENSE SWITCH 3'.0

CC15000159

001002 145703
 001003 145705
 001004 150322
 001005 150323
 001006 150324
 001007 151324
 001010 000000

* DATA TABLE
 KC .DATA .0145703
 KE .DATA .0145705
 PR .DATA .0150322
 PS .DATA .0150323
 PT .DATA .0150324
 RT .DATA .0151324
 STID .DATA .0

CC15100160
 CC15200161
 CC15300162
 CC15400163
 CC15500164
 CC15600165
 CC15700166
 CC15800167
 CC16000168
 CC16100169
 CC16200170
 CC16300171

* TELETYPE KEYBOARD CHARACTER TEST *

001011 002000
 001012 003210 R
 001013 006030
 001014 001126 R
 001015 002000
 001016 003243 R

TKCT .CALL .OUTC
 .LDXI .TKK1 PRINT L/C CHAR LINE
 .CALL .OUTD

CC16400172
 CC16500173

001017	006030		.LDXI	.TKK1	FIRST L/C CHAR	CC16600174
001020	001126	R				
001021	006020		.LDBI	.42	#L/C CHAR	CC16700175
001022	000052					
001023	002000	TKC2	.CALL	.TCS1	INPUT CHAR SUBR	CC16800176
001024	001071	R				
001025	011232	TKC3	.LDA	.TKW2	ERROR CHAR	CC16900177
001026	001000		.JMP	..+3		CC17000178
001027	001031	R				
001030	011231		.LDA	.TKW1	VALID CHAR	CC17100179
001031	002000		.CALL	.OUTA	PRINT CHAR	CC17200180
001032	002613	R				
001033	005144		.IXR	.		CC17300181
001034	005322		.DBR	.		CC17400182
001035	001020		.JBZ	.TKC4	LAST CHAR INPUT?	CC17500183
001036	001041	R				
001037	001000		.JMP	.TKC2	NOT LAST	CC17600184
001040	001023	R				
001041	002000	TKC4	.CALL	.OUTC		CC17700185
001042	003210	R				
001043	006030		.LDXI	.TKK2	PRINT U/C CHAR LINE	CC17800186
001044	001202	R				
001045	002000		.CALL	.OUTD		CC17900187
001046	003243	R				
001047	006030		.LDXI	.TKK2	FIRST U/C CHAR	CC18000188
001050	001202	R				
001051	006020		.LDBI	.21	# U/C CHAR	CC18100189
001052	000025					
001053	002000	TKC5	.CALL	.TCS1	INPUT CHAR SUBR	CC18200190
001054	001071	R				
001055	011232	TKC6	.LDA	.TKW2	ERROR CHAR	CC18300191
001056	001000		.JMP	..+3		CC18400192
001057	001061	R				
001060	011231		.LDA	.TKW1	VALID CHAR	CC18500193
001061	002000		.CALL	.OUTA	PRINT CHAR	CC18600194
001062	002613	R				
001063	005144		.IXR	.		CC18700195
001064	005322		.DBR	.		CC18800196
001065	001020		.JBZ	.TKC7	LAST CHAR INPUT?	CC18900197
001066	001011	R				
001067	001000		.JMP	.TKC5	NOT LAST	CC19000198
001070	001053	R				

Address	Hex	Label	Op	Op2	Description	CC
* INPUT CHARACTER SUBROUTINE						
001071	000000	TCS1	.ENTR	.		CC19100199
001072	015000		.LDA	.0,1		CC19200200
001073	051231		.STA	.TKW1	SAVE EXPECTED CHAR	CC19300201
001074	002000		.CALL	.INPA	INPUT CHARACTER	CC19400202
001075	002610	R				CC19500203
001076	001000		.JMP	.TATT	EXIT TO KEYBOARD CONTROL PROGRAM	CC19600204
001077	000537	R				
* NORMAL RETURN FROM INPA						
001100	006140		.SUBI	.0240		CC19700205
001101	000240					CC19800206
001102	001010		.JAZ*	.TCS1	SPACE ?	CC19900207
001103	101071	R				
001104	006120		.AEDI	.0240	NOT SPACE - RESTORE CHAR	CC20000208
001105	000240					
001106	131231		.ERA	.TKW1		CC20100209
001107	001010		.JAZ	.CS01	VALID CHAR ?	CC20200210
001110	001121	R				
001111	131231		.ERA	.TKW1	INVALID - RESTORE CHAR	CC20300211
001112	051232		.STA	.TKW2	SAVE INVALID CHAR	CC20400212
001113	006010		.LEAI	.0207		CC20500213
001114	000207					
001115	002000		.CALL	.OLTA	RING BELL - OPERATER ATTN!	CC20600214
001116	002613	R				
001117	001000		.JMP	.TCS1+3	RE-TYPE CHAR (OR SPACE BAR)	CC20700215
001120	001074	R				
001121	041071	CS01	.INR	.TCS1		CC20800216
001122	041071		.INR	.TCS1		CC20900217
001123	041071		.INR	.TCS1		CC21000218
001124	001000		.JMP*	.TCS1		CC21100219
001125	101071	R				
* DATA TABLE						
001126	000261	TKK1	.DATA	.0261,0262,0263,0264,0265,0266,0267,0270,0271,0260		CC21200220
001127	000262					21300221
001130	000263					
001131	000264					
001132	000265					
001133	000266					
001134	000267					
001135	000270					
001136	000271					
001137	000260					

001140	000272	.DATA	.0272,0255,0321,0327,0305,0322,0324,0331,0325,C311	21400222
001141	000255			
001142	000321			
001143	000327			
001144	000305			
001145	000322			
001146	000324			
001147	000331			
001150	000325			
001151	000311			
001152	000317	.DATA	.0317,0320,0301,0323,0304,0306,0307,0310,0312,0313	21500223
001153	000320			
001154	000301			
001155	000323			
001156	000304			
001157	000306			
001160	000307			
001161	000310			
001162	000312			
001163	000313			
001164	000314	.DATA	.0314,0273,0332,0330,0303,0326,0302,0316,0315,C254	21600224
001165	000273			
001166	000332			
001167	000330			
001170	000303			
001171	000326			
001172	000302			
001173	000316			
001174	000315			
001175	000254			
001176	000256	.DATA	.0256,0257,0106612.0	21650225
001177	000257			
001200	106612			
001201	000000			
001202	000241	TKK2 .DATA	.0241,0242,0243,0244,0245,0246,0247,0250,0251,C252	21700226
001203	000242			
001204	000243			
001205	000244			
001206	000245			
001207	000246			
001210	000247			
001211	000250			

001212	000251				
001213	000252				
001214	000275	.DATA	.0275,0337,0300,0333,0334,0253,0336,0335,0274,0276		21750227
001215	000337				
001216	000300				
001217	000333				
001220	000334				
001221	000253				
001222	000336				
001223	000335				
001224	000274				
001225	000276				
001226	000277	.DATA	.0277,0106612,0		21800228
001227	106612				
001230	000000				
001231		TKW1	.BSS .1	TEMP STOR INPUT CHAR	CC21900229
001232		TKW2	.BSS .1	TEMP STOR INVALID CHAR	CC22000230
		*			CC22200231
		*	KEYBOARD ECHO TEST		CC22300232
		*			CC22400233
001233	006030	TKET	.LDXI .HDG6	KYBD ECHO TEST	CC22500234
001234	001245 R				
001235	002000	.CALL	.OUTD		CC22600235
001236	003243 R				
001237	002000	.CALL	.INPB	INPUT & PRINT CHAR	CC22700236
001240	002656 R				
001241	001000	.JMP	.TATT	EXIT TO KEYBOARD CONTROL PROGRAM	CC22800237
001242	000537 R				
		*	NORMAL RETURN FROM INPB		CC22900238
001243	001000	.JMP	**-4		CC23000239
001244	001237 R				
001245	106612	HDG6	.DATA .0106612,'KEYBOARD ECHO TEST',0106612,0		CC23100240
001246	145705				
001247	154702				
001250	147701				
001251	151304				
001252	120305				
001253	141710				
001254	147640				
001255	152305				
001256	151724				
001257	106612				

001260 000000

*
* PRINTER TEST
*

001261 006010

TPTT .LDAI .0237

INITIALIZE

CC23300241

001262 000237

001263 051325

.STA .TPW1

FIRST CHAR (-1)

CC23400242

001264 006030

TPT1 .LDXI .72

INIT FOR NEW LINE

CC23500243

001265 000110

001266 002000

.CALL .OUTC

CR/LF

CC23600244

001267 003210 R

001270 011325

.LDA .TPW1

FIRST CHAR OF PREVIOUS LINE

CC23700245

001271 002000

.CALL .TPT3

SUBR

CC23800246

001272 001307 R

001273 051325

.STA .TPW1

FIRST CHAR OF NEW LINE

CC23900247

001274 002000

TPT2 .CALL .OUTA

PRINT CHAR

CC24000248

001275 002613 R

001276 001400

.JSSJ .TATT

EXIT TO KEYBOARD CONTROL PROGRAM

CC24100249

001277 000537 R

001300 002000

.CALL .TPT3

NEXT CHAR

CC24200250

001301 001307 R

001302 005344

.DXR .

END OF LINE ?

CC24300251

001303 001040

.JXZ .TPT1

001304 001264 R

001305 001000

.JMP .TPT2

NO

CC24400252

001306 001274 R

* INCREMENT CHARACTER SUBROUTINE

001307 000000

TPT3 .ENTR .

CC24500253

001310 005111

.IAR .

CC24600254

001311 006130

.ERAI .0340

CC24700255

001312 000340

001313 001010

.JAZ .**6

LAST CHAR OF SET ?

CC24800256

001314 001321 R

001315 006130

.ERAI .0340

NO - RESTORE CHAR

CC24900257

001316 000340

001317 001000

.JMP* .TPT3

CC25000258

001320 101307 R

001321 006010

.LDAI .0240

SET TO FIRST CHAR CF SET

CC25100259

001322 000240

001323 001000

.JMP* .TPT3

RETURN

CC25200260

001324 101307 R

001325

TPW1 .ESS .1

WORK AREA

CC25300261

CC25400262

CC25500263

CC25600264

CC25700265

CC25800266

*
 * PRINT SUPPRESSION TEST
 *
 * IF ANY FAILURES OCCUR *'S WILL APPEAR WITHIN
 * THE MESSAGE
 *

CC26000267
 CC26100268
 CC26200269
 CC26300270
 CC26400271
 CC26500272
 CC26600273

001326	006030	TPST	.LDXI	.(PSTBL)	TABLE POINTER
001327	001345	R			
001330	015000	PS20	.LDA	.0,1	PICK A PAIR
001331	002000		.CALL	.OUTA	
001332	002613	R			
001333	004350		.LSRA	.8	
001334	002000		.CALL	.OUTA	
001335	002613	R			
001336	001400		.JSSJ	.TATT	EXIT TO KEYBOARD CCNTRCL PROGRAM
001337	000537	R			
001340	005144		.IXR	.	
001341	001010		.JAZ	.TPST	
001342	001326	R			
001343	001000		.JMP	.PS20	
001344	001330	R			
001345	105215	PSTBL	.DATA	.CRLF,0102301,STAR,0102323,STAR	
001346	102301				
001347	100452				
001350	102323				
001351	100452				
001352	102322		.DATA	.0102322,STAR,0102240,STAR,0102324,STAR,0102324	
001353	100452				
001354	102240				
001355	100452				
001356	102324				
001357	100452				
001360	102324				
001361	100452		.DATA	.STAR,0102331,STAR,0102240,STAR	
001362	102331				
001363	100452				
001364	102240				
001365	100452				
001366	102320		.DATA	.0102320,STAR,0102322,STAR,0102311	
001367	100452				
001370	102322				
001371	100452				

CC26700274
 CC26800275
 CC26900276
 CC27000277
 CC27100278
 CC27200279
 CC27300280
 CC27400281
 CC27500282
 CC27600283
 CC27700284
 CC27800285

001372	102311				
001373	100452	.DATA	.STAR,0102316,STAR,0102324,STAR		CC27900286
001374	102316				
001375	100452				
001376	102324				
001377	100452				
001400	102240	.DATA	.0102240,STAR,0102323,STAR,0102325		CC28000287
001401	100452				
001402	102323				
001403	100452				
001404	102325				
001405	100452	.DATA	.STAR,0102320,STAR,0102320,STAR		CC28100288
001406	102320				
001407	100452				
001410	102320				
001411	100452				
001412	102322	.DATA	.0102322,STAR,0102305,STAR,0102323		CC28200289
001413	100452				
001414	102305				
001415	100452				
001416	102323				
001417	100452	.DATA	.STAR,0102323,STAR,0102311,STAR		CC28300290
001420	102323				
001421	100452				
001422	102311				
001423	100452				
001424	102317	.DATA	.0102317,STAR,0102316,STAR,0102240		CC28400291
001425	100452				
001426	102316				
001427	100452				
001430	102240				
001431	100452	.DATA	.STAR,0102324,STAR,0102305,STAR		CC28500292
001432	102324				
001433	100452				
001434	102305				
001435	100452				
001436	102323	.DATA	.0102323,STAR,0102324,STAR		CC28600293
001437	100452				
001440	102324				
001441	100452				
001442	102256	.DATA	.PERIOD+ECTX,STAR,0		CC28700294
001443	100452				

001444	000000							
	100452	STAR	.EGU	.0100452	* AND SOM			CC28800295
	102000	EOTX	.EGU	.0102000				CC28900296
	105215	CRLF	.EGU	.0105215				CC29000297
	000256	PERICE	.EGU	.0256				CC29100298
		*						CC29300299
		*	PUNCH / READER TEST					CC29400300
		*						CC29500301
001445	006030	TPRT	.LDXI	.HDG7	33 OR 35 TTY ?			CC29600302
001446	002067	R						
001447	002000		.CALL	.OUTD				CC29700303
001450	003243	R						
001451	002000		.CALL	.INPG	INPUT TTY TYPE # END WITH PERICE			CC29800304
001452	003143	R						
001453	001000		.JMP	.TATT	EXIT TO KEYBOARD CONTROL PROGRAM			CC29900305
001454	000537	R						
001455	001000		.JMP	.*+2	*			CC30000306
001456	001457	R						
001457	001000		.JMP	.TPRT	BACKSLASH			CC30100307
001460	001445	R						
		*	NORMAL RETURN FROM INPG					CC30200308
001461	006150		.ANAI	.04				CC30300309
001462	000004							
001463	006130		.ERAI	.04				CC30400310
001464	000004							
001465	001010		.JAZ	.*+4				CC30500311
001466	001471	R						
001467	006110		.CRAI	.0377	33			CC30600312
001470	000377							
001471	006110		.CRAI	.0224	35			CC30700313
001472	000224							
001473	052066		.STA	.TYPE				CC30800314
001474	002000		.CALL	.CUTC				CC30900315
001475	003210	R						
001476	006010		.LDAI	.(TBER)	INIT ERR TBL PTR			CC31000316
001477	003330	R						
001500	052561		.STA	.PRW4				CC31100317
001501	002000	PRO1	.CALL	.TTYC.0221	RDR ON			CC31200318
001502	002551	R						
001503	000221							
001504	002000		.CALL	.TTYC.0222	PUNCH CN			CC31300319
001505	002551	R						

001506	000222								
001507	006020		.LDBI	.100		PUNCH 100 BLANKS			CC31400320
001510	000144								
001511	005001		.TZA	.					CC31500321
001512	002000	PRO2	.CALL	.OUTA		PUNCH 10" LEADER			CC31600322
001513	002613	R							
001514	005322		.DBR	.					CC31700323
001515	001020		.JBZ	.PR03					CC31800324
001516	001521	R							
001517	001000		.JMP	.PR02					CC31900325
001520	001512	R							
* * OPERATOR MUST INSERT LEADER, AND SET READER CONTROL TO RUN POSITION *****									
001521	002000	PRO3	.CALL	.INPA		WAIT FOR OPERATOR TO INSERT LDR			CC32000326
001522	002610	R							CC32100327
001523	001000		.JMP	.PRND		SS3 EXIT			CC32200328
001524	002036	R							CC32300329
001525	002000		.CALL	.TTYC,0223		TURN RDR OFF			CC32400330
001526	002551	R							
001527	000223								
001530	005001		.TZA	.					CC32700333
001531	052557		.STA	.PRW2	PRW2 =0	#CYC			CC32800334
001532	052560		.STA	.PRW3	PRW3 =0	#ERR			CC32900335
001533	052562		.STA	.PRW5	PRW5 =0	#PUNCH ON/OFF ERRORS			CC33000336
001534	006020		.LDBI	.100		PUNCH LEADER			CC33100337
001535	000144								
001536	002000		.CALL	.OUTA		PUNCH			CC33200338
001537	002613	R							
001540	001400		.JSS3	.PRND		SS3 EXIT			CC33300339
001541	002036	R							
001542	005322		.DBR	.		DECR CTR			CC33400340
001543	001020		.JBZ	..+4		LAST CHAR ?			CC33500341
001544	001547	R							
001545	001000		.JMP	..-7		NO			CC33600342
001546	001536	R							
001547	006010		.LDAI	.0377		PUNCH RUBOUT			CC33700343
001550	000377								
001551	002000		.CALL	.OUTA					CC33800344
001552	002613	R							
001553	005001		.TZA	.					CC33900345

001554	001000		.JMP	.PR05		CC34000346
001555	001572	R				
001556	005122		PR04	.IBR	.	CC34100347
001557	005021			.TBA	.	CC34200348
001560	002000			.CALL	.TPS4	CC34300349
001561	001767	R				
001562	001010			.JAZ	.*-4	CC34400350
001563	001556	R				
001564	005021			.TBA	.	CC34500351
001565	006150			.ANAI	.0377	CC34600352
001566	000377					
001567	005012			.TAB	.	CC34700353
001570	001020			.JBZ	.PR06	CC34800354
001571	001600	R				
001572	002000		PR05	.CALL	.OUTA	CC34900355
001573	002613	R				
001574	001400			.JSS3	.PRND	CC35000356
001575	002036	R				
001576	001000			.JMP	.PR04	CC35100357
001577	001556	R				
001600	002000		PR06	.CALL	.TTYC.0224	CC35200358
001601	002551	R				
001602	000224					
001603	002000			.CALL	.TTYC.0377	CC35300359
001604	002551	R				
001605	000377					
001606	002000			.CALL	.TTYC.0222	CC35400360
001607	002551	R				
001610	000222					
001611	005001			.TZA	.	CC35500361
001612	006020			.LDBI	.100	CC35600362
001613	000144					
001614	002000			.CALL	.OUTA	CC35700363
001615	002613	R				
001616	001400			.JSS3	.PRND	CC35800364
001617	002036	R				
001620	005322			.DBR	.	CC35900365
001621	001020			.JBZ	.*+4	CC36000366
001622	001625	R				
001623	001000			.JMP	.*-7	CC36100367
001624	001614	R				
001625	002000			.CALL	.TTYC.0224	CC36200368

INC TO NEXT CHAR
SAVE IT
TEST FOR CONTROL CHAR

YES

RETURN
REMOVE EXCESS BITS

(RANGE = 0-0377)
B=0 JMP PUNCH ON/OFF TEST

PUNCH CHAR

SS3 EXIT

CONTINUE

PUNCH OFF

TRY TO PUNCH RUBOUT

PUNCH ON

PUNCH LEADER

PUNCH

SS3 EXIT

DECR CTR

NO

TURN PUNCH OFF

001626	002551	R						
001627	000224							
001630	002000		.CALL	.TTYC.0221	TURN RDR ON	.LOCKING FOR RLE CUT		CC36300369
001631	002551	R						
001632	000221							
001633	002000		PRO7	.CALL	.INPA	INPUT CHAR		CC36400370
001634	002610	R						
001635	001000		.JMP	.PRND	SS3 EXIT			CC36500371
001636	002036	R						
001637	006130		.ERAI	.0377	A = 0377			CC36600372
001640	000377							
001641	001010		.JAZ	..+4	YES			CC36700373
001642	001645	R						
001643	001000		.JMP	.PRO7	NO			CC36800374
001644	001633	R						
001645	005004		.TXZ	.	INIT TO EXPECTED CHAR			CC36900375
001646	002000		PRO8	.CALL	.INPA	INPUT A CHARACTER		CC37000376
001647	002610	R						
001650	001000		.JMP	.PRND	SS3 EXIT			CC37100377
001651	002036	R						
001652	052556		.STA	.PRW1	SAVE			CC37200378
001653	005041		.TXA	.	COMPARE			CC37300379
001654	132556		.ERA	.PRW1	ARE EQUAL			CC37400380
001655	001010		.JAZ	..+4	YES			CC37500381
001656	001661	R						
001657	002000		.CALL	.TTBL	NO			CC37600382
001660	002017	R						
001661	005144		.IXR	.	INC EXP TO NXT CHAR			CC37700383
001662	005041		.TXA	.				CC37800384
001663	002000		.CALL	.TPS4	CONTROL CHAR ?			CC37900385
001664	001767	R						
001665	001010		.JAZ	..-4	YES			CC38000386
001666	001661	R						
001667	005041		.TXA	.	REMOVE HIGH ORDER			CC38100387
001670	006150		.ANAI	.0377	BITS			CC38200388
001671	000377							
001672	005014		.TXA	.	LAST CHAR?			CC38300389
001673	001040		.JXZ	..+4	YES			CC38400390
001674	001677	R						
001675	001000		.JMP	.PRO8	NO JUMP TO PRO8			CC38500391
001676	001646	R						
001677	002000		.CALL	.INPA	INPUT CHAR FOR PUNCH ON/OFF			CC38600392

001700	002610	R						
001701	001000		.JMP	.PRND	SS3 EXIT.	TEST		CC38700393
001702	002036	R						
001703	052556		.STA	.PRW1	SAVE CHAR			CC38800394
001704	002000		.CALL	.TTYC,0223	TURN RDR OFF			CC38900395
001705	002551	R						
001706	000223							
001707	012556		.LDA	.PRW1	INPUT CHAR			CC39000396
001710	132066		.ERA	.TYPE	=TYPE			CC39100397
001711	001010		.JAZ	.PR10	YES		C	CC39200398
001712	001731	R						
001713	012066		.LDA	.TYPE	MOD=35		C	CC39210399
001714	006130		.ERAI	.0224			C	CC39220400
001715	000224							
001716	001010		.JAZ	.PR09	YES,PUNCH OFF ERROR		C	CC39230401
001717	001725	R						
001720	012556		.LDA	.PRW1	TRY NEW TYPE MOD 33 (ACTS LIKE 35)		C	CC39240402
001721	006130		.ERAI	.0224			C	CC39250403
001722	000224							
001723	001010		.JAZ	.PR11	YES,OK CHANGE TYPE = 35		C	CC39260404
001724	001762	R						
001725	072556		PR09 .STX	.PRW1			C	CC39300405
001726	002000		.CALL	.TTBL	PUT 0 INTO TBEL			CC39400406
001727	002017	R						
001730	042562		.INR	.PRW5	PUNCH ON/OFF CTR INC			CC39500407
001731	002000		PR10 .CALL	.OET	PRINT ERR TBL		C	CC39600408
001732	002415	R						
001733	001000		.JMP	.PRND	SS3 EXIT			CC39700409
001734	002036	R						
001735	006010		.LDAI	.0377	PUNCH RUBOUT			CC39800410
001736	000377							
001737	002000		.CALL	.OUTA				CC39900411
001740	002613	R						
001741	002000		.CALL	.TTYC,0222	TURN PUNCH ON			CC40000412
001742	002551	R						
001743	000222							
001744	012066		.LDA	.TYPE				CC40100413
001745	006130		.ERAI	.0377				CC40200414
001746	000377							
001747	001010		.JAZ	..+5				CC40300415
001750	001754	R						
001751	002000		.CALL	.TTYC,0377	PUNCH RUBOUT			CC40400416

001752	002551	R					
001753	000377						
001754	001400		.JSS3	.PRND	SS3 EXIT		CC40500417
001755	002036	R					
001756	005001		.TZA	.	JMP TO PUNCH PATTERN		CC40600418
001757	005002		.TZB	.	(INIT)		CC40700419
001760	001000		.JMP	.PR05	JMP TO READ ROUTINE		CC40800420
001761	001572	R					
001762	006010		PR11	.LDAI	.0224	CHANGE TYPE = 35	C CC40810421
001763	000224						
001764	052066		.STA	.TYPE			C CC40820422
001765	001000		.JMP	.PR10			C CC40830423
001766	001731	R					
			*		CHECK FOR CONTROL CODE SUBROUTINE		CC40900424
001767	000000		TPS4	.ENTR	.	CHECK A FOR CONTROL CHAR	CC41000425
001770	006110			.CRAI	.0200	A #0 IF YES	CC41100426
001771	000200						
001772	006140		.SUBI	.0204			CC41200427
001773	000204						
001774	006140		.SUBI	.010			CC41300428
001775	000010						
001776	001010		.JAZ*	.TPS4			CC41400429
001777	101767	R					
002000	006140		.SUBI	.05			CC41500430
002001	000005						
002002	001010		.JAZ*	.TPS4			CC41600431
002003	101767	R					
002004	005311		.DAR	.			CC41700432
002005	001010		.JAZ*	.TPS4			CC41800433
002006	101767	R					
002007	005311		.DAR	.			CC41900434
002010	001010		.JAZ*	.TPS4			CC42000435
002011	101767	R					
002012	005311		.DAR	.			CC42100436
002013	001010		.JAZ*	.TPS4			CC42200437
002014	101767	R					
002015	001000		.JMP*	.TPS4			CC42300438
002016	101767	R					
002017	000000		TTBL	.ENTR	.	X + ACT TO TBER	CC42400439
002020	072032			.STX	.TTS1+1		CC42500440
002021	005041			.TXA	.		CC42600441
002022	032561			.LDX	.PRW4		CC42700442

002023	055000		.STA	.0,1		CC42800443
002024	012556		.LDA	.PRW1		CC42900444
002025	055001		.STA	.1,1		CC43000445
002026	005144		.IXR	.		CC43100446
002027	005144		.IXR	.		CC43200447
002030	072561		.STX	.PRW4		CC43300448
002031	006030	TTS1	.LDXI	.0		CC43400449
002032	000000					
002033	042560		.INR	.PRW3		CC43500450
002034	001000		.JMP*	.TTBL		CC43600451
002035	102017	R				
002036	002000	PRND	.CALL	.CUTC	OUTPUT #CYC,#ERR,#PUNCH ON/CFF ERRS	CC43700452
002037	003210	R				
002040	002000		.CALL	.CUTC	CR/LF	CC43800453
002041	003210	R				
002042	002000		.CALL	.TTYC,0201	PRINT ENABLE	CC43900454
002043	002551	R				
002044	000201					
002045	012557		.LDA	.PRW2	#CYC	CC44000455
002046	002000		.CALL	.CUTE		CC44100456
002047	003217	R				
002050	002000		.CALL	.CUTC	CR/LF	CC44200457
002051	003210	R				
002052	012560		.LDA	.PRW3	#ERR	CC44300458
002053	002000		.CALL	.CUTE		CC44400459
002054	003217	R				
002055	002000		.CALL	.CUTC	CR/LF	CC44500460
002056	003210	R				
002057	012562		.LDA	.PRW5	#PUNCH ON/CFF ERRS	CC44600461
002060	002000		.CALL	.CUTE		CC44700462
002061	003217	R				
002062	002000		.CALL	.CUTC	CR/LF	CC44800463
002063	003210	R				
002064	001000		.JMP	.TATT	EXIT TO KEYBOARD CONTROL PROGRAM	CC44900464
002065	000537	R				
002066		TYPE	.BSS	.1	TTY TYPE # STORAGE	CC45000465
002067	106612	HDG7	.DATA	.0106612,*TYPE OF TTY (33 OR 35) =*,0		CC45100466
002070	152331					
002071	150305					
002072	120317					
002073	143240					
002074	152324					

002075 154640
 002076 124263
 002077 131640
 002100 147722
 002101 120263
 002102 132651
 002103 120275
 002104 000000
 002105 106612
 002106 106612
 002107 142730
 002110 150305
 002111 141724
 002112 142704
 002113 120301
 002114 141724
 002115 152701
 002116 146240
 002117 000000

HDG8 .DATA .0106612,0106612,EXPECTED ACTUAL,0

CC45200467

*
*
*

READER TEST

CC45400468
 CC45500469
 CC45600470
 CC45700471

002120 002000
 002121 002551 R
 002122 000224
 002123 002000
 002124 002551 R
 002125 000204
 002126 002000
 002127 002551 R
 002130 000221
 002131 005004
 002132 072557
 002133 072560
 002134 072562
 002135 072563
 002136 006010
 002137 003330 R
 002140 052561
 002141 002000
 002142 002610 R
 002143 001000

TRTT .CALL .TTYC,0224 INIT TTY PUNCH OFF
 .CALL .TTYC,0204 * PRINT OFF
 .CALL .TTYC,0221 * RDR ON
 .TZX * X = NXT CHAR EXPECTED
 .STX .PRW2 INIT PRW2 #CYC
 .STX .PRW3 PRW3 #ERR
 .STX .PRW5 # RDR CFF ERRORS
 .STX .PRW6 # RDR CN ERRORS
 .LEAI .(TBER) PRW4 TBL PTR
 .STA .PRW4
 TROO .CALL .INPA FIND FIRST BLANK
 .JMP .TATT EXIT TO KEYBOARD CINTRCL PROGRAM

CC45800472

CC45900473

CC46000474
 CC46100475
 CC46200476
 CC46300477
 CC46400478
 CC46500479

CC46600480
 CC46700481

CC46800482

002144	000537	R					
002145	001010			.JAZ	.*+4	*	CC46900483
002146	002151	R					
002147	001000			.JMP	.*-6	*	CC47000484
002150	002141	R					
002151	002000		TR01	.CALL	.INPA	INPUT CHAR	CC47100485
002152	002610	R					
002153	001000			.JMP	.RTND	SS3 EXIT	CC47200486
002154	002346	R					
002155	052556			.STA	.PRW1	SAVE IT	CC47300487
002156	005144			.IXR	.	INC EXPECTED CHAR	CC47400488
002157	005041			.TXA	.	*	CC47500489
002160	002000			.CALL	.TPS4	IS IT A CONTROL CHAR ?	CC47600490
002161	001767	R					
002162	001010			.JAZ	.*-4	YES	CC47700491
002163	002156	R					
002164	005041			.TXA	.	NO	CC47800492
002165	006150			.ANAI	.0377	REMOVE ANY HIGH ORDER BITS	CC47900493
002166	000377						
002167	005014			.TAX	.	*	CC48000494
002170	001010			.JAZ	.TR02	LAST CHAR ? JMP TO ON/OFF TEST	CC48100495
002171	002201	R					
002172	132556			.ERA	.PRW1	EXP = ACT ?	CC48200496
002173	001010			.JAZ	.TR01	YES	CC48300497
002174	002151	R					
002175	002000			.CALL	.TTBL	NO ENTER ERR INTO TBL	CC48400498
002176	002017	R					
002177	001000			.JMP	.TR01		CC48500499
002200	002151	R					
002201	012556		TR02	.LDA	.PRW1	RDR ON/OFF TEST.	CC48600500
002202	001010			.JAZ	.*+4	DID IT READ THE BLANK CK?	CC48700501
002203	002206	R					
002204	002000			.CALL	.TTBL	NO	CC48800502
002205	002017	R					
002206	006010			.LDAI	.0223	TURN RDR OFF	CC48900503
002207	000223						
002210	002000			.CALL	.OUTA	*	CC49000504
002211	002613	R					
002212	006020			.LDBI	.(TRBF)	B POINTS TO BUFFER	CC49100505
002213	002403	R					
002214	006030			.LEXI	.32000		CC49200506
002215	076400						

002216	012644		.LDA	.STTY		CC49300507
002217	006110		.CRAI	.0101200	ADJ. TTY DA	CC49400508
002220	101200					
002221	052225		.STA	.TR03		CC49500509
002222	006120		.ADDI	.01300		CC49600510
002223	001300					
002224	052235		.STA	.TR04		CC49700511
002225	101000	TR03	.SEN	.0. TR04	READ REG RDY	CC49800512
002226	002235	R				
002227	002000		.CALL	.TOUT	TIME OUT	CC49900513
002230	003301	R				
002231	001000		.JMP	.TR05	EXIT	CC50000514
002232	002242	R				
002233	001000		.JMP	.TR03	LOOP BACK	CC50100515
002234	002225	R				
002235	102500	TR04	.CIA	.0	INPUT A CHAR	CC50200516
002236	056000		.STA	.0.2	STORE CHAR INTO BFR	CC50300517
002237	005122		.IBR	.	INCR BFR PTR	CC50400518
002240	001000		.JMP	.TR03	CONTINUE INPUT	CC50500519
002241	002225	R				
002242	005021	TR05	.TBA	.	CHECK # FRAMES READ	CC50600520
002243	006140		.SUBI	.(TRBF+2)	AFTER RDR TURNED OFF	CC50700521
002244	002405	R				
002245	001004		.JAN	.TR07	LESS THAN 2	CC50800522
002246	002334	R				
002247	006140		.SUBI	.2	OR	CC50900523
002250	000002					
002251	001002		.JAP	.TR07	MORE THAN 3	CC51000524
002252	002334	R				
002253	062274		.STB	.TR08+1	SAVE BFR PTR	CC51100525
002254	005004		.TZX	.	X =EXP CHAR-1	CC51200526
002255	006020		.LDBI	.(TRBF)	B =BFR PTR	CC51300527
002256	002403	R				
002257	016000	TR06	.LDA	.0.2	GET CHAR FROM BFR	CC51400528
002260	052556		.STA	.PRW1	PUT IT INTO ACT (PRW1)	CC51500529
002261	005144		.IXR	.	INC EXP CHAR	CC51600530
002262	072264		.STX	.**+2		CC51700531
002263	006130		.ERAI	.0	ACT = EXP?	CC51800532
002264	000000					
002265	001010		.JAZ	.**+4	YES	CC51900533
002266	002271	R				
002267	002000		.CALL	.TTBL	NO	CC52000534

002270	002017	R					
002271	005122		.IBR	.	INC BFR PTR		CC52100535
002272	005021		.TBA	.	DONE ?		CC52200536
002273	006140		TR08 .SUBI	.0	*		CC52300537
002274	000000						
002275	001010		.JAZ	..+4	YES		CC52400538
002276	002301	R					
002277	001000		.JMP	.TR06	NO		CC52500539
002300	002257	R					
002301	002000		.CALL	.OET	OUTPUT ERR TBL		CC52600540
002302	002415	R					
002303	001000		.JMP	.RTND	SS3 EXIT		CC52700541
002304	002346	R					
002305	006010		.LDAI	.0221	TURN RDR ON		CC52800542
002306	000221						
002307	002000		.CALL	.CUTA	*		CC52900543
002310	002613	R					
002311	002000		.CALL	.INPA	INPUT A CHAR		CC53000544
002312	002610	R					
002313	001000		.JMP	.RTND	SS3 EXIT		CC53100545
002314	002346	R					
002315	005144		.IXR	.	NEXT CHAR THE EXP?		CC53200546
002316	072320		.STX	..+2			CC53300547
002317	006140		.SUBI	.0			CC53400548
002320	000000						
002321	001010		.JAZ	.TR01	JMP IF YES		CC53500549
002322	002151	R					
002323	042563		.INR	.PRW6	NO .INC # RDR ON ERRORS		CC53600550
002324	004251		.LRLA	.9	INTO		CC53700551
002325	005304		.DECR	.04	PUT EXP=-1,ACT=#FRAMES		CC53800552
002326	052556		.STA	.PRW1	ERROR TBL		CC53900553
002327	002000		.CALL	.TTBL			CC54000554
002330	002017	R					
002331	005004		.TZX	.	LOOK FOR FIRST BLANK		CC54100555
002332	001000		.JMP	.TR00			CC54200556
002333	002141	R					
002334	005021		TR07 .TBA	.	PUT ERR FRAME		CC54300557
002335	006140		.SUBI	.(TRBF-1)	# INTO		CC54400558
002336	002402	R					
002337	004251		.LRLA	.9	ERROR		CC54500559
002340	052556		.STA	.PRW1	TABLE		CC54600560
002341	002000		.CALL	.TTBL	TO INDICATE		CC54700561

002342	002017	R						
002343	042562		.INR	.PRW5	INC # RDR OFF ERRORS			CC54800562
002344	001000		.JMP	.TR06-4	RDR ON/OFF ERR			CC54900563
002345	002253	R						
002346	002000		RTND .CALL	.OUTC	OUTPUT			CC55000564
002347	003210	R						
002350	002000		.CALL	.TTYC,0201	PRINT ENABLE			CC55100565
002351	002551	R						
002352	000201							
002353	002000		.CALL	.OUTC	CR/LF			CC55200566
002354	003210	R						
002355	012557		.LDA	.PRW2	#CYC			CC55300567
002356	002000		.CALL	.OUTE				CC55400568
002357	003217	R						
002360	002000		.CALL	.OUTC				CC55500569
002361	003210	R						
002362	012560		.LDA	.PRW3	#ERR			CC55600570
002363	002000		.CALL	.OUTE				CC55700571
002364	003217	R						
002365	002000		.CALL	.OUTC	CR/LF			CC55800572
002366	003210	R						
002367	012562		.LDA	.PRW5	# PUNCH ON/OFF OR RDR OFF ERRORS			CC55900573
002370	002000		.CALL	.OUTE				CC56000574
002371	003217	R						
002372	002000		.CALL	.OUTC	CR/LF			CC56100575
002373	003210	R						
002374	012563		.LDA	.PRW6	0 OR RDR CN ERRORS			CC56200576
002375	002000		.CALL	.OUTE				CC56300577
002376	003217	R						
002377	002000		.CALL	.OUTC	CR/LF			CC56400578
002400	003210	R						
002401	001000		.JMP	.TATT	EXIT TO KEYBOARD CONTROL PROGRAM			CC56500579
002402	000537	R						
002403			TRBF .BSS	.10				CC56600580
002415	000000		OET .ENTR	.	OUTPUT ERROR TABLE			CC56700581
002416	052513		.STA	.CETS	SAVE REG A			CC56800582
002417	062514		.STB	.CETS+1	B			CC56900583
002420	072515		.STX	.CETS+2	X			CC57000584
002421	042557		.INR	.PRW2				CC57100585
002422	002000		.CALL	.TTYC,0201	PRINT ENABLE			CC57200586
002423	002551	R						
002424	000201							

002425	006010		.LDAI	.(TBER)	JMP IF		CC57300587
002426	003330	R					
002427	142561		.SUB	.PRW4	NO ERRS		CC57400588
002430	001010		.JAZ	.OET5			CC57500589
002431	002501	R					
002432	001200		.JSS2	.OET2-2			CC57600590
002433	002440	R					
002434	006030		.LDXI.	.HDG8	* YES		CC57700591
002435	002105	R					
002436	002000		.CALL	.OUTD	* PRINT		CC57800592
002437	003243	R					
002440	006030		.LDXI	.(TBER)			CC57900593
002441	003330	R					
002442	001100		OET2 .JSS1	.OET3	SS1 BYPASS ERR HLT		CC58000594
002443	002447	R					
002444	015000		.LDA	.0,1	A = DATA IN ERROR		CC58100595
002445	025001		.LDB	.1,1			CC58200596
002446	000777		.HLT	.0777	HLT TO DISPLAY ERR		CC58300597
002447	001200		OET3 .JSS2	.OET4	SS2 BYPASS ERR PRINTOUT		CC58400598
002450	002467	R					
002451	002000		.CALL	.OUTC	CR/LF		CC58500599
002452	003210	R					
002453	015000		.LDA	.0,1			CC58600600
002454	002000		.CALL	.OUTE			CC58700601
002455	003217	R					
002456	005042		.TXB	.	PRINT 2 SPACES	SAVE X	CC58800602
002457	006010		.LDAI	.0120240		PRINT	CC58900603
002460	120240						
002461	002000		.CALL	.OUTB			CC59000604
002462	003175	R					
002463	005024		.TBX	.		RETURN X	CC59100605
002464	015001		.LDA	.1,1			CC59200606
002465	002000		.CALL	.OUTE			CC59300607
002466	003217	R					
002467	005144		OET4 .IXR	.	CONTINUE		CC59400608
002470	005144		.IXR	.			CC59500609
002471	005041		.TXA	.			CC59600610
002472	142561		.SUB	.PRW4			CC59700611
002473	001400		.JSS3	.(OET)*	SS3 EXIT		CC59800612
002474	102415	R					
002475	001010		.JAZ	.OET5	DONE		CC59900613
002476	002501	R					

002477	001000		.JMP	.CET2		CC60000614
002500	002442	R				
002501	006010		OETS .LDAI	.(TBER)	RESET TBL PTR	CC60100615
002502	003330	R				
002503	052561		.STA	.PRW4		CC60200616
002504	012513		.LDA	.OETS	RESTORE REG A	CC60300617
002505	022514		.LDB	.OETS+1	B	CC60400618
002506	032515		.LDX	.OETS+2	X	CC60500619
002507	042415		.INR	.CET	SET RETURN	CC60600620
002510	042415		.INR	.CET		CC60700621
002511	001000		.JMP*	.CET		CC60800622
002512	102415	R				
002513			OETS .BSS	.J	SAVE REGS	CC60900623
002516	000000		TTBC .ENTR	.	CLEAR TTY RD BFR	CC61000624
002517	012644		.LDA	.STTY	*	CC61100625
002520	006110		.GRAI	.0102500	*	CC61200626
002521	102500					
002522	052523		.STA	.*+1	*	CC61300627
002523	102500		.CIA	.0	* CLEAR BFR	CC61400628
002524	001000		.JMP*	.TTBC	* RETURN	CC61500629
002525	102516	R				
002526	052554		TTY1 .STA	.TTYC+3	SAVE A	CC61600630
002527	072555		.STX	.TTYC+4	SAVE X	CC61700631
002530	032551		.LDX	.TTYC	A=CONTROL	CC61800632
002531	015000		.LDA	.0,1	CHARACTER	CC61900633
002532	002000		.CALL	.OUTA	OUTPUT CHARACTER	CC62000634
002533	002613	R				
002534	005004		.TZX	.	TIME DELAY	D CC62100635
002535	002000		.CALL	.TDLY		D CC62150636
002536	003304	R				
002537	002000		.CALL	.TDLY		D CC62200637
002540	003304	R				
002541	002000		.CALL	.TDLY		D CC62250638
002542	003304	R				
002543	002000		.CALL	.TDLY		D CC62270639
002544	003304	R				
002545	042551		.INR	.TTYC	SET RETURN	CC62300640
002546	012554		.LDA	.TTYC+3	RESTORE A	CC62400641
002547	032555		.LDX	.TTYC+4	RESTORE X	CC62500642
002550	001000		.JMP	.0	RETURN	CC62600643
002551	000000					
002551			TTYC .BES	.0	ENTRY	CC62700644

002552	001000		.JMP	.TTY1	LOOP	CC62800645
002553	002526	R				
002554			.BSS	.2	STORAGE FOR A + X	CC62900646
002556		PRW1	.BSS	.1	ACT	CC63000647
002557		PRW2	.BSS	.1	#CYC	CC63100648
002560		PRW3	.BSS	.1	#ERR	CC63200649
002561		PRW4	.BSS	.1	TBER PTR	CC63300650
002562		PRW5	.BSS	.1	#PUNCH ON/OFF OR RLOFF ERRS	CC63400651
002563		PRW6	.BSS	.1	# RDR CN ERRS	CC63500652
002564			.BSS	.2	STORAGE FOR A + X	CC63600653
			*			CC63800654
			*	INPUT ONE CHARACTER FROM TTY TO A REGISTER		CC63900655
			*			CC64000656
002566	012644	INA1	.LDA	.STTY		CC64100657
002567	006110		.CRAI	.0101200	ADJUST TTY DA	CC64200658
002570	101200					
002571	052575		.STA	..**4		CC64300659
002572	006120		.ADDI	.001300		CC64400660
002573	001300					
002574	052604		.STA	..**8		CC64500661
002575	101000		.SEN	.0.**7	READ REGISTER READY	CC64600662
002576	002604	R				
002577	005011		.MERC	.011	NOP	CC64700663
002600	001400		.JSSJ*	.INPA	TERMINATE EXIT	CC64800664
002601	102610	R				
002602	001000		.JMP	..*-5		CC64900665
002603	002575	R				
002604	102500		.CIA	.0	INPUT CHARACTER	CC65000666
002605	042610		.INR	.INPA		CC65100667
002606	042610		.INR	.INPA		CC65200668
002607	001000		.JMP*	.0	EXIT	CC65300669
002610	100000					
002610		INPA	.BES	.0		CC65400670
002611	001000		.JMP	.INA1		CC65500671
002612	002566	R				
			*			CC65600672
			*	OUTPUT ONE CHARACTER FROM A REG TO TTY		CC65700673
			*			CC65800674
002613	000000	OUTA	.ENTR	.0		CC65900675
002614	073312		.STX	.TS01	SAVE X	CC66000676
002615	005014		.TAX	.		CC66100677
002616	012644		.LDA	.STTY		CC66200678

002617	006110		.CRAI	.0101100	ADJUST TTY DA	CC66300679
002620	101100					
002621	052630		.STA	.*+7		CC66400680
002622	006120		.ACDI	.002000		CC66500681
002623	002000					
002624	052640		.STA	.CUT1		CC66600682
002625	005041		.TXA	.		CC66700683
002626	006030		.LEXI.	.12000	TIME-OUT CONSTANT	CC66800684
002627	027340					
002630	101000		.SEN	.0.CUT1	WRITE REGISTER READY	CC66900685
002631	002640	R				
002632	002000		.CALL	.TOUT		CC67000686
002633	003301	R				
002634	005011		.MERG	.011		CC67100687
002635	000115		.HLT	.77		CC67200688
002636	001000		.JMP	.*-6		CC67300689
002637	002630	R				
002640	103100		OUT1 .CAR	.0		CC67400690
002641	033312		.LDX	.TS01	RESTORE X	CC67500691
002642	001000		.JMP*	.OUTA	RETURN	CC67600692
002643	102613	R				
002644	000001		STTY .DATA	.01		CC67700693
			*			CC67800694
			*	INPUT ONE CHARACTER + PRINT FROM TTY TO A REGISTER		CC67900695
			*			CC68000696
002645	002000		INB1 .CALL	.INPA	INPUT ONE CHARACTER	CC68100697
002646	002610	R				
002647	001000		.JMP*	.INPB	TERMINATE EXIT	CC68200698
002650	102656	R				
002651	002000		.CALL	.OUTA	OUTPUT ONE CHARACTER	CC68300699
002652	002613	R				
002653	042656		.INR	.INPB		CC68400700
002654	042656		.INR	.INPB		CC68500701
002655	001000		.JMP*	.0	EXIT	CC68600702
002656	100000					
002656			INPB .BES	.0		CC68700703
002657	001000		.JMP	.INB1		CC68800704
002660	002645	R				
			*			CC68900705
			*	INPUT ONE CHARACTER (EDITED)		CC69000706
			*			CC69100707
002661	002000		INC3 .CALL	.INPB		CC69200708

002662	002656	R						
002663	001000		.JMP*	.INPC	TERMINATE EXIT			CC69300709
002664	102710	R						
002665	006130		.ERAI	.'\'	BACKSLASH			CC69400710
002666	000334							
002667	001010		.JAZ	.INC2	ABORT INPUT EXIT			CC69500711
002670	002705	R						
002671	006130		.ERAI-	.'\'	RESTORE A			CC69600712
002672	000334							
002673	006130		.ERAI	.0337	BACKARROW			CC69700713
002674	000337							
002675	001010		.JAZ	.INC1	DELETE ONE CHARACTER EXIT			CC69800714
002676	002703	R						
002677	006130		.ERAI	.0337	RESTORE A			CC69900715
002700	000337							
002701	042710		.INR	.INPC				CC70000716
002702	042710		.INR	.INPC				CC70100717
002703	042710	INC1	.INR	.INPC				CC70200718
002704	042710		.INR	.INPC				CC70300719
002705	042710	INC2	.INR	.INPC				CC70400720
002706	042710		.INR	.INPC				CC70500721
002707	001000		.JMP*	.0	EXIT			CC70600722
002710	100000							
002710		INPC	.BES	.0				CC70700723
002711	001000		.JMP	.INC3				CC70800724
002712	002661	R						
			*					CC70900725
			*	INPUT ONE ALPHA CHARACTER FROM ITY KEYBOARD TO A REG				CC71000726
			*					CC71100727
002713	001000		.JMP	.INPD+1	GET CORRECT INPUT			CC71200728
002714	002747	R						
002715	002000	IND4	.CALL	.INPC	INPUT ONE CHAR			CC71300729
002716	002710	R						
002717	001000		.JMP*	.INPD	TERMINATE EXIT			CC71400730
002720	102746	R						
002721	001000		.JMP	.IND2	ABORT INPUT EXIT			CC71500731
002722	002743	R						
002723	001000		.JMP	.IND1	DELETE PREVIOS CHARACTER EXIT			CC71600732
002724	002741	R						
002725	006140		.SUBI	.0301	CHAR A			CC71700733
002726	000301							
002727	001004		.JAN	.INC3	INVALID INPUT			CC71800734

002730	002751	R						
002731	006140		.SUBI	.032		CHAR Z		CC71900735
002732	000032							
002733	001002		.JAP	.IND3		INVALID INPUT		CC72000736
002734	002751	R						
002735	006120		.ADDI	.0333		RESTORE A		CC72100737
002736	000333							
002737	042746		.INR	.INPD		NORMAL EXIT		CC72200738
002740	042746		.INR	.INPD				CC72300739
002741	042746	IND1	.INR	.INPD		DELETE PREVIOS CHARACTER EXIT		CC72400740
002742	042746		.INR	.INPD				CC72500741
002743	042746	IND2	.INR	.INPD		ABORT INPUT EXIT		CC72600742
002744	042746		.INR	.INPD				CC72700743
002745	001000		.JMP*	.0		EXIT		CC72800744
002746	100000							
002746		INPD	.BES	.0				CC72900745
002747	001000		.JMP	.IND4				CC73000746
002750	002715	R						
002751	002000	IND3	.CALL	.OUTG		INVALID INPUT--PRINT MESSAGE		CC73100747
002752	003052	R						
002753	001000		.JMP	.IND4				CC73200748
002754	002715	R						
			*					CC73300749
			*					CC73400750
			*	INPUT TWO LETTER CHARACTERS FROM TTY				CC73500751
			*					CC73600752
002755	002000	INE3	.CALL	.INPD		INPUT ALPHA CHAR		CC73700753
002756	002746	R						
002757	001000		.JMP*	.INPE		TERMINATE EXIT		CC73800754
002760	103007	R						
002761	001000		.JMP	.INE2		ABORT INPUT EXIT		CC73900755
002762	003004	R						
002763	001000		.JMP	.INE1		DELETE PREVIOS CHARACTER EXIT		CC74000756
002764	003002	R						
002765	004250		.LRLA	.8				CC74100757
002766	053313		.STA	.TS02				CC74200758
002767	002000		.CALL	.INPD		INPUT ALPHA CHAR		CC74300759
002770	002746	R						
002771	001000		.JMP*	.INPE		TERMINATE EXIT		CC74400760
002772	103007	R						
002773	001000		.JMP	.INE2		ABORT INPUT EXIT		CC74500761
002774	003004	R						

002775	001000		.JMP	.INE1	DELETE PREVIOUS CHARACTER EXIT	CC74600762	
002776	003002	R					
002777	113313		.CRA	.TSC2		CC74700763	
003000	043007		.INR	.INPE	NORMAL EXIT	CC74800764	
003001	043007		.INR	.INPE		CC74900765	
003002	043007	INE1	.INR	.INPE	DELETE PREVIOUS CHARACTER EXIT	CC75000766	
003003	043007		.INR	.INPE		CC75100767	
003004	043007	INE2	.INR	.INPE	ABORT INPUT EXIT	CC75200768	
003005	043007		.INR	.INPE		CC75300769	
003006	001000		.JMP*	.0	EXIT	CC75400770	
003007	100000						
003007		INPE	.BES	.0		CC75500771	
003010	001000		.JMP	.INE3		CC75600772	
003011	002755	R					
			*			CC75700773	
			*	INPUT PERIOD, COMMA	FOR MESSAGE TERMINATOR	CC75800774	
			*			CC75900775	
003012	002000		INF5	.CALL	.INPC	INPUT ONE CHARACTER	CC76000776
003013	002710	R					
003014	001000		.JMP*	.INPF	TERMINATE EXIT	CC76100777	
003015	103047	R					
003016	001000		.JMP	.INF2	ABORT INPUT EXIT	CC76200778	
003017	003044	R					
003020	001000		.JMP	.INF1	DELETE PREVIOUS CHARACTER EXIT	CC76300779	
003021	003042	R					
003022	006140		.SUBI	.0254	COMMA	CC76400780	
003023	000254						
003024	001010		.JAZ	.INF3	COMMA EXIT	CC76500781	
003025	003040	R					
003026	006140		.SUBI	.02	PERIOD	CC76600782	
003027	000002						
003030	001010		.JAZ	.INF4	PERIOD EXIT	CC76700783	
003031	003036	R					
003032	002000		.CALL	.OUTG	PRINT INVALID MESSAGE	CC76800784	
003033	003052	R					
003034	001000		.JMP	.INF5	GET CORRECT INPUT	CC76900785	
003035	003012	R					
003036	043047	INF4	.INR	.INPF	NORMAL EXIT	CC77000786	
003037	043047		.INR	.INPF		CC77100787	
003040	043047	INF3	.INR	.INPF	COMMA EXIT	CC77200788	
003041	043047		.INR	.INPF		CC77300789	
003042	043047	INF1	.INR	.INPF	DELETE PREVIOUS CHARACTER EXIT	CC77400790	

003043	043047		.INR	.INPF		CC77500791
003044	043047	INF2	.INR	.INPF	ABORT INPUT EXIT	CC77600792
003045	043047		.INR	.INPF		CC77700793
003046	001000		.JMP*	.0	EXIT	CC77800794
003047	100000					
003047		INPF	.BES	.0		CC77900795
003050	001000		.JMP	.INF5		CC78000796
003051	003012	R				
		*				CC78100797
		*	INVALID INPUT--PRINT MESSAGE			CC78200798
		*				CC78300799
003052	000000	OUTG	.ENTR	.0		CC78400800
003053	006030		.LDXI	.MSG5	INVALID MESSAGE	CC78500801
003054	003321	R				
003055	002000		.CALL	.OUTD	OUTPUT MESSAGE	CC78600802
003056	003243	R				
003057	001000		.JMP*	.OUTG		CC78700803
003060	103052	R				
		*				CC78800804
		*	INPUT OCTAL NUMBER FROM TTY KEYBOARD			CC78900805
		*	ASSEMBLE AS 16 BIT NUMBER IN A REG			CC79000806
		*	ONLY OCTAL NUMBERS ACCEPTED			CC79100807
		*				CC79200808
003061	005001	ING7	.TZA	.		CC79300809
003062	053313		.STA	.TSC2	TEMP STORAGE FOR OCTAL NUMBER	CC79400810
003063	053314		.STA	.TS03	TEMP STORAGE FOR OCTAL NUMBER	CC79500811
003064	053315		.STA	.TS04	TEMP STORAGE FOR DIGIT COUNTER	CC79600812
003065	063320		.STB	.TS07		CC79700813
003066	005002		.TZB	.		CC79800814
003067	002000	ING5	.CALL	.INPC	INPUT ONE CHARACTER	CC79900815
003070	002710	R				
003071	001000		.JMP*	.INPG	TERMINATE EXIT	CC80000816
003072	103143	R				
003073	001000		.JMP	.ING2	ABORT INPUT EXIT	CC80100817
003074	003136	R				
003075	001000		.JMP	.ING1	DELETE PREVIOUS CHARACTER EXIT	CC80200818
003076	003163	R				
003077	053316		.STA	.TS05	SAVE INPUT	CC80300819
003100	006140		.SUBI	.0260		CC80400820
003101	000260					
003102	001004		.JAN	.ING6	INVALID IF NOT OCTAL NUMBER	CC80500821
003103	003146	R				

003104	006140		.SUBI	.010		CC8C600822
003105	000010					
003106	001002		.JAP	.ING6	INVALID IF NOT OCTAL NUMBER	CC8C700823
003107	003146	R				
003110	006120		.ACDI	.010	RESTORE DIGIT	CC8C800824
003111	000010					
003112	113313		.CRA	.TS02		CC8C900825
003113	053314		.STA	.TS03		CC81000826
003114	004443		.LLRL	.3		CC81100827
003115	001020		.J8Z	..*+4		CC81200828
003116	003121	R				
003117	001000		.JMP	.ING8		CC81300829
003120	003157	R				
003121	053313		.STA	.TS02		CC81400830
003122	043315		.INR	.TS04	ADVANCE DIGIT COUNTER	CC81500831
003123	013315		.LDA	.TS04		CC81600832
003124	006140		.SUBI	.7		CC81700833
003125	000007					
003126	001002		.JAP	.ING8	TOO MANY DIGITS. START INPUT OVER	CC81800834
003127	003157	R				
003130	001000		.JMP	.ING5	GET NEXT DIGIT	CC81900835
003131	003067	R				
003132	043143	ING3	.INR	.INPG	NORMAL EXIT	CC82000836
003133	043143		.INR	.INPG		CC82100837
003134	043143	ING4	.INR	.INPG	COMMA EXIT	CC82200838
003135	043143		.INR	.INPG		CC82300839
003136	043143	ING2	.INR	.INPG	ABORT INPUT EXIT	CC82400840
003137	043143		.INR	.INPG		CC82500841
003140	023320		.LDB	.TS07		CC82600842
003141	013314		.LDA	.TS03	GET ASSEMBLED OCTAL NUMBER	CC82700843
003142	001000		.JMP*	.0	EXIT	CC82800844
003143	100000					
003143		INPG	.EES	.0		CC82900845
003144	001000		.JMP	.ING7		CC83000846
003145	003061	R				
003146	013316	ING6	.LDA	.TS05	GET LAST INPUT	CC83100847
003147	006140		.SUBI	.0254	IS IT A COMMA	CC83200848
003150	000254					
003151	001010		.JAZ	.ING4	YES	CC83300849
003152	003134	R				
003153	006140		.SUBI	.02	IS IT A PERIOD	CC83400850
003154	000002					

003155	001010		.JAZ	.ING3	YES	CC83500851	
003156	003132	R					
003157	002000		ING8	.CALL	.OUTG	PRINT INVALID MESSAGE	CC83600852
003160	003052	R					
003161	001000			.JMP	.ING7	START OVER WITH OCIAL INPLT	CC83700853
003162	003061	R					
			*				
003163	013314		ING1	.LDA	.TS03		CC83800854
003164	004343			.LSRA	.3		CC83900855
003165	053314			.STA	.TS03		CC84000856
003166	004243			.LRLA	.3		CC84100857
003167	053313			.STA	.TSC2		CC84200858
003170	013315			.LDA	.TS04		CC84300859
003171	005311			.DAR	.	REDUCE DIGIT COUNT	CC84400860
003172	053315			.STA	.TS04		CC84500861
003173	001000			.JMP	.ING5		CC84600862
003174	003067	R					CC84700863
			*				CC84800864
			*	OUTPUT TWO CHARACTERS FROM A REG TO TTY (HIGH ORDER FIRST)			CC84900865
			*	ENTER WITH CHARACTERS IN A REG			CC85000866
			*				CC85100867
003175	000000		OUTE	.ENTR	.0		CC85200868
003176	063317			.STB	.TS06	SAVE B	CC85300869
003177	004550			.LLSR	.8		CC85400870
003200	002000			.CALL	.OUTA	OUTPUT FIRST CHAR	CC85500871
003201	002613	R					
003202	004450			.LLRL	.8		CC85600872
003203	002000			.CALL	.OUTA	OUTPUT SECOND CHAR	CC85700873
003204	002613	R					
003205	023317			.LDB	.TS06	RESTORE B	CC85800874
003206	001000			.JMP*	.OUTB	RETURN	CC85900875
003207	103175	R					
			*				CC86000876
			*	OUTPUT CARRIAGE RETURN AND LINE FEED TO TTY			CC86100877
			*				CC86200878
003210	000000		OUTC	.ENTR	.0		CC86300879
003211	006010			.LDAI	.0106612	CR AND LF	CC86400880
003212	106612						
003213	002000			.CALL	.OUTB	OUTPUT 2 CHAR	CC86500881
003214	003175	R					
003215	001000			.JMP*	.OUTC	RETURN	CC86600882
003216	103210	R					

*
* CLPUT OCTAL WORD AND A SPACE TO TTY
*

003217	000000	OUTE	.ENTR	.0	
003220	005002		.TZB	.	
003221	004557		.LLSR	.15	
003222	005122		.IBR	.	
003223	006110	OUT2	.CRAI-	.'0'	MAKE DIGIT
003224	000260				
003225	002000		.CALL	.OUTA	OUTPUT ONE DIGIT
003226	002613	R			
003227	005001		.TZA	.	
003230	004443		.LLRL	.3	
003231	001020		.JEZ	.'*+4	OCTAL OUTPUT COMPLETE
003232	003235	R			
003233	001000		.JMP	.OUT2	
003234	003223	R			
003235	006010		.LEAI	.0240	ASCII BLANK CODE
003236	000240				
003237	002000		.CALL	.OUTA	OUTPUT SPACE
003240	002613	R			
003241	001000		.JMP*	.OUTE	RETURN
003242	103217	R			

*
* OUTPUT MESSAGE TO TTY (X REG CONTAINS ADDRESS OF MESSAGE)
*

003243	000000	OUTD	.ENTR	.0	
003244	015000		.LEA	.0,1	
003245	001010		.JAZ*	.OUTD	
003246	103243	R			
003247	002000		.CALL	.OUTB	
003250	003175	R			
003251	005144		.IXR	.	
003252	001000		.JMP	.OUTD+1	
003253	003244	R			

*
* OUTPUT OCTAL MEMORY ADDRESS TO TTY PRINTER
*

003254	000000	OUTF	.ENTR	.0	
003255	053313		.STA	.TS02	SAVE WORD
003256	006010		.LEAI,	.'('	PAREN SPACE
003257	124240				

CC86700883
 CC86800884
 CC86900885
 CC87000886
 CC87100887
 CC87200888
 CC87300889
 CC87400890

 CC87500891

 CC87600892
 CC87700893
 CC87800894

 CC87900895

 CC88000896

 CC88100897

 CC88200898

 CC88300899
 CC88400900
 CC88500901
 CC88600902
 CC88700903
 CC88800904

 CC88900905

 CC89000906
 CC89100907

 CC89200908
 CC89300909
 CC89400910
 CC89500911
 CC89600912
 CC89700913

003260	002000	.CALL	.OUTB	PRINT CHAR	CC89800914
003261	003175	R			
003262	013313	.LEA	.TSC2		CC89900915
003263	002000	.JMPM	.OUTE	OUTPUT OCTAL WORD	CC9C000916
003264	003217	R			
003265	006010	.LDAI	.')'	RIGHT PARENTHESIS	CC9C100917
003266	000251				
003267	002000	.CALL	.OUTA	PRINT CHAR	CC9C200918
003270	002613	R			
003271	001000	.JMP*	.OUTF		CC9C300919
003272	103254	R			
* I/C TIME-OUT SUBROUTINE					
* I/C TIME-OUT SUBROUTINE					
* I/C TIME-OUT SUBROUTINE					
003273	005344	TOU1	.DxR	.	CC9C400920
003274	001040		.JXZ*	.TOUT	CC9C500921
003275	103301	R		TIME-OUT RETURN	CC9C600922
003276	043301		.INR	.TOUT	CC9C700923
003277	043301		.INR	.TOUT	CC9C800924
003300	001000		.JMP	.0	
003301	000000			SET UP FOR	CC9C900925
003301		TOUT	.BES	.0	CC91000926
003302	001000		.JMP	.TOU1	CC91100927
003303	003273	R		NORMAL EXIT	
* TIME DELAY SUBROUTINE					
* TIME DELAY SUBROUTINE					
* TIME DELAY SUBROUTINE					
003304	000000	TDLY	.ENTR	.0	CC91200928
003305	005344		.DxR	.	CC91300929
003306	001040		.JXZ*	.TDLY	
003307	103304	R		RETURN	CC91400930
003310	001000		.JMP	**-3	CC91500931
003311	003305	R			CC91600932
* DATA TABLE					
* DATA TABLE					
* DATA TABLE					
003312	000000	TS01	.DATA	.0	CC91700933
003313	000000	TS02	.DATA	.0	CC91800934
003314	000000	TS03	.DATA	.0	CC91900935
003315	000000	TS04	.DATA	.0	CC92000936
003316	000000	TS05	.DATA	.0	CC92100937
003317	000000	TS06	.DATA	.0	CC92200938
				TEMPORARY STORAGE	CC92300939
				TEMPORARY STORAGE	CC92400940
				TEMPORARY STORAGE	CC92500941
				TEMPORARY STORAGE	CC92600942
				TEMPORARY STORAGE	CC92700943
				TEMPORARY STORAGE	CC92800944
				TEMPORARY STORAGE	CC92900945

```

003320 000000 TS07 .DATA .0          TEMPORARY STORAGE
*
* MESSAGE TABLE
*
003321 120240 MSG5 .DATA .' INVALID'.0106612. 0
003322 144716
003323 153301
003324 146311
003325 142240
003326 106612
003327 000000
003330          TBER .BSS .1          ERROR TABLE
          000500 R .END .TKCP
    
```

CC93000946
 CC93100947
 CC93200948
 CC93300949
 CC93400950

CC93500951
 CC93600952

LITERALS

POINTERS

SYMBOLS

```

1 003330 R TBER
1 003321 R MSG5
1 003320 R TS07
1 003317 R TS06
1 003316 R TS05
1 003315 R TS04
1 003314 R TS03
1 003313 R TS02
1 003312 R TS01
1 003304 R TDLY
1 003301 R TOUT
1 003273 R TOU1
1 003254 R OUTF
1 003243 R OUTD
1 003223 R OUT2
1 003217 R OUTE
1 003210 R OUTC
1 003175 R OUTB
1 003163 R ING1
1 003157 R ING8
1 003146 R ING6
    
```

1	003143	R	INPG
1	003136	R	ING2
1	003134	R	ING4
1	003132	R	ING3
1	003067	R	ING5
1	003061	R	ING7
1	003052	R	OUTG
1	003047	R	INPF
1	003044	R	INF2
1	003042	R	INF1
1	003040	R	INF3
1	003036	R	INF4
1	003012	R	INF5
1	003007	R	INPE
1	003004	R	INE2
1	003002	R	INE1
1	002755	R	INE3
1	002751	R	IND3
1	002746	R	INPD
1	002743	R	IND2
1	002741	R	IND1
1	002715	R	IND4
1	002710	R	INPC
1	002705	R	INC2
1	002703	R	INC1
1	002661	R	INC3
1	002656	R	INPB
1	002645	R	INB1
1	002644	R	STTY
1	002640	R	OUT1
1	002613	R	OUTA
1	002610	R	INPA
1	002566	R	INA1
1	002563	R	PRW6
1	002562	R	PRW5
1	002561	R	PRW4
1	002560	R	PRW3
1	002557	R	PRW2
1	002556	R	PRW1
1	002551	R	TTYC
1	002526	R	TTY1
1	002516	R	TTBC

1	002513	R	OETS
1	002501	R	OET5
1	002467	R	OET4
1	002447	R	OET3
1	002442	R	OET2
1	002415	R	OET
1	002403	R	TRBF
1	002346	R	RTND
1	002334	R	TR07
1	002273	R	TR08
1	002257	R	TR06
1	002242	R	TR05
1	002235	R	TR04
1	002225	R	TR03
1	002201	R	TR02
1	002151	R	TR01
1	002141	R	TR00
1	002120	R	TRTT
1	002105	R	HDG8
1	002067	R	HDG7
1	002066	R	TYPE
1	002036	R	PRND
1	002031	R	TTS1
1	002017	R	TTBL
1	001767	R	TPS4
1	001762	R	PR11
1	001731	R	PR10
1	001725	R	PR09
1	001646	R	PR08
1	001633	R	PR07
1	001600	R	PR06
1	001572	R	PR05
1	001556	R	PR04
1	001521	R	PR03
1	001512	R	PR02
0	001501	R	PR01
1	001445	R	TPRT
1	000256		PERI
1	105215		CRLF
1	102000		EOTX
1	100452		STAR
1	001345	R	PST6

1	001330	R	PS20
1	001326	R	TPST
1	001325	R	TPW1
1	001307	R	TPT3
1	001274	R	TPT2
1	001264	R	TPT1
1	001261	R	TPTT
1	001245	R	HDG6
1	001233	R	JKET
1	001232	R	TKW2
1	001231	R	TKW1
1	001202	R	TKK2
1	001126	R	TKK1
1	001121	R	CS01
1	001071	R	TCS1
0	001055	R	TKC6
1	001053	R	TKC5
1	001041	R	TKC4
0	001025	R	TKC3
1	001023	R	TKC2
1	001011	R	TKCT
1	001010	R	STID
1	001007	R	RT
1	001006	R	PT
1	001005	R	PS
1	001004	R	PR
1	001003	R	KE
1	001002	R	KC
1	000762	R	HDG5
1	000743	R	HDG4
1	000726	R	HDG3
1	000716	R	HDG2
1	000675	R	HDG1
1	000665	R	TRSS
1	000655	R	TSSR
0	000572	R	TIID
1	000566	R	TRID
1	000537	R	TATT
0	000524	R	TIDA
1	000520	R	TRDA
0	000514	R	TTPI
1	000500	R	TKCP

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1	000416	IOCT
1	000403	OUMG
1	000400	OU1C