

ATTACK

BY *Exidy*

SERVICE MANUAL

WARRANTY

EXIDY warrants all TV monitors and moving mechanical parts for a period of *90 days* from date of purchase.

All printed circuit boards are warranted for a period of *one full year* from date of purchase.

Any questions regarding part replacement or service on failed parts will be dealt with on an individual basis.

Please contact your local EXIDY distributor for service. Our distributors are authorized to deal directly with the EXIDY service and parts departments.

ATTACK

Table of Contents

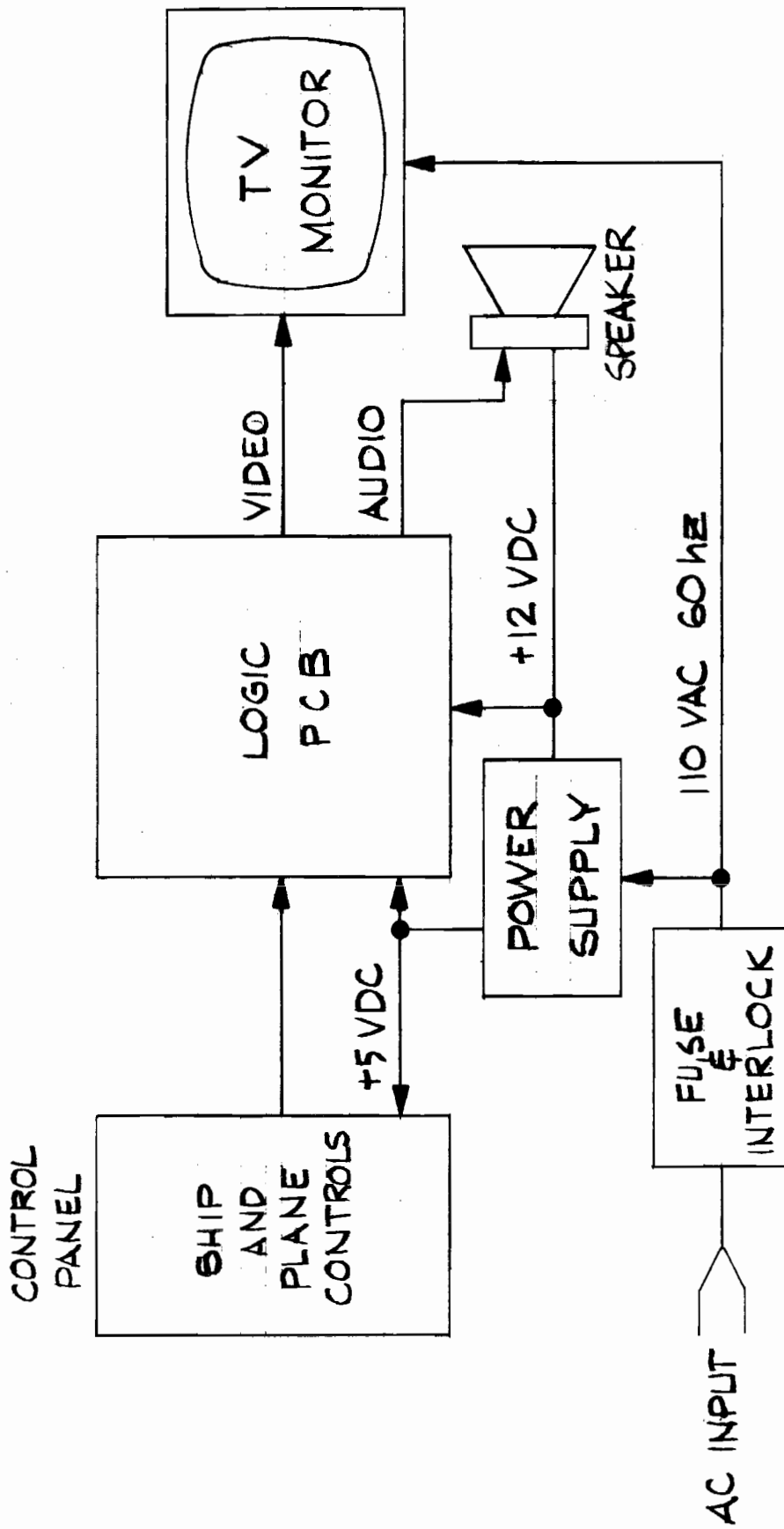
<u>SECTION</u>	<u>PAGE</u>
Illustrated Parts Breakdown.....	1
System Block Diagram.....	2
Adjustments.....	3
Power Supply Adjustment	
Volume Adjustment	
Game Time Adjustment	
Troubleshooting Tips.....	4
P.C. Board Connector Pinout.....	5
P.C. Board Logic Diagram.....	Back of Manual

ATTACK

Table of Contents

<u>SECTION</u>	<u>PAGE</u>
Illustrated Parts Breakdown.....	1
System Block Diagram.....	2
Adjustments.....	3
Power Supply Adjustment	
Volume Adjustment	
Game Time Adjustment	
Troubleshooting Tips.....	4
P.C. Board Connector Pinout.....	5
P.C. Board Logic Diagram.....	Back of Manual

ATTACK SYSTEM BLOCK DIAGRAM



ATTACK

I. Adjustments

A. Power Supply Adjustment

Proper operation of this game is absolutely dependent on proper adjustment of the +5vdc power supply.

Before attempting to operate or troubleshoot this game, measure and adjust, as necessary, the +5vdc power supply voltage.

Measure voltage with meter leads contacting +5vdc and ground traces on P.C.B., near the 6 pin connector.

The power supply voltage is set at the factory, but shocks due to shipping and handling may cause this setting to vary.

B. Volume Adjustment

Sound volume is adjustable using the pot on the P.C.B. nearest the 22 pin connector.

C. Game Time Adjustment

Game time (length of game) is adjustable using the pot on the P.C.B. nearest the 6 pin connector.

ATTACK

Troubleshooting Tips

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Nothing happens	Blown fuse	Replace
	Interlock switch not closing	check switch alignment
Game blows fuses	Bad TV Monitor	Repair or replace
	Bad power supply	Repair or replace
Game has sound but no picture	Bad P.C.B.	Repair or replace
	Bad TV Monitor	Repair or replace
	No +5vdc	Check output of power supply for +5vdc. If not present, replace power supply.
Game has picture but no sound	Bad P.C.B.	Repair or replace
	No +12vdc	Check power supply harness. Wire attached to cap should have +12vdc.
	Bad speaker	Replace
Game does not start with coin	Bad P.C.B.	Repair or replace
	Bad coin mechanism	Check microswitch and mechanism.
All controls completely inoperative	Bad P.C.B.	Repair or replace
	Ground wire to control harness open (disconnected)	Repair
Some controls inoperative	Bad P.C.B.	Repair or replace
	Bad leaf switches in control panel	Replace (even if just bent). Once bent, switch is unreliable.
Game is erratic. Seems to work OK sometimes, other times not.	Low +5vdc power	Adjust power supply. Measure voltage with test leads on P.C.B. (near 6 pin connector).
	Bad P.C.B.	Repair or replace
Game is static sensitive	Carpet	Solder 12" long 22 awg. insulated wire to pin 20 of J2 (P.C.B. 22 pin connector). Leave one end hanging loose, taking care that wire is properly insulated. If game shuts off too easily then, trim the wire shorter as necessary.
	Weather	
	Nearby devices generating high voltages and/or high frequencies.	

ATTACK

P.C. BOARD CONNECTOR PINOUT

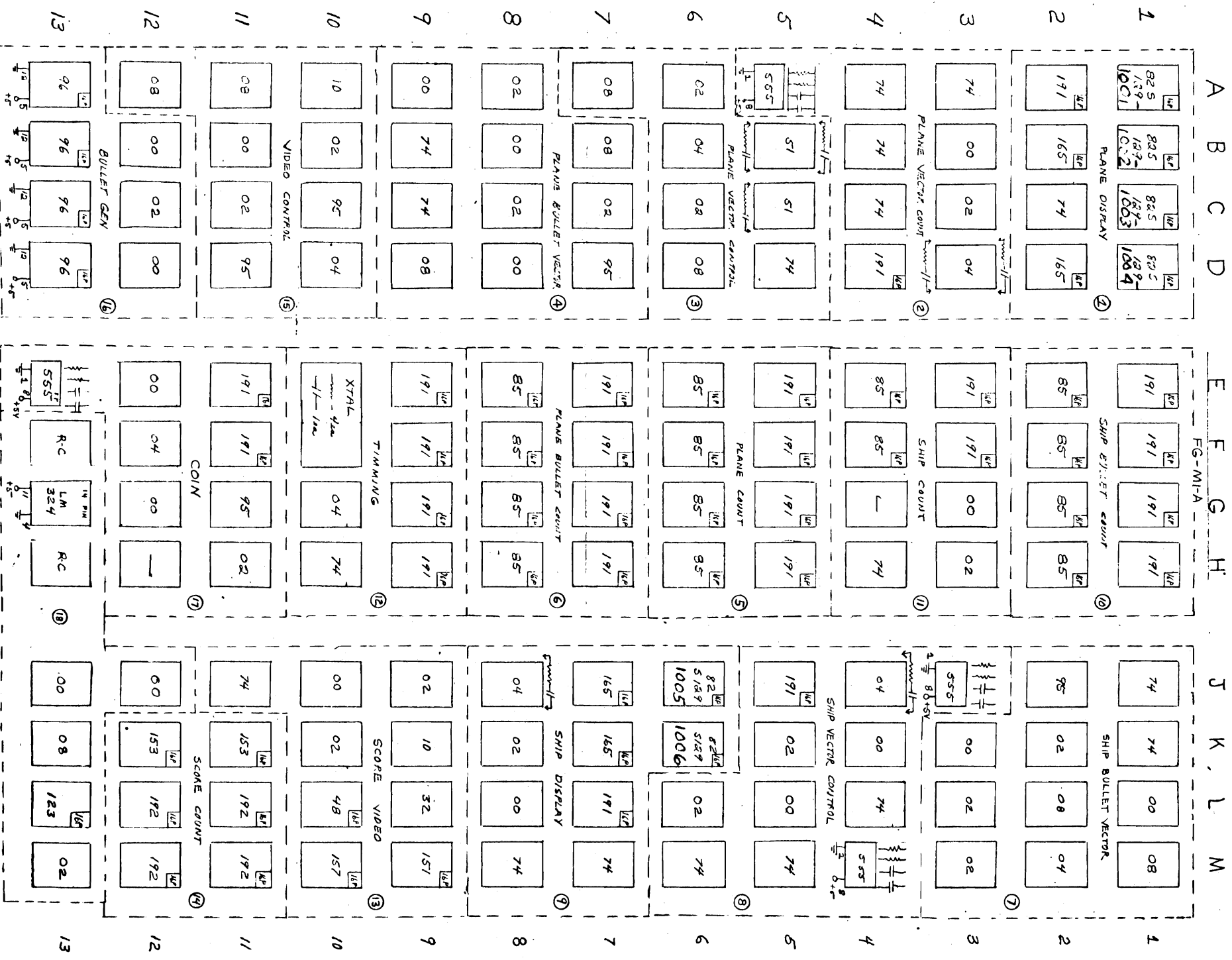
- 1. } GND
- 2. }
- 3. } +5V
- 4. }
- 5. } GND
- 6. }

- 1. +12v (and one side of SPKR)
- 2. SPKR (direct)
- 3. GND
- 4.
- 5.
- 6.
- 7. *SML.....(ship move left)
- 8. *SMR.....(ship move right)
- 9. *SHP GR.....(ship gun right)
- 10. *SHP GL.....(ship gun left)
- 11. *SBF NO.....(ship button fire)
- 12. SBF NC.....(ship button fire)
- 13. *PBF NO.....(plane button fire)
- 14. *PBF NC.....(plane button fire)
- 15. *PLN SPD FST...(plane speed fast)
- 16. *PLN RCCW.....(plane rotate counter-clockwise)
- 17. *PLN RCW.....(plane rotate clockwise)
- 18. COIN.....(coin drop)
- 19. GND
- 20. ANT.....(anti-static antenna)
- 21. VIDEO RETURN
- 22. TV VIDEO

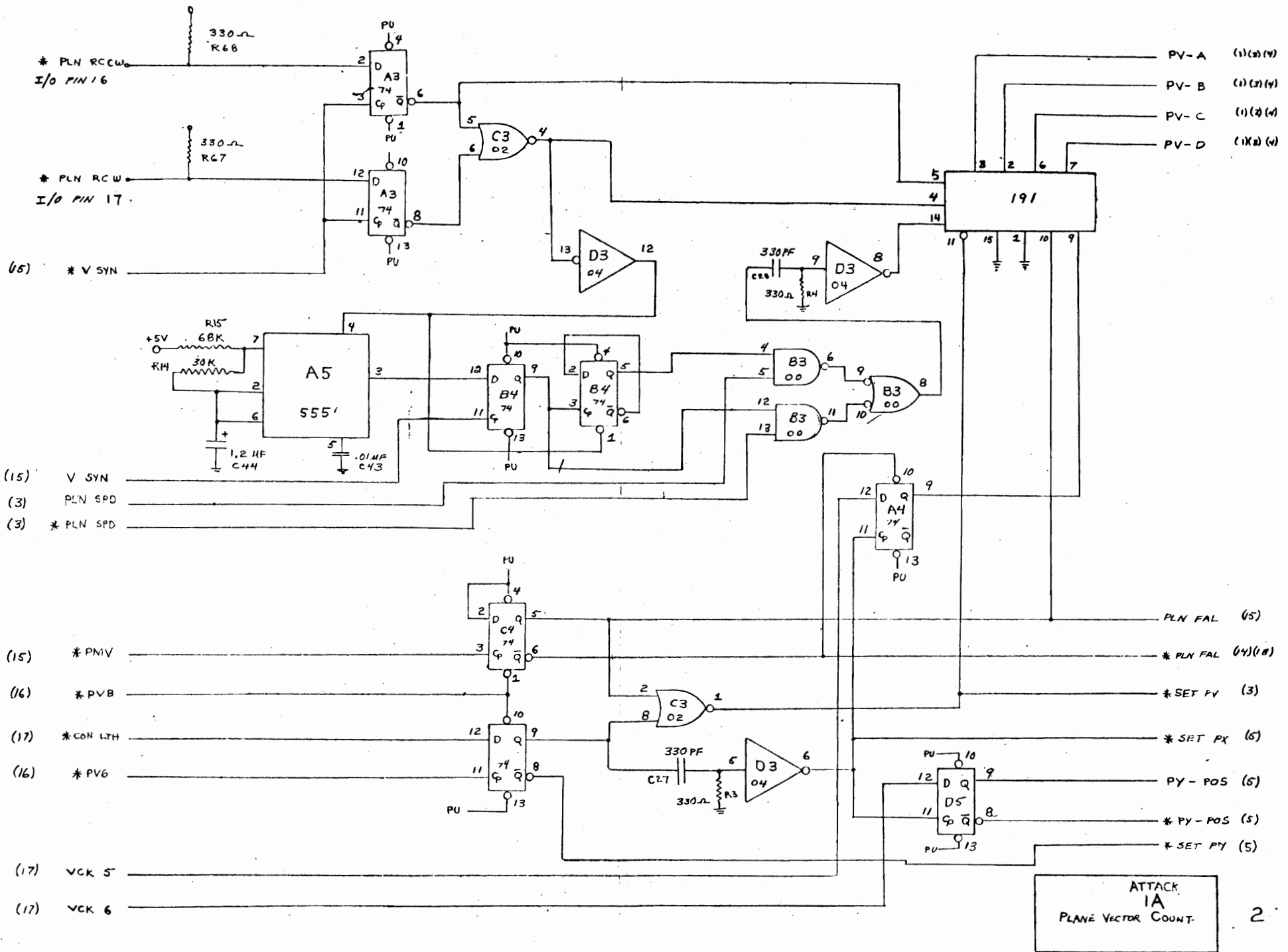
ATTACK

BY *Exidy*

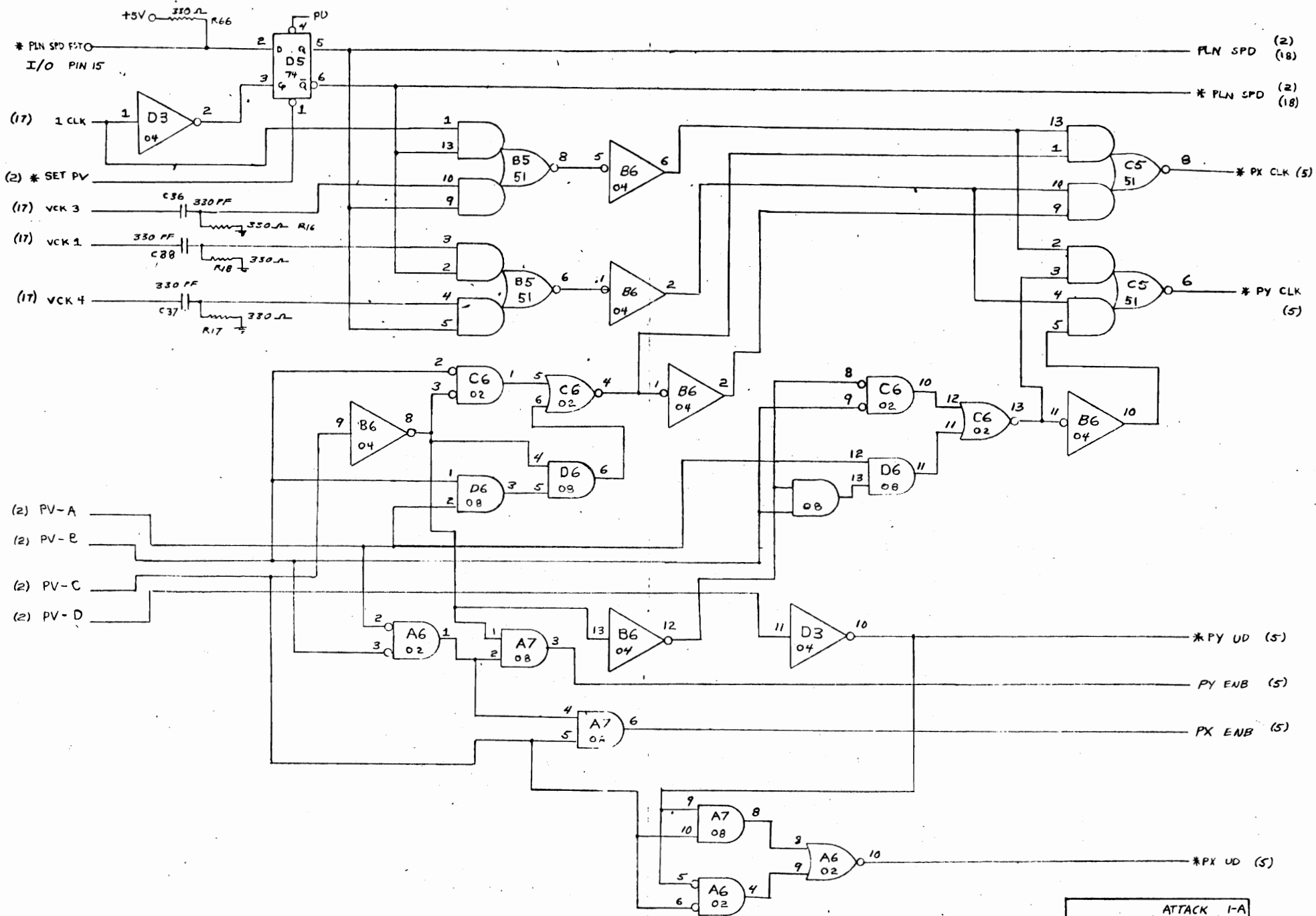
LOGIC DIAGRAM 1A



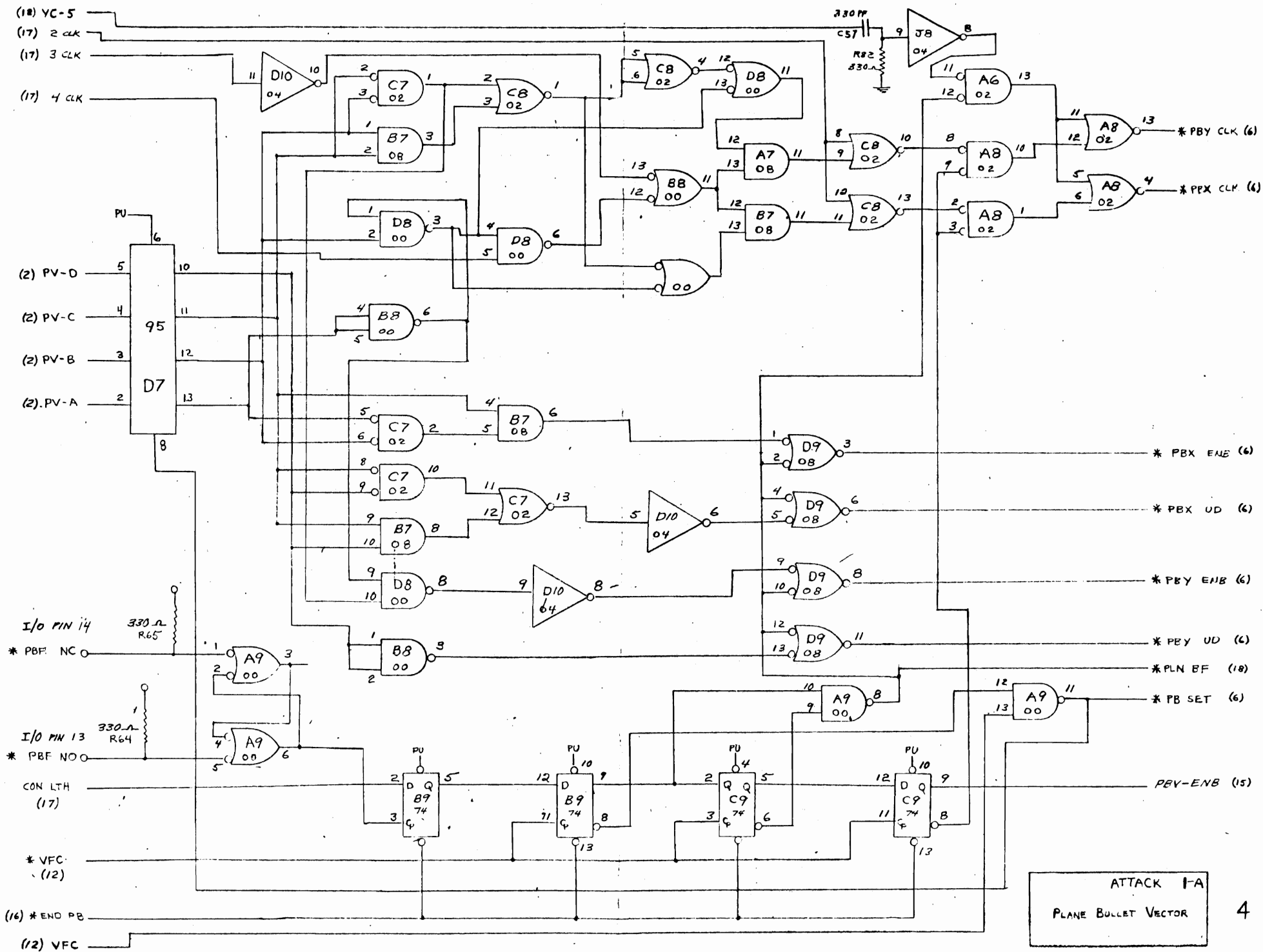
1-A
ATTACK



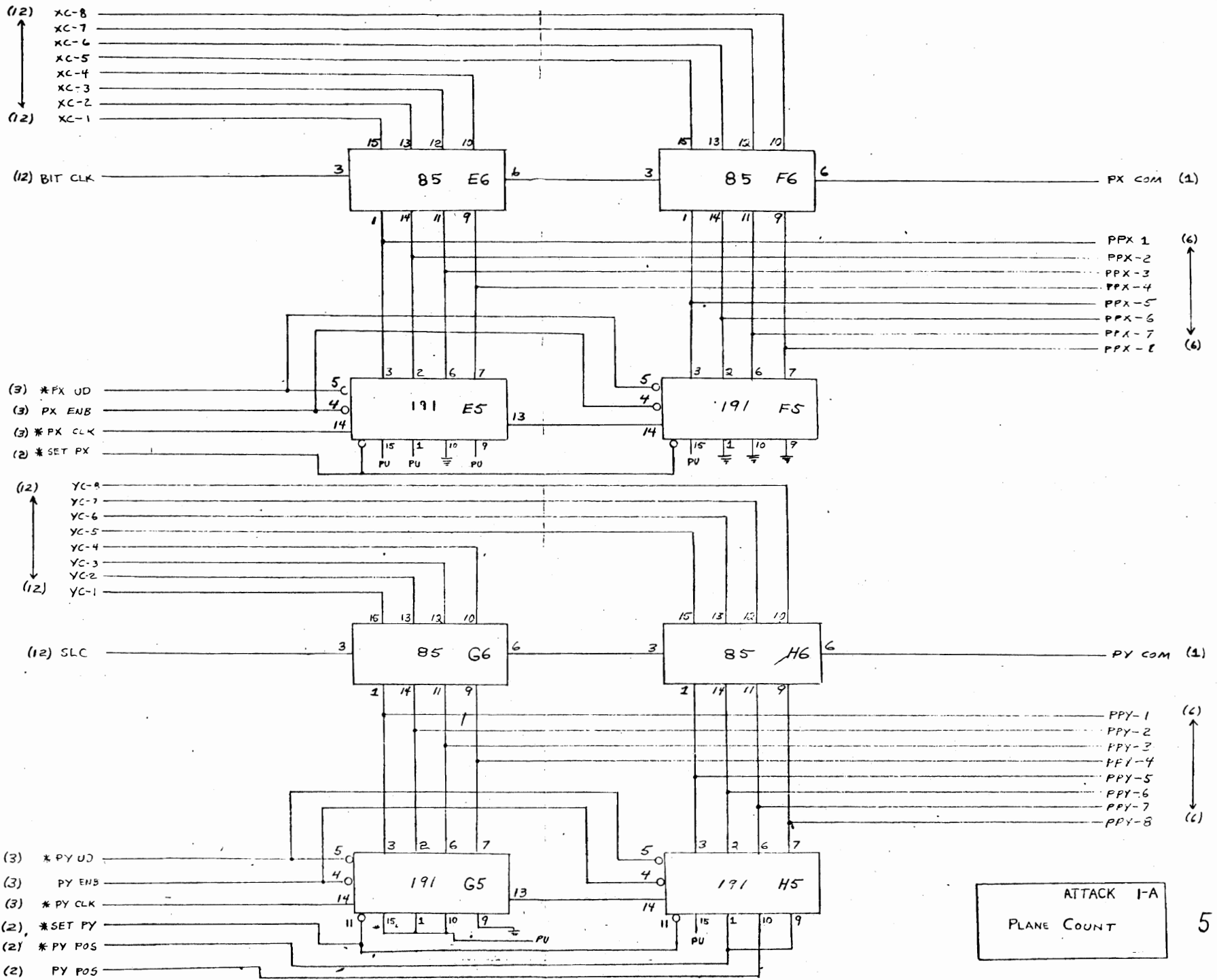
ATTACK
IA
PLANE VECTOR COUNT



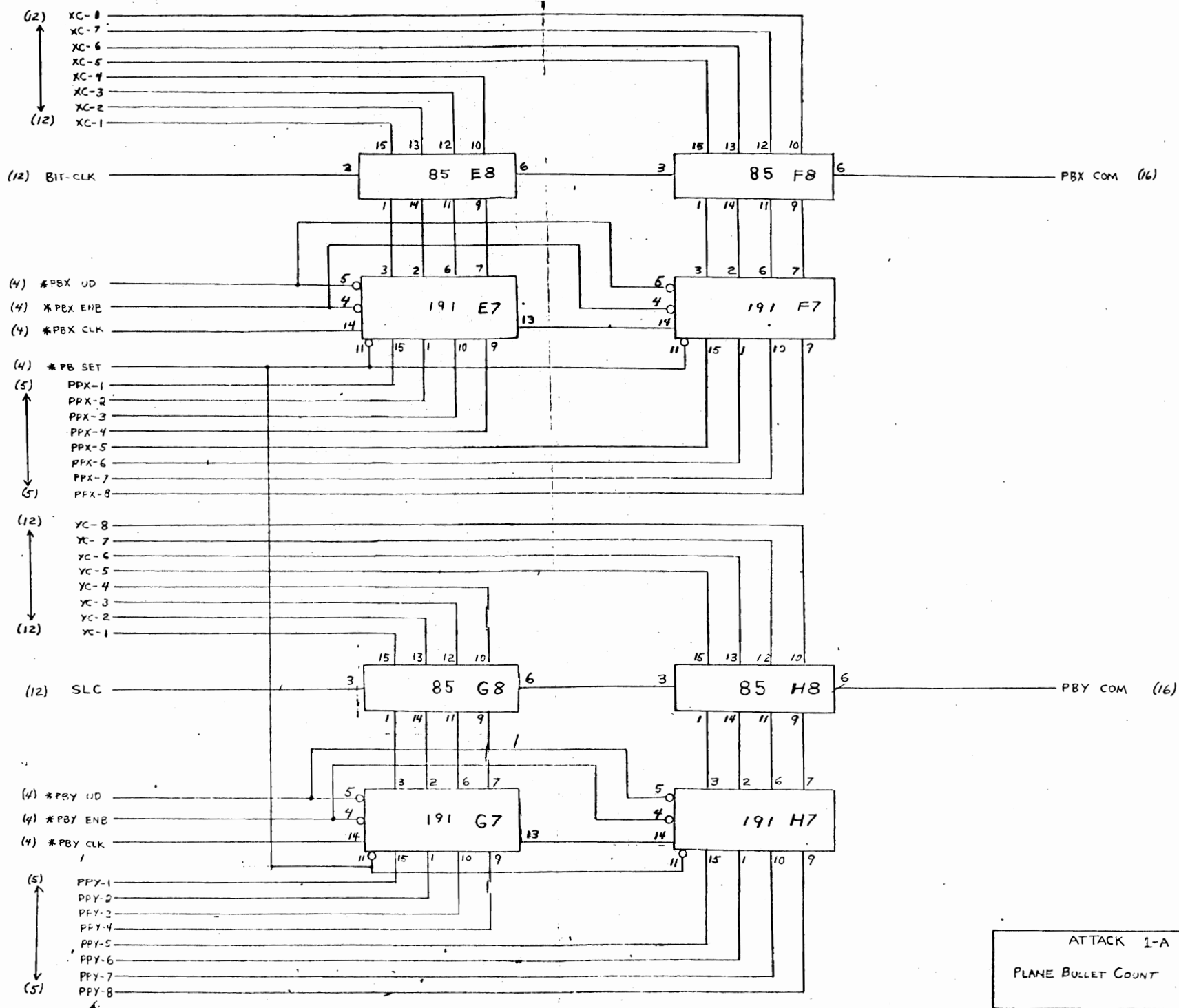
ATTACK 1-A
 PLANE VECTOR CONTROL



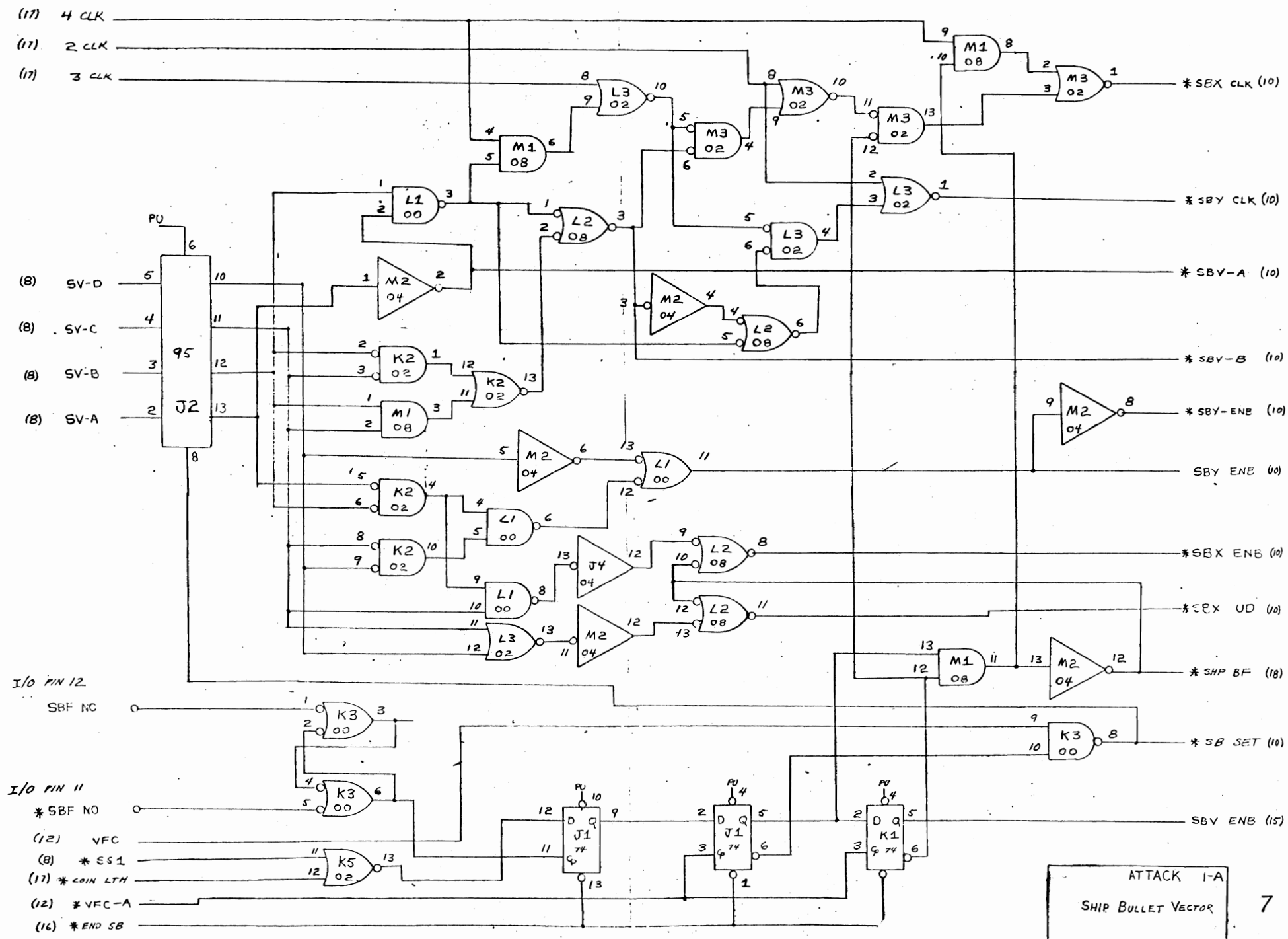
ATTACK 1-A
 PLANE BULLET VECTOR



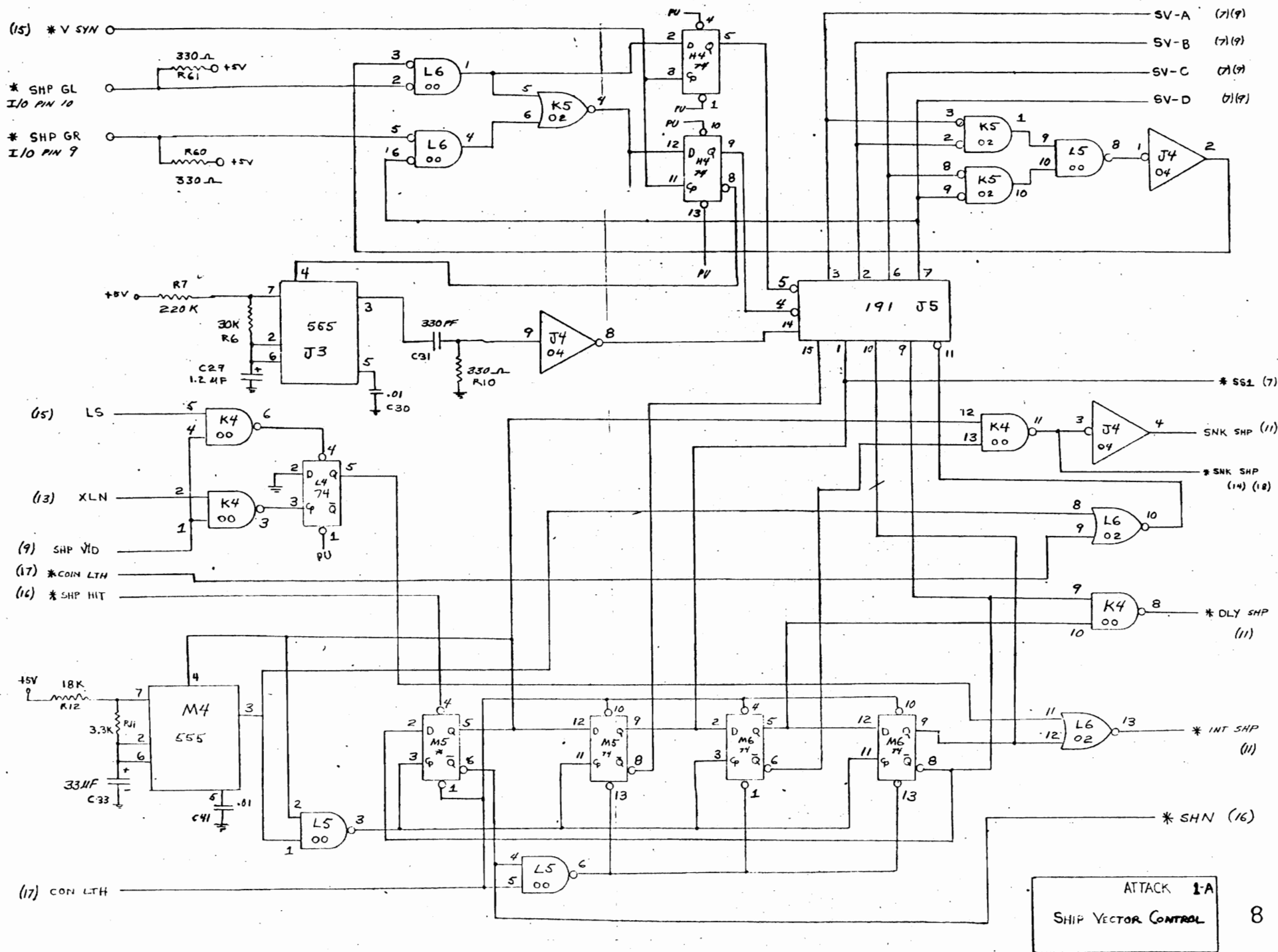
ATTACK I-A
 PLANE COUNT



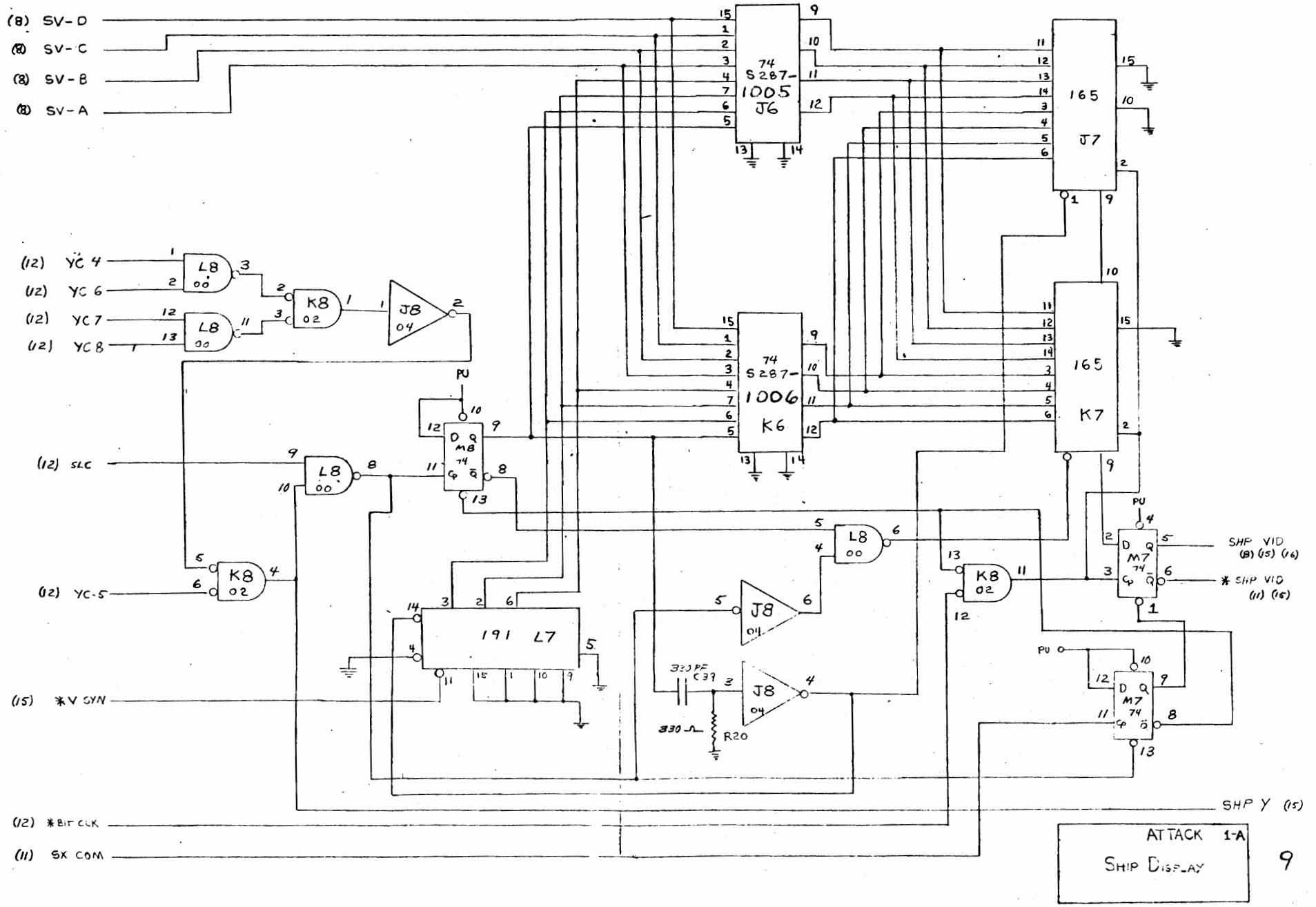
ATTACK 1-A
PLANE BULLET COUNT

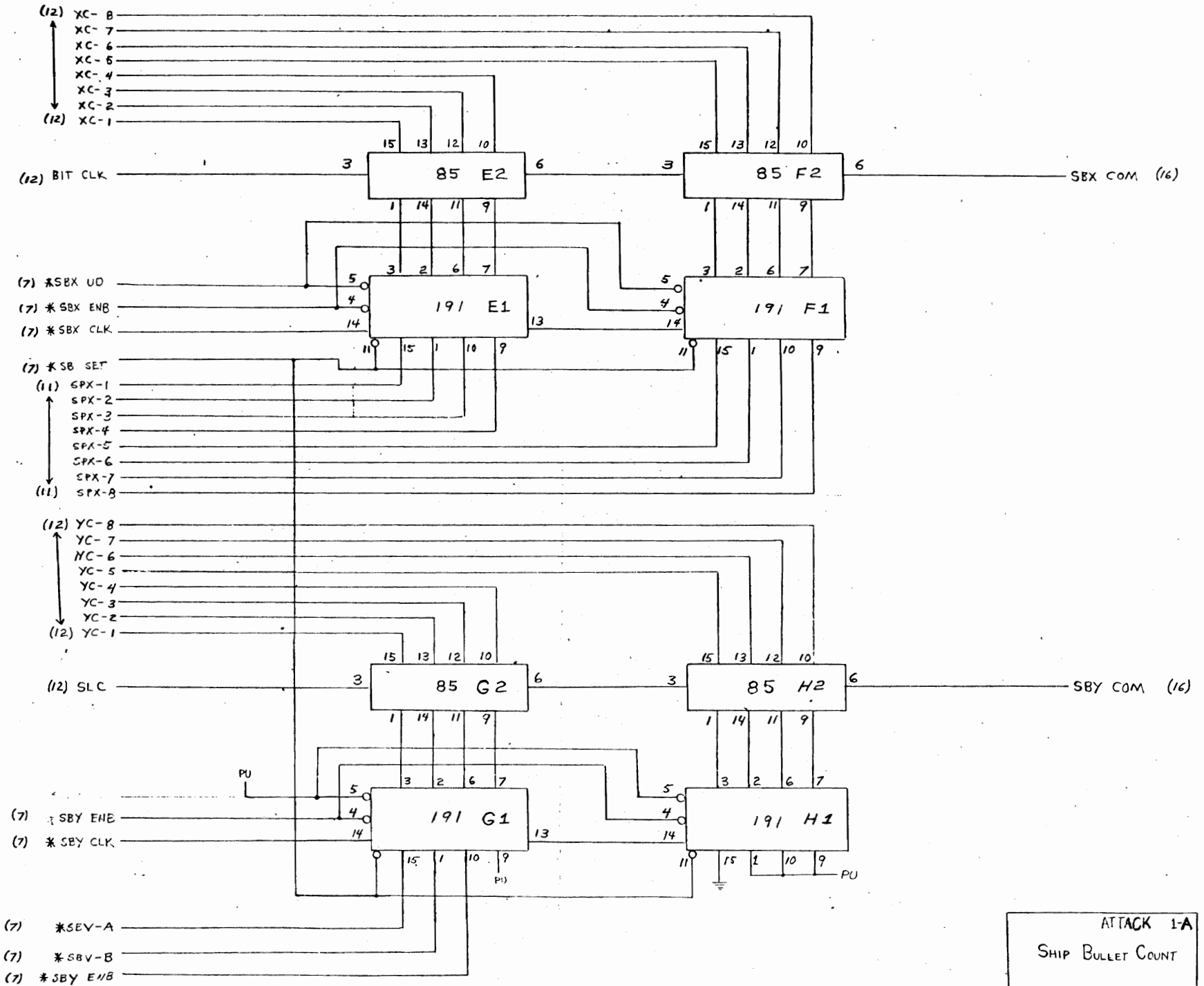


ATTACK I-A
SHIP BULLET VECTOR

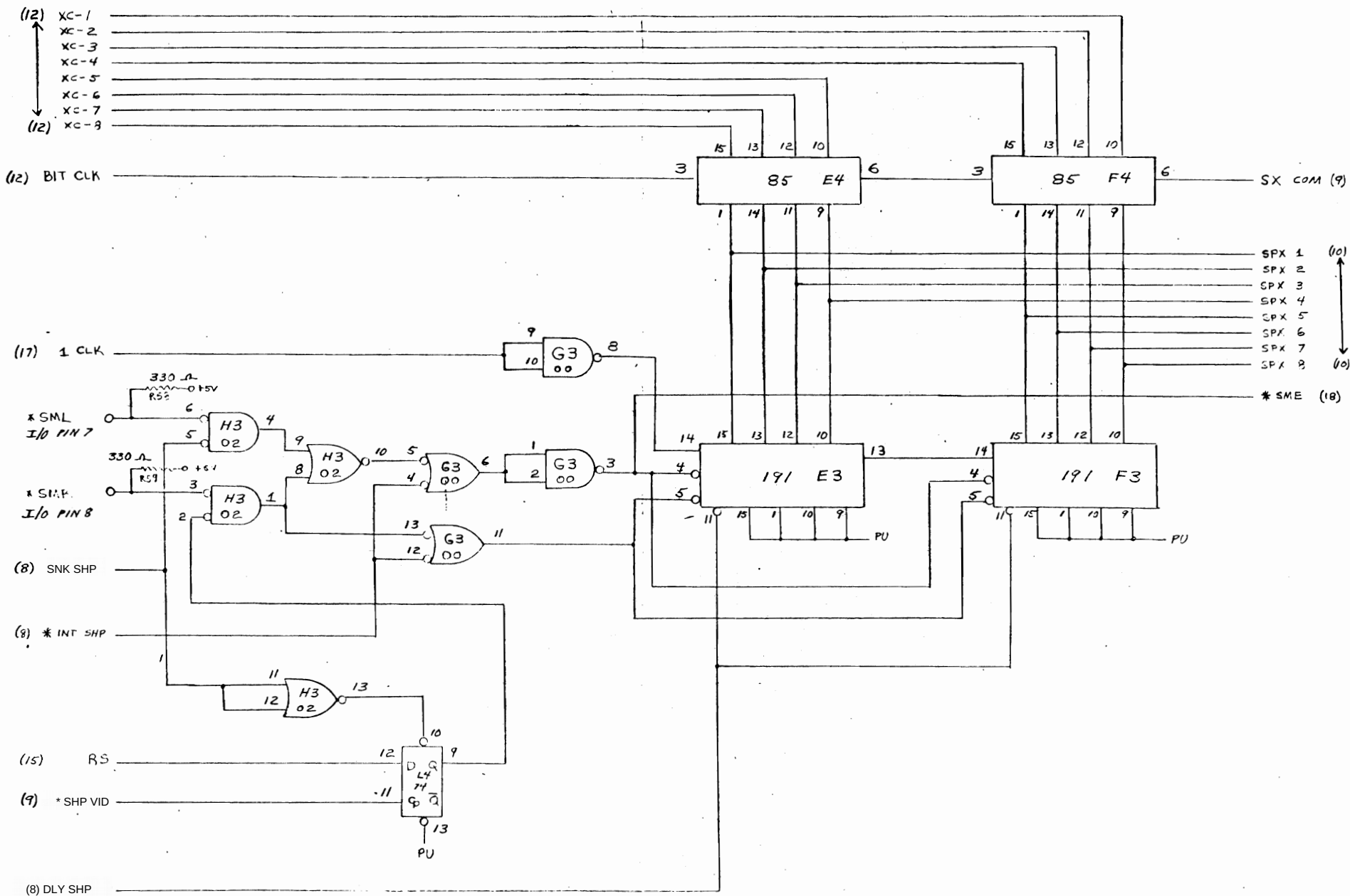


ATTACK 1-A
SHIP VECTOR CONTROL

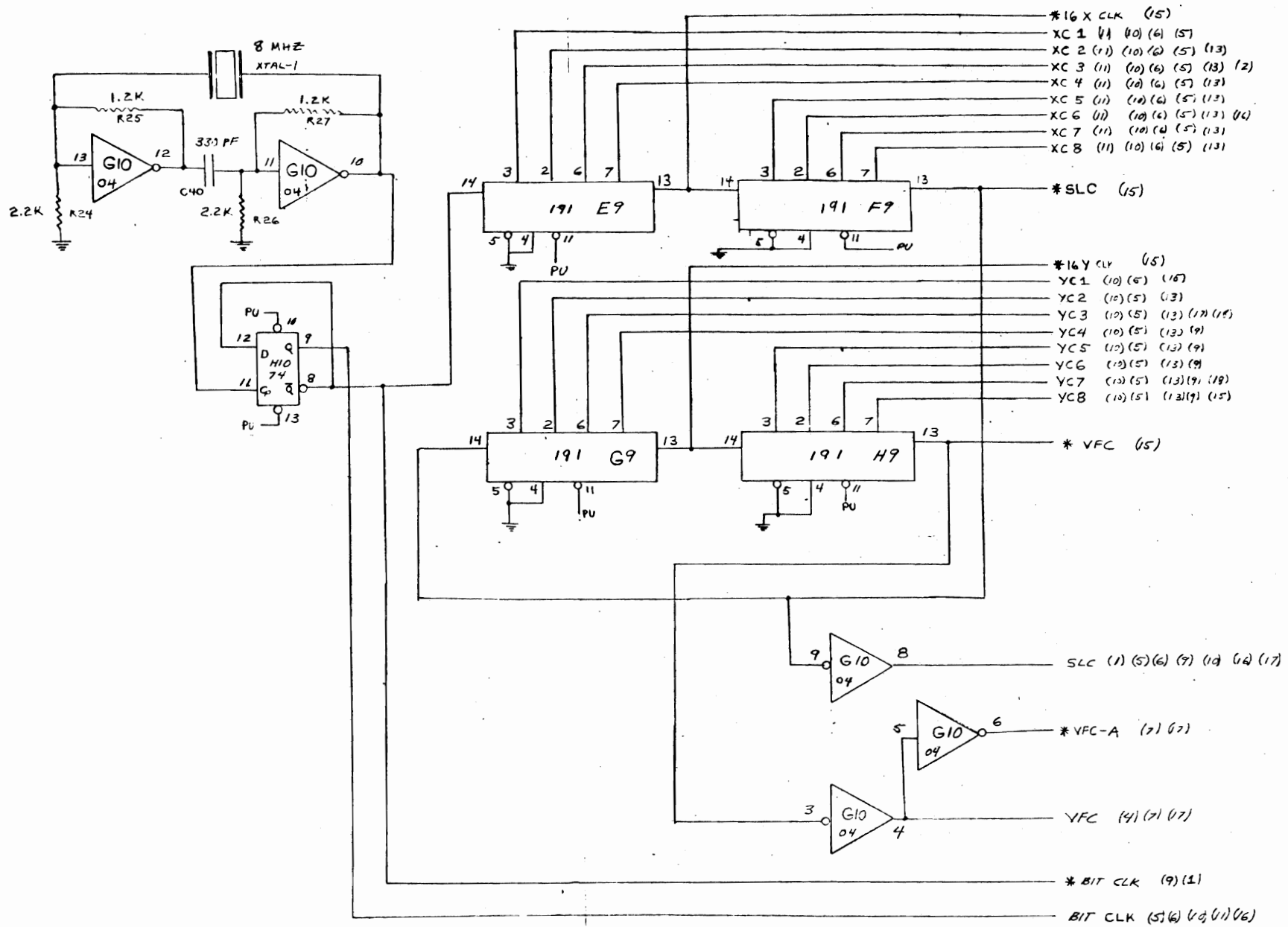




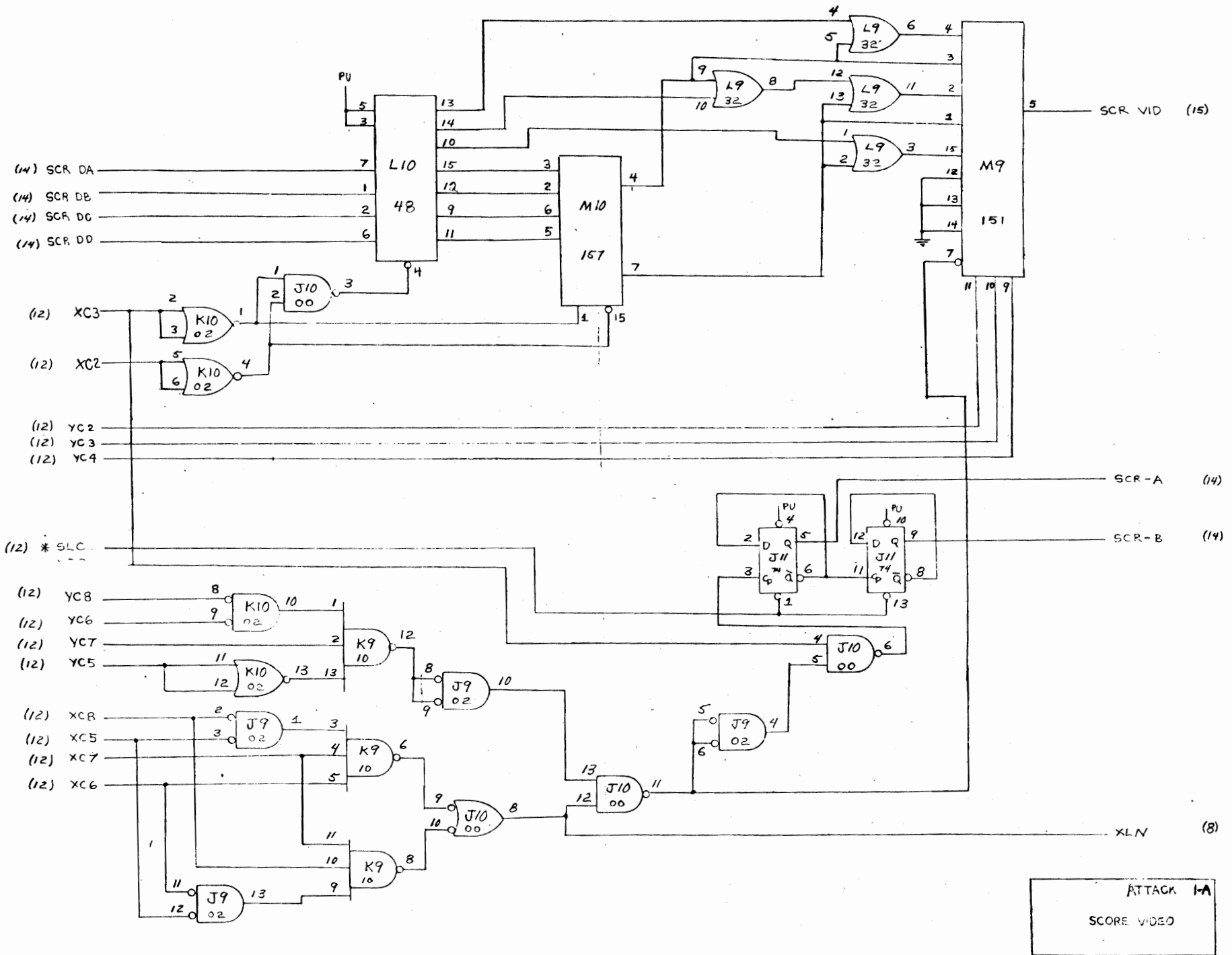
ATTACK 1-A
SHIP BULLET COUNT

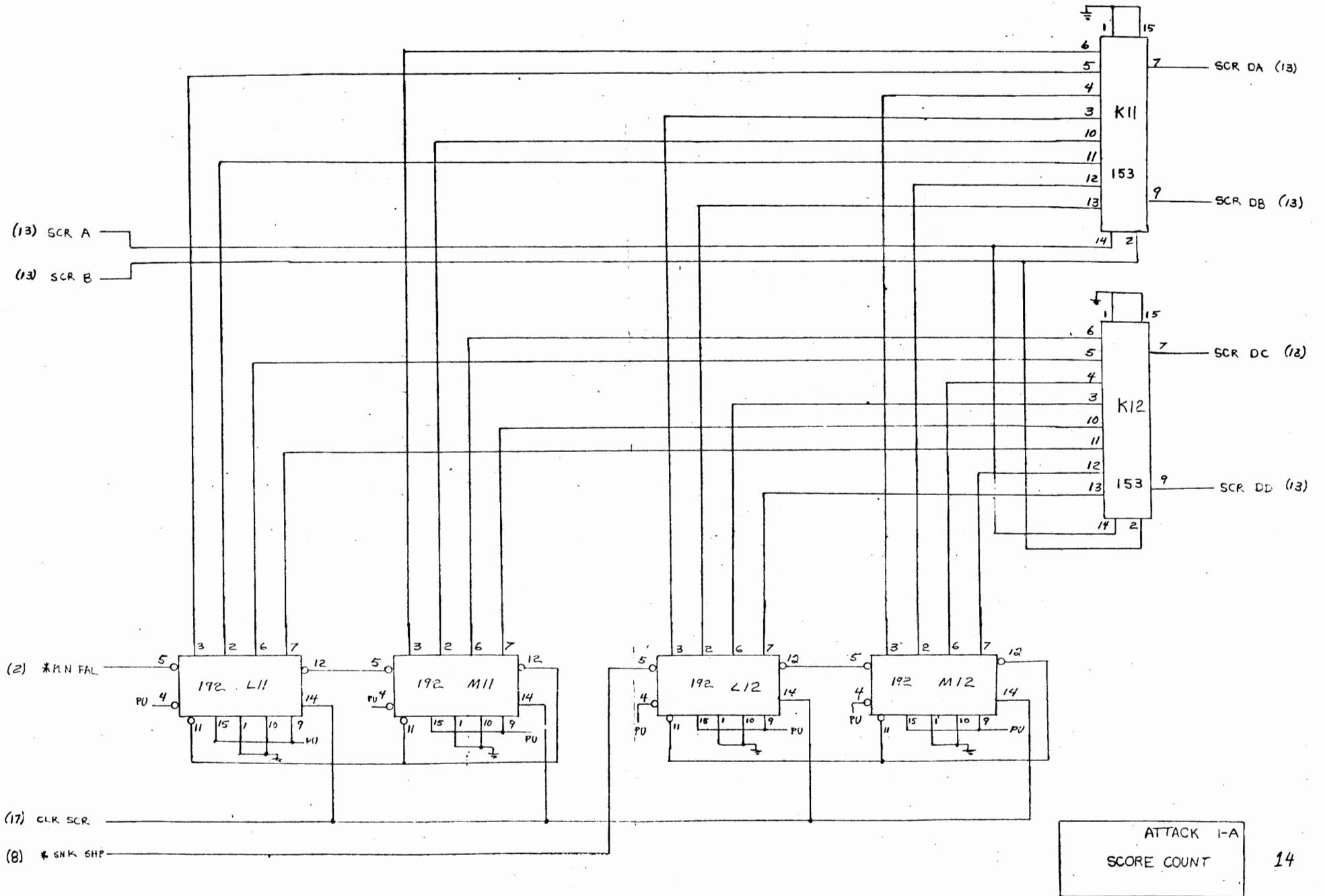


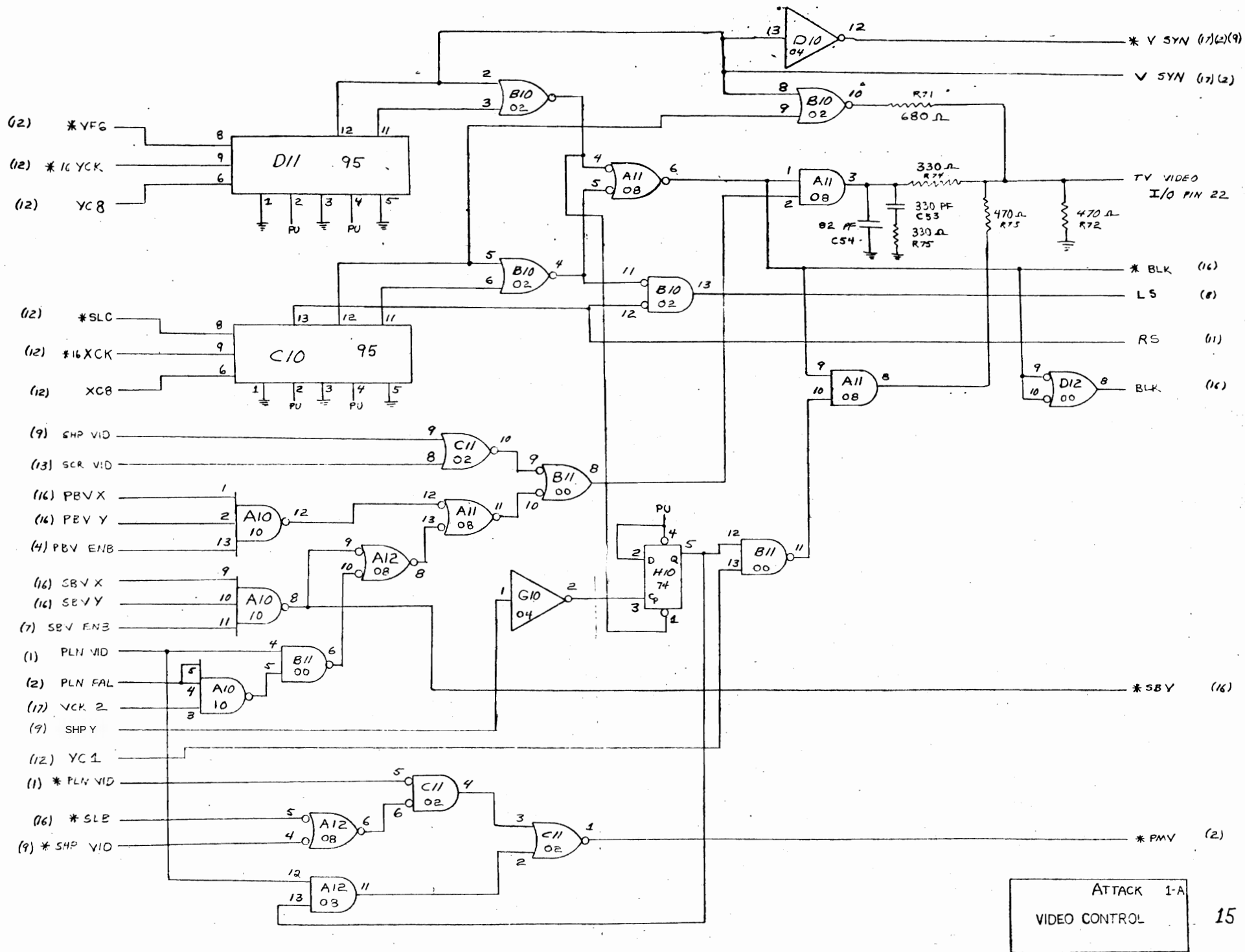
ATTACK 1-A
 SHIP X COUNT



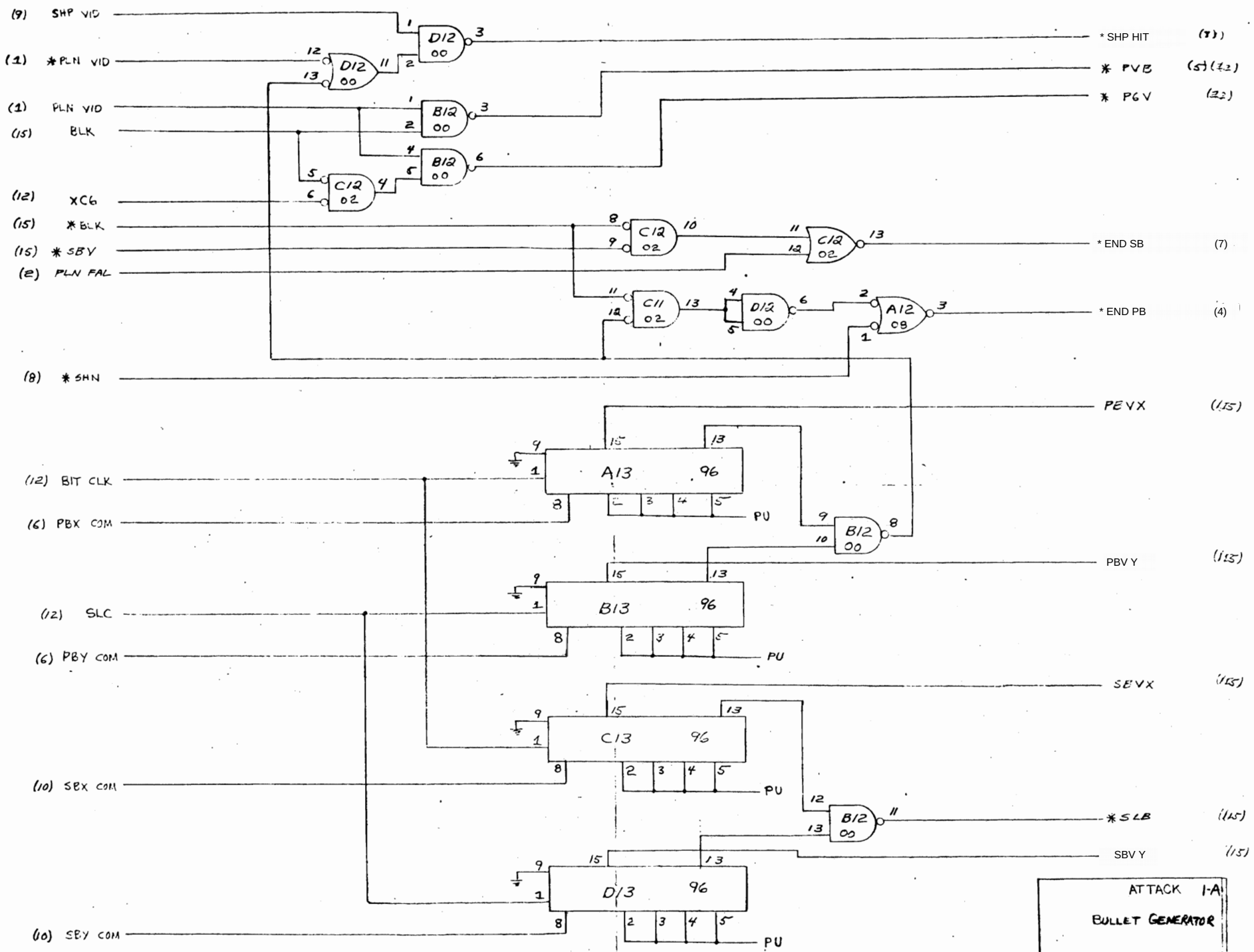
ATTACK 1-A
TIMING



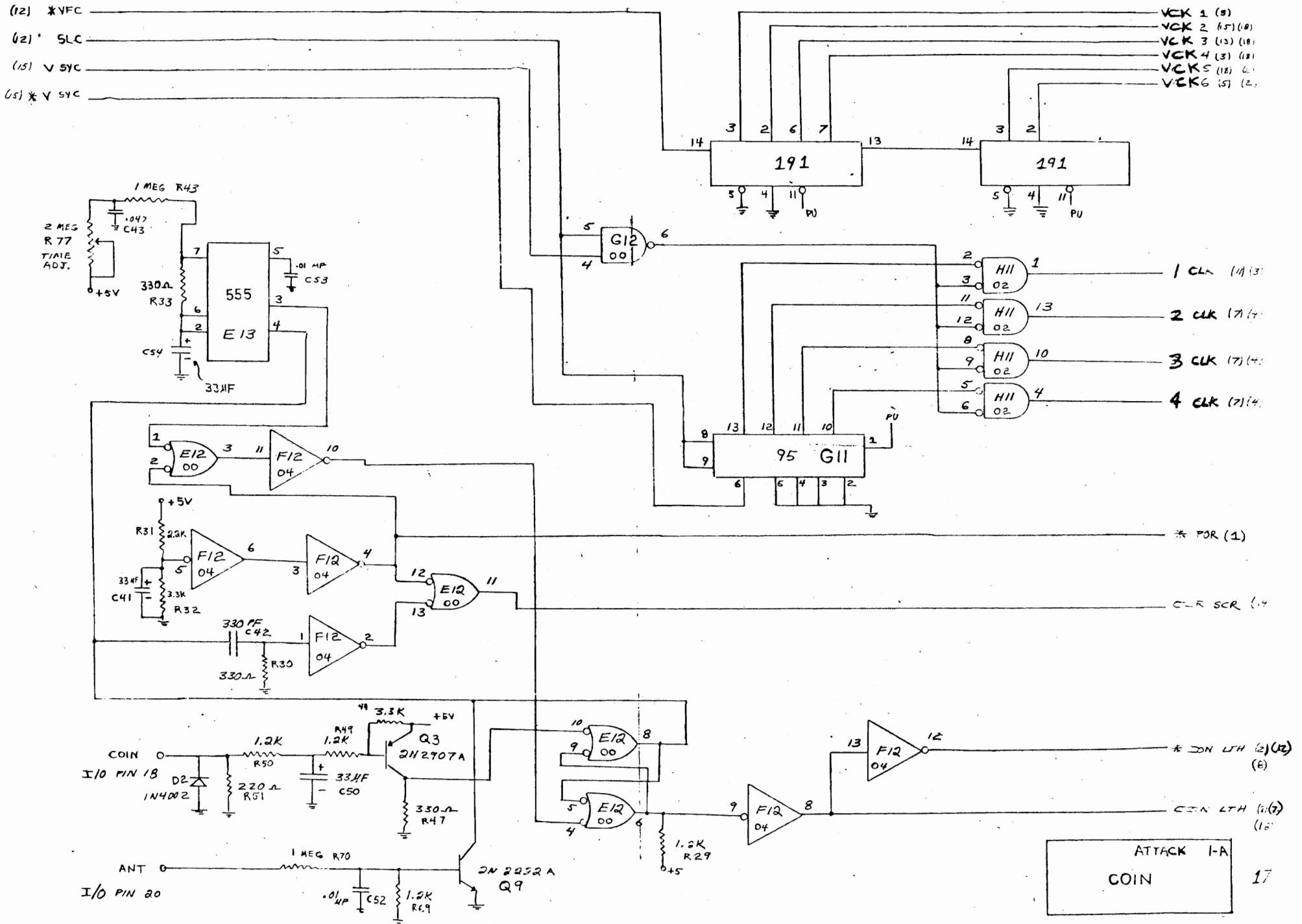




ATTACK 1-A
VIDEO CONTROL



ATTACK 1-A
BULLET GENERATOR



(17) CON LTH

