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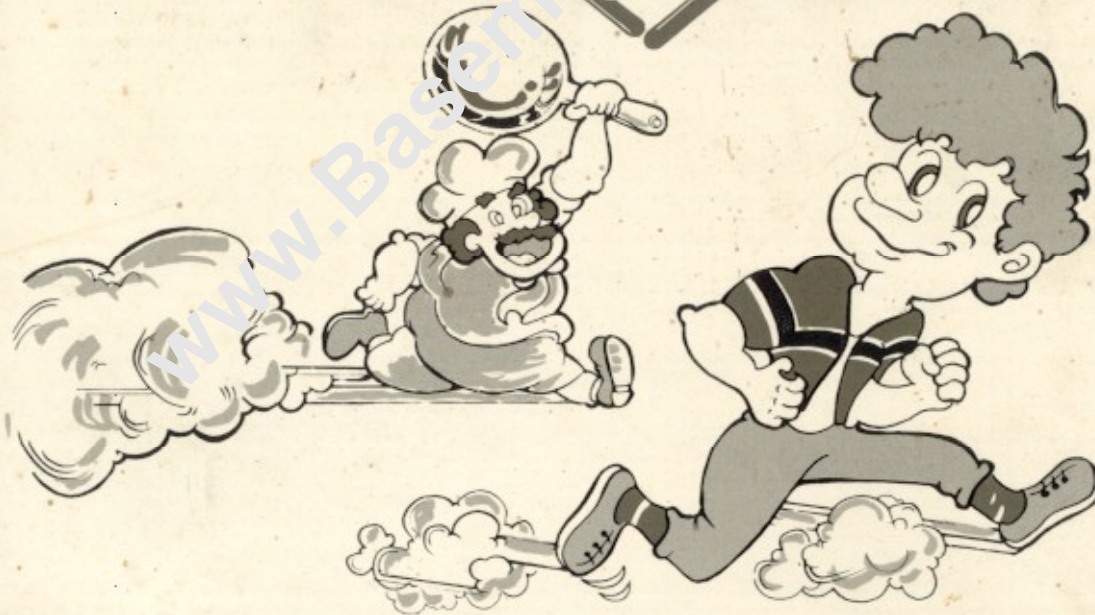
**--MARK--**

**Konami/cenluri™**

**CONVERSION KIT  
INSTRUCTION MANUAL**

**HIGH SCHOOL GRAFFITI**

**Misile™**



**cenluri™**  
INC.

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**MANUAL NO.: 901-2177**

# "MIKIE"

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CONVERSION KIT CONTENTS:

MAIN PRINTED CIRCUIT BOARD  
P.C. BOARD CAGE (FCC REQUIRED)  
CONNECTING WIRING HARNESS  
MARQUEE (HEADER) SILKSCREENED  
SIDE PANEL GRAPHICS (LEFT AND RIGHT)  
CONTROL PANEL OVERLAY  
CONTROL PANEL DECALS (BUTTONS AND INSTRUCTIONS)  
PUSH BUTTON, WHITE (2 EA.)  
PUSH BUTTON, RED (2 EA.)  
SWITCH W/HOLDER ASSEMBLY (4 EA.)  
4-WAY JOYSTICK  
FCC COMPLIANCE LABEL  
SCHEMATICS  
INSTRUCTION MANUAL

ACCESSORIES, LESS MARQUEE, FOR COCKTAIL TABLE CONVERSIONS  
ARE AVAILABLE UPON REQUEST THROUGH OUR SALES DEPARTMENT.

USER INFORMATION

WARNING

F.C.C. REGULATION COMPLIANCE

THE P.C. BOARD METAL CAGE SUPPLIED WITH THIS CONVERSION KIT MUST BE USED 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 SUB-PART 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.

## INTRODUCTION

THIS MANUAL CONTAINS STEP-BY-STEP INSTRUCTIONS, WIRING DIAGRAMS, AND SUGGESTIONS TO ASSIST YOU IN PRODUCING A PROFESSIONAL CONVERTED GAME.

WE URGE YOU TO STUDY THIS MANUAL THOROUGHLY BEFORE YOU BEGIN THE CONVERSION.

"MIKIE" CAN BE INSTALLED IN ANY VERTICALLY MOUNTED RASTER SCAN MONITOR ON AN UPRIGHT, MINI, OR COCKTAIL TABLE GAME.

THE CONNECTING WIRING HARNESS PROVIDED WITH THIS KIT INCLUDES ADDITIONAL WIRES, IF NEEDED, FOR CONVERTING TABLE TYPE GAMES. DIP SWITCH SETTINGS ON THE PRINTED CIRCUIT BOARD NEED TO BE CHANGED WHEN CONVERTING TABLE TYPE GAMES.

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## NOTICE

THIS KIT IS INTENDED TO BE INSTALLED IN ANY VIDEO GAME MANUFACTURED AFTER DECEMBER 1, 1982.

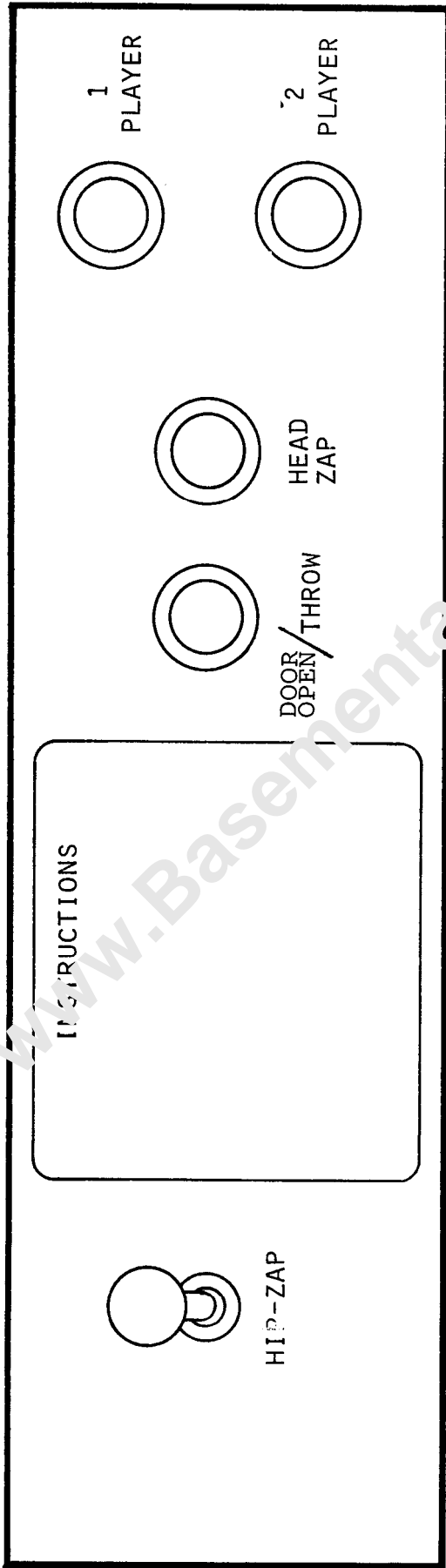
CONVERSION OF OLD EQUIPMENT NOT PREVIOUSLY TESTED TO COMPLY WITH THE LIMITS FOR A CLASS "A" COMPUTING DEVICE PURSUANT TO SUB-PART "J" OF PART 15 OF F.C.C. RULES MAY VOID F.C.C. TYPE ACCEPTANCE.

THE P.C. BOARD CAGE COVER MUST BE REPLACED, IF REMOVED TO FACILITATE MAINTENANCE OF P.C. BOARD ASSEMBLY.

AFTER PROPER INSTALLATION AFFIX THE F.C.C. LABEL PROVIDED WITH THIS KIT IN A CLEARLY VISIBLE PLACE OUTSIDE THE EQUIPMENT.

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NAME CONTROL PANEL DECAL PLACEMENT				
MATERIALS		HEAT TREAT.	FINISH	
DWN. VT	APP'D. M.J	DATE 10-9-84	SCALE NONE	PART NO.
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TOLERANCES	
Unless Otherwise Specified	
FRACTIONS	± 1/32
DECIMALS 2 PL	± .015
DECIMALS 3 PL	± .005
HOLES	+ .003
ANGLES	- .001
SHT. MET BENDS	± 1/2°
	± 2°

DRAWING (PART NO. 008-4948) FOUND IN THIS MANUAL.

ON THE CPU HARNESS DRAWING, NEXT TO THE COLOR OF EACH WIRE ON THE ARROWED LINES, WRITE THE COLOR OF THE WIRE FROM THE OLD GAME HARNESS, WHERE IT WILL TERMINATE. FOR EXAMPLE, IF THE WIRE ON THE OLD GAME HARNESS LEADING TO 1ST PLAYER START IS "YELLOW", WRITE "YELLOW" NEXT TO WHT FROM PIN "E" ON THE ARROWED LINE.

TAKING ONE WIRE GROUP AT A TIME, AND ALLOWING ENOUGH WIRE FOR THE NEW HARNESS TO BE ATTACHED, CUT THE WIRES LEADING TO THE OLD P.C. BOARD. CUT THE WIRES DIAGONALLY TO ELIMINATE A BULKY CABLE APPEARANCE, ONCE THE CONNECTIONS ARE MADE, WIRES EITHER CAN BE ATTACHED WITH A BUTT CONNECTOR OR SOLDERED AND COVERED WITH SHRINK-TUBING FOR A MORE PROFESSIONAL LOOK.

A WORD OF CAUTION WHEN CONNECTING THE BLACK WIRES FROM THE NEW KIT EDGE CONNECTOR. THESE WIRES ARE DC GROUND AND ARE NOT TO BE CONFUSED AND CONNECTED TO THE BLACK WIRES OF THE CABINET A.C. CIRCUIT.

BLACK WIRES IN AN A.C. CIRCUIT ARE "HOT" AND CARRY A POTENTIAL OF 120 VOLTS, WHITE IS "NEUTRAL" AND GREEN IDENTIFIES EARTH GROUND.

THE BLACK GROUND WIRES ON THE EDGE CONNECTOR ARE CONNECTED IN PARALLEL WITHIN THE P.C. BOARD AND ONLY ONE WIRE (18 GAUGE PIN U) IS REQUIRED FOR DC GROUND PURPOSES. THIS WIRE SHOULD BE ATTACHED TO THE POWER SUPPLY GROUND (GND) OR FRAME GROUND (F/G) TERMINAL.

DO NOT INSERT THE 36 PIN EDGE CONNECTOR INTO THE P.C. BOARD UNTIL ALL WIRES HAVE BEEN CONNECTED AND THOROUGHLY TESTED TO EACH TERMINATING POINT.

#### CAGE INSTALLATION:

LOCATE AN AREA INSIDE THE CABINET WHICH WILL ALLOW YOU TO INSERT OR REMOVE THE P.C. BOARD ASSEMBLY WITHOUT ANY PROBLEM.

INSTALL THE GALVANIZED METAL WITH PLASTIC GUIDES CAGE WITH FOUR (4) LARGE SCREWS (NO.8) IN AN ACCESSIBLE AREA AGAINST THE SIDE PANEL OF THE CABINET.

IF NEEDED, ELEVATE THE METAL CAGE WITH 3/4 INCH THICK PLYWOOD OR PARTICLE BOARD BETWEEN THE CAGE AND CABINET.

AFTER THE MAIN METAL CAGE HAS BEEN INSTALLED, SLIDE THE P.C. BOARD ASSEMBLY ON THE PLASTIC GUIDES AND PUSH IT ALL THE WAY IN. THE P.C. BOARD CONNECTING EDGE MUST BE FACING TOWARDS THE OUTSIDE OF THE CAGE WITH THE COMPONENT SIDE UP, FACING THE LARGE PERFORATED METAL COVER.

ATTACHED THE LARGE TOP PERFORATED METAL COVER TO THE MAIN CAGE WITH FOUR (4) SMALL SCREWS (NO.4) SUPPLIED WITH YOUR KIT.

CONNECT THE NEW HARNESS CONNECTOR TO THE P.C. BOARD WITH THE TAPE UP, VISIBLE FROM YOUR SIDE. CAREFULLY PLACE THE WHITE PROTECTIVE SLEEVE OF THE HARNESS THROUGH THE SQUARE CUT OUT ON THE SMALL PERFORATED METAL COVER.

USING TWO (2) SMALL SCREWS (NO.4) SECURE, THROUGH THE ELONGATED HOLES, THE SMALL FRONT COVER TO THE TOP OF THE TOP COVER, PUSH THE SMALL COVER AGAINST THE BOTTOM PART OF THE CAGE AND SECURE IT WITH TWO (2) LARGE SCREWS (NO.8) TO THE SIDE WOOD PANEL.

ATTACH ONE END OF THE 36 INCH LONG GREEN GROUND WIRE, SUPPLIED WITH THIS KIT, UNDER ANY OF THE SCREWS USED TO SECURE THE CAGE. CONNECT THE OTHER END OF THE GREEN WIRE TO EARTH GROUND, E.G. POWER SUPPLY CHASSIS OR TV MONITOR CHASSIS.

### P.C. BOARD ASSEMBLY:

THE COMPUTER BOARD IN THIS KIT OPERATES MOST EFFICIENTLY AND RELIABLY WHEN THE POWER SUPPLY IS SET SO THE VOLTAGE ON THE BOARD IS +5.0 VOLTS,  $\pm 0.1$  VOLT, TO CHECK THIS, PLACE A METER ACROSS +5 VOLTS (PIN-V) AND GROUND (PIN-U), AT THE EDGE CONNECTOR. ADJUST, IF NECESSARY, THE +5 VOLT CONTROL ON THE POWER SUPPLY.

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

### POWER SUPPLY:

THE POWER SUPPLY MUST PROVIDE +5 VOLTS, 6.0 AMPS AND +12 VOLTS, 2.0 AMPS CURRENT PARAMETERS. ALL OUTPUT SOURCE VOLTAGES MUST BE STABLE FOR INPUT LINE VOLTAGE VARIATIONS OF FROM 90 TO 132 VOLTS A.C.

### CHECKING YOUR GAME:

SET THE DIP SWITCHES ON THE P.C. BOARD TO THE DESIRED SETTINGS, REFER TO THE OPTIONAL DIP SWITCH SETTINGS CHART IN THIS MANUAL, AND APPLY POWER TO THE GAME.

CHECK THE VIDEO DISPLAYED ON THE TV MONITOR. IF NO VIDEO IS PRESENT, UNPLUG THE GAME AND CHECK THE POWER SUPPLY FOR PROPER OUTPUT VOLTAGES (REFER TO P.C. BOARD ASSEMBLY SECTION ABOVE). CHECK, ALSO, THE MONITOR CONNECTORS FOR OPEN OR SHORTED CIRCUITS.

IF THE VIDEO DISPLAYED IS UPSIDE DOWN, CHECK THE SETTING OF THE DIP SWITCH FOR UPRIGHT OR TABLE TYPE SELECTION.

IF THE SWITCH SETTING IS CORRECT, UNPLUG THE GAME AND INVERT THE MONITOR YOKE 90° BY UNSOLDERING, REVERSING AND RESOLDERING THE TWO INSIDE WIRES LEADING FROM THE MONITOR CIRCUIT BOARD TO THE YOKE. REPEAT THE SAME PROCEDURE WITH THE TWO OUTSIDE WIRES LEADING FROM THE MONITOR CIRCUIT BOARD TO THE YOKE.

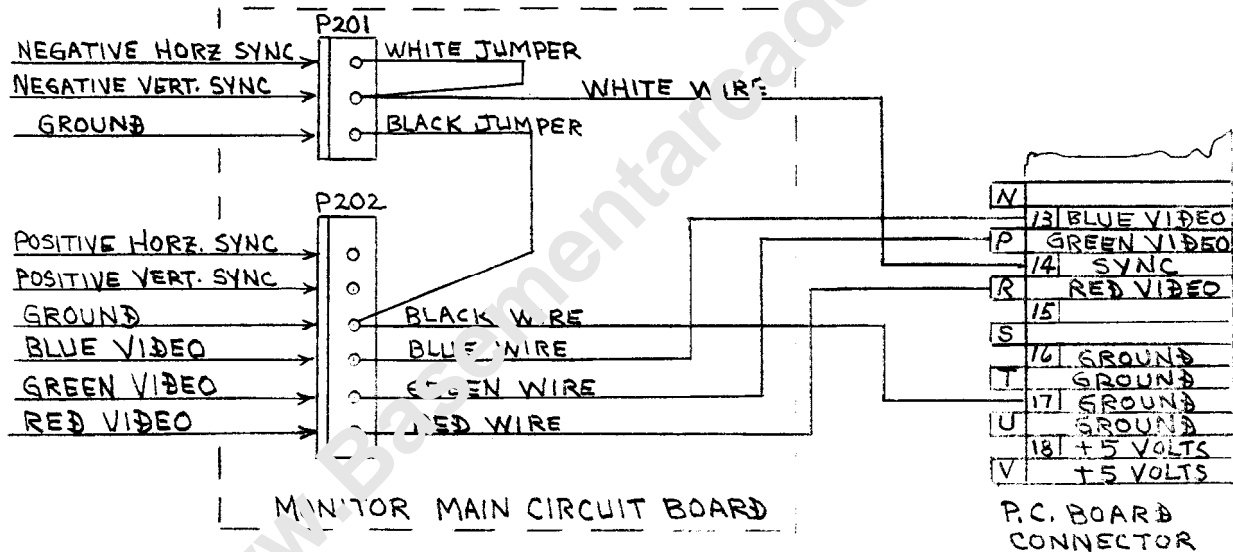
REFER TO TV MONITOR YOKE ILLUSTRATION DRAWING IN THIS MANUAL.

## TV MONITOR SYNCHRONIZATION ("SYNC")

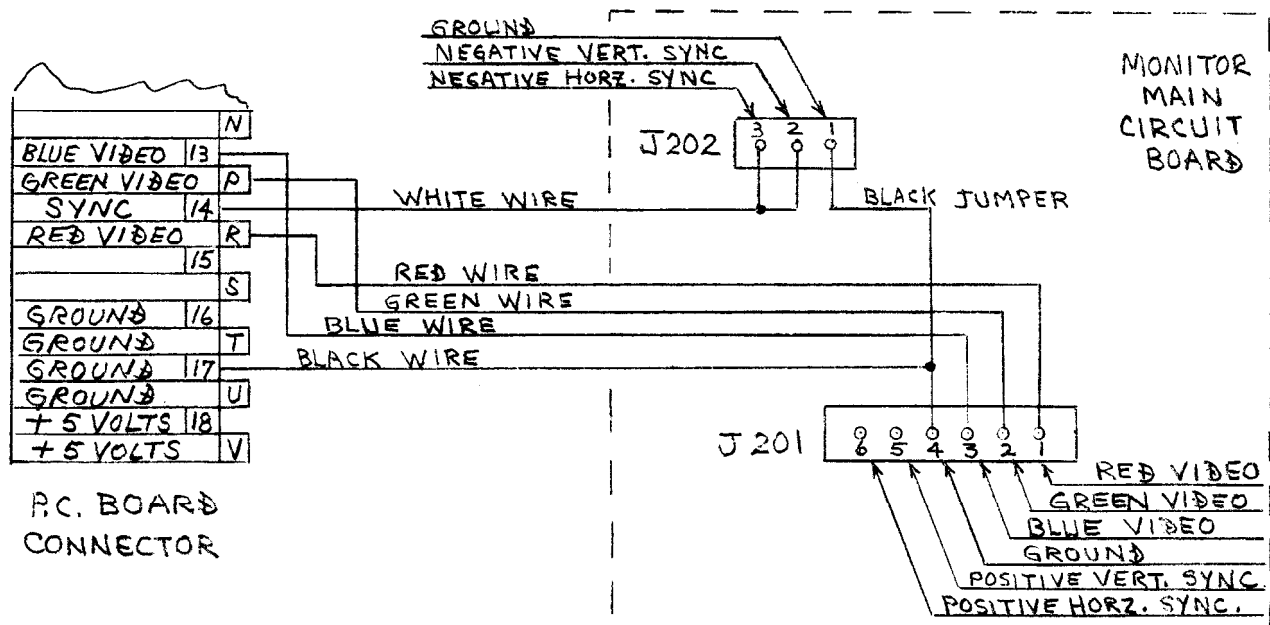
THE P.C. BOARD ASSEMBLY IN THIS KIT USES COMPOSIT NEGATIVE SYNCHRONIZATION.

THE WIRES OF THE NEW HARNESS TO THE MONITOR ARE COLOR CODED TO INDICATE THE "RED", "GREEN" AND "BLUE" VIDEO SIGNALS TO THE MONITOR. THE BLACK WIRE IS USED FOR GROUND AND THE WHITE IS FOR SYNCHRONIZATION.

ON WELLS/GARDNER TYPE MONITORS, ATTACH THE WIRES FROM THE P.C. BOARD TO THE MONITOR'S MAIN CIRCUIT BOARD AS SHOWN BELOW.



ON ELECTROHOME TYPE MONITORS, ATTACH THE WIRES FROM THE P.C. BOARD TO THE MONITOR'S MAIN CIRCUIT BOARD AS SHOWN BELOW.



MONITOR ADJUSTMENTS MAY BE NECESSARY TO ADJUST THE PICTURE ON THE SCREEN. IF MONITOR ADJUSTMENT CAN NOT CORRECT PICTURE ROLL OR JITTER RE-CHECK THE WIRES LEADING TO THE "SYNC" CIRCUIT OF THE MONITOR. BE SURE THE WHITE WIRE IS CONNECTED TO THE NEGATIVE VERTICAL AND/OR HORIZONTAL COMPOSITE "SYNC" CIRCUIT.

### P.C. BOARD DIAGNOSTIC TEST:

AUTOMATIC SELF TEST: THE P.C. BOARD SYSTEM WILL AUTOMATICALLY TEST ROMS AND RAMS UPON POWER ON. THE SCREEN WILL EITHER DISPLAY A "BAD" OR "OK" CONDITION AS FOLLOWS:

RAM 1 OK

RAM 2 OK

RAM 1 BAD

RAM 2 BAD

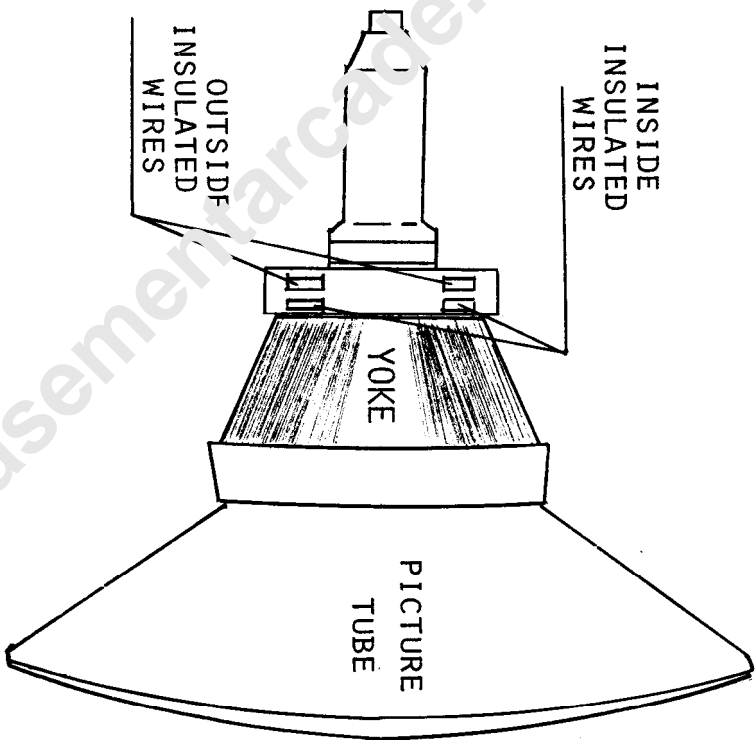
ROMS 11c, 11d, 12A, 12c, AND 12D WILL EITHER DISPLAY "OK" OR "BAD".

MANUAL TEST: A MANUAL TEST MAY BE PERFORMED BY DEPRESSING THE ONE AND TWO PLAYER START BUTTONS DURING POWER-UP. WHEN THE "CROSS-HATCH" PATTERN APPEARS, RELEASE THE BUTTONS AND PROCEED AS FOLLOWS:

- A. "CROSS-HATCH" PATTERN- WHEN THE "CROSS-HATCH" PATTERN IS DISPLAYED, ADJUSTMENT TO THE MONITOR MAY BE MADE TO CENTER AND/OR EXTEND THE BORDERS OF THE PICTURE.
- B. SWITCH TEST- FROM "CROSS-HATCH" PATTERN, PRESS ONE PLAYER START BUTTON AND THE SCREEN WILL DISPLAY ALL SWITCHES WITH A ZERO (0) TO THE RIGHT. THE ZERO (0) SHOULD CHANGE TO ONE (1) WHEN EACH SWITCH IS ACTIVATED.
- C. COIN COUNTER TEST- FROM SWITCH TEST, PRESS ONE PLAYER START BUTTON AND THE SCREEN WILL DISPLAY "COIN COUNTER"
- D. DIP SWITCH SETTINGS- FROM COIN COUNTER TEST, THE SCREEN WILL AUTOMATICALLY DISPLAY ALL PROGRAMMABLE FEATURES WITH THEIR RESPECTIVE SETTINGS. SETTINGS SHOULD CORRESPOND TO THE POSITION OF THE DIP SWITCHES ON THE P.C. BOARD.

TURN POWER "OFF" AND "ON", TO EXIT DIAGNOSTICS.

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<p><b>TOLERANCES</b> Unless Otherwise Specified</p> <p>FRACTIONS ± 1/32          DECIMALS 2 PL ± .015          DECIMALS 3 PL ± .005          HOLES + .003          ANGLES - .001          SHT. MET BENDS ± 1/2° 2°</p>							
<p><b>NAME</b> TV MONITOR YOKE ILLUSTRATION</p>				<p><b>centuri</b> INC.</p>			
<p><b>MAT'L'S.</b></p>				<p><b>HI/LEAH, FLORIDA 33014</b></p>			
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		10-9-84	NONE				

OPTIONAL DIP SWITCH SETTINGS

DIP SWITCH NO.1 (8P DIP SWITCH)

COIN-1 SWITCH SETTINGS

COIN	PLAYS	SW1	SW2	SW3	SW4
1	1	OFF	OFF	OFF	OFF
1	2	ON	OFF	OFF	OFF
1	3	OFF	ON	OFF	OFF
1	4	ON	ON	OFF	OFF
1	5	OFF	OFF	ON	OFF
1	6	ON	OFF	ON	OFF
1	7	OFF	ON	ON	OFF
2	1	ON	ON	ON	OFF
2	3	OFF	OFF	OFF	ON
2	5	ON	OFF	OFF	ON
3	1	OFF	ON	OFF	ON
3	2	ON	ON	OFF	ON
3	4	OFF	OFF	ON	ON
4	1	ON	OFF	ON	ON
4	3	OFF	ON	ON	ON
FREE PLAY		ON	ON	ON	ON

COIN-2 SWITCH SETTINGS

COIN	PLAYS	SW5	SW6	SW7	SW8
1	1	OFF	OFF	OFF	OFF
1	2	ON	OFF	OFF	OFF
1	3	OFF	ON	OFF	OFF
1	4	ON	ON	OFF	OFF
1	5	OFF	OFF	ON	OFF
1	6	ON	OFF	ON	OFF
1	7	OFF	ON	ON	OFF
2	1	ON	ON	ON	OFF
2	3	OFF	OFF	OFF	ON
2	5	ON	OFF	OFF	ON
3	1	OFF	ON	OFF	ON
3	2	ON	ON	OFF	ON
3	4	OFF	OFF	ON	ON
4	1	ON	OFF	ON	ON
4	3	OFF	ON	ON	ON
FREE PLAY		ON	ON	ON	ON

## OPTIONAL DIP SWITCH SETTINGS

### DIP SWITCH NO.2 (8P DIP SWITCH)

#### NUMBER OF MIKIES

NUMBER	SW1	SW2
3	OFF	OFF
4	ON	OFF
5	OFF	ON
7	ON	ON

#### GAME TYPE

STYLE	SW3
TABLE	OFF
UPRIGHT	ON

#### BONUS MIKIES

FIRST	EVERY	SW4	SW5
20,000	50,000	OFF	OFF
30,000	60,000	ON	OFF
30,000	----	OFF	ON
40,000	----	ON	ON

#### GAME LEVEL OF DIFFICULTY

LEVEL	SW6	SW7
1 (EASY)	OFF	OFF
2	ON	OFF
3	OFF	ON
4 (HARD)	ON	ON

#### AUDIO ATTRACTION

AUDIO MODE	SW8
SOUND OFF	OFF
SOUND ON	ON





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