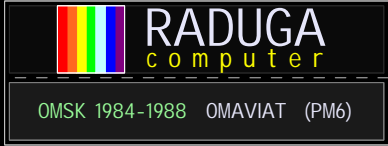
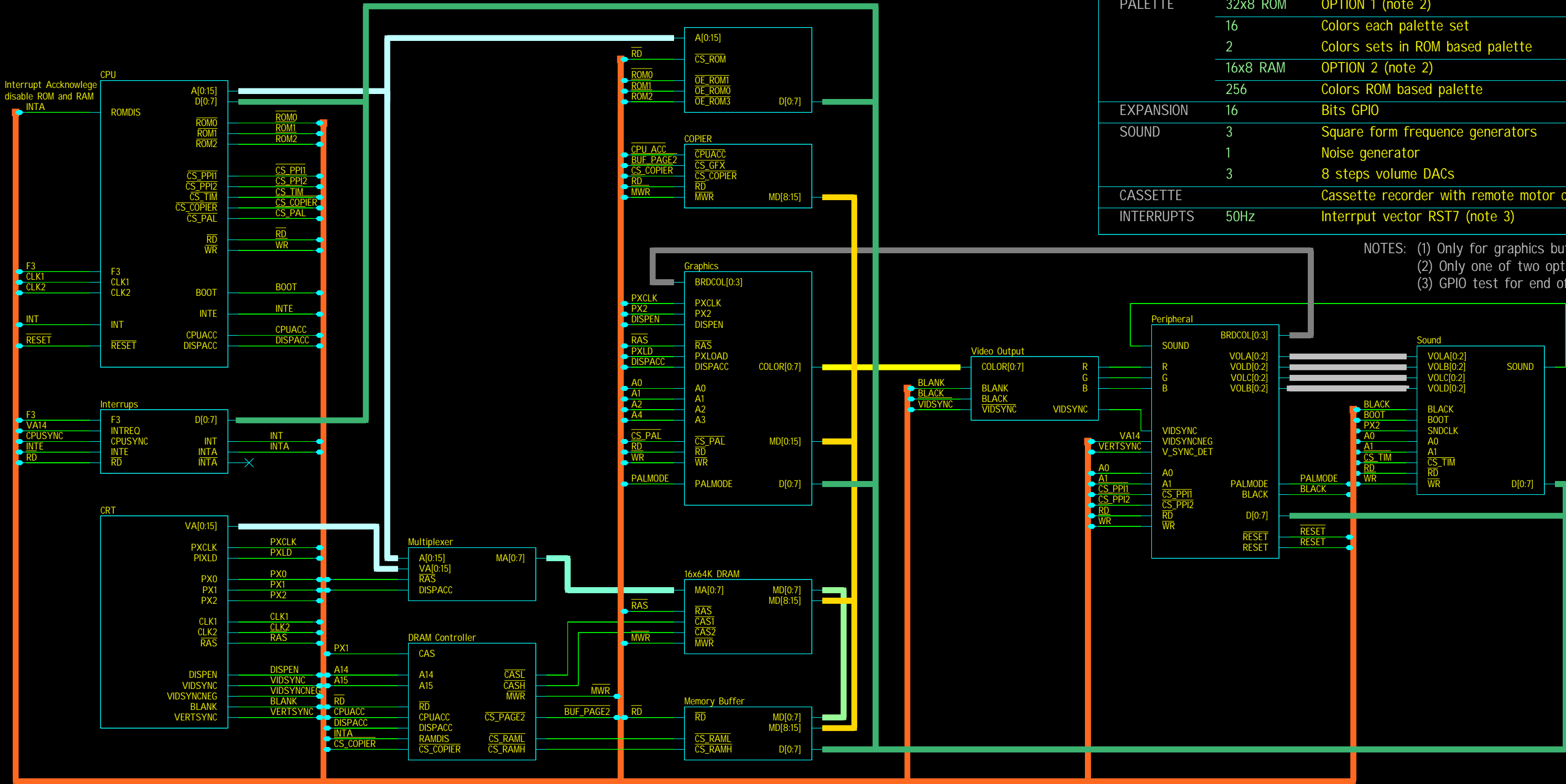
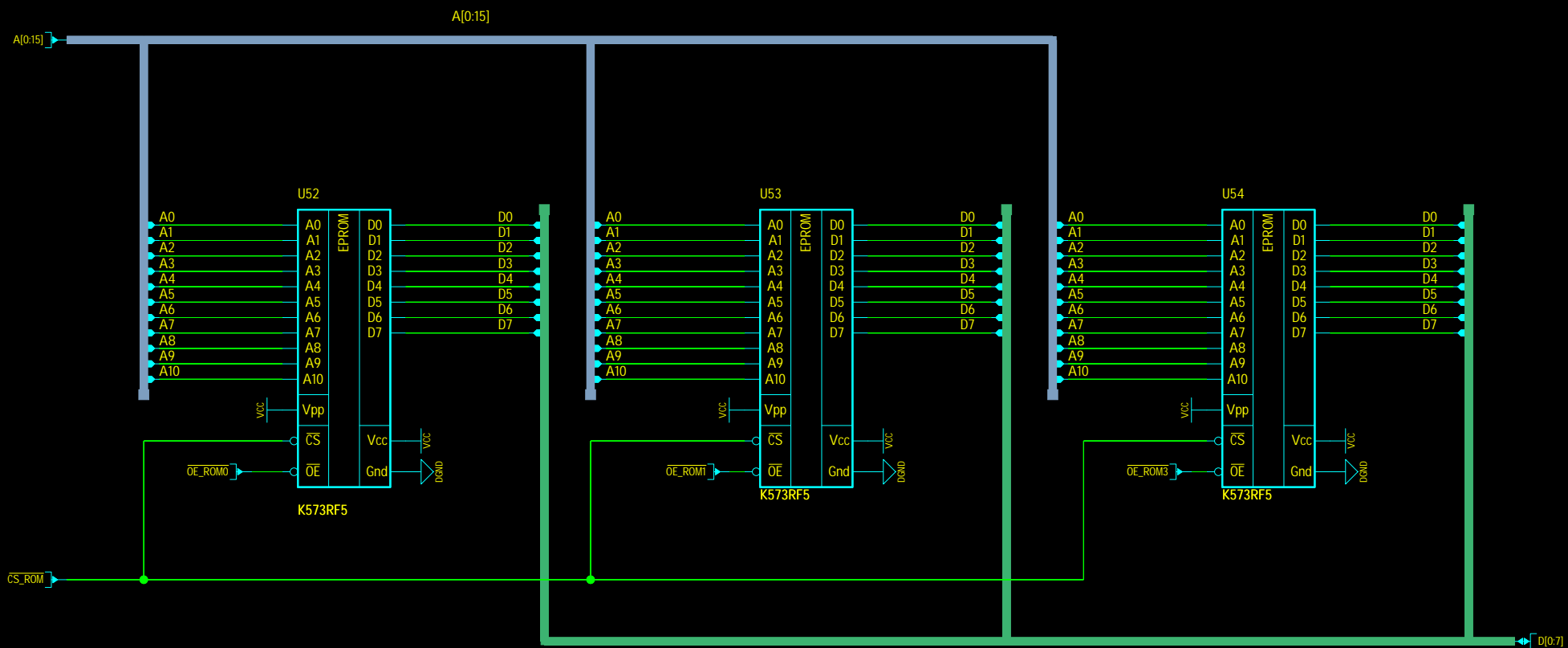


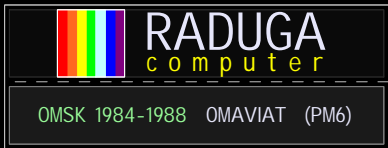
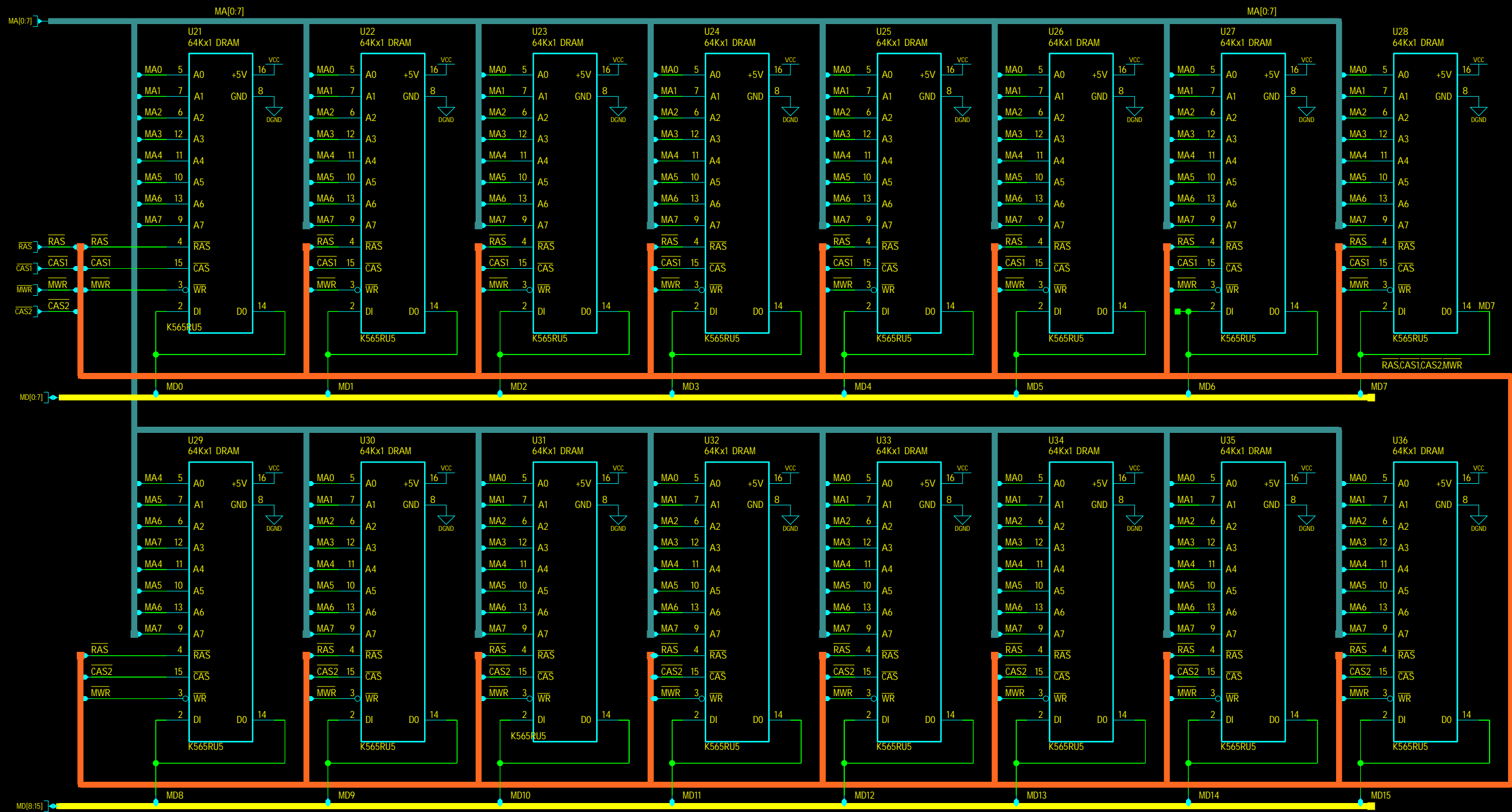
SPECIFICATIONS		
BASED ON		SPECIALIST
CPU		K580IK80
ROM	6KB	3 x K573RF5
RAM	64KB	16 x K565RU5 (manufacturer de-rated)
ADRESSABLE	48KB / 16KB	Directly/Indirectly
ACCELERATOR	COPIER	16 bits per single copy operation (note 1)
GRAPHICS	384x256	Pixels
	2 of 16	Colors per each 8 pixels
	32KB / 24KB	Graphics memory / Frame buffer
PALETTE	32x8 ROM	OPTION 1 (note 2)
	16	Colors each palette set
	2	Colors sets in ROM based palette
	16x8 RAM	OPTION 2 (note 2)
	256	Colors ROM based palette
EXPANSION	16	Bits GPIO
SOUND	3	Square form frequence generators
	1	Noise generator
	3	8 steps volume DACs
CASSETTE		Cassette recorder with remote motor control
INTERRUPTS	50Hz	Interrput vector RST7 (note 3)

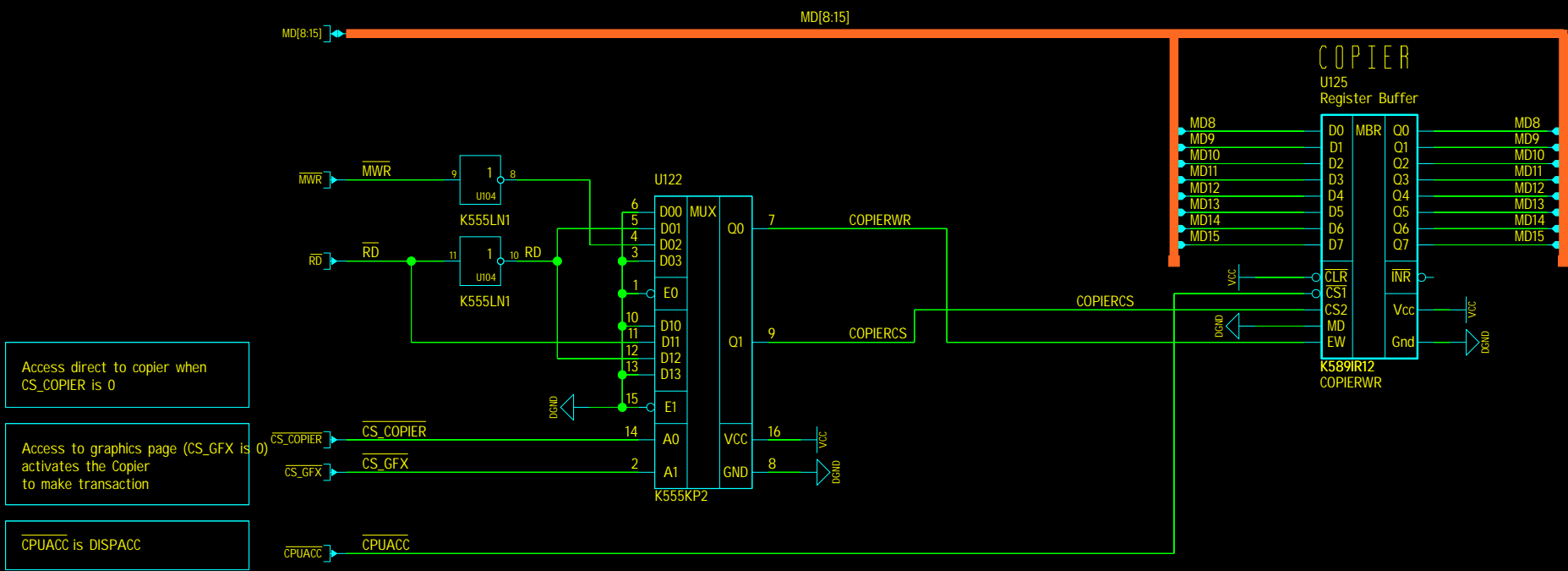
NOTES: (1) Only for graphics buffer
(2) Only one of two options used
(3) GPIO test for end of frame




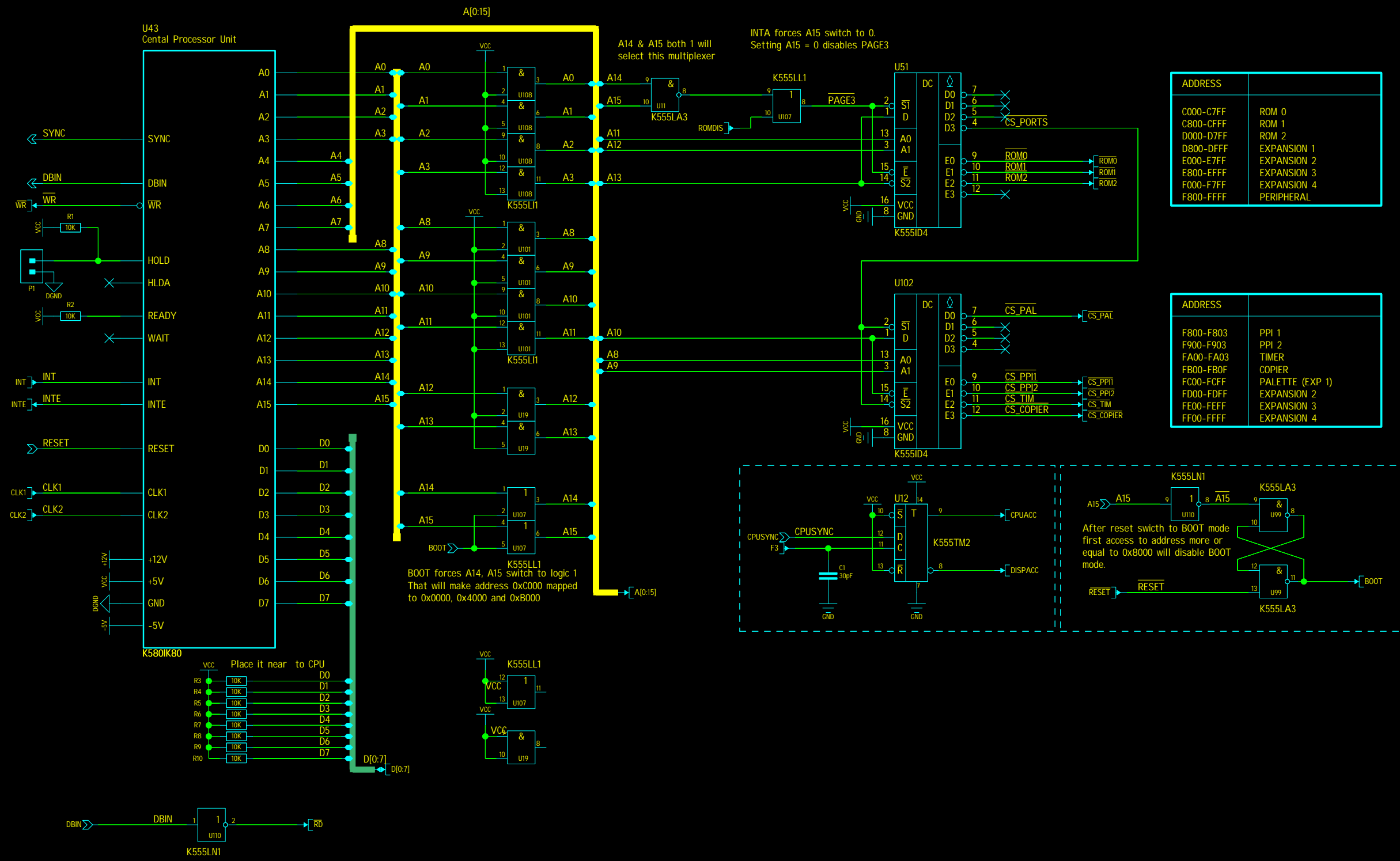
POWER
TIME DIAGRAM

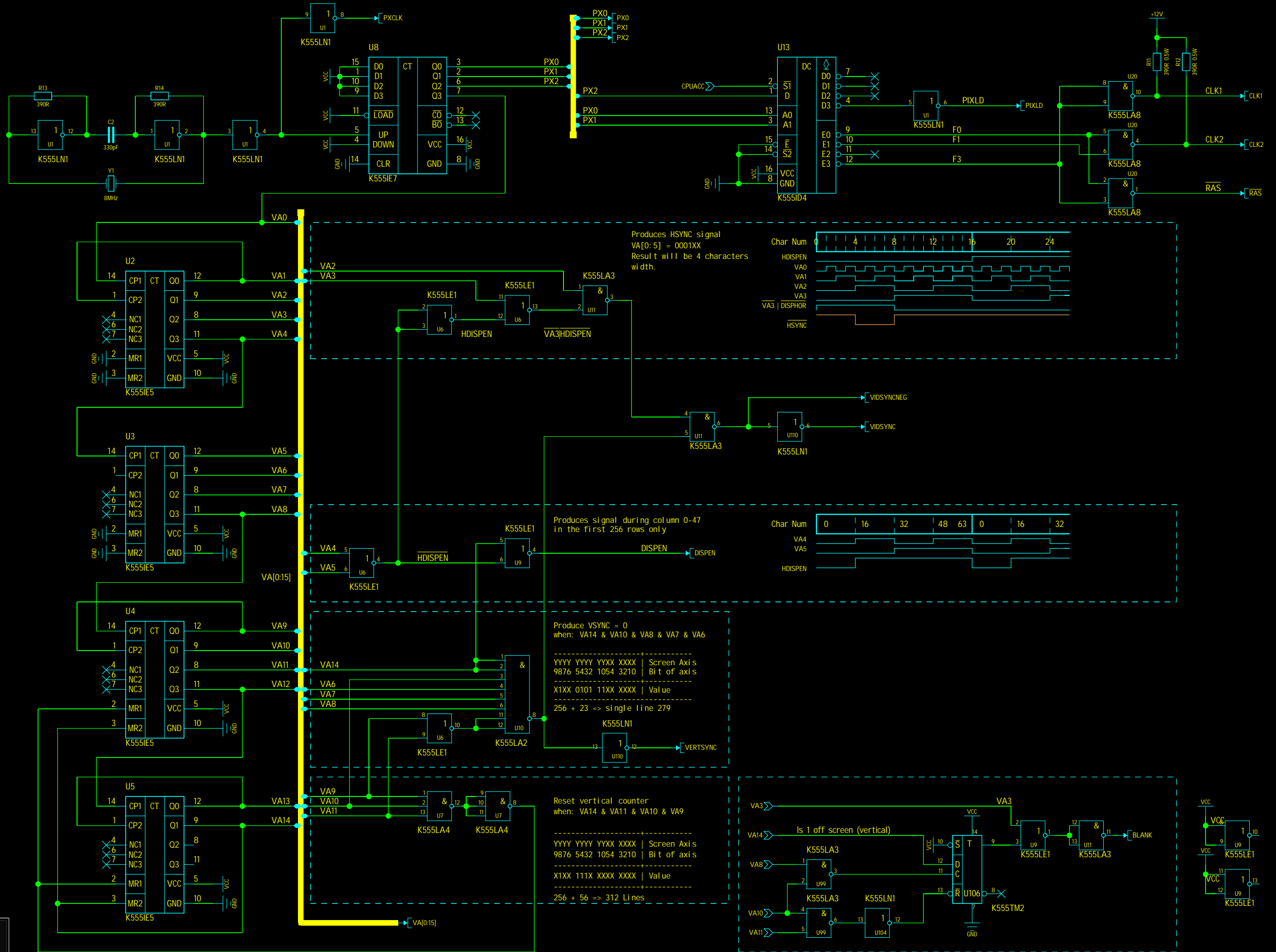


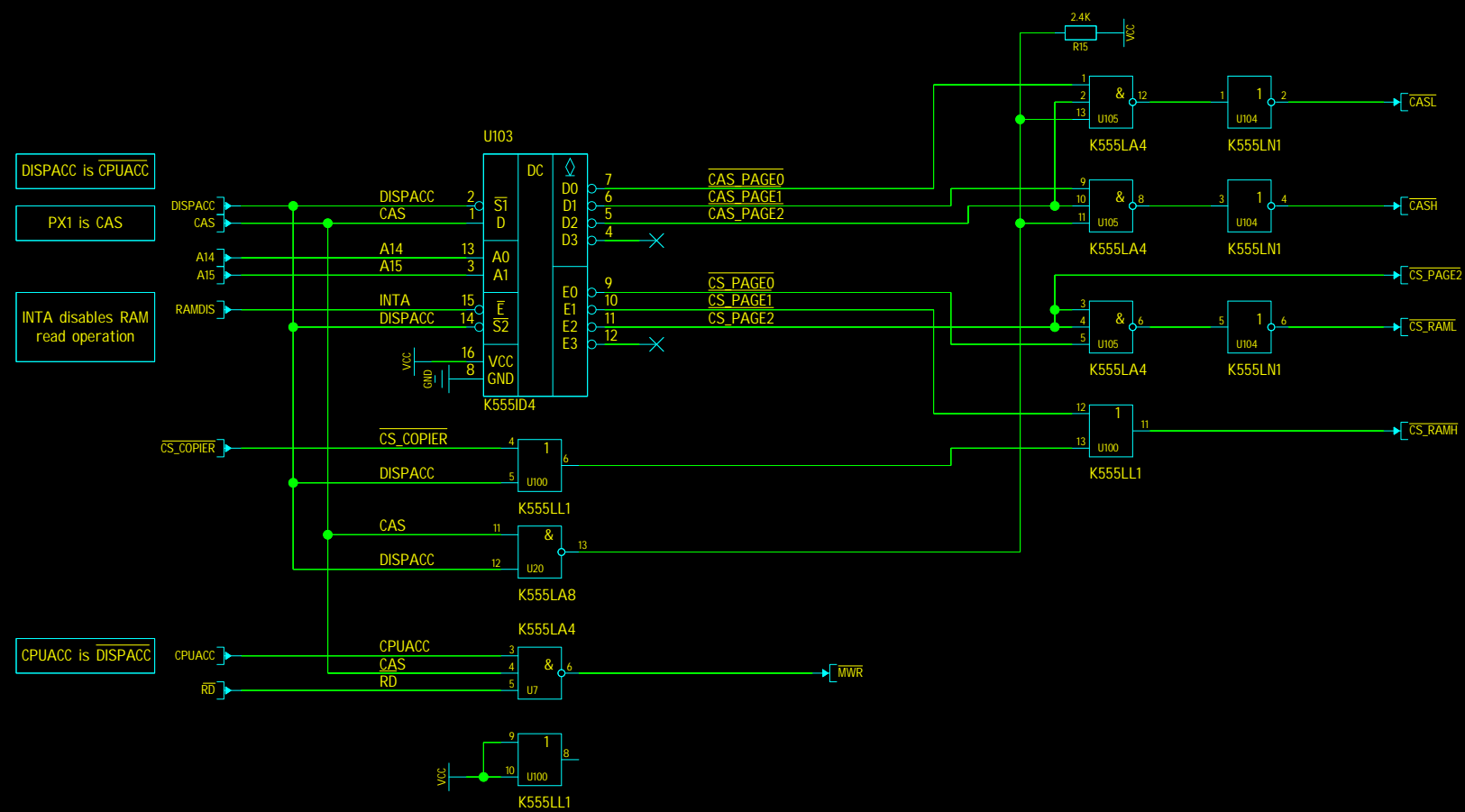


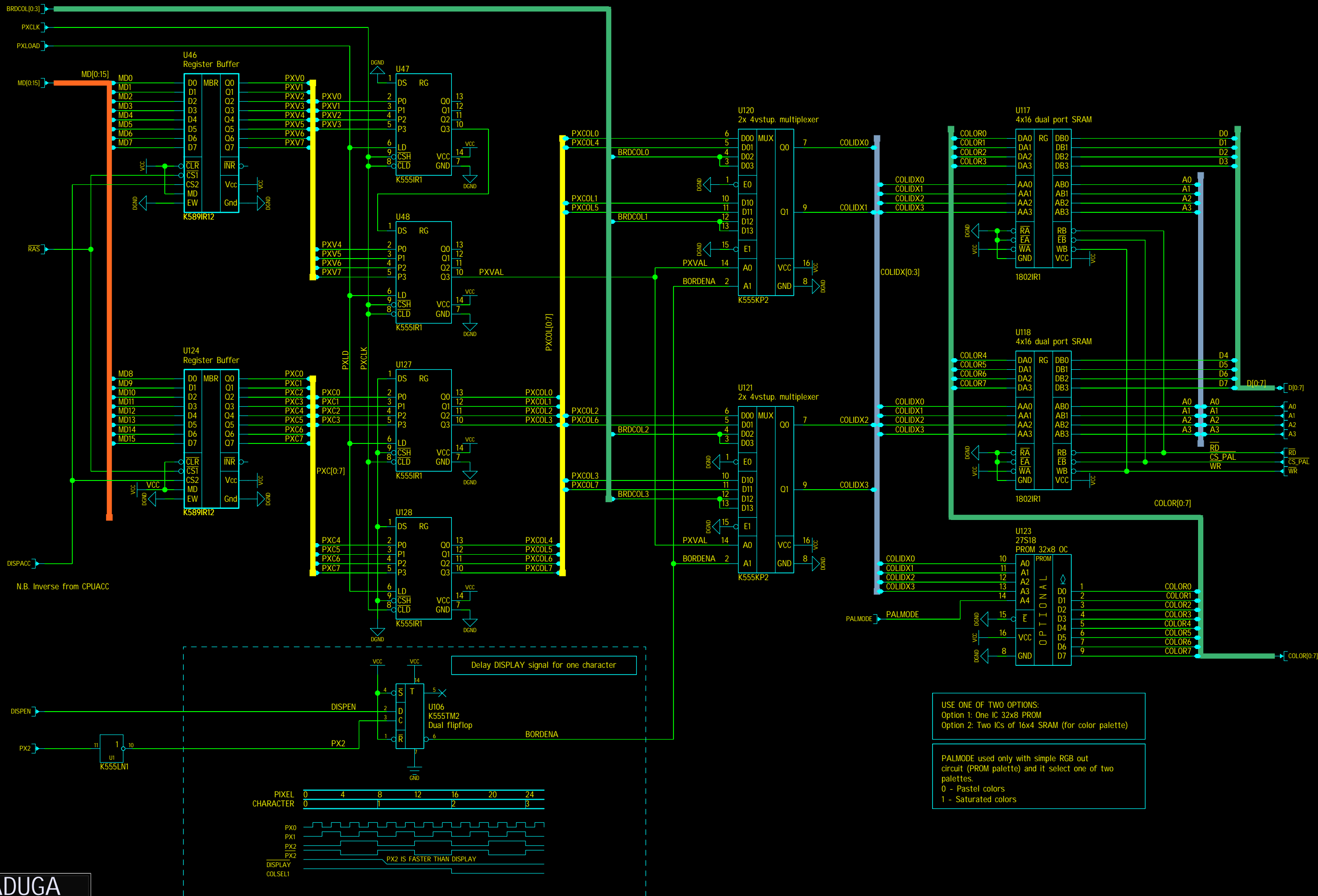


BUF_PAGE2 8000-BFFF					COPIER's Operation
CPUACC	CSCOPIER		RD	MWR	
1	X	X	X	X	Nothing
X	0	0	X	X	Nothing
X	1	1	X	X	Nothing
0	0	1	Access to PAGE2		
 Selected In 1			0	X Read	Store
			1	X Write	Read
0	1	0	Access to COPIER		
 Selected In 2			0	1 Read	Read
			1	0 Write	Store









RADUGA
computer

OMSK 1984-1988 OMAVIAT (PM6)

221B Baker Street
RETRO COMPUTERS

TITLE

RADUGA Computer

SIZE
A3

DWG NO
ALFA2

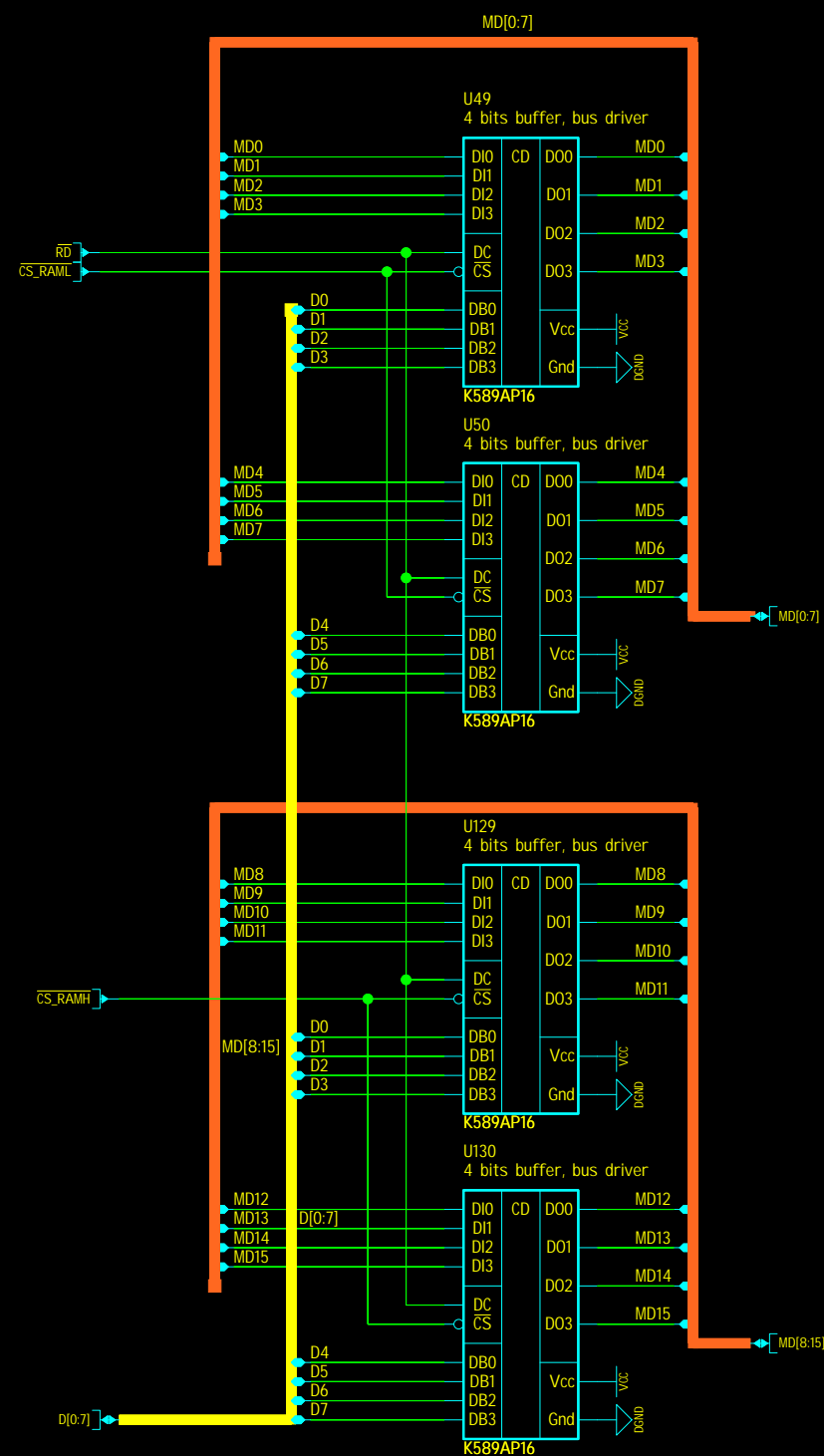
Graphics 1

REV
a2

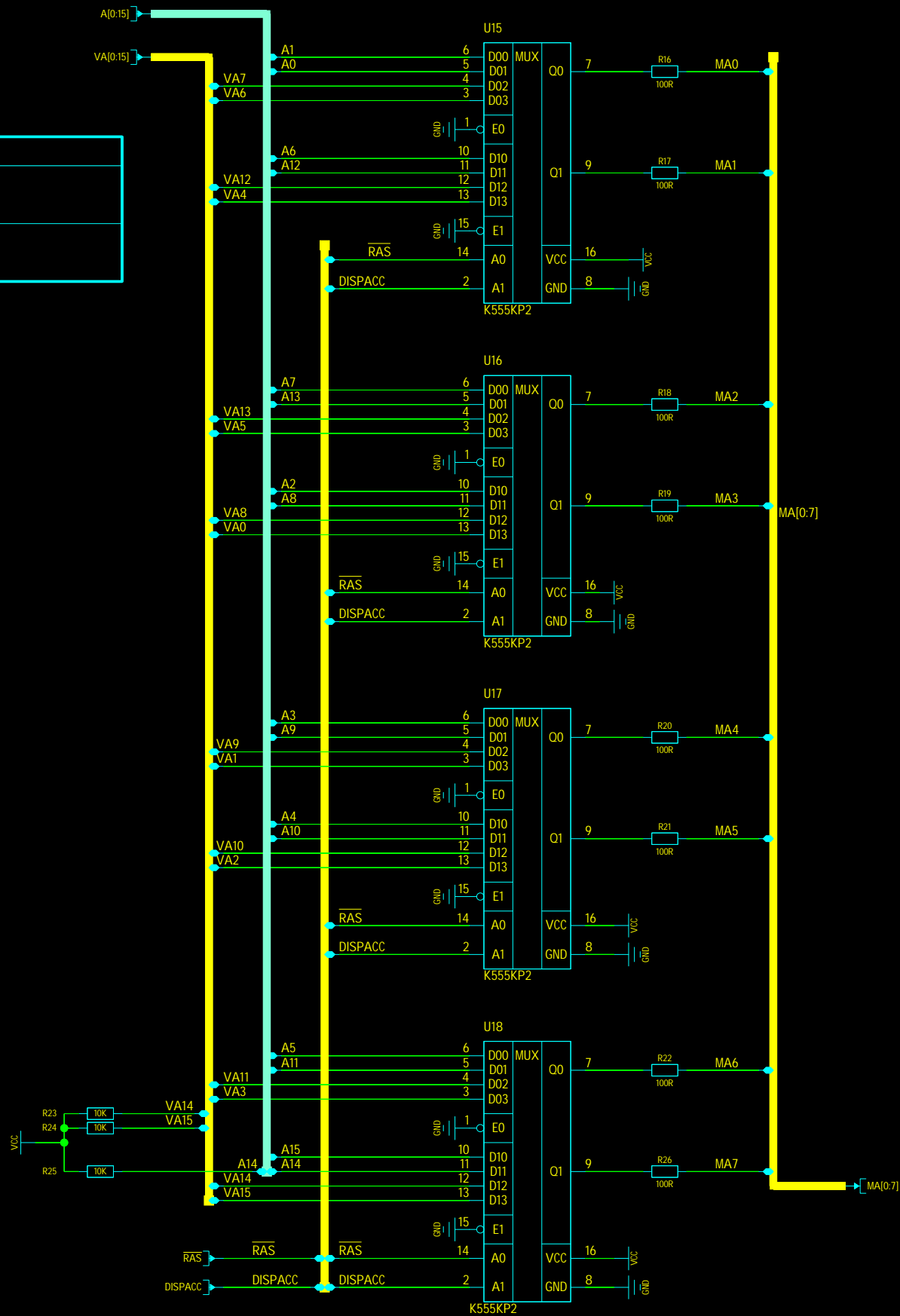
DRAWN BY
Sherlock

SHEET of
8 1

18/04/2019:10:03




SIGNAL	VALUE	FUNCTION
\overline{RAS}	0 1	COLUMNS ROWS (REFRESH)
DISPACC	0 1	CPU CRT



Dynamic Memory Map

RADUGA used manufacturer de-rated half sized memory. That is why with 16 ICs there were only 64KB memory.

RAM L (PIXELS)		RAM H (COLORS)
	FFFF	
PAGE 1	C000	PAGE 1
	8000	PAGE 0
PAGE 0	4000	
	0000	



RADUGA

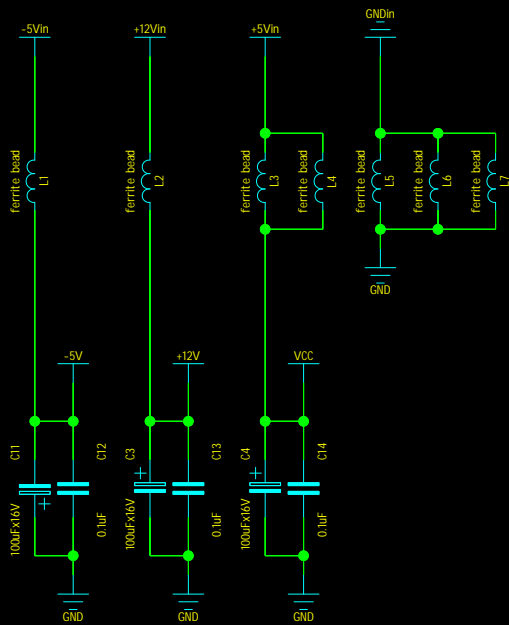
computer

OMSK 1984-1988 OMAVIAT (PM6)

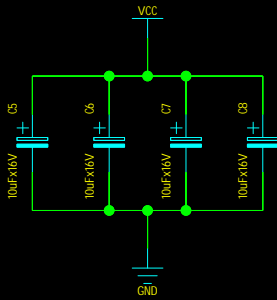
221B Baker Street
RETRO COMPUTERS

RADUGA Computer

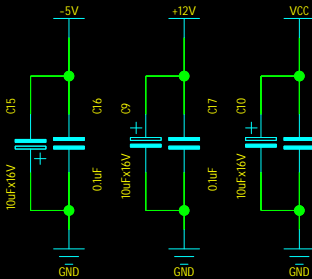
NEAR TO CONNECTOR



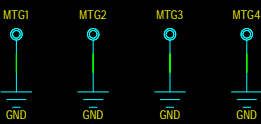
DISTRIBUTE ON THE WHOLE BOARD
(THANTALIUM)



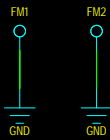
CPU
(THANTALIUM)



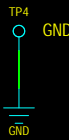
MOUNTING HOLES



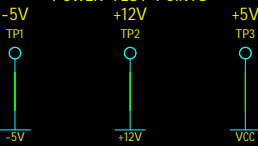
FIDUCIA MARKS



OSCILLOSCOPE



POWER TEST POINTS

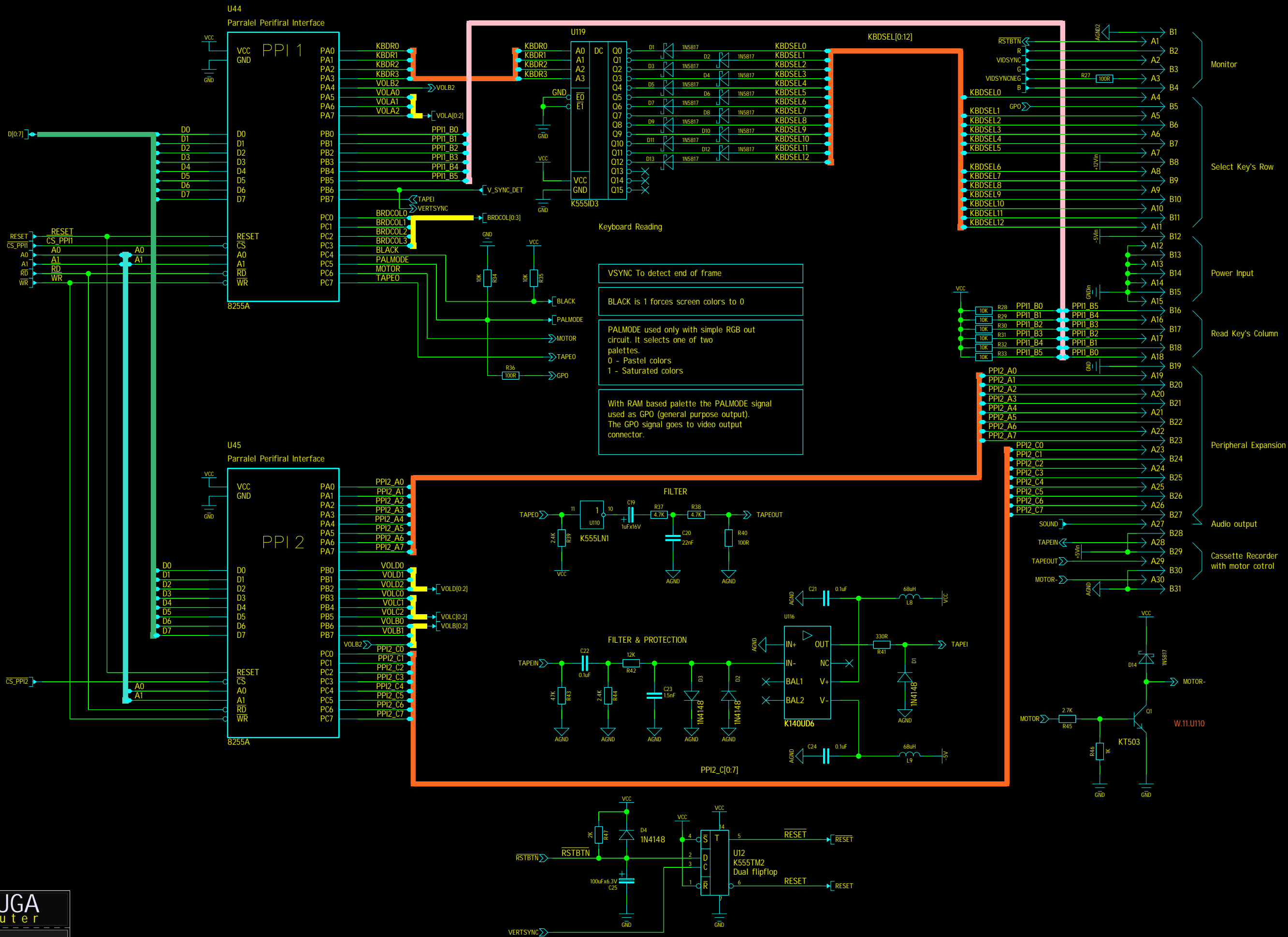




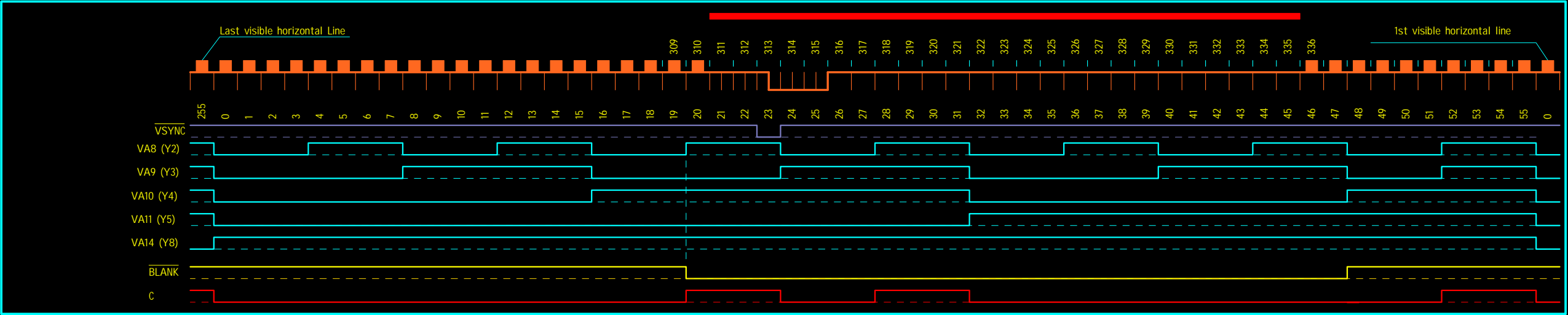
RADUGA

computer

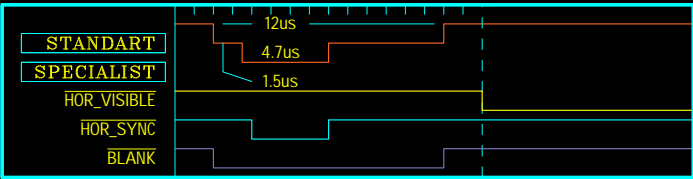
OMSK 1984-1988 OMAVIAT (PM6)



Required vertical timing



Required horizontal timing (only for composed video)

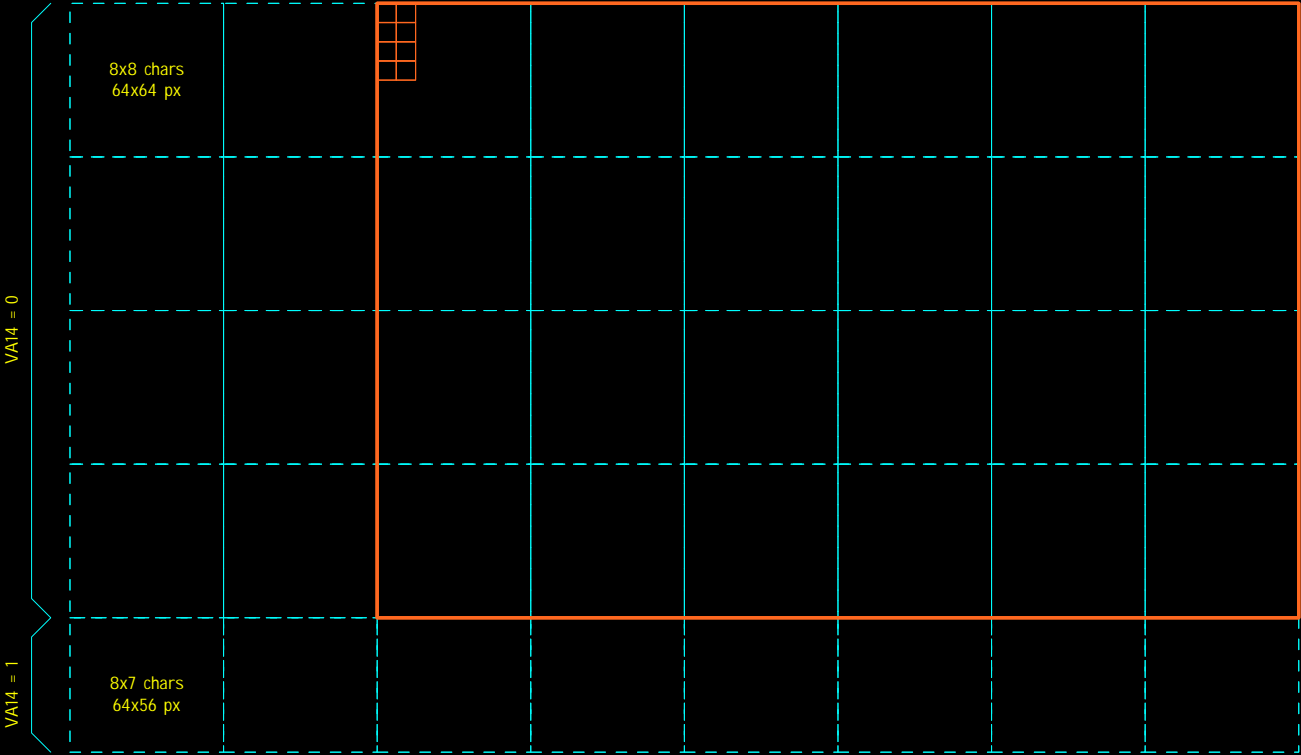
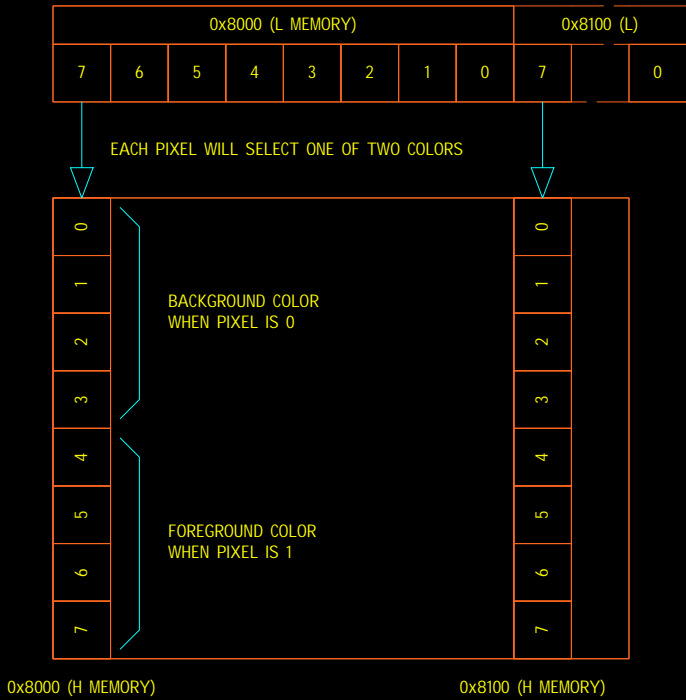


VISIBLE AREA
48x32 CHARACTERS
384x256 PIXELS

TOP-LEFT

GRAPHICS DATA IN MEMORY

0x8000	0x8100
0x8001	0x8101
0x8002	
0x8003	
0x8004	
0x8005	
0x8006	
0x8007	
0x8008	
.....	

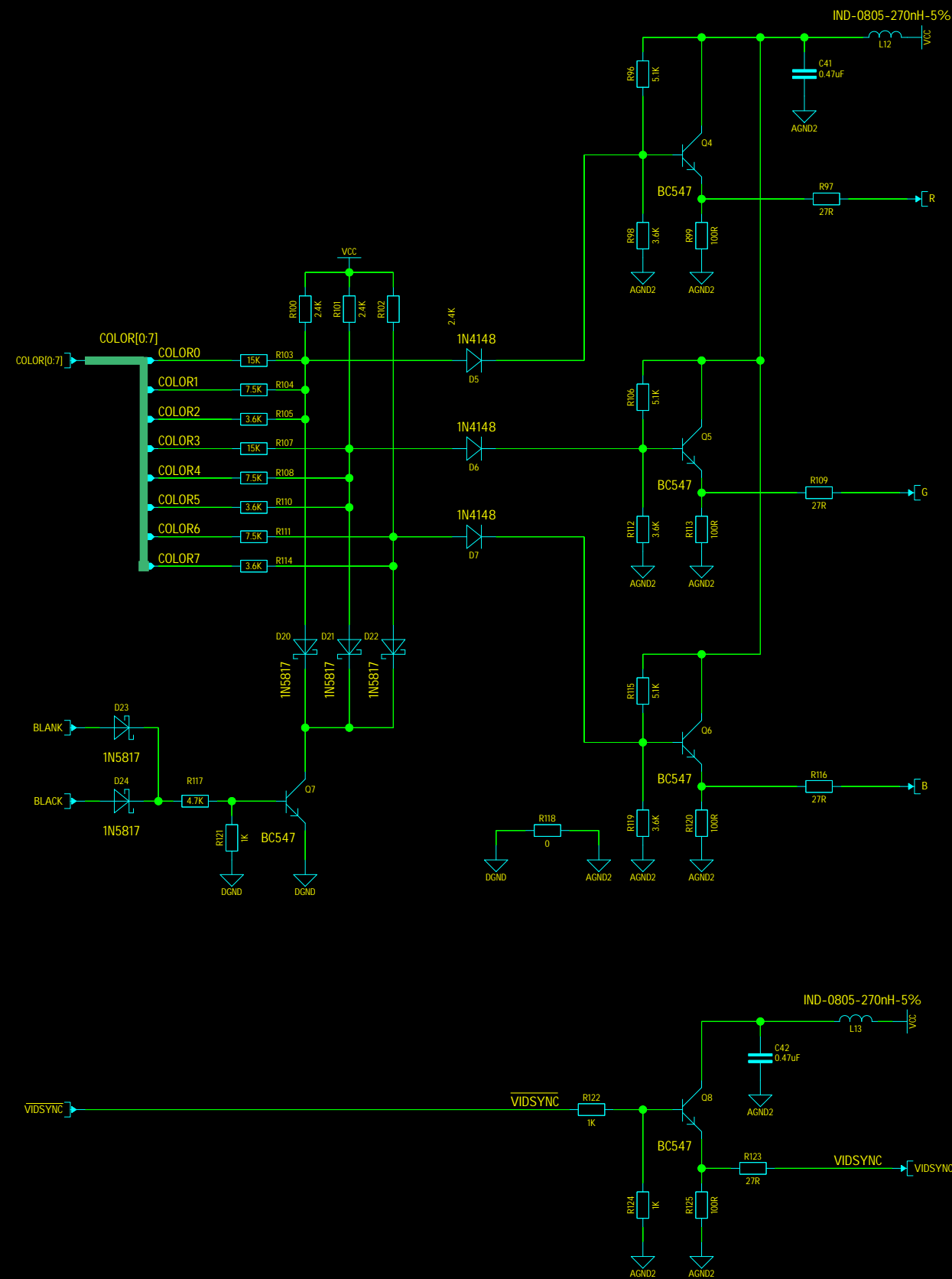




RADUGA

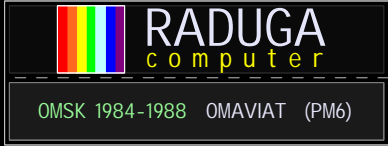
computer

OMSK 1984-1988 OMAVIAT (PM6)



BLANK forces black picture during SYNC

BLACK forces black picture after boot or by programming PPI1 port



OMSK 1984-1988 OMAVIAT (PM6)

221B Baker Street
RETRO COMPUTERS

TITLE

RADUGA Computer

SIZE
A3

DWG NO
ALFA2

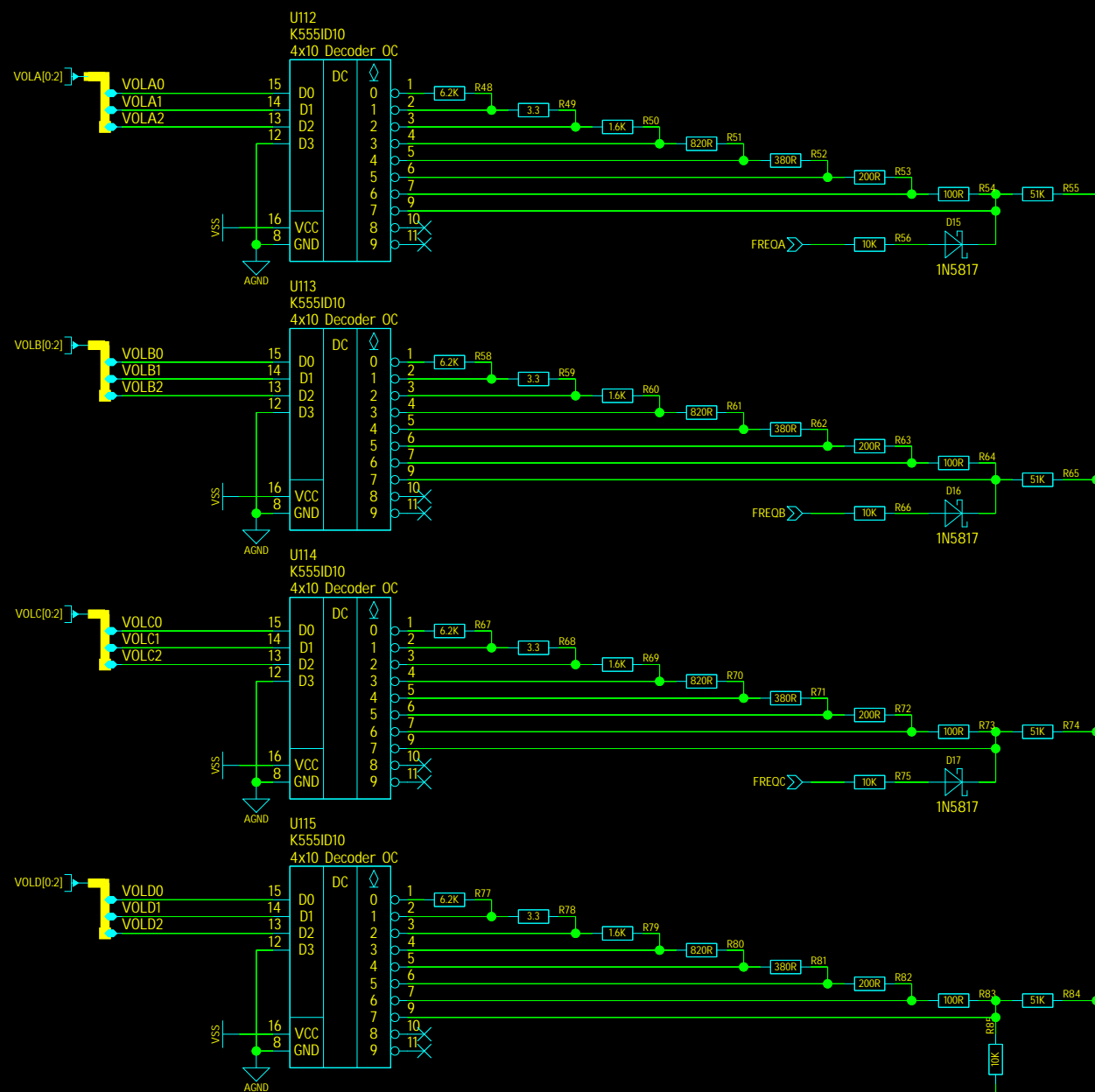
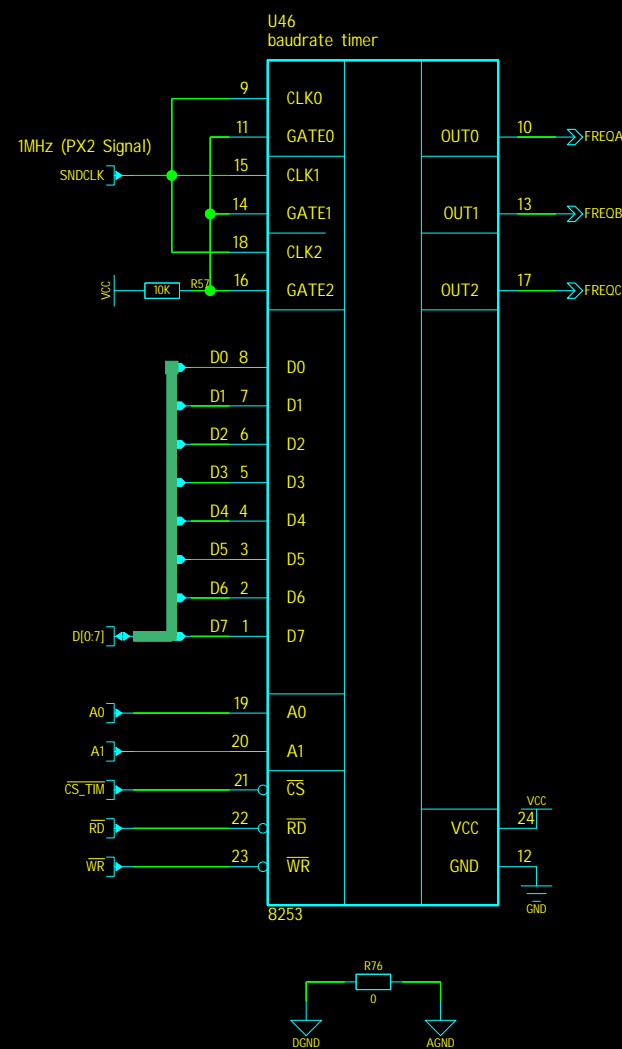
VideoOut 1

REV
a2

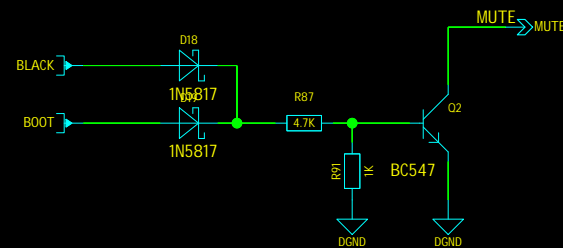
DRAWN BY
Sherlock

SHEET
16 of 1

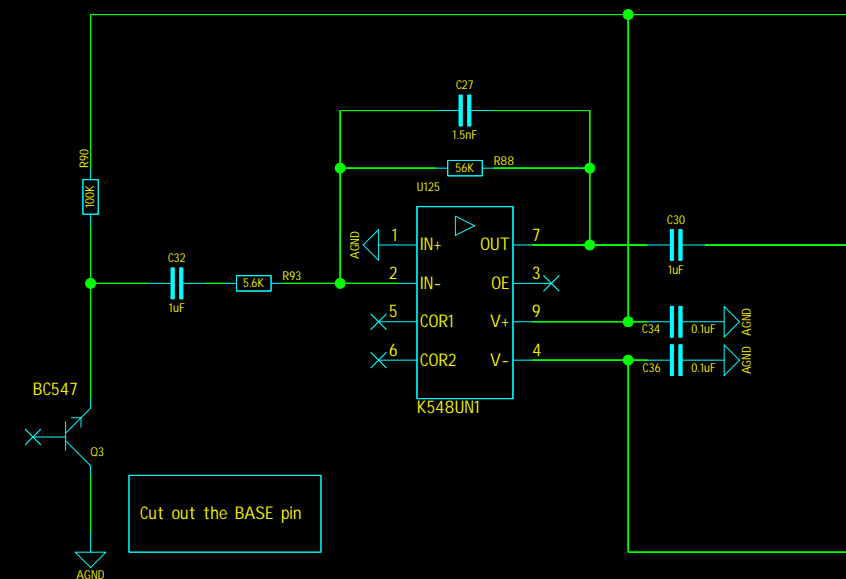
18/04/2019:08:53



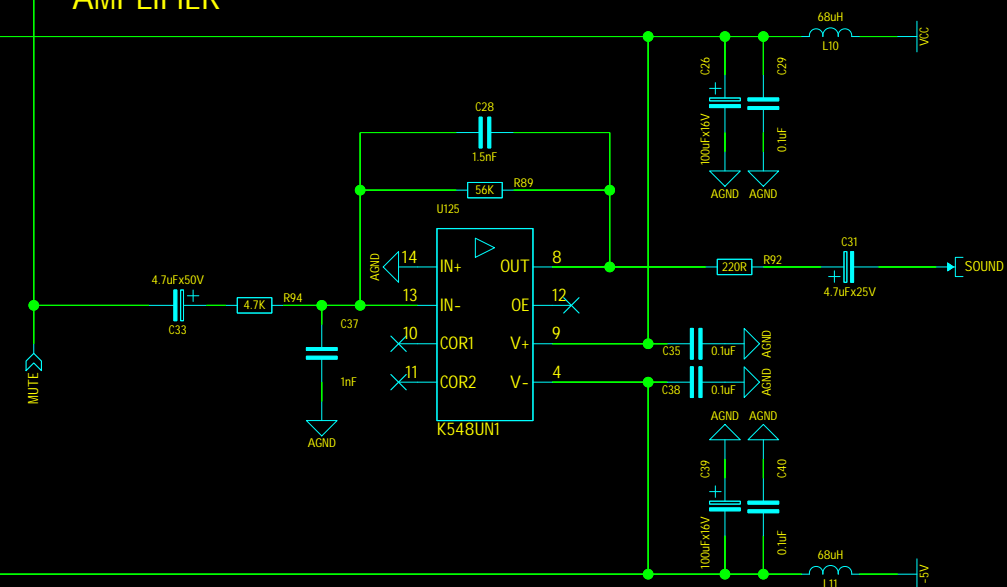
MUTE SOUND



NOISE GENERATOR



AMPLIFIER



OMSK 1984-1988 OMAVIAT (PM6)

VARP
DESIGN TEAM

RADUGA Computer

SIZE
A3

DWG NO
ALFA2

Sound 1

REV
a2

DRAWN BY
Sherlock

SHEET of
14 1

18/04/2019:09:53