

Fig.4 Sound generation circuitry of the evaluation circuit OM1099.

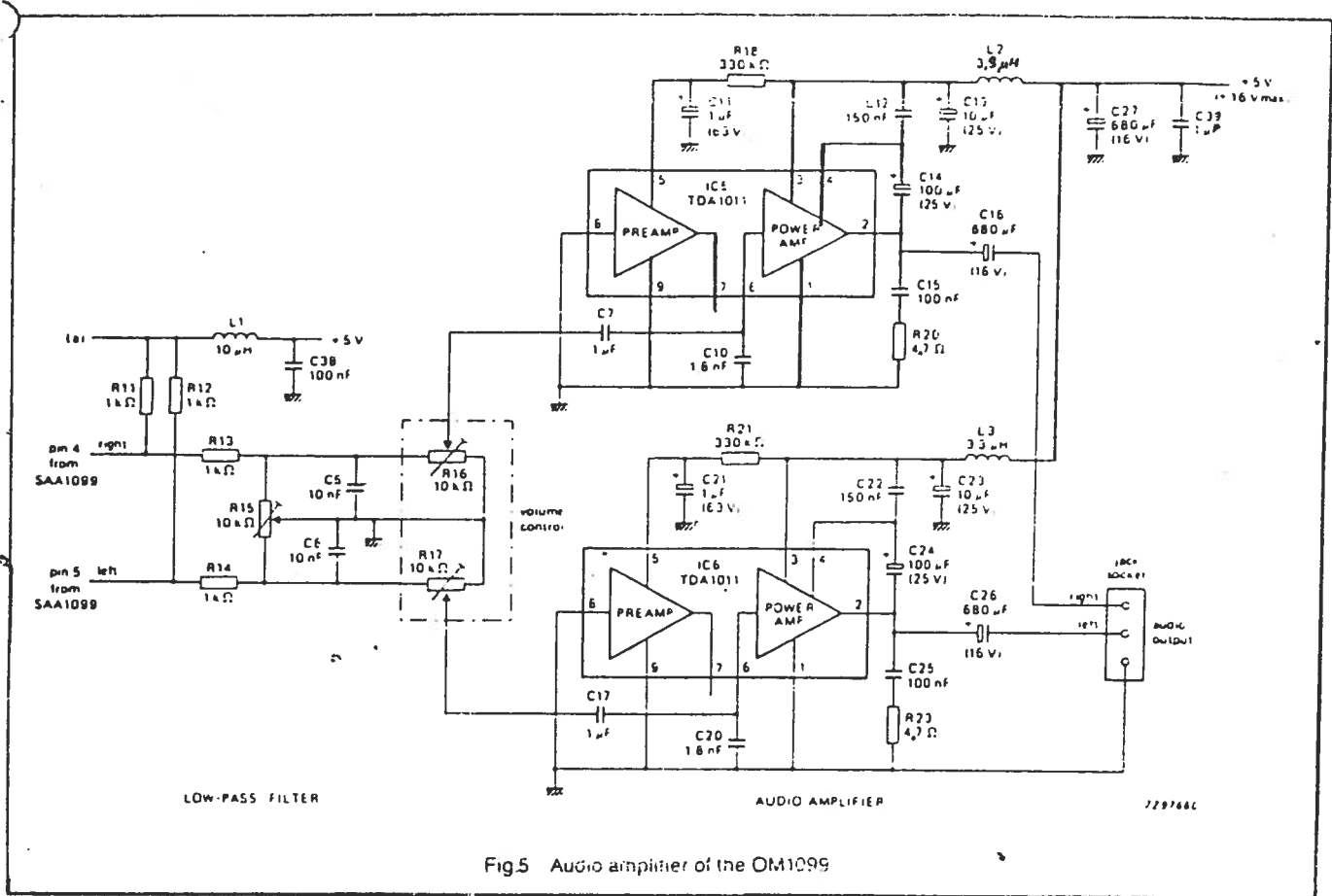
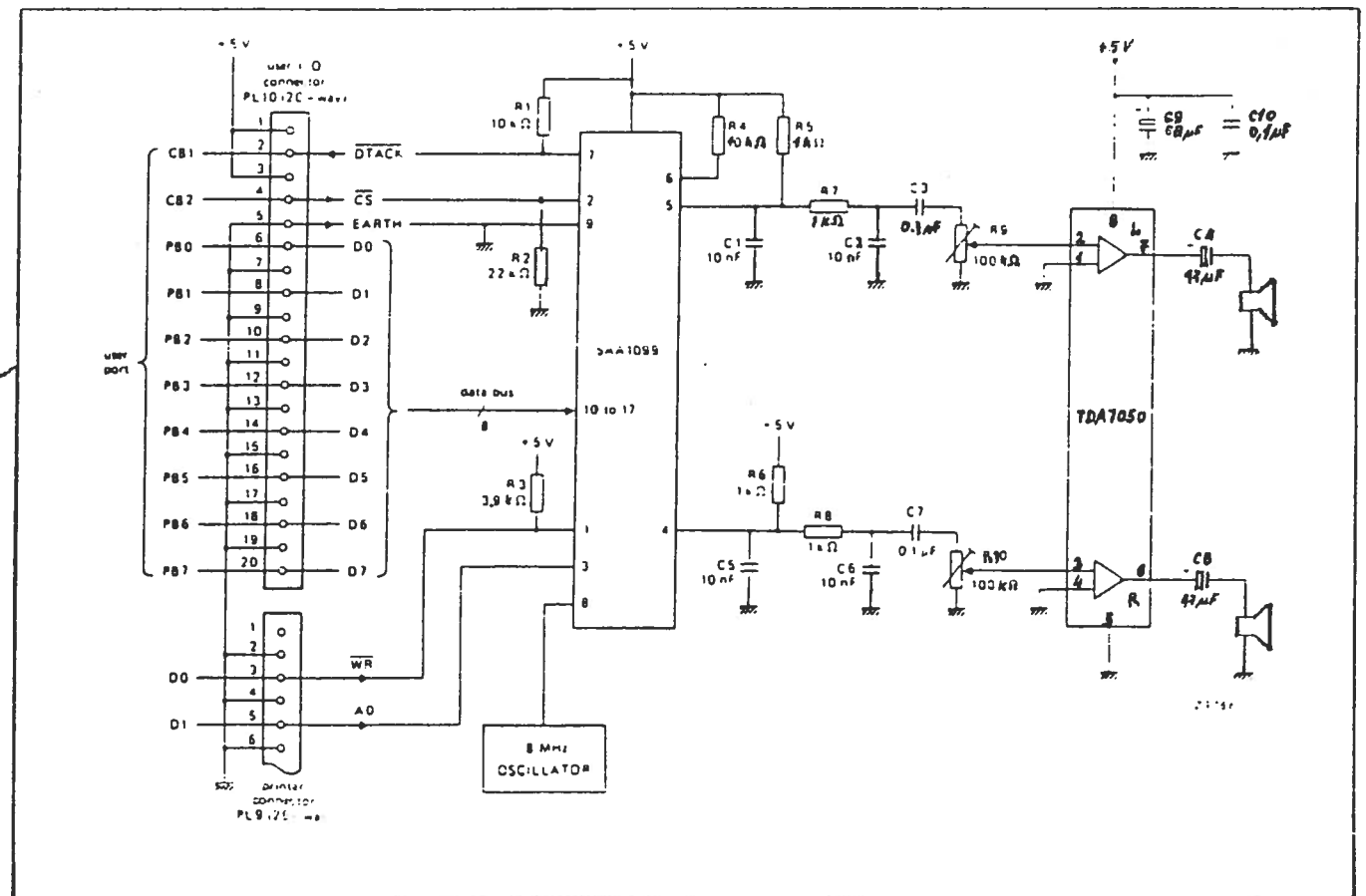


Fig.5 Audio amplifier of the OM1099



NOISE GEN 0 (22)	3	2	1	0
EXT 7,8 15,16 31,25	7	8	15	16

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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GENERATOR 0	(8)
TONE REGISTER	(8)
DCT REGISTER LSB	(16)

(21)	1
ADD BIT	1
(20)	20

AMPLITUDE REG. (0)	128	64	32	16	8	4	2	1
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LEFT	RIGHT
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GENERATOR 1	(9)
TONE REGISTER	(9)
DCT REGISTER MSB	(16)

(21)	2
ADD BIT	2
(20)	20

AMPLITUDE REG. (1)	128	64	32	16	8	4	2	1
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LEFT	RIGHT
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GENERATOR 2	(10)
TONE REGISTER	(10)
DCT REGISTER LSB	(17)

(21)	4
ADD BIT	4
(20)	20

AMPLITUDE REG. (2)	128	64	32	16	8	4	2	1
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LEFT	RIGHT
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NOISE GEN 1 (22)	48	32	16	0
EXT 7,8 15,16 31,25	7	8	15	16

(21)	8
ADD BIT	8
(20)	20

AMPLITUDE REG. (3)	128	64	32	16	8	4	2	1
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LEFT	RIGHT
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GENERATOR 3	(11)
TONE REGISTER	(11)
DCT REGISTER MSB	(17)

(21)	16
ADD BIT	16
(20)	20

AMPLITUDE REG. (4)	128	64	32	16	8	4	2	1
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LEFT	RIGHT
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GENERATOR 4	(12)
TONE REGISTER	(12)
DCT REGISTER LSB	(18)

(21)	32
ADD BIT	32
(20)	20

AMPLITUDE REG. (5)	128	64	32	16	8	4	2	1
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LEFT	RIGHT
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GENERATOR 5	(13)
TONE REGISTER	(13)
DCT REGISTER MSB	(18)

(21)	32
ADD BIT	32
(20)	20

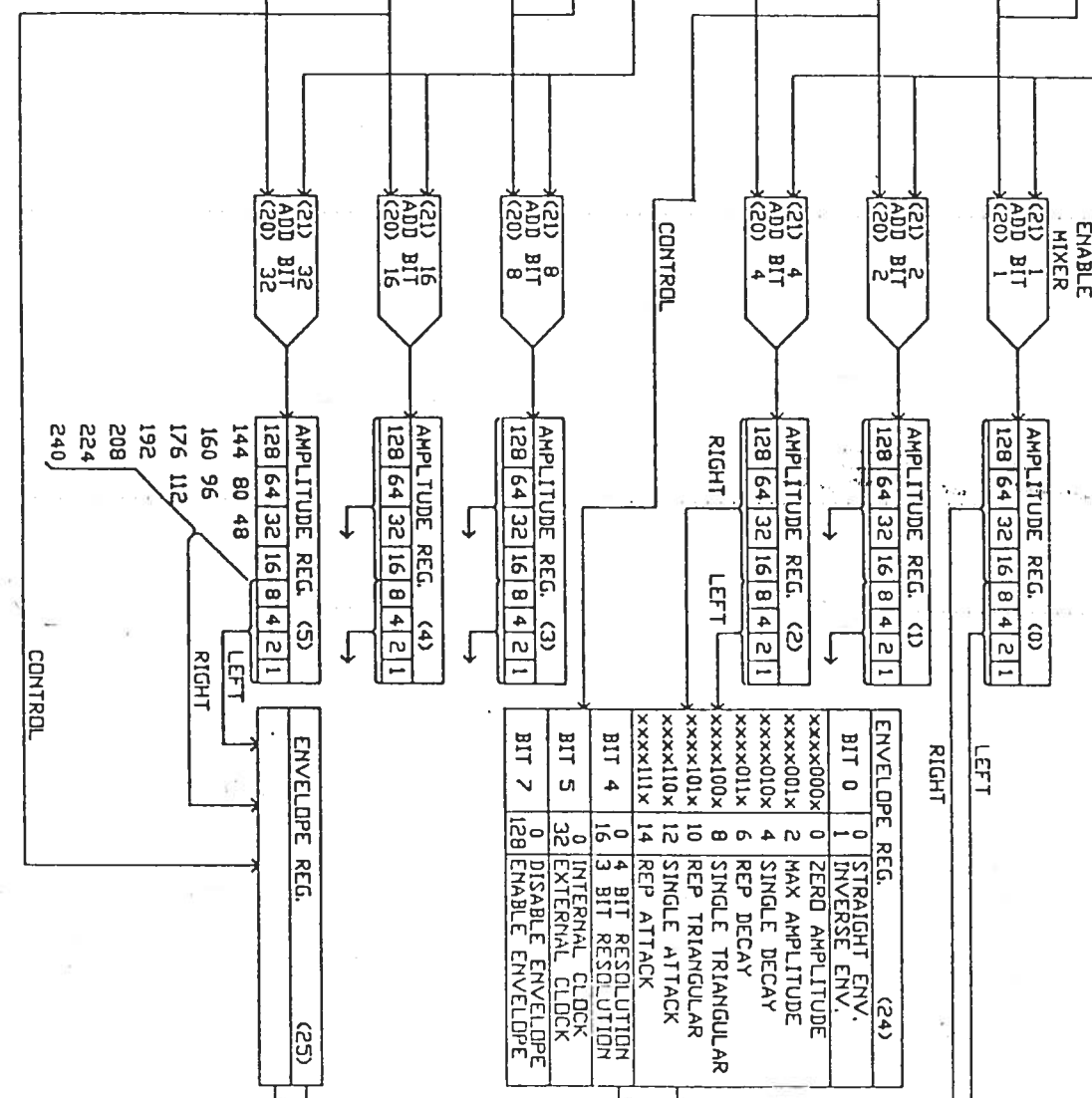
AMPLITUDE REG. (5)	128	64	32	16	8	4	2	1
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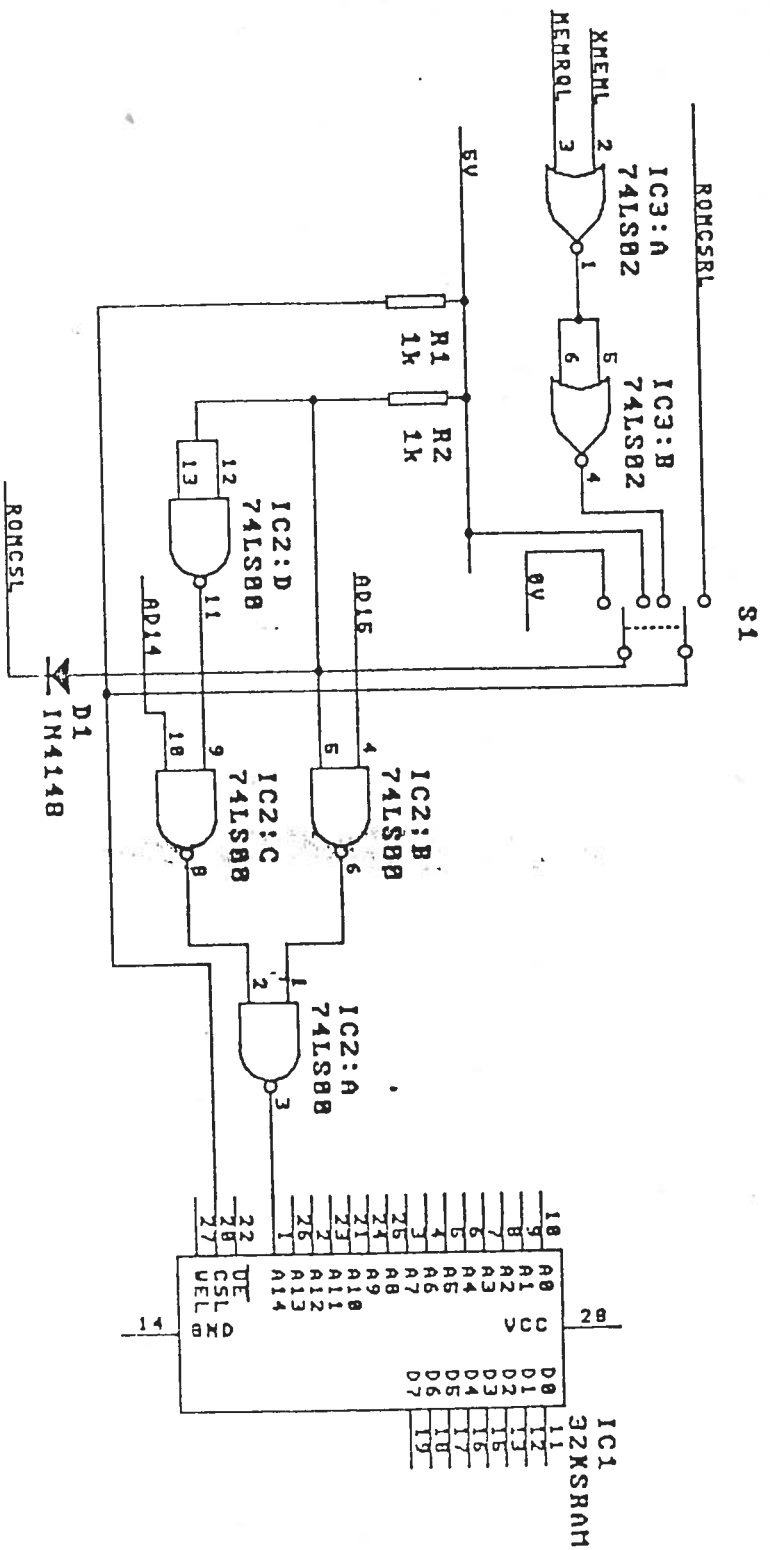
LEFT	RIGHT
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MSB OCTAVE VALUES LSB	0			
0	31	TD	61	Hz
16	61	TD	122	Hz
32	122	TD	244	Hz
48	245	TD	488	Hz
64	489	TD	977	Hz
80	978	TD	195	KHz
96	196	TD	391	KHz
112	391	TD	781	KHz
128	781	TD	1561	KHz

ENVELOPE REG. (24)	0	1
BIT 0	1	INVERSE ENV.
xxxx000x	0	ZERO AMPLITUDE
xxxx001x	2	MAX AMPLITUDE
xxxx010x	4	SINGLE DECAY
xxxx011x	6	REP DECAY
xxxx100x	8	SINGLE TRIANGULAR
xxxx101x	10	REP TRIANGULAR
xxxx110x	12	SINGLE ATTACK
xxxx111x	14	REP ATTACK
BIT 4	0	4 BIT RESOLUTION
16	3	BIT RESOLUTION
BIT 5	0	INTERNAL CLOCK
32	32	EXTERNAL CLOCK
BIT 7	128	DISABLE ENVELOPE
128	128	ENABLE ENVELOPE

OUTPUT MIXER REGISTER (28)	ENABLE ALL	VALUE 1
	RESET ALL	VALUE 2





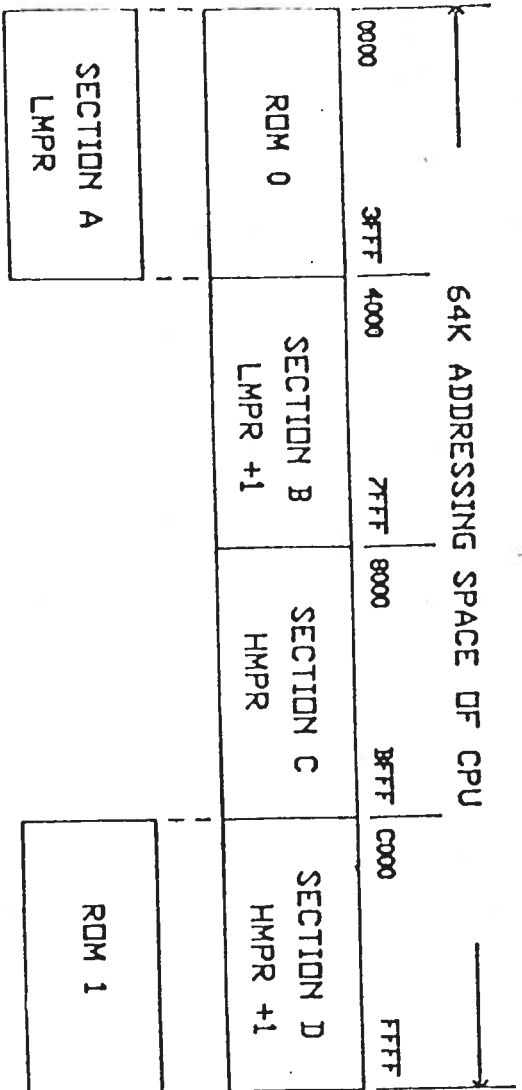
TITLE		EXTERNAL RAM ON SAM	
Size	Number	Revision	
A4	Interfaces-081	1	
Part:	14-80V (1)	Sheet 1 of 1	
Des:	8FT88 (1)	Drawn By: ANP	

INPUT - OUTPUT PORT MAP

PORT	READ	80	40	20	10	WRITE										PORT											
		128	64	32	16	8	4	2	1	0	80	40	20	10	8		4	2	1	0							
FF	ATTRIBUTES	FLASH	BRIGHT	GREEN PAPER	RED PAPER	BLUE PAPER	GREEN PAPER	RED PAPER	BLUE PAPER	GREEN PAPER	RED PAPER	BLUE PAPER	GREEN PAPER	RED PAPER	BLUE PAPER	GREEN PAPER	RED PAPER	BLUE PAPER	GREEN PAPER	RED PAPER	BLUE PAPER	255	FF				
		KEYBOARD	CAR	SPDN	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	254	FE			
FD	MIDI-IN	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0	MIDI-OUT										253	FD						
		BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0	BIT 7	BIT 6			BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
FC	V-PAGE	ROW0	ROW 1	ROW 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	V-PAGE										252	FC						
		ROW0	ROW 1	ROW 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	ROW0	ROW 1	ROW 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	ROW0	ROW 1			ROW 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14
FB	HM-PAGE	CONTROL	MEDIA	MEDIA	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	HM-PAGE										251	FB						
		CONTROL	MEDIA	MEDIA	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	CONTROL	MEDIA	MEDIA	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	CONTROL	MEDIA			MEDIA	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14
FA	LM-PAGE	RAM PROT	RAM 1	RAM 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	LM-PAGE										250	FA						
		RAM PROT	RAM 1	RAM 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	RAM PROT	RAM 1	RAM 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14	RAM PROT	RAM 1			RAM 0	0-1	PAGE 8 V17	PAGE 4 V16	PAGE 2 V15	PAGE 1 V14
F9	STATUS	R3	R2	R2	R2	FRAME DT	MEDIA DT	HOST DT	LINE DT	LINE INT										249	F9						
		R3	R2	R2	R2	FRAME DT	MEDIA DT	HOST DT	LINE DT	R3	R2	R2	R2	FRAME DT	MEDIA DT	HOST DT	LINE DT	R3	R2			R2	R2	FRAME DT	MEDIA DT	HOST DT	LINE DT
F8	PEN	LINE 64	LINE 32	LINE 16	LINE 8	LINE 4	LINE 2	LINE 1	CLUT										248	F8							
		LINE 64	LINE 32	LINE 16	LINE 8	LINE 4	LINE 2	LINE 1	LINE 64	LINE 32	LINE 16	LINE 8	LINE 4	LINE 2	LINE 1	LINE 64	LINE 32	LINE 16			LINE 8	LINE 4	LINE 2	LINE 1	LINE 64	LINE 32	LINE 16

E0	224	DISC 1	RANGE 224 TO 231	USING A0, A1, A2
E8	232	PRINTL	RANGE 232 TO 239	USING A0, A1, A2
F0	240	DISC 2	RANGE 240 TO 247	USING A0, A1, A2

64K ADDRESSING SPACE OF CPU



LMPR PORT 250

RAM 0 WRITE	RAM 1	RAM 0	BANK 0 - 1	PAGE 8	PAGE 4	PAGE 2	PAGE 1
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HMPPR PORT 251

MCNTRL	MD3S1	MD3S0	BANK 0 - 1	PAGE 8	PAGE 4	PAGE 2	PAGE 1
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VMPPR PORT 252

MIDI BIT	MDE 1	MDE 0	BANK 0 - 1	PAGE 8	PAGE 4	PAGE 2	PAGE 1
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BANK 0

PAGE 0
PAGE 1
PAGE 2
PAGE 3
PAGE 4
PAGE 5
PAGE 6
PAGE 7
PAGE 8
PAGE 9
PAGE 10
PAGE 11
PAGE 12
PAGE 13
PAGE 14
PAGE 15

BANK 1

PAGE 16
PAGE 17
PAGE 18
PAGE 19
PAGE 20
PAGE 21
PAGE 22
PAGE 23
PAGE 24
PAGE 25
PAGE 26
PAGE 27
PAGE 28
PAGE 29
PAGE 30
PAGE 31

< IF FITTED >

SCREEN ATTRIBUTE MAP

1800	TOP GROUP	181F
18E0	TOP GROUP	188F
1900	MIDDLE GROUP	191F
19E0	MIDDLE GROUP	198F
1A00	BOTTOM GROUP	1A1F
1AE0	BOTTOM GROUP	1AF

SCREEN BIT MAP

0000	LINE 1	001F
0100	LINE 2	011F
0200	LINE 3	021F
0300	LINE 4	031F
0400	LINE 5	041F
0500	LINE 6	051F
0600	LINE 7	061F
0700	LINE 8	071F
0020	ROW 2	003F
0720	ROW 2	073F
0040	ROW 3	005F
0740	ROW 3	075F
0050	ROW 4	007F
0760	ROW 4	077F
0080	ROW 5	009F
0780	ROW 5	079F
00A0	ROW 6	00BF
07A0	ROW 6	07BF
00C0	ROW 7	00DF
07C0	ROW 7	07DF
00E0	ROW 8	00FF
07E0	ROW 8	07FF
0800	MIDDLE GROUP	081F
0FE0	MIDDLE GROUP	0FF
1000	BOTTOM GROUP	101F
17E0	BOTTOM GROUP	17FF

SCREEN MODE 1

22-05-1989

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SCREEN 2 BITS PER PIXEL - MODE 3

LINE 1 LINE 2 LINE 3	PIXEL 1	PIXEL 2	PIXEL 3	PIXEL 4	PIXEL 5	PIXEL 6	PIXEL 7	PIXEL 8	PIXEL 9	PIXEL 10	PIXEL 11	PIXEL 12	PIXEL 13	PIXEL 14	PIXEL 15	PIXEL 16	PIXEL 509	PIXEL 510	PIXEL 511	PIXEL 512	
	0000	0001	0002	0003													007C	007D	007E	007F	
	0080	0081	0082	0083													00FC	00FD	00FE	00FF	
	0100																				

LINE 128

3F80																					3FFF
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NEXT PAGE

LINE 129

0000	0001	0002	0003																		007F
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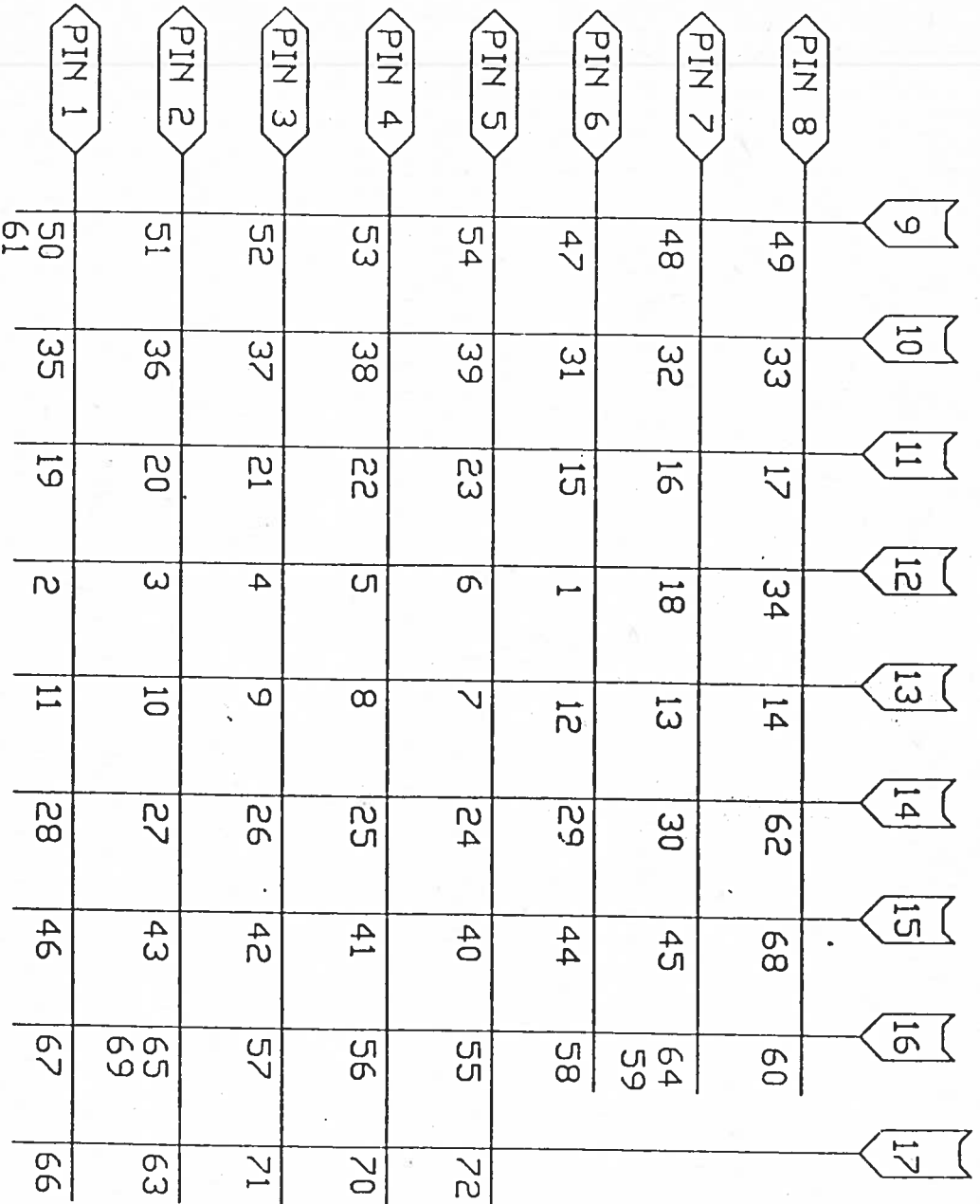
LINE 192

1F80																					1FFF
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SCREEN 4 BITS PER PIXEL - MODE 4

	PIXEL 1	PIXEL 2	PIXEL 3	PIXEL 4	PIXEL 5	PIXEL 6	PIXEL 7	PIXEL 8						PIXEL 255	PIXEL 256		
LINE 1	0000		0001		0002		0003							007C	007D	007E	007F
LINE 2	0080		0081		0082		0083							00FC	00FD	00FE	00FF
LINE 3	0100																
LINE 128	3F80																3FFF
NEXT PAGE																	
LINE 129	0090		0001		0002		0003										007F
LINE 192	1F80																1FFF

LOWER MEMBRANE
CONNECTOR



UPPER MEMBRANE
CONNECTOR

KEYS = 72
 CODES = 69
 DUPLICATE }
 50-61 }
 59-64 }
 65-69 }

Sam Coupe Keycode table (Refer to BASIC Specification)

23	68	59	50	41	32	31	40	49	58	67	22	13	4	24	15	6		
14	69	60	51	42	33	30	39	48	57	66	21	12		25	16	7		
5	70	61	52	43	34	29	38	47	56	20	11		65	26	17	8		
+70	62	53	44	35	28	37	46	19	10	1			+70	3	54	10		
+140	+210													2	+140	36	45	27

SAM-KEY 260789 PLAN VIEW

ESC	1	2	3	4	5	6	7	8	9	0	/	+	DELETE	F7	F8	F9	
TAB	<	>	W	E	R]	Y	U	I	O	P	=	.		F4	F5	F6
CAPS	A	S	D	F	G	H	J	K	L	,	'		RETURN	F1	F2	F3	
SHIFT	Z	X	C	V	B	N	H					INV	SHIFT	F0			
SYMBOL	CTRL													EDIT	SYMBOL	<	>

Back Panel Help Sheet

