

SOUTH AUSTRALIAN MICROPROCESSOR GROUP

P.O. BOX 113,
PLYMPTON, S.A. 5038
TEL 278 7288

INC.

Meetings held at
THEBARTON HIGH SCHOOL
ASHLEY ST., THEBARTON

NEWSLETTER

Vol. 1. No. 6

February/March 1980 Newsletter. Postal Adr. P.O. BOX 113. PLYMPTON S.A.

This issue of our newsletter comes on the eve of the Annual General Meeting which is the subject of the February gathering. The A.G.M. will consist of reports from the Chairman and Sec/Treasurer regarding the previous year's events. It will also include an Election of members to the various positions required for the formation of the committee for 1980. Our wish will also be to include an extra position of Editor for the production of the newsletter and other technical material.

Following the election general business will be discussed including such items as increasing the yearly subs from \$5, starting special interest groups e.g. CP/M users, TRS80 users, 6800 users and etc. The subject of group purchases for all members will also be discussed for example club library books, technical equipment, software packages and the like. If there are any other suggestions for subject matter to be discussed during the A.G.M. please notify any committee member before the meeting starts.

The December meeting a B.Y.O.S. night seemed to favour the Z80/CP/M gear with a testing of the RXDAT (receive data by nybbles) program. All went well but the first byte of each file transfer was corrupted and I suspect line 119: which calls a subroutine to print a string only on receipt of the first nybble. I guess when the full handshake software is written that delay will not matter but in the meantime I would suggest that lines 116: to 119: be deleted.

Our January meeting was to have been a demonstration by Protronics of Adelaide but due to unforeseen circumstances they could not attend. However the evening turned out to be rather interesting with Richard Schipper giving us a very interesting talk on his 6800 system and I hope that you will all join us in thanking Richard for his efforts particularly as he only had about 10 hours notice.

February

The meeting in February will as you have read earlier be the A.G.M. followed by rejoining of members for 1980. Also any other points can be raised for discussion particularly the special interest groups formation.

YOUR COMMITTEE FOR 1979

CHAIRMAN: Eric Clarke.....278-7288
 SECR. TREAS: Bob Stunell.....352-5811

COMMITTEE MEMBERS:

Tony Beresford
 Bob Daniells
 Howie Harvey
 Rick Matthews

March

In march we will have a technical lecture on Numerical Methods using Computers. This talk will be given to us by Mr. John Stevens who has been experimenting with methods to generate Prime numbers. This should prove to be rather an interesting evening as I dont think we have had any mathematics discussions for some time.

Unfortunately due to Xmas and other delays the promised source for TXDAT (the other half of RXDAT) is not ready yet but as soon as it is we will publish it in the newsletter. Also some articles that have been supplied by members have required reprinting and will be available for the next issue.

The Ballarat Computer Group has expressed a desire to know how other computer groups balance their activities between formal meetings, educational sessions and informal discussions. Probably your members have a diverse range of experiences with computers like our group and we would be interested in hearing how this is catered for within your group. Past and future activities would be of interest.

An invitation is extended to your members, when in Ballarat to come to our meetings on the first Tuesday night in the month held at the Education Centre Ballarat, or to contact our members.

Also to facilitate the exchange of ideas we are interested in receiving a copy of your newsletter on an exchange basis with our own.

Ballarat Computer Group,
 Education Centre,
 P.O. Box 223,
BALLARAT EAST. Vic., 3350.

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 *

The February meeting is on the 8th 7.30pm

The March meeting is on the 14th 7.30pm

*Program visually checked but not run by S.A.M.G.****

*

LINEPLOT.ASM/PRN Written by Craig Amey of the S.A.M.G. Inc.

This program is a callable subroutine which joins two graphic points (E,D),(L,H). The line is always started from (H,L). it can be either white or black as defined by VIDL, 1=white 0=black. The calling address = 2203H this program has been written for the DG640 VDU which should be located at 8000H

see*

>2200	0012	ORG	2200H
	0013		
	0014		
>2200	0015	SRAM:	DEFS 2
>2202	0016	VIDL:	DEFS 1
2203 CDB122	0017		CALL SAVE
2206 ED530022	0018		LD (SRAM),DE
220A 7A	0019		LD A,D
220B 94	0020		SUB H
220C 1601	0021		LD D,01
220E 3004	0022		JR NC,A1-\$
2210 ED44	0023		NEG
2212 16FF	0024		LD D,OFFH
	0025		
2214 47	0026	A1:	LD B,A
2215 7B	0027		LD A,E
2216 95	0028		SUB L
2217 1E01	0029		LD E,01
2219 3004	0030		JR NC,A2-\$
221B ED44	0031		NEG
221D 1EFF	0032		LD E,OFFH
221F 4F	0033	A2:	LD C,A
2220 78	0034		LD A,B
2221 B9	0035		CP C
2222 3814	0036		JR C,L5-\$
2224 CD7122	0037	L1:	CALL SCRS
2227 CD5922	0038		CALL CHK
222A 91	0039		SUB C
222B CD4D22	0040		CALL NXTX
222E 2802	0041		JR Z,M1-\$
2230 30F2	0042		JR NC,L1-\$
2232 80	0043	M1:	ADD A,B
2233 CD5322	0044		CALL NXTY
2236 18EC	0045		JR L1-\$
2238 79	0046	L5:	LD A,C
2239 CD7122	0047	L4:	CALL SCRS
223C CD5922	0048		CALL CHK
223F 90	0049		SUB B
2240 CD5322	0050		CALL NXTY
2243 2802	0051		JR Z,M2-\$
2245 30F2	0052		JR NC,L4-\$
2247 81	0053	M2:	ADD A,C
2248 CD4D22	0054		CALL NXTX
224B 18EC	0055		JR L4-\$
224D F5	0056	NXTX:	PUSH AF
224E 7C	0057		LD A,H
224F 82	0058		ADD A,D
2250 67	0059		LD H,A

ADDR	CODE	STMT	SOURCE	STATEMENT
2251	F1	0060		POP AF
2252	C9	0061		RET
2253	F5	0062	NXTY:	PUSH AF
		0063		
2254	7D	0064		LD A,L
2255	83	0065		ADD A,E
2256	6F	0066		LD L,A
2257	F1	0067		POP AF
2258	C9	0068		RET
2259	F5	0069	CHK:	PUSH AF
225A	D5	0070		PUSH DE
225B	ED5B0022	0071		LD DE,(SRAM)
225F	7C	0072		LD A,H
2260	BA	0073		CP D
2261	200B	0074		JR NZ,C1-\$
2263	7D	0075		LD A,L
2264	BB	0076		CP E
2265	2007	0077		JR NZ,C1-\$
2267	D1	0078		POP DE
2268	D1	0079		POP DE
2269	D1	0080		POP DE
226A	CD8A22	0081		CALL RETN
226D	C9	0082		RET
226E	D1	0083	C1:	POP DE
226F	F1	0084		POP AF
2270	C9	0085		RET
2271	CD8122	0086	SCRS:	CALL SAVE
2274	CD8B22	0087		CALL CRSR
2277	3A0222	0088		LD A,(VIDL)
227A	B7	0089		OR A
227B	2804	0090		JR Z,M3-\$
227D	1A	0091		LD A,(DE)
227E	B1	0092		OR C
227F	1805	0093		JR B1-\$
2281	1A	0094	M3:	LD A,(DE)
2282	47	0095		LD B,A
2283	79	0096		LD A,C
2284	2F	0097		CPL
2285	A0	0098		AND B
2286	12	0099	B1:	LD (DE),A
2287	CD8A22	0100		CALL RETN
228A	C9	0101		RET
228B	E5	0102	CRSR:	PUSH HL
228C	0E01	0103		LD C,01
228E	7C	0104		LD A,H
228F	E603	0105		AND 03
2291	CB3D	0106		SRL L
2293	17	0107		RLA
2294	47	0108		LD B,A
2295	04	0109		INC B
2296	CB09	0110		RRC C
2298	CB01	0111	M4:	RLC C
229A	10FC	0112		DJNZ M4-\$
229C	CB25	0113		SLA L
229E	CB25	0114		SLA L
22A0	7C	0115		LD A,H
22A1	1F	0116		RRA
22A2	1F	0117		RRA

ADDR	CODE	STMT	SOURCE	STATEMENT
22A3	1F	0118		RRA
22A4	CB1D	0119		RR L
22A6	1F	0120		RRA
22A7	CB1D	0121		RR L
22A9	E603	0122		AND 03
22AB	F680	0123		OR 80H
22AD	67	0124		LD H,A
22AE	EB	0125		EX DE,HL
22AF	E1	0126		POP HL
22B0	C9	0127		RET
22B1	DDE1	0128	SAVE:	POP IX
22B3	E5	0129		PUSH HL
22B4	D5	0130		PUSH DE
22B5	C5	0131		PUSH BC
22B6	F5	0132		PUSH AF
22B7	DDE5	0133		PUSH IX
22B9	C9	0134		RET
22BA	DDE1	0135	RETN:	POP IX
22BC	F1	0136		POP AF
22BD	C1	0137		POP BC
22BE	D1	0138		POP DE
22BF	E1	0139		POP HL
22C0	DDE5	0140		PUSH IX
22C2	C9	0141		RET
		0142		
		0143	END	

CROSS REFERENCE LISTING				
SYMBOL	VALUE	TYPE	STMT	STATEMENT REFERENCES
A1	2214		0026	0022
A2	221F		0033	0030
B1	2286		0099	0093
C1	226E		0083	0077 0074
CHK	2259		0069	0048 0038
CRSR	228B		0102	0087
L1	2224		0037	0045 0042
L4	2239		0047	0055 0052
L5	2238		0046	0036
M1	2232		0043	0041
M2	2247		0053	0051
M3	2281		0094	0090
M4	2298		0111	0112
NXTX	224D		0056	0054 0040
NXTY	2253		0062	0050 0044
RETN	22BA		0135	0100 0081
SAVE	22B1		0128	0086 0017
SCRS	2271		0086	0047 0037
SRAM	2200		0015	0071 0018
VIDL	2202		0016	0088
ERRORS=0000				

A1	2214	A2	221F	B1	2286	C1	226E
CHK	2259	CRSR	228B	L1	2224	L4	2239
L5	2238	M1	2232	M2	2247	M3	2281
M4	2298	NXTX	224D	NXTY	2253	RETN	22BA
SAVE	22B1	SCRS	2271	SRAM	2200	VIDL	2202

```

1:
2:
3:      * Program to do Binary to Decimal Conversion
4:      *
5:      F30C =      HLIN: EQU      0F30CH ;Input HL from keyboard
6:      F00C =      OPC: EQU      0F00CH ;Output C register
7:      F2AE =      OPTTEXT: EQU    0F2AEH ;Output text routine
8:      *
9:      0100          ORG      100H      ;
10:     *
11:     0100 215001    START    LXI      H,MSG      ;
12:     0103 CDAEF2          CALL    OPTTEXT      ;
13:     0106 CD0CF3          CALL    HLIN          ;
14:     0109 C20001          JNZ      START        ;Try again if not a number
15:     010C 4D          MOV      C,L          ;Put number into C
16:     010D CD1301          CALL    BINTDC        ;Binary to Decimal Conversion
17:     0110 C30001          JMP      START        ;
18:     *
19:     0113 3EFF      BINTDC    MVI      A,OFFH    ;Set Flag
20:     0115 326501          STA      LDZFLG        ;
21:     0118 79          MOV      A,C          ;Put count into A
22:     0119 1E64          MVI      E,100          ;
23:     011B CD2B01          CALL    OPDEC          ;Output hundreds digit
24:     011E 1E0A          MVI      E,10          ;
25:     0120 CD2B01          CALL    OPDEC          ;Output tens digit
26:     0123 1E01          MVI      E,1          ;
27:     0125 CD2B01          CALL    OPDEC          ;Output units digit
28:     0128 C30001          JMP      START        ;
29:     *
30:     012B 0E2F      OPDEC    MVI      C,2FH      ;ASCII zero -1
31:     012D 0C          COUNT1  INR      C          ;Increment count
32:     012E 93          SUB      E          ;
33:     012F D22D01          JNC      COUNT1        ;
34:     0132 83          ADD      E          ;Restore Acc to positive
35:     0133 47          MOV      B,A          ;Save A
36:     0134 7B          MOV      A,E          ;
37:     0135 FE01          CPI      1          ;
38:     0137 CA4B01          JZ      OPCC          ;Dnt want to blank RT zero
39:     013A 79          MOV      A,C          ;
40:     013B FE30          CPI      30H          ;Is it a zero ASCII
41:     013D C24801          JNZ      SETFLG        ;Set flag and op
42:     0140 3A6501          LDA      LDZFLG        ;Get flag
43:     0143 FEFF          CPI      OFFH          ;Is it set
44:     0145 CA4E01          JZ      BLNK          ;If so dont output digit
45:     0148 326501      SETFLG  STA      LDZFLG        ;
46:     014B CD0CF0      OPCC    CALL    OPC          ;
47:     014E 78          BLNK    MOV      A,B          ;Restore A
48:     014F C9          RET          ;
49:     *
50:     0150 0A0D      MSG      DB      0AH,0DH
51:     0152 454E544552      DB      'ENTER HEX NUMBER'
52:     0162 0A0D03      DB      0AH,0DH,03
53:     *
54:     0165 FF          LDZFLG  DB      OFFH          ;Leading zero flag
55:     *
56:     *
57:     *
: *

```