

REVISIONS		INITIALS AND DATE	
SYM	DESCRIPTION	DRFTG	CHECK ENGRG
A	FIRST UPDATE FIRST CHECKPLOT	JD FRANK	JM FRANK
B		JD FRANK	JD FRANK

- CHIP REV. E
- NOTES:
- Q2 DELETED
  - CS1 + CS3 DELETED
  - FEEDBACK PATH, INVERTER, AND Q2 TRANSFER DEVICE DELETED
  - FEEDBACK PATH AND Q2 TRANSFER DEVICE DELETED
  - Q1 DEMOTES SIZE CHANGED TO 2
  - REMOVE INVERTER

**General Computer Co.**  
 1 First Street  
 Cambridge, Massachusetts 02142  
 Telephone (617) 494-8500

TRANSLISTION SIZES ON PAGE 5

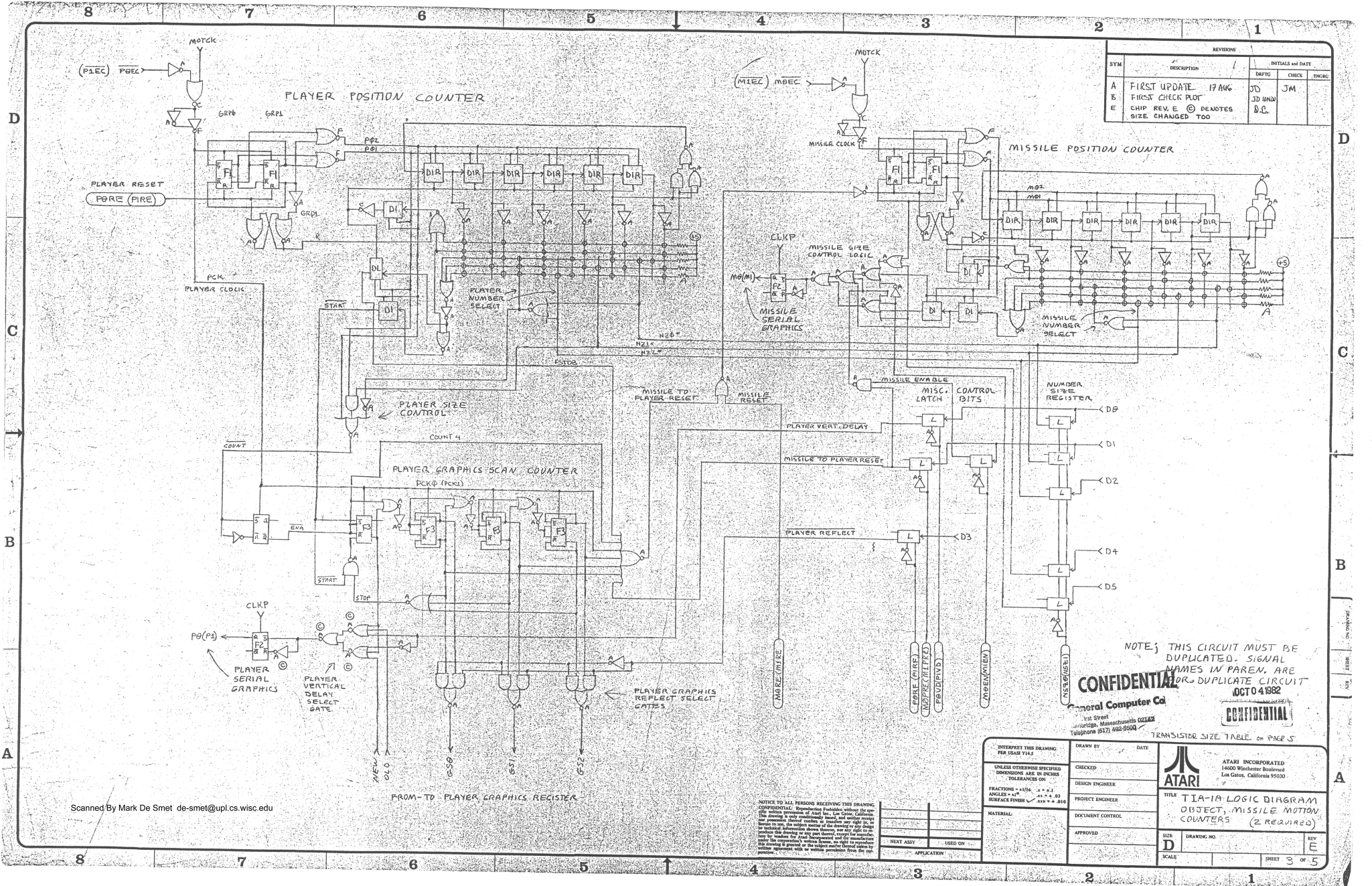
INTERPRET THIS DRAWING PER ISAS Y14.5	DRAWN BY	DATE	<p>ATARI INCORPORATED          14600 Winchester Boulevard          Los Gatos, California 95030</p>
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:	CHECKED		
FRACTIONS = 1/16 A + 1/2 ANGLE = 1/4 SURFACE FINISH = AN + 0.01	DESIGN ENGINEER		
MATERIAL:	PROJECT ENGINEER		
	DOCUMENT CONTROL		TITLE <b>TIA-1A LOGIC DIAGRAM          DATA-ADDRESS DECODE-COLLISION REGISTER</b>
	APPROVED		SIZE <b>D</b>
NEXT ASSY	USED ON		SCALE
APPLICATION			SHET 2 OF 5

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REVISIONS		
SYM	DESCRIPTION	INITIALS AND DATE
A	FIRST UPDATE	17 AUG JDS
B	FIRST CHECK PLOT	30 NOV JM
E	CHIP REV. E DENOTES SIZE CHANGED TOO	D.C.

NOTE: THIS CIRCUIT MUST BE DUPLICATED. SIGNAL NAMES IN PAREN. ARE TO DUPLICATE CIRCUIT OCT 04 1982

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Sunnyvale, Massachusetts 02158  
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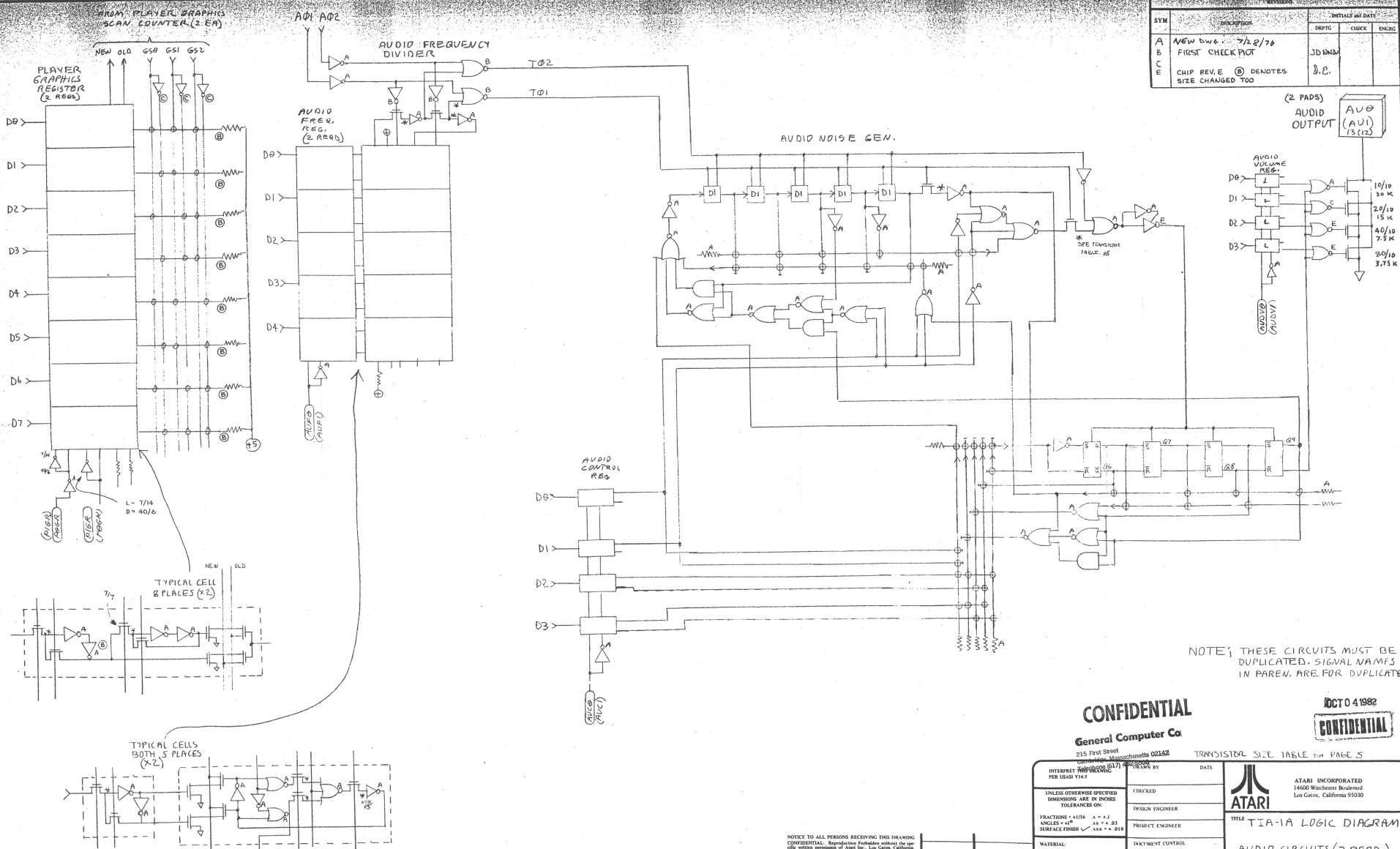
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TRANSISTOR SIZE TABLE ON PAGE 5

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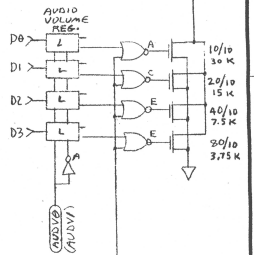
INTERPRET THIS DRAWING FOR GREAT VLS	DRAWN BY	DATE
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON	CHECKED	
FRACTIONS = 1/16, 1/8, 1/4, 1/2, 3/4	DESIGN ENGINEER	
ANGLES = 45, 90, 135, 180	PROJECT ENGINEER	
SURFACE FINISH = 125 ± 0.01	DOCUMENT CONTROL	
MATERIAL:	APPROVED	
NEXT ASSY	USED ON	
APPLICATION		

ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030	
TITLE	TIA-1A LOGIC DIAGRAM OBJECT, MISSILE MOTION COUNTERS (2 REQUIRED)
SIZE	D
SCALE	
DRAWING NO.	
REV	E
SHEET	3 OF 5



REVISION		INITIALS AND DATE		
SYM	DESCRIPTION	DEPT	CHECK	ENGR
A	NEW B/W 7/22/76			
B	FIRST CHECK PLOT	JDM		
C				
E	CHIP REV. E (2) DENOTES SIZE CHANGED TOO			

(2 PADS)  
AUDIO OUTPUT  
A00  
(A01)  
13 (12)



NOTE: THESE CIRCUITS MUST BE DUPLICATED. SIGNAL NAMES IN PAREN. ARE FOR DUPLICATE

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INTERPRET THIS DRAWING PER USASI 1145

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:

FRACTIONS = ±0.10    1/16 ± 0.01  
 ANGLES = ±1°    45° ± 0.5°  
 SURFACE FINISH = 125 ± 0.01

MATERIAL:

DATE: \_\_\_\_\_

DESIGNED BY: \_\_\_\_\_

DESIGN ENGINEER: \_\_\_\_\_

PROJECT ENGINEER: \_\_\_\_\_

DOCUMENT CONTROL: \_\_\_\_\_

APPROVED: \_\_\_\_\_

ATARI INCORPORATED  
14600 Winchester Boulevard  
Los Gatos, California 95030

TIA-1A LOGIC DIAGRAM

AUDIO CIRCUITS (2 REGR.)

SIZE: \_\_\_\_\_ DRAWING NO: \_\_\_\_\_ REV: \_\_\_\_\_

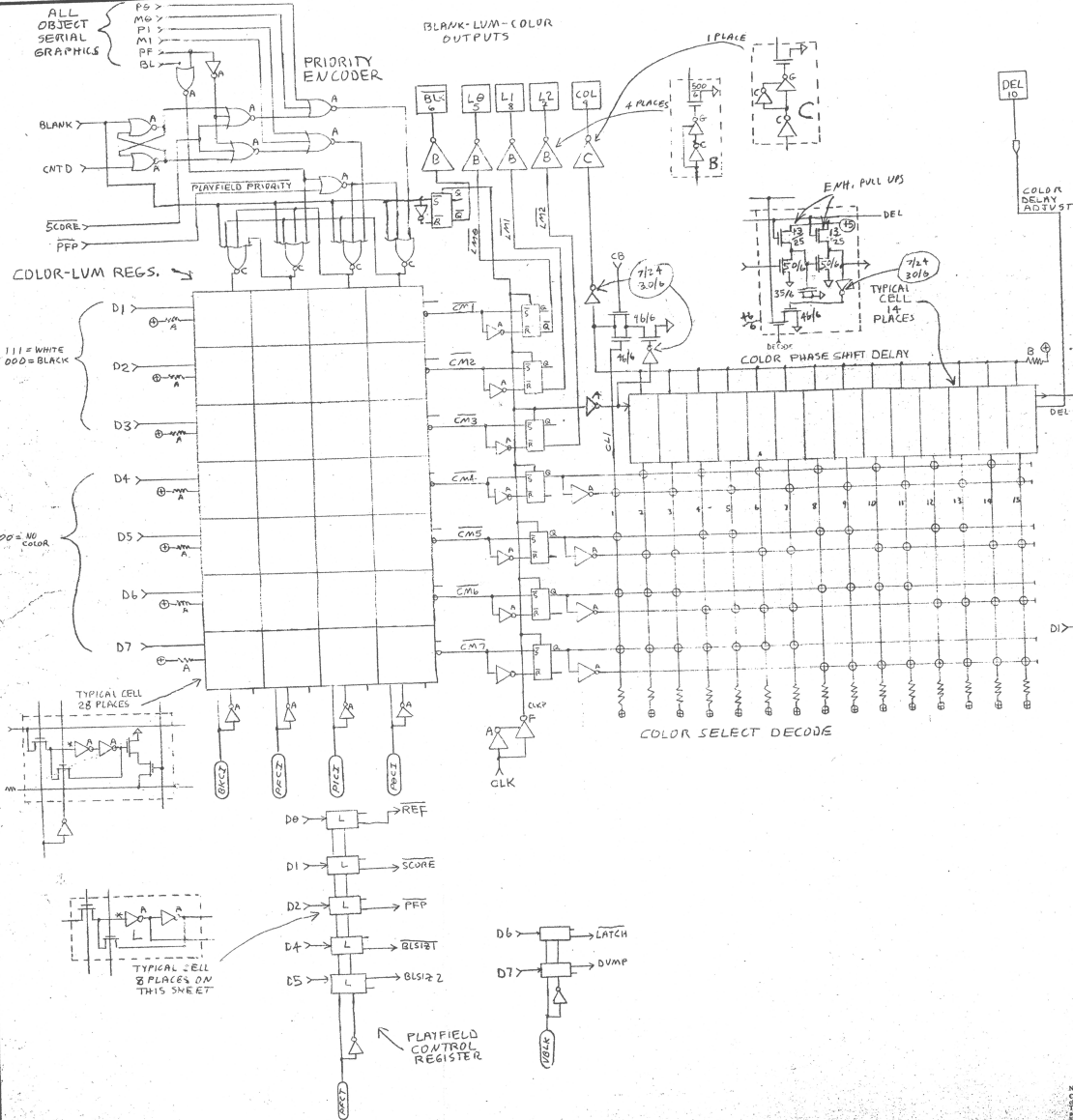
D

SCALE: \_\_\_\_\_ SHEET 4 OF 5

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8 7 6 5 4 3 2 1

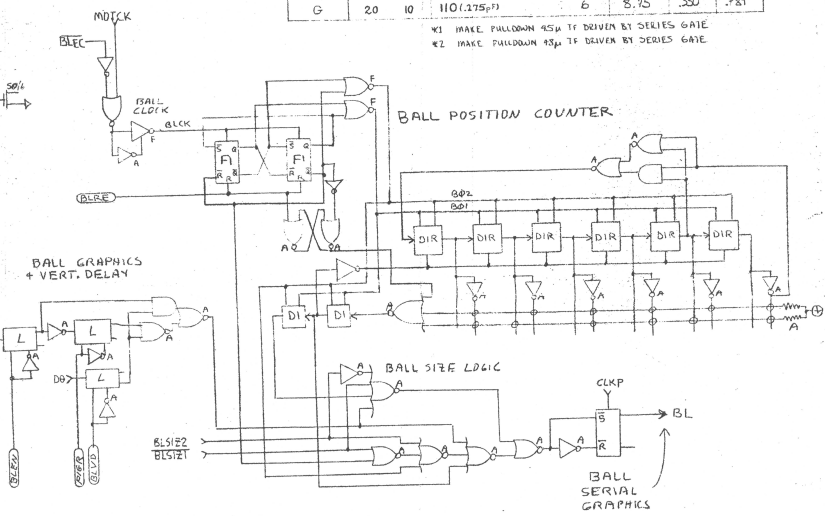
REVISIONS			INITIALS AND DATE	
SYM	DESCRIPTION	DRAFT	CHECK	ENGR
A	FIRST UPDATE	JD	FRANK	FRANK
B	FIRST CHECK PLOT	JD	ENW	



TRANSISTOR SIZES

SYMBOL	DELETION PULL UP		ENHANCEMENT PULL DOWN		DRAWN RATIO W/L	LOAD P. TIME	ILL. IS PULL UP DRIVE
	W1	L1	W2	L2			
A	7	15	20 (2.55)	40 (1.15)	6	8.57	.080
B	7	15	24 (2.06)	48 (1.15)	6	8.57	.097
C	7	12	30 (2.05)	60 (1.15)	6	8.57	.122
D	7	12	70 (2.05)	140 (1.15)	6	17.14	.122
E	8	10	40 (1.15)		6	8.57	.163
F	13	10	70 (1.15)		6	8.75	.237
G	20	10	110 (1.275)		6	8.75	.350

\*1 MAKE PULLDOWN 45% IF DRIVEN BY SERIES GATE  
 \*2 MAKE PULLDOWN 45% IF DRIVEN BY SERIES GATE



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INTERPRET THIS DRAWING PER USAS Y143	CHECKED	DATE	ATARI INCORPORATED 18400 Winchester Boulevard Los Gatos, California 95030
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON	DESIGN ENGINEER J. MINER 7/22/76	7/22/76	<b>ATARI</b> TITLE TIA-1A LOGIC DIAG. COLOR-LUM-PRIORITY CIRCUITS BALL MOTION COUNTER
FRACTIONS = 1/16 .1 .1 .3 ANGLES = 45° 90° 135° 45 SURFACE FINISH = 125 ± .010	PROJECT ENGINEER		
MATERIAL:	DOCUMENT CONTROL	APPROVED	SIZE <b>D</b> DRAWING NO. REV <b>B</b>
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING <small>CONFIDENTIAL: Reproduction forbidden without the express written permission of Atari Inc., Los Gatos, California. This drawing is not to be used for any other purpose without the express written permission of Atari Inc. This drawing is not to be used for any other purpose without the express written permission of Atari Inc. This drawing is not to be used for any other purpose without the express written permission of Atari Inc. This drawing is not to be used for any other purpose without the express written permission of Atari Inc.</small>	NEXT ASSY. USED ON	APPLICATION	REV <b>B</b>