

RETURN OF THE INVADERS

**Conversion Kit for any
vertically mounted
Rastar Scan Monitor Game**

Installation Manual



RETURN OF THE INVADERS CONVERSION KIT CONTENTS

- Printed Circuit Board Assembly
- Universal Wiring Harness
- Four Control Button Assemblies
- Complete Joystick Assembly
- Sueded Polycarbonate Control Panel Overlay
- Two Adhesive Backed Control Panel Labels
- Adhesive Backed Game Play Instructions
- FCC-Required Printed Circuit Board Enclosure
- Colorful Lexan Marquee

INSTALLATION

1. Remove all buttons and joysticks from the existing control panel. Remove the marquee and graphics. Finally, remove the old wiring harness, but *leave* all the AC wires to the monitor, fluorescent lights, etc.
2. Refer to the control panel layout diagram and modify the game control panel if necessary by drilling additional holes or plugging extra holes.
3. Apply the Invaders overlay and cut out the holes. Install the buttons and joysticks.
4. Wire the Invaders harness into the game. Be careful — this harness has *three* board connectors.
5. Mount the boards in the game and attach the edge connectors. Install the board enclosure as required by FCC regulations.
6. Apply Invaders side graphics and marquee.

INVADERS "G" CONNECTOR

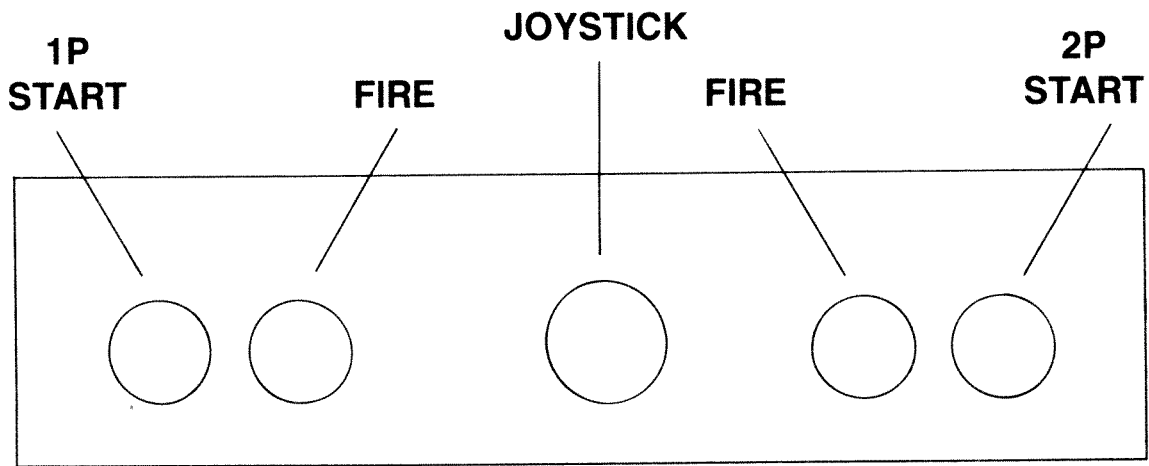
COMPONENT SIDE	SOLDER SIDE		
Ground	1	A	Ground
Video Red	2	B	Video Ground
Video Green	3	C	Video Blue
Negative Composite Sync	4	D	
Speaker +	5	E	Speaker -
Key	6	F	
	7	H	
Coinswitch -	8	J	
	9	K	
	10	L	
	11	M	
1P Start	12	N	2P Start
	13	P	
	14	R	
Joystick Right	15	S	
Joystick Left	16	T	
	17	U	
	18	V	
	19	W	
	20	X	
Fire	21	Y	
	22	Z	

INVADERS "H" CONNECTOR

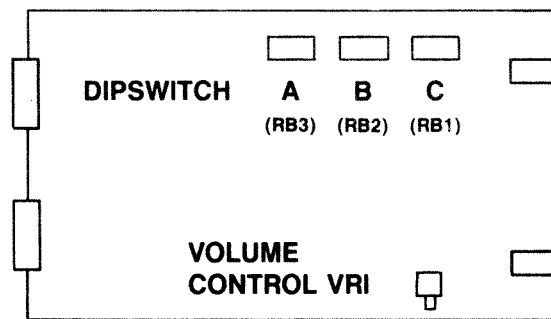
1	Ground
2	Ground
3	
4	
5	+5V
6	+5V
7	
8	
9	+12V
10	Key
11	
12	+12V

INVADERS "T" CONNECTOR

COMPONENT SIDE	SOLDER SIDE		
Ground	1	A	Ground
	2	B	
	3	C	
	4	D	
	5	E	
	6	F	
Key	7	H	
	8	J	
	9	K	
	10	L	
	11	M	
	12	N	
	13	P	
	14	R	
	15	S	
	16	T	
	17	U	
+5V	18	V	+5V



**RECOMMENDED
CONTROL PANEL LAYOUT**



**USER INFORMATION
WARNING
F. C. C. REGULATION COMPLIANCE**

THE P.C. BOARD CAGE SUPPLIED WITH THIS CONVERSION KIT MUST BE UTILIZED AND TERMINATED TO GROUND AT THE TIME OF INSTALLATION.

THIS IS TO AVOID RADIO FREQUENCY RADIATION AND COMPLY WITH THE LIMITS FOR A CLASS "A" COMPUTING DEVICE PURSUANT TO SUBPART "J" OF PART 15 OF F.C.C. RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE WHEN OPERATED IN A COMMERCIAL ENVIRONMENT.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE — IN WHICH CASE, THE USER AT HIS OWN EXPENSE, WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

DIPSWITCH A (RB3)

	1	2	3	4	5	6	7	8
No Bonus Ship	ON	ON						
Bonus Ship at 30,000 Points	OFF	ON						
Bonus Ship at 30,000 and 80,000	ON	OFF						
Bonus Ship at 30,000 and every 80,000	OFF	OFF						
Free Play			ON					
Normal			OFF					
5 Ships/Credit				ON	ON			
3 Ships/Credit				OFF	ON			
2 Ships/Credit				ON	OFF			
1 Ship/Credit				OFF	OFF			
Not Used						OFF		
Screen Invert							ON OFF	
Upright Mode								ON
Cocktail Mode								OFF

DIPSWITCH B (RB2)

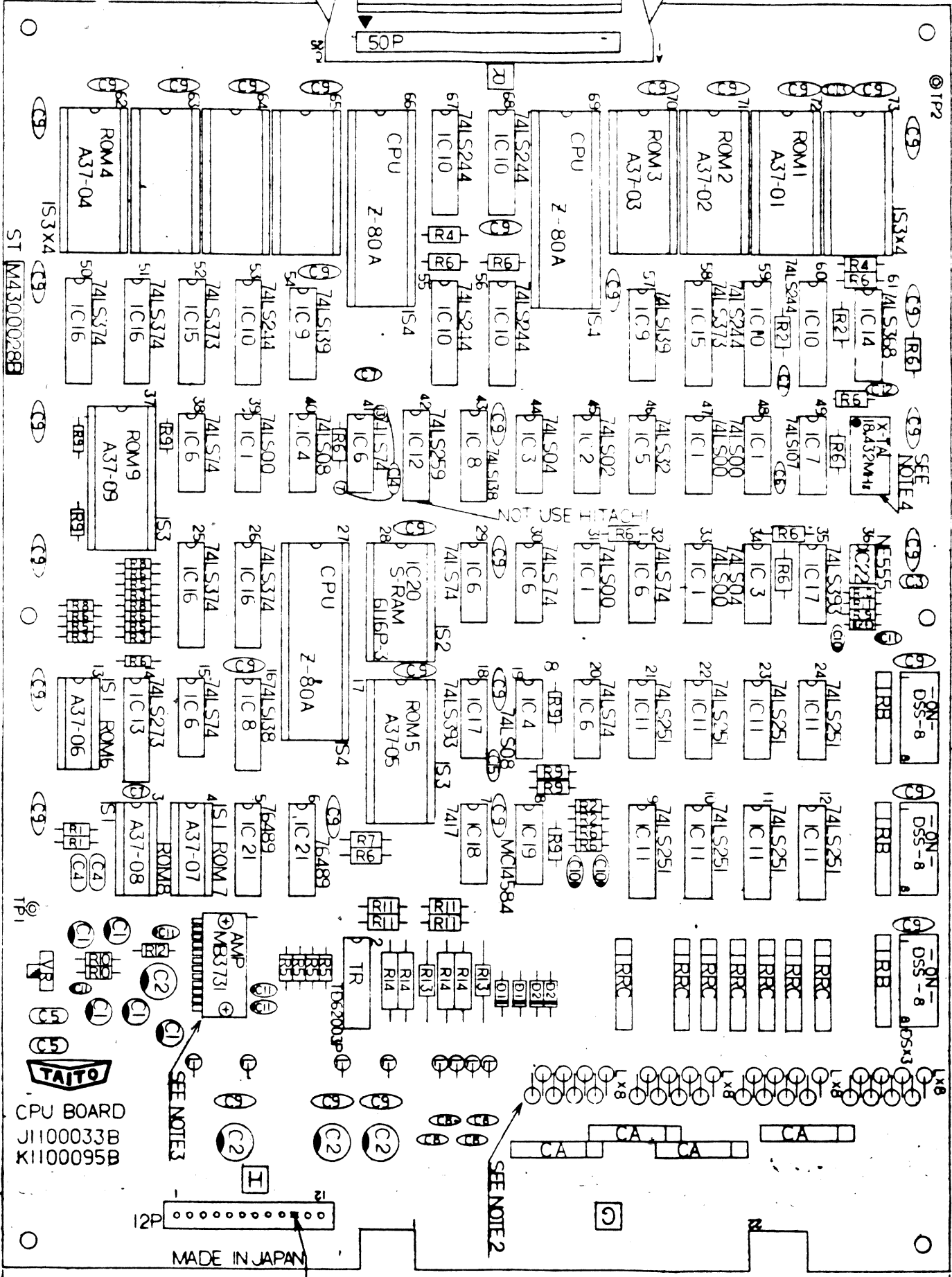
		1	2	3	4
COINS	CREDITS	5	6	7	8
1	1	ON	ON	ON	ON
1	2	OFF	ON	ON	ON
1	3	ON	OFF	ON	ON
1	4	OFF	OFF	ON	ON
1	5	ON	ON	OFF	ON
1	6	OFF	ON	OFF	ON
1	7	ON	OFF	OFF	ON
1	8	OFF	OFF	OFF	ON
2	1	ON	ON	ON	OFF
3	1	OFF	ON	ON	OFF
4	1	ON	OFF	ON	OFF
5	1	OFF	OFF	ON	OFF
6	1	ON	ON	OFF	OFF
7	1	OFF	ON	OFF	OFF
8	1	ON	OFF	OFF	OFF
9	1	OFF	OFF	OFF	OFF

DIPSWITCH C (RB1)

	1	2	3	4	5	6	7	8
Screen Check*	ON							
Normal Game	OFF							
Not Used		OFF						
Not Used			OFF					
Not Used				OFF				
No Coin Display					ON			
Coin Display					OFF			
No Year Display						ON		
Year Display						OFF		
No Bomb Hit							ON	
Normal Game							OFF	
Not Used								OFF

*1-Player start button will allow you to move to next stage.

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SEE NOTE 4

DO NOT USE THIS CONTACT

SEE NOTE 2

SEE NOTE 3

CPU BOARD
J1100033B
K1100095B

MADE IN JAPAN

CUT

260

ST M43000288

TP1

TP2

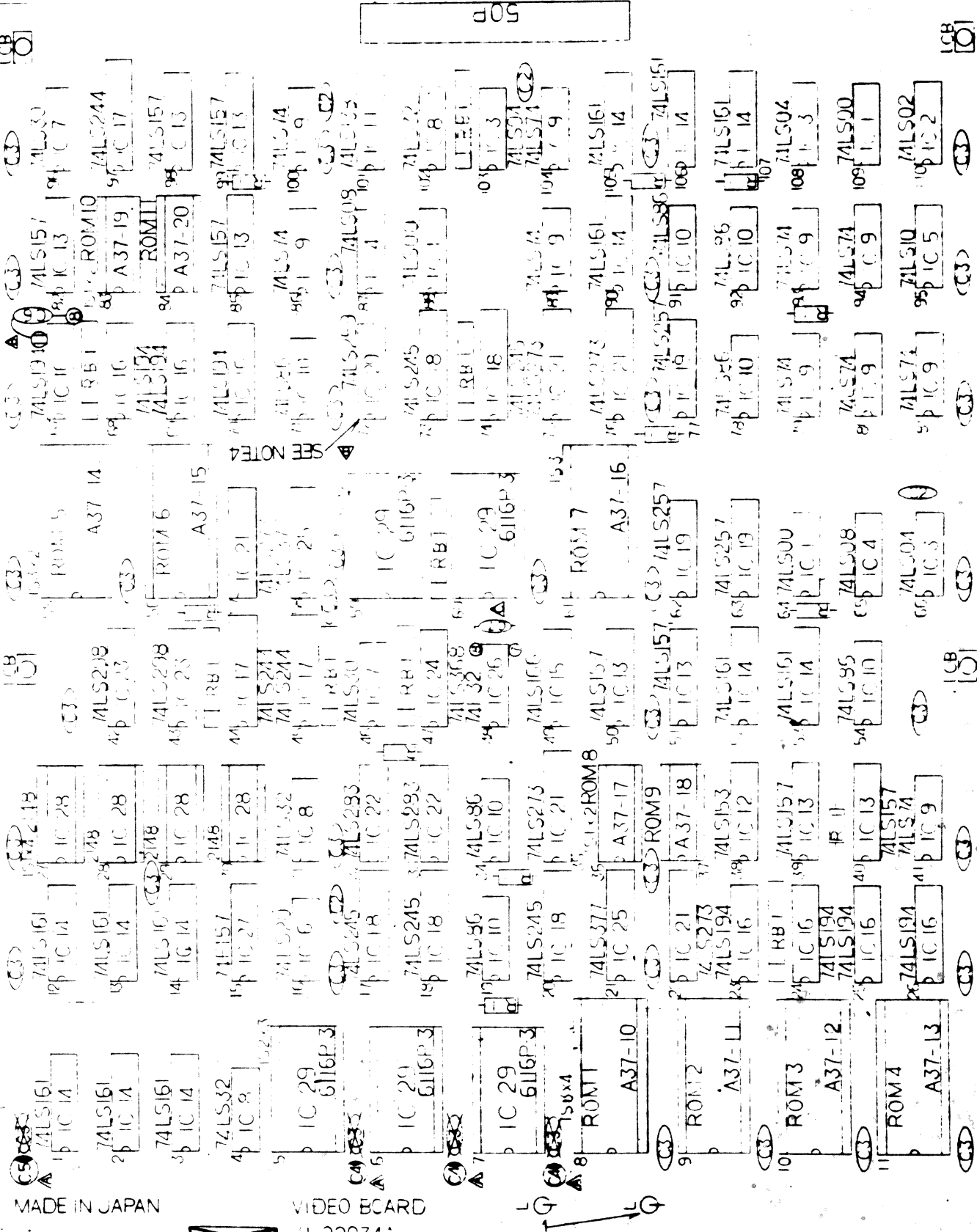
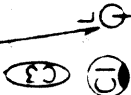
MADE IN JAPAN

VIDEO BOARD

95000001
44200001
00000001



SEE NOTE 2



REF NOTE 4

50P