
```

LL      JJ      SSSSSSSSSSSS  CCCCCCCCCCCC  GGGGGGGGGGGG      44      11      777777777777
LL      JJ      SSSSSSSSSSSS  CCCCCCCCCCCC  GGGGGGGGGGGG      444      111      777777777777
LL      JJ      SS          SS  CC          CC  GG          GG      4444      1111      77          77
LL      JJ      SS          SS  CC          CC  GG          GG      44  44      11          11
LL      JJ      SS          SS  CC          CC  GG          GG      44  44      11          11
LL      JJ      SSSSSSSSSSSS  CC          CC  GG          GG      44  44      11          11
LL      JJ      SSSSSSSSSSSS  CC          CC  GG          GG      44  44      11          11
LL      JJ      SSSSSSSSSSSS  CC          CC  GG          GG      44  44      11          11
LL      JJ      SSSSSSSSSSSS  CC          CC  GG          GG      44  44      11          11
LL      JJ      SS          SS  CC          CC  GG          GG      44444444444444  11          11
LL      JJ      SS          SS  CC          CC  GG          GG      44444444444444  11          11
LL      JJ      SS          SS  CC          CC  GG          GG      44444444444444  11          11
LLLLLLLLLLLLLLLL  JJJJJJJJJJJJ  SSSSSSSSSSSS  CCCCCCCCCCCC  GGGGGGGGGGGG      44      111111      77
LLLLLLLLLLLLLLLL  JJJJJJJJJJJJ  SSSSSSSSSSSS  CCCCCCCCCCCC  GGGGGGGGGGGG      44      111111      77

```

```

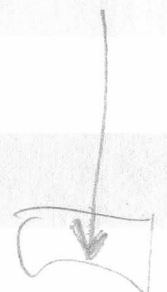
JJ      OOCCCCCCCCOO  EEEEEEEEEEEEEE  999999999999  999999999999      11      333333333333
JJ      OOOOOOCCOOOO  EEEEEEEEEEEEEE  999999999999  999999999999      111      333333333333
JJ      OO          OO  BB          BB  99          99  99          99      1111      33          33
JJ      OO          CC  BB          BB  99          99  99          99      11          11          33
JJ      OO          CC  BB          BB  99          99  99          99      11          11          33
JJ      OO          CC  BB          BB  999999999999  999999999999      11          333
JJ      OO          OO  BB          BB  999999999999  999999999999      11          333
JJ      OO          CO  BE          BE  99          99      11          33
JJ      OO          CO  BB          BB  99          99      11          33
JJ      OO          OO  BB          BB  99          99      11          33
JJJ JJJJJJJJJJ  OOOOOOCCOOOO  EEEEEEEEEEEEEE  999999999999  999999999999      111111      333333333333
JJJJJJJJJJJJ  OOOOOOCCOOOO  EEEEEEEEEEEEEE  999999999999  999999999999      111111      333333333333

```

```

BBBBEEEEEEEEBBB  IIIIIIIIIIIII  NN          NN  888888888888  888888888888  888888888888
BBBBEEEEEEEEBBB  IIIIIIIIIIIII  NNN         NN  888888888888  888888888888  888888888888
BB          BB      II          NN         NN  88          88  88          88  88          88
BB          BB      II          NN         NN  88          88  88          88  88          88
BB          BB      II          NN         NN  88          88  88          88  88          88
BBBBBBBBBBBBBBB  II          NN         NN  888888888888  888888888888  888888888888
BBBBBBBBBBBBBBB  II          NN         NN  888888888888  888888888888  888888888888
BB          BB      II          NN         NN  88          88  88          88  88          88
BB          BB      II          NN         NN  88          88  88          88  88          88
BB          BB      II          NN         NN  88          88  88          88  88          88
BBBBEEEEEEEEBBB  IIIIIIIIIIIII  NN         NNN  888888888888  888888888888  888888888888
BBBBEEEEEEEEBBB  IIIIIIIIIIIII  NN         NN   888888888888  888888888888  888888888888

```



PRINT STARTED AT 23:29:30 ON PRT2 , TUESDAY MARCH 16, 1976

SLAC CENTER, STANFORD CENTER FOR INFORMATION PROCESSING

LTS. VGT. MEM TEST

```

ISV40 JOB ORIGIN FROM GRUP=LCCAL , DSP=IJP, DEVICE=SYA , 9F9
//LJSCG417 JOB LJS$CG,888,CLASS=E 0.002
//*MAIN HOLD=OUTPUT
//MCS8 EXEC ASM,ASMTIM='(,25)',ASMVER=NEW,ASMRGN=256K, 0.022
// ASMPRM='LINECOUNT(115)',ASMPGM=ASMH, 0.024
// ASMLB5='SYS1.DUMMYC',ASMLB6='WYL.CG.MCS.MACLIB' 0.026
//ASM.SYSGD DD UNIT=SYSDA,DSN=%%PNCH,DISP=(,PASS),SPACE=(TRK,(9,5)) 0.028
//ASM.SYSPRINT DD UNIT=SYSDA,DSN=%%LIST,DISP=(,PASS),SPACE=(CYL,(3,1)) 0.03
//OBJOUT DD DSN=WYL.CG.LJS.MEMTEST.OBJ,DISP=(MOD,DELETE), 0.032
// UNIT=DISK,VOL=SER=SCFEVS,SPACE=(TRK,(10,5)) 0.034
//SYSIN DD * 0.036
/* 410.004
//CLEANUP EXEC PGM=CLEANUP,REGION=76K 410.006
//STEPLIB DD DSN=WYL.CG.PUB.LCADMODS,DISP=SHR 410.008
//IN DD DSN=%%LIST,DISP=(OLD,DELETE) 410.01
//OUT DD SYSOUT=A,DCE=(ELKSIZE=1936,RECFM=FBM) 410.012
//OBJIN DD DSN=%%PNCH,DISP=(OLD,DELETE) 410.014
//OBJOUT DD DSN=WYL.CG.LJS.MEMTEST.OBJ,UNIT=2314, 410.016
// VOL=SER=SCFEVS,DISP=(NEW,KEEP),SPACE=(TRK,(10,5),RLSE), 410.018
// DCB=BLKSIZE=1600 410.02
//CIAO EXEC PGM=CIAC,COND=EVEN,REGION=76K 411.002
//STEPLIB DD DSN=WYL.CG.LJS.LCADMODS,DISP=SHR 411.004
//JOBQ DD DSN=SYS1.SYSJOBQE,DISP=SHR 411.006

```

```

LOCATE' 9913WYL.CG.MCS.MACLIB '
AL99130E001/WYL0110003
ARIX51 MCS8 ASM SYSPUNCH SYSOUT BLOCKSIZE CHANGED TO 0080.
ARIX51 MCS8 ASM SYSTEM SYSOUT BLOCKSIZE CHANGED TO 1452.
LOCATE' 9913WYL.CG.PUB.LCADMODS '
AL99130E001/WYL0060004
LOCATE' 9913WYL.CG.LJS.LCADMCDS '
AL99130E001/WYL0050004
LOCATE' 9913SYS1.SYSJOBQE '
AL99130E001/DRUMB 000U

```

```

AMDS01 JOB 9913 (LJSCG417) IN SETUP ON MAIN=SYC TIME 23:25:35
AMDS02 SYSLIB E USING D WYL011 ON 463
AMDS02 OBJOUT E USING D SCFEVS ON 232
AMDS02 STEPLIB E USING D WYL006 ON 233
AMDS02 STEPLIB E USING D WYL005 ON 533
LJSCG417 IEF403I LJSCG417 STARTED TIME=23.25.42
LJSCG417 IEF234E D 607,ASP607
LJSCG417 IEF234E R 609,,LJSCG417
*LJSCG417*09 IECASPO 609 IS LJSCG417 ASM MCS8 ASPI0001
LJSCG417 IEC202E K 609,019913,NL,LJSCG417,ASM
LJSCG417 IEF234E D 607
*LJSCG417*10 IECASPO 607 IS LJSCG417 A CLEANUP OUT
*LJSCG417*11 INTASPC ASP *SYA @TC LJS LJSCG417 IS ENDING
LJSCG417 IEF404I LJSCG417 ENDED TIME=23.26.49

```

----- OPERATING SYSTEM MESSAGES -----

```

//LJSCG417 JOB LJS$CG,888,CLASS=E 0.002
//MCS8 EXEC ASM,ASMTIM='(,25)',ASMVER=NEW,ASMRGN=256K, 0.022
// ASMPRM='LINECOUNT(115)',ASMPGM=ASMH, 0.024
// ASMLB5='SYS1.DUMMYC',ASMLB6='WYL.CG.MCS.MACLIB' 0.026
//ASM.SYSGD DD UNIT=SYSDA,DSN=%%PNCH,DISP=(,PASS),SPACE=(TRK,(9,5)) 0.028
//ASM.SYSPRINT DD UNIT=SYSDA,DSN=%%LIST,DISP=(,PASS),SPACE=(CYL,(3,1)) 0.03

```

```

//OBJOUT DD DSN=WYL.CG.LJS.MEMTEST.OBJ,DISP=(MOD,DELETE), 0.032
// UNIT=DISK,VOL=SER=SCFEV5,SPACE=(TRK,(10,5)) 0.034
//SYSIN DD DSN=ASPI0001,UNIT=(CTC,,DEFER),VOL=SER=019913, 0.036
// DISP=(OLD,DELETE),DCB=(RECFM=FB,LRECL=80,BLKSIZE=1440,BUFNO=02)

```

```

IEF236I ALLOC. FOR LJSCG417 ASM MCS8
IEF237I STEPLIB ALLOCATED (535,535)
IEF237I SYSGD ALLOCATED (237) SYSLIB ALLOCATED (535,535,535,535,535,463)
IEF237I SYSPRINT ALLOCATED (232) SYSPUNCH ALLOCATED (607)
IEF237I SYSTEM ALLOCATED (608) SYSUT1 ALLOCATED (237)
IEF237I SYSUT2 ALLOCATED (232) SYSUT3 ALLOCATED (460)
IEF237I OBJOUT ALLOCATED (232) SYSIN ALLOCATED (609)

```

IEF142I - STEP WAS EXECUTED - COND CODE 0000

```

IEF285I SYS1.DUMMYL KEPT SYSDV1.
IEF285I SYS1.LINKNEW KEPT SYSDV1.
IEF285I SYS76076.T232525.RV001.LJSCG417.PNCH PASSED SCFEV4.
IEF285I SYS1.DUMMYC KEPT SYSDV1.
IEF285I SYS1.DUMMYC KEPT SYSDV1.
IEF285I SYS1.DUMMYC KEPT SYSDV1.
IEF285I SYS1.MAC KEPT SYSDV1.
IEF285I SYS1.DUMMYC KEPT SYSDV1.
IEF285I WYL.CG.MCS.MACLIB KEPT WYL011.
IEF285I SYS76076.T232525.RV001.LJSCG417.LIST PASSED SCFEV5.
IEF285I SYS76076.T232525.RV001.LJSCG417.R0000072 DELETED SCFEV4.
IEF285I SYS76076.T232525.RV001.LJSCG417.R0000073 DELETED SCFEV5.
IEF285I SYS76076.T232525.RV001.LJSCG417.R0000074 DELETED WORK01.
IEF285I WYL.CG.LJS.MEMTEST.OBJ DELETED SCFEV5.
IEF285I SYS76076.T232525.RV001.LJSCG417.ASPI0001 DELETED 019913.

```

SMF001I	STEP ASM	STEP NUMBER=	1				RETURN=	0 DEC	
SMF002I	DATE= 03/16/76	STRT=	23:25:42.26	STOP=	23:26:20.88	E.T.=	0:38.62	CPU=	0:05.10
SMF003I	CPU ID= 91-C	SYSTEM=	MVT 21.8	MEM REQ=	256K	MEM USED=	254K	MEMRY FUNC=	0.82
SMF005I	I/O CCUNTS	2314/535=	0	2314/535=	0	2314/237=	1	2314/535=	0
SMF005I	I/O COUNTS	2314/535=	0	2314/535=	0	2314/535=	0	2314/535=	0
SMF005I	I/O COLUNTS	3330/463=	28	2314/232=	82	CTC./607=	0	CTC./608=	0
SMF005I	I/O COLUNTS	2314/237=	29	2314/232=	0	3330/460=	0	2314/232=	0
SMF005I	I/O COUNTS	CTC./609=	29						
SMF006I	I/O TOTALS	OTHER=	29	7 TRK=	0	9 TRK=	0	DASD=	140
SMF007I	STEP CHARGES	OTHER=	0.14	7 TRK=	0.00	9 TRK=	0.00	DASD=	5.60
SMF008I	STEP CHARGES			MEM=	4.18	CPU=	5.10	TOTAL=	15.01

```

//CLEANUP EXEC PGM=CLEANUP,REGION=76K 410.006
//STEPLIB DD DSN=WYL.CG.PUB.LOADMODS,DISP=SHR 410.008
//IN DD DSN=ASPI0001,DISP=(OLD,DELETE) 410.01
//OUT DD SYSOUT=A,DCB=(BLKSIZE=1936,RECFM=FBM) 410.012
//OBJIN DD DSN=ASPI0001,DISP=(OLD,DELETE) 410.014
//OBJOUT DD DSN=WYL.CG.LJS.MEMTEST.OBJ,UNIT=2314, 410.016
// VOL=SER=SCFEV5,DISP=(NEW,KEEP),SPACE=(TRK,(10,5),RLSE), 410.018
// DCB=BLKSIZE=1600 410.02

```

```

IEF236I ALLOC. FOR LJSCG417 CLEANUP
IEF237I STEPLIB ALLOCATED (233) IN ALLOCATED (232)
IEF237I OUT ALLOCATED (607) OBJIN ALLOCATED (237)
IEF237I OBJOUT ALLOCATED (232)

```

IEF142I - STEP WAS EXECUTED - COND CODE 0000

```

IEF285I WYL.CG.PUB.LOADMODS KEPT WYL006.
IEF285I SYS76076.T232525.RV001.LJSCG417.LIST DELETED SCFEV5.
IEF285I SYS76076.T232525.RV001.LJSCG417.ASP0A003 DELETED ASP607.
IEF285I SYS76076.T232525.RV001.LJSCG417.PNCH DELETED SCFEV4.
IEF285I WYL.CG.LJS.MEMTEST.OBJ KEPT SCFEV5.

```

SMF001I	STEP CLEANUP	STEP NUMBER=	2				RETURN=	0 DEC	
SMF002I	DATE= 03/16/76	STRT=	23:26:21.00	STOP=	23:26:46.58	E.T.=	0:25.58	CPU=	0:00.15
SMF003I	CPU ID= 91-C	SYSTEM=	MVT 21.8	MEM REQ=	78K	MEM USED=	24K	MEMRY FUNC=	0.77
SMF005I	I/O COUNTS	2314/233=	0	2314/232=	84	CTC./607=	52	2314/237=	3
SMF006I	I/O TOTALS	OTHER=	52	7 TRK=	0	9 TRK=	0	DASD=	89
SMF007I	STEP CHARGES	OTHER=	0.26	7 TRK=	0.00	9 TRK=	0.00	DASD=	3.56
SMF008I	STEP CHARGES	MEM=		MEM=	0.12	CPU=	0.15	TOTAL=	4.08

```
//CIAO EXEC PGM=CIAO,COND=EVEN,REGION=76K
//STEPLIB DD DSN=WYL.CG.LJS.LCADMODS,DISP=SHR
//JOBQ DD DSN=SYS1.SYSJOBQE,DISP=SHR
IEF236I ALLOC. FOR LJSCG417 CIAO
IEF237I STEPLIB ALLOCATED (533) JOBQ ALLOCATED (1C0)
```

IEF142I - STEP WAS EXECUTED - COND CODE 0020

IEF285I	WYL.CG.LJS.LOADMODS	KEPT		WYL005.					
IEF285I	SYS1.SYSJOBQE	KEPT		DRUM1 .					
SMF001I	STEP CIAO	STEP NUMBER=	3				RETURN=	20 DEC	
SMF002I	DATE= 03/16/76	STRT=	23:26:46.60	STOP=	23:26:48.93	E.T.=	0:02.33	CPU=	0:00.00
SMF003I	CPU ID= 91-C	SYSTEM=	MVT 21.8	MEM REQ=	78K	MEM USED=	6K	MEMRY FUNC=	0.77
SMF005I	I/O COUNTS	2314/533=	0	2301/1C0=	0				
SMF006I	I/O TOTALS	OTHER=	0	7 TRK=	0	9 TRK=	0	DASD=	0
SMF007I	STEP CHARGES	OTHER=	0.00	7 TRK=	0.00	9 TRK=	0.00	DASD=	0.00
SMF008I	STEP CHARGES	MEM=		MEM=	0.00	CPU=	0.00	TOTAL=	0.00

AMDS09 JOB 9913 (LJSCG417) IN BREAKDOWN

SYMBOL TYPE ID ADDR LENGTH LD ID

ASM H V 05 23.25 03/16/76

VGT PC 0001 000000 000000
SD 0002 000000 002003

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
				2	PRINT OFF SUPPRESS LISTING OF MACROS	1.002
1024				PRINT	ON, GEN, NODATA	1.006
1025				GBLA	&@ (256)	1.008
1026				*DEFINITIONS		2.
1027				*INCLUDE #VGTDEFNS	USER LJS GRO CG ON CAT	3.
1028				*****		3.001
1029				*		3.002
1030				*	THE VGT - VIDEO GRAPHICS TERMINAL	3.003
1031				*		3.004
1032				*	**** HARDWARE DEFINITIONS ****	3.005
1033				*		3.006
1034				*		3.007
1035				*****		3.008
1036				*		3.009
1037				*	MEMORY MAP	3.01
1038				*		3.011
00400				1039 K	EQU 1024	3.012
00000				1041 ROM	EQU 0*K	3.013
02000				1043 CPURAM	EQU 8*K	3.014
00080				1045 CPURAMSZ	EQU 128	3.015
02800				1047 CHGENROM	EQU 10*K	3.016
03000				1049 CHGENRAM	EQU 12*K	3.017
04000				1051 RAM	EQU 16*K	3.018
04400				1053 WRAPADDR	EQU 17*K	3.019
				1055 *		3.02
				1056 *		3.021
				1057 *	I/O	3.022
				1058 *		3.023
				1059 *		3.024
				1060 *		3.025
				1061 *	INPUT PORTS	3.026
				1062 *		3.027
00084				1063 KEYBOARD	EQU X'84' (PORT)	3.028
00085				1065 STATBITS	EQU X'85' (PORT)	3.029
00010				1067 KBNEWCHR	EQU X'10'	3.03
00008				1069 FRAMECNT	EQU X'08'	3.031
00004				1071 FRAMEINT	EQU X'04'	3.032
00002				1073 KBATTN	EQU X'02'	3.033
00001				1075 KBRPT	EQU X'01'	3.034
00041				1077 URTSTAT	EQU X'41' (PORT))	3.035
00001				1079 URITXRDY	EQU X'01'	3.036
00002				1081 URTRXRDY	EQU X'02'	3.037
00038				1083 URTRERR	EQU B'00111000'	3.038
00001				1085 URTRCV	EQU X'01' (PORT)	3.039
				1087 *		3.04
				1088 *	OUTPUT PORTS	3.041
				1089 *		3.042
00082				1090 RSFRMINT	EQU X'82' (PORT)	3.043
00083				1092 RSURTINT	EQU X'83' (PORT)	3.044
00084				1094 DISADDRH	EQU X'84' (PORT)	3.045
00085				1096 DISADDRL	EQU X'85' (PORT)	3.046
00086				1098 BELL	EQU X'86' (PORT)	3.047
00087				1100 CHLINE1	EQU X'87' (PORT)	3.048
00080				1102 MODESET	EQU X'80' (PORT)	3.049
00080				1104 REVRVID	EQU X'80'	3.05

00040	1106	SCRNBLNK	EQU	X'40'	SCREEN BLANKING CONTROL	3.051
00020	1108	NOROMCHR	EQU	X'20'	NO ROM CHARS (RAM ONLY) IN TEXT MODE	3.052
0000C	1110	URTCLOCK	EQU	X'0C'	USART EXTERNAL/INTERNAL CLOCK CONTRL	3.053
00010	1112	GRAPHMD	EQU	X'10'	GRAPH MODE	3.054
00002	1114	QUICKMD	EQU	X'02'	QUICK MODE FOR RAM ACCESS	3.055
00001	1116	SIXTNMD	EQU	X'01'	16 RASTERS/ROW MODE	3.056
00041	1118	URTCTL	EQU	X'41' (PORT)	USART CONTROL BITS:	3.057
0007A	1120	URTMODE	EQU	B'01111010'	ASYNC, EVEN PARITY, 7BITS, 16XCLK	3.058
0000F	1122	URTBREAK	EQU	B'00001111'	SEND BREAK	3.059
00007	1124	URTRSBK	EQU	B'00000111'	RESET BREAK	3.06
00017	1126	URTRSERR	EQU	B'00010111'	RESET RCV ERR, RCV ENB, DTR, XMT ENB	3.061
00001	1128	URTXMT	EQU	X'01' (PORT)	USART TRANSMITTED CHARACTER	3.062
0008E	1130	URTSPEED	EQU	X'8E' (PORT)	USART BAUD RATE; 4 BITS RCV, 4 XMIT	3.063
0008F	1132	KBRESET	EQU	X'8F' (PORT)	RESET KB STROBE FF (IE 'KBNEWCHR')	3.064
	1134	VGT	CSECT			4.
	1135	ASCII	ASCII	,	DEFINE ASCII CHARACTER SET	4.002

000000

3000

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE	STATEMENT
		0000D	1172	@CRLF	EQU	@CR

ASM H V 05 23.25 03/16/76
5.

~~6~~

5220

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	
				1175 *		7.
				1176 *	CONSTANTS, RAM LOCATIONS, ETC.	8.
				1177 *		9.
		04000		1178 TEXT	EQU RAM	10.
		00051		1180 LINESIZE	EQU 81	11.
		00BB5		1182 TEXTSIZE	EQU LINESIZE*37	12.
		04056		1184 CTR	EQU TEXT+LINESIZE+5	13.
				1186 *		14.
000000		02000		1187	ORG CPURAM	15.
				1189 *		16.
002000				1190 CURSLOC	DS 2	17.
002002				1192 CURSX	DS 1	18.
				1194 *		19.
		0207F		1195 STACK	EQU CPURAM+CPURAMSZ-1	20.
				1198 *		22.
				1199 *	MEMORY TESTER AND GENERAL-PURPOSE DEBUGGER	23.
				1200 *		24.
002003		00000		1201	ORG 0	25.
000000	317F20			1203	LODI SP,STACK	26.
000013	3E20			1205	LODI A, *	27.
000005	110040			1207	LODI DE,TEXT	28.
000008	12			1209	ST A,(DE)	29.
000009	13			1211	INC DE	30.
00000A	214BB4			1213	LODI HL, -(TEXT+TEXTSIZE)	31.
00000D	19			1215	ADD HL,DE	32.
00000E	D20800			1217	JMP NC,CLEARLP	33.
000011	215B40			1219	LODI HL,TEXT+LINESIZE+10	34.
000014	220020			1221	ST HL,CURSLOC	35.
000017	219D00			1223	LODI HL,TITLE	36.
00001A	CDE400			1225	CALL WRITE	37.
00001D	21F340			1227	LODI HL,TEXT+3*LINESIZE	38.
000020	220020			1229	ST HL,CURSLOC	39.
000023	97			1231	SUB A	40.
000024	D380			1233	OUT MODESET	41.
000026	320220			1235	ST A,CURSX	42.
000029	C35500			1237	JMP RESET	43.
				1239 *		44.
00002C		00038		1240	ORG 7*8	45.
000033	F5			1242	PUSH FA	46.
000039	DB85			1244	INP STATBITS	47.
00003B	E604			1246	ANDI FRAMEINT	48.
00003D	CA5200			1248	JMP Z,INTEND	49.
000040	D382			1250	OUT RSFRMINT	50.
000042	3E00			1252	LODI A,TEXT,>	51.
000044	D385			1254	OUT DISADDRL	52.
000046	3E40			1256	LODI A,TEXT,<	53.
000048	D3E4			1258	OUT DISADDRH	54.
				1260 *		55.
00004A	DB85			1261	INP STATBITS	56.
00004C	E608			1263	ANDI FRAMECNT	57.
00004E	EE09			1265	XORI X'09'	58.
000050	D387			1267	OUT CHLINE1	59.

THANKS, ED

*Codi A70
OUT URTCTL
OUT RSURTINT*

+LINESIZE

CLEARLP

*

RESET GRAPH MODE, ETC.
X=0

**** FRAME INTERRUPT ****

EVEN/ODD BIT
INVERT IT AND ADD LINE NO.

000052 F1
000053 FB
000054 C9

1269 *
1270 INTEND POP FA
1272 EI
1274 RET
1276 *

60.
61.
62.
63.
64.



LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
				1278 *		66.
				1279 *	INPUT	67.
				1280 *		68.
000055	317F20			1281 RESET	LODI SP,STACK	69.
000058	FB			1283	EI	70.
000059	21B500			1285 (ASK)	LODI HL,ASKMSG	71.
00005C	CDE400			1287	CALL WRITE	72.
00005F	110100			1289	LODI DE,1	73.
000062	CD4C01			1291	CALL HEXIN	74.
000065	FE2C			1293	CMPI ','	75.
000067	C26F00			1295	JMP NZ,ASK2	76.
00006A	EB			1297	XCH HL,DE	77.
00006B	CD4C01			1299	CALL HEXIN	78.
00006E	EB			1301	XCH HL,DE	79.
00006F	FE73			1303 ASK2	CMPI 'S'	80.
000071	CA7B01			1305	JMP Z,SHOW	81.
000074	FE78			1307	CMPI 'X'	82.
000076	CA1002			1309	JMP Z,ADDRTEST	83.
000079	FE79			1311	CMPI 'Y'	84.
00007B	CAA801			1313	JMP Z,EITTEST	85.
00007E	FE7A			1315	CMPI 'Z'	86.
000080	CAF301			1317	JMP Z,TESTALL	87.
000083	FE70			1319	CMPI 'P'	88.
000085	CA7A02			1321	JMP Z,PATCHER	89.
000088	FE6A			1323	CMPI 'J'	90.
00008A	CAC402			1325	JMP Z,JUMP	91.
00008D	FE1B			1327	CMPI @ESC	92.
00008F	CA0000			1329	JMP Z,0	93.
000092	D3E6			1331	OUT BELL	94.
000094	21C000			1333	LODI HL,EADMSG	95.
000097	CDE400			1335	CALL WRITE	96.
00009A	C35900			1337	JMP ASK	97.
				1339 *		98.
00009D	2A2A2A2056475420			1340 TITLE	CHAR '*** VGT MEMORY TEST ***',0	99.
0000A5	4D454D4F52592054			1342		
0000AD	455354202A2A2A			1343		
00C0B4	00			1344		
0000B5	2020205748494348			1345 ASKMSG	CHAR ' WHICH? ',0	100.
0000BD	3F20			1347		
0000EF	00			1348		
0000C0	204241442E202020			1349 EADMSG	CHAR ' EAD. ',0	101.
0000C8	00			1351		
0000C9	2041424F52544544			1352 ABORT	CHAR ' ABORTED. ',0	102.
0000D1	2E202020			1354		
0000D5	00			1355		
				1356 *		103.
				1357 *		104.
0000D6	DB85			1358 KEYTEST	INP STATBITS	105.
0000D8	E602			1360	ANDI KBATTN	106.
0000DA	C8			1362	RET Z	107.
0000DB	21C900			1364	LODI HL,ABORT	108.
0000DE	CDE400			1366	CALL WRITE	109.
0000E1	C35500			1368	JMP RESET	110.

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
				1371	*	112.
				1372	*	113.
				1373	*	114.
0000E4	7E			1374	WRITE LD A,(HL)	115.
0000E5	B7			1376	IOR A	116.
0000E6	C8			1378	RET Z	117.
0000E7	CD0A01			1380	CALL DISPLAY	118.
0000EA	23			1382	INC HL	119.
0000EB	C3E400			1384	JMP WRITE	120.
				1386	*	121.
				1387	*	122.
				1388	*	123.
0000EE	07070707			1389	DUMP ROT L,4	124.
0000F2	CDF900			1391	CALL DUMP1	125.
0000F5	07070707			1393	ROT L,4	126.
0000F9	F5			1395	DUMP1 PUSH FA	127.
0000FA	E60F			1397	ANDI X'0F'	128.
0000FC	C630			1399	ADDI '0'	129.
0000FE	FE3A			1401	CMPI ':'	130.
000100	FA0501			1403	JMP S,DUMP2	131.
000103	C607			1405	ADDI 7	132.
000105	CD0A01			1407	DUMP2 CALL DISPLAY	133.
000108	F1			1409	POP FA	134.
000109	C9			1411	RET	135.
				1413	*	136.
				1414	*	137.
				1415	*	138.
00010A	D5			1416	DISPLAY PUSH DE	139.
00010B	E5			1418	PUSH HL	140.
00010C	F5			1420	PUSH FA	141.
00010D	2A0020			1422	LD HL,CURSLOC	142.
000110	FE0D			1424	CMPI @CRLF	143.
000112	CA3A01			1426	JMP Z,DISPCRLF	144.
000115	77			1428	ST A,(HL)	145.
000116	23			1430	INC HL	146.
000117	3A0220			1432	LD A,CURSX	147.
00011A	3C			1434	INC A	148.
00011B	320220			1436	ST A,CURSX	149.
00011E	FES1			1438	CMPI LINESIZE	150.
000120	FA3301			1440	JMP S,DISP2	151.
000123	97			1442	DISP3 SUB A	152.
000124	320220			1444	ST A,CURSX	153.
000127	EB			1446	XCH HL,DE	154.
000128	214BB4			1448	LODI HL,-(TEXT+TEXTSIZE)	155.
00012B	19			1450	ADD HL,DE	156.
00012C	D23201			1452	JMP NC,DISP1	157.
00012F	11F340			1454	LODI DE,TEXT+3*LINESIZE	158.
000132	EB			1456	DISP1 XCH HL,DE	159.
000133	220020			1458	DISP2 ST HL,CURSLOC	160.
000136	F1			1460	POP FA	161.
000137	E1			1462	POP HL	162.
000138	D1			1464	POP DE	163.
000139	C9			1466	RET	164.
				1468	*	165.
00013A	547D			1469	DISPCRLF LOD DA,HL	166.



LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
00013F	96			1473	SUB M	168.
000140	6F7A			1475	LOD LA,AC	169.
000142	DE00			1477	SBBI 0	170.
000144	67			1479	LOD H,A	171.
000145	115100			1481	LODI DE,LINESIZE LOC=LOC+LINESIZE	172.
000148	19			1483	ADD HL,DE	173.
000149	C32301			1485	JMP DISP3	174.
				1487 *		175.
				1488 *	HEXIN INPUT HEXSTRING TO HL	176.
				1489 *	RETURN WITH TERMINATOR IN A	177.
				1490 *		178.
00014C	210000			1491	HEXIN LODI HL,0	179.
00014F	DB84			1493	HEXIN2 INP KEYBOARD WAIT FOR 0->1 TRANSITION OF KEY STROBE	180.
000151	B7			1495	IOR A	181.
000152	FA4F01			1497	JMP S,HEXIN2	182.
000155	DBE4			1499	HEXIN4 INP KEYBOARD	183.
000157	B7			1501	IOR A	184.
000158	F25501			1503	JMP NS,HEXIN4	185.
00015B	E67F			1505	ANDI X'7F'	186.
00015D	CD0A01			1507	CALL DISPLAY	187.
000160	FE30			1509	CMPI '0'	188.
000162	F8			1511	RET S SMALLER THEN 0	189.
000163	FE3A			1513	CMPI ':' :=9+1	190.
000165	FA7001			1515	JMP S,HEXIN3	191.
000168	FE61			1517	CMPI 'A'	192.
00016A	F8			1519	RET S	193.
00016B	FE67			1521	CMPI 'G'	194.
00016D	F0			1523	RET NS	195.
00016E	C609			1525	ADDI 9	196.
000170	E60F			1527	HEXIN3 ANDI X'0F'	197.
000172	29			1529	ADD HL,HL SHIFT IN NEW DIGIT	198.
000173	29			1531	ADD HL,HL	199.
000174	29			1533	ADD HL,HL	200.
000175	29			1535	ADD HL,HL	201.
000176	B5			1537	IOR L	202.
000177	6F			1539	LOD L,A	203.
000178	C34F01			1541	JMP HEXIN2	204.
				1543 *		205.
				1544 *	SHOW DISPLAY LINES IN HEX	206.
				1545 *	START AT (HL); CONTINUE FOR (E) LINES	207.
				1546 *		208.
000178	3E0D			1547	SHOW LODI A,@CRLF NEW LINE	209.
00017D	CD0A01			1549	CALL DISPLAY	210.
000180	7C			1551	LOD A,H ADDRESS IN HEX	211.
000181	CDEE00			1553	CALL DUMP	212.
000184	7D			1555	LOD A,L	213.
000185	CDEE00			1557	CALL DUMP	214.
000188	0610			1559	LODI B,16 LOOP FOR 16 BYTES	215.
00018A	7D			1561	SHOW1 LOD A,L	216.
00018B	E603			1563	ANDI X'03' FULLWORD BNDRY?	217.
00018D	3E20			1565	LODI A,' ' YES - EXTRA BLANK	218.
00018F	CC0A01			1567	CALL Z,DISPLAY	219.
000192	CD0A01			1569	CALL DISPLAY	220.
000195	7E			1571	LD A,(HL)	221.
000196	CDEE00			1573	CALL DUMP DUMP BYTE IN HEX	222.

000199 23

1575
1577

INC HL
DEC B

223.
224.



LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
00019A	05			1578		
00019B	C28A01			1579	JMP NZ,SHOW1	225.
00019E	CDD600			1581	CALL KEYTEST	226.
0001A1	1D			1583	DEC E	227.
0001A2	C27B01			1585	JMP NZ,SHOW	228.
0001A5	C35900			1587	JMP ASK	229.

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
				1590 *		231.
				1591 * BIT TEST		232.
				1592 *		233.
				1593 *	CHECK EACH LOCATION FOR THE ABILITY TO STORE 0'S AND 1'S.	234.
				1594 *	WILL FIND HARD BIT ERRORS ASSUMING CORRECT ADDRESSING.	235.
				1595 *		236.
0001A8	E5			1596 BITTEST	PUSH HL	237.
0001A9	CDB001			1598	CALL BT1	238.
0001AC	E1			1600	POP HL	239.
0001AD	C3A801			1602	JMP BITTEST	240.
				1604 *		241.
0001B0	3600			1605 BT1	LODI M,0	242.
0001B2	7E			1607	LOD A,M	243.
0001B3	B7			1609	IOR A	244.
0001B4	C4C601			1611	CAL NZ,BTERR1	245.
0001B7	36FF			1613	LODI M,X'FF'	246.
0001B9	7E			1615	LOD A,M	247.
0001BA	FEFF			1617	CMPI X'FF'	248.
0001BC	C4D501			1619	CAL NZ,BTERR2	249.
0001BF	23			1621	INC HL	250.
0001C0	7D			1623	LOD A,L	251.
0001C1	325740			1625	ST A,CTR+1	252.
0001C4	B7			1627	IOR A	253.
0001C5	C2B001			1629	JMP NZ,BT1	254.
0001C8	7C			1631	LOD A,H	255.
0001C9	E60F			1633	ANDI X'0F'	256.
0001CB	325640			1635	ST A,CTR	257.
0001CE	C2B001			1637	JMP NZ,BT1	258.
0001D1	CDD600			1639	CALL KEYTEST	259.
0001D4	C9			1641	RET	260.
				1643 *		261.
0001D5	2F			1644 ETERR2	CMA ,	262.
		001D6		1646 BTERR1	EQU *	263.
0001D6	47			1648	LOD B,A	264.
0001D7	D3E6			1650	OUT BELL	265.
0001D9	7C			1652	LOD A,H	266.
0001DA	CDEE00			1654	CALL DUMP	267.
0001DD	7D			1656	LOD A,L	268.
0001DE	CDEE00			1658	CALL DUMP	269.
0001E1	3E2C			1660	LODI A,,	270.
0001E3	CD0A01			1662	CALL DISPLAY	271.
0001E6	78			1664	LOD A,B	272.
0001E7	CDEE00			1666	CALL DUMP	273.
0001EA	3E20			1668	LODI A,,	274.
0001EC	CD0A01			1670	CALL DISPLAY	275.
0001EF	CDD600			1672	CALL KEYTEST	276.
0001F2	C9			1674	RET	277.
				1677 *		279.
				1678 *	BIT TEST ALL OF MEMORY	280.
				1679 *		281.
0001F3	210040			1680 TESTALL	LODI HL,TEXT	282.
0001F6	CDB001			1682 TESTALL2	CALL BT1	283.
0001F9	7C			1684	LOD A,H	284.

0001FA B7
0001FB C2F601
0001FE 210702
000201 CDE400

1686
1688
1690
1692

IOR A
JMP NZ,TESTALL2
LODI HL,DCNEMSG
CALL WRITE

285.
286.
287.
288.

3225

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
000204	C3F301			1694	JMP TESTALL	289.
				1696	*	290.
000207	202A444F4E452A20			1697	DONEMSG CHAR ' *DCNE* ',0	291.
00020F	00			1699		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
				1701 *		293.
				1702 * NO. 6	TEST EACH LOCATION FOR INTERFERENCE FROM LOCATIONS WHOSE	294.
				1703 *	ADDRESSES DIFFER BY ONE BIT.	295.
				1704 *	OUTPUT IS AA,B LL	296.
				1705 *	AA = FAILING ADDRESS	297.
				1706 *	B = BITS IN ERROR	298.
				1707 *	LL = ADDR CHANGE MASK	299.
000210	E5			1708	ADDRTEST PUSH HL	300.
000211	CD1802			1710	CALL AT1	301.
000214	E1			1712	POP HL	302.
000215	C31002			1714	JMP ADDRTEST	303.
				1716 *		304.
		00218		1717	AT1 EQU *	305.
000218	010100			1719	M61 DLD BC,0001 -	306.
000218	78			1721	M62 LOD A,E	307.
00021C	AC			1723	XOR H	308.
00021D	5779			1725	LOD DA,AC	309.
00021F	AD			1727	XOR L	310.
000220	5F			1729	LOD E,A	311.
000221	3600			1731	LODI M,X'00'	312.
000223	7C62556B			1733	LOD AHDL,HDLE	313.
000227	36FF			1735	LODI M,X'FF'	314.
000229	6A5467			1737	LOD LDH,DHA	315.
00022C	7E			1739	LOD A,M	316.
00022D	FE00			1741	CMPI X'00'	317.
00022F	C46602			1743	CAL NZ,ERR7-	318.
000232	36FF			1745	LODI M,X'FF'	319.
000234	7C62556B			1747	LOD AHDL,HDLE	320.
000238	3600			1749	LODI M,X'00'	321.
00023A	6A5467			1751	LOD LDH,DHA	322.
00023D	7E			1753	LOD A,M	323.
00023E	FEFF			1755	CMPI X'FF'	324.
000240	C46502			1757	CAL NZ,ERR8	325.
000243	97			1759	M63 SUB A	326.
000244	79			1761	LOD A,C	327.
000245	17			1763	ROT LC	328.
000246	4F78			1765	LOD CA,AE	329.
000248	17			1767	ROT LC	330.
000249	47			1769	LOD B,A	331.
00024A	FE10			1771	CMPI X'10'	332.
00024C	C21B02			1773	JMP NZ,M62	333.
00024F	23			1775	INC HL	334.
000250	7D			1777	LOD A,L	335.
000251	325740			1779	ST A,CTR+1	336.
000254	B7			1781	IOR A	337.
000255	C21802			1783	JMP NZ,AT1	338.
000258	CDD600			1785	CALL KEYTEST	339.
00025B	7C			1787	LOD A,H	340.
00025C	E60F			1789	ANDI X'0F'	341.
00025E	325640			1791	ST A,CTR	342.
000261	C21802			1793	JMP NZ,AT1	343.
000264	C9			1795	RET	344.
				1797 *		345.
000265	2F			1798	ERR8 CMA ,	346.
000266	CDD601			1800	ERR7 CALL BTERR1	347.
					BAD BITS	
					ADDR, BYTE	

000269 78	1802	LOD	A,E		348.
00026A CDEE00	1804	CALL	DUMP	ADDR MASK	349.
00026D 79	1806	LOD	A,C		350.
00026E CDEE00	1808	CALL	DUMP		351.
000271 3E20	1810	LODI	A,' '		352.
	1812	CALL	DISPLAY		353.

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
000273	CD0A01			1813		
000276	CD0A01			1814	CALL DISPLAY	354.
000279	CS			1816	RET .	355.
				1818	***	356.

LUC	OBJECT CODE	ADDR1	ADDR2	STMT	SOURCE STATEMENT	ASM H V 05 23.25 03/16/76
		0027A		1820	PATCHER EQU *	358.
				1822	*	359.
				1823	*PATCHER PRINTS OUT CONTENTS, WAITS FOR YOU TO TYPE	360.
				1824	*IN ANY NUMBE OF CHARACTERS (OF WHICH THE LOW ORDER TWO ARE USED	361.
				1825	* FOLLOWED BY A BLANK. IT THE STORES THOSE CHARACTERS IN THE CURRENT	362.
				1826	*LOCATION READS BACK THE CONTENTS AND VERIFIES IT.	363.
				1827	*THEN TYPES TWO BLANKS, AND GOES BACK AND DOES THE WHOLE THING	364.
				1828	*AGAIN. TYPING A CR INSTEAD OF A BLANK, GOES BACK TO THE	365.
				1829	*:COMMAND PROMPT	366.
				1830	*:	367.
00027A	EB			1831	XCH HL,DE PUT ADDRESS IN HL	368.
00027B	3E20			1833	LODI A,' '	369.
00027D	CD0A01			1835	CALL DISPLAY	370.
000280	CD0A01			1837	CALL DISPLAY	371.
000283	CD0A01			1839	CALL DISPLAY	372.
		00286		1841	DOPATCH EQU *	373.
000286	7A			1843	LOD A,D DISPLAY ADDRESS	374.
000287	CDEE00			1845	CALL DUMP	375.
00028A	7B			1847	LOD A,E	376.
00028B	CDEE00			1849	CALL DUMP	377.
00028E	3E3D			1851	LODI A,'='	378.
000290	CD0A01			1853	CALL DISPLAY	379.
000293	CD4C01			1855	CALL HEXIN GET THE REPLACEMENT	380.
000296	FE2D			1857	CMPI '--' SEE IF SKIP	381.
000298	CAAF02			1859	JMP Z,PATCHDIS	382.
00029B	FE0D			1861	CMPI @CR SEE IF RETURN	383.
00029D	CA5900			1863	JMP Z,ASK	384.
0002A0	7D			1865	LOD A,L GET L	385.
0002A1	12			1867	ST A,(DE) PUT IT THERE	386.
0002A2	1A			1869	LD A,(DE) GET IT BACK	387.
0002A3	8D			1871	CMP L DOES IT COMPARE?	388.
0002A4	CAB302			1873	JMP Z,PATCHSEP YES...	389.
0002A7	D386			1875	OUT BELL NO - BELL AND MSG	390.
0002A9	21BF02			1877	LODI HL,PATCHERR	391.
0002AC	CDE400			1879	CALL WRITE	392.
0002AF	1A			1881	PATCHDIS LD A,(DE) GET REAL DATA	393.
0002B0	CDEE00			1883	CALL DUMP DISPLAY IT	394.
0002B3	3E20			1885	PATCHSEP LODI A,' ' SEPARATOR	395.
0002B5	CD0A01			1887	CALL DISPLAY	396.
0002B8	CD0A01			1889	CALL DISPLAY	397.
0002BB	13			1891	NEXTPAT INC DE UPDATE ADDRESS	398.
0002BC	C3E602			1893	JMP DOPATCH	399.
				1895	*	400.
0002BF	2049533A			1896	PATCHERR CHAR ' IS: ',0	401.
0002C3	00			1898		
				1899	*	402.
				1900	*	403.
				1901	*	404.
				1902	JUMP (CALL) A PROGRAM	405.
0002C4	115900			1903	JUMP LODI DE,ASK RETURN ADDRESS	406.
0002C7	D5			1905	PUSH DE STACK	407.
0002C8	E9			1907	JMP (HL)	408.
				1909	*	409.
				1910	END	410.002

ASM H V 05 23.25 03/16/76

NO STATEMENTS FLAGGED IN THIS ASSEMBLY

OVERRIDING PARAMETERS- LINECCUNT(115)

OPTIONS FOR THIS ASSEMBLY

NODECK, OBJECT, LIST, XREF(SHORT), NORENT, NOTEST, BATCH, ALIGN, ESD, RLD, LINECOUNT(15), FLAG(0), SYSPARM()

NO OVERRIDING DD NAMES

479 CARDS FROM SYSIN
1066 LINES OUTPUT1032 CARDS FROM SYSLIB
15 CARDS OUTPUT

--03/03/76--MICROFILM PROCESSING SCHEDULE-----

EFFECTIVE MAR 1, 1976, MICROFILM PROCESSING SERVICE WILL BE
AVAILABLE MONDAY THROUGH THURSDAY 0800 - 2030 HRS. ON FRIDAY
AND SUNDAY 0800 - 1630 HRS.

--03/03/76--USER SEMINAR SERIES CONTINUES-----

THE WEDNESDAY AFTERNOON SEMINAR SERIES AT 1:00 PM IN ROOM 359
COMPLTER BUILDING CONTINUES WITH:

- MAR 10 LINEAR SYSTEMS AND IEGENSYSTEMS ANALYSIS
 - MAR 17 STATISTICAL ANALYSIS SYSTEM. R. LAGERSTROM
(NOT PART OF THE SIX-SEMINAR SERIES)
 - MAR 24 INTRO TO MORTRAN (FOR THE FORTRAN PROGRAMMER)
J. COCK (NOT PART OF THE SIX-SEMINAR SERIES)
 - MAR 31 NUMERICAL INTEGRATION AND INTERPRETATION B. COUGHRAN
 - APR 7 LEAST SQUARES, INTERPOLATION, APPROXIMATION T. CHAN
 - APR 14 NONLINEAR EQUATIONS AND OPTIMIZATION M. HEATH
 - APR 21 ORDINARY DIFFERENTIAL EQUATIONS J. BOLSTAD
- *****

ASP JOB NO. = 9913

TUESDAY

MARCH 16, 1976 (76.076)

INPUT STATEMENTS (INCLUDING DD *) = 000502

//LJSCG417 JOB LJS\$CG,888,CLASS=E

0.002

ELAPSED TIME ON MAIN = SYC (91) = 001.18, START TIME = 23.25.40

DDNAME = SYSMMSG

PRINTED ON PRT2

, LINES = 000146

DDNAME = CLEANUP.OUT

PRINTED ON PRT2

, LINES = 000622

LINES OUTPUT FOR THIS JOB = 000768

CARDS FROM MAIN FOR THIS JOB = NONE