

BADLANDS
TABLE OF CONTENTS

I. <u>GENERAL INFORMATION:</u>	<u>PAGE NO.</u>
USER F.C.C. INFORMATION -----	1
INTRODUCTION & NOTES -----	2
DISC PLAYER SAFETY SUGGESTIONS -----	3
BADLANDS GAME INSTRUCTIONS -----	5
II. <u>OPERATION:</u>	
GAME OPTIONAL DIP SWITCH SETTINGS -----	6
ON-BOARD DIAGNOSTICS -----	7
INSTALLATION & ELECTRICAL REQUIREMENTS -----	8
ROUTINE MAINTENANCE & SERVICE -----	9
110/220 VAC CONVERSION INSTRUCTIONS -----	10
110/220 VAC INTERCONNECT DIAGRAM, FIG.1 -----	11
III. <u>GAME PARTS DRAWINGS, PARTS LIST & SCHEMATICS:</u>	
CABINET FRONT VIEW, FIG.2 -----	12
CABINET FRONT VIEW PARTS LIST -----	13
CONTROL PANEL EXPLODED VIEW, FIG.3 -----	14
COIN DOOR ASS'Y EXPLODED VIEW, FIG.4 -----	15
COIN DOOR WIRING DIAGRAM, FIG.5 -----	16
CABINET A.C. WIRING DIAGRAM, FIG.6 -----	17
CPU WIRE HARNESS DIAGRAM, FIG.7 -----	18
CONTROL PANEL WIRING DIAGRAM, FIG.8 -----	19
CPU/DISC PLAYER RIBBON CABLE ASS'Y, FIG.9 -----	20
RIBBON CABLE PIN CONFIGURATION DRAWING, FIG.10 ----	21
CPU/DISC PLAYER INTERCONNECT DRAWING, FIG.11 -----	22
DISC PLAYER/TV MONITOR CABLE ASS'Y, FIG.12 -----	23
CPU/DISC PLAYER AUDIO CABLE ASS'Y, FIG.13 -----	24
POWER SUPPLY PSR-1105-AP SCHEMATIC, FIG.14 -----	25
POWER SUPPLY PSR-1105-AP PARTS LIST -----	26
POWER SUPPLY PSR-804-AT SCHEMATIC, FIG.15 -----	28
POWER SUPPLY PSR-804-AT PARTS LIST -----	29
POWER SUPPLY A.C. HARNESS DIAGRAM, FIG.16 -----	31
PC BOARD SCHEMATICS -----	

USER INFORMATION - F.C.C.

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS.

IT HAS BEEN TESTED AND FOUND TO 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

"BADLANDS" IS A MICROPROCESSOR BASED COIN-OPERATED ELECTRONIC GAME, THAT MAKES EXTENSIVE USE OF DIGITAL INTEGRATED CIRCUITRY AND TELEVISION MONITOR CONCEPTS. THIS MANUAL IS DESIGNED FOR THE USE OF QUALIFIED MAINTENANCE TECHNICIANS WHO POSSESS A GENERAL KNOWLEDGE OF SOLID-STATE CIRCUITRY AND VIDEO MONITOR THEORY. ANY INDIVIDUAL NOT KNOWLEDGEABLE IN THESE AREAS SHOULD NOT ATTEMPT REPAIR OF THE ELECTRONIC PORTIONS OF THE GAME.

IN ADDITION TO THIS MANUAL AND KNOWLEDGE IN ELECTRONICS, TROUBLE-SHOOTING AND REPAIR WILL BE FACILITATED BY ACCESS TO GENERAL-TYPE HANDTOOLS, A MULTIMETER, A 50 OR 100 MHZ OSCILLOSCOPE AND A LOGIC PROBE WOULD BE HELPFUL.

TECHNICAL ASSISTANCE IS AVAILABLE BY CALLING (305) 558-5200 OR OUR TOLL FREE LINE LISTED BELOW.

QUESTIONS OR COMMENTS CONCERNING "BADLANDS" OR ANY OF OUR GAMES ARE WELCOME AND SHOULD BE DIRECTED TO:

CENTURI, INC.
CUSTOMER SERVICE DEPARTMENT
#800-327-7710 (OUTSIDE THE STATE OF FLA.)

NOTES

NEVER REPLACE ANY COMPONENT WITH ANYTHING OTHER THAN THE EXACT REPLACEMENT PART.

NEVER REMOVE CIRCUIT BOARD CONNECTIONS WHILE POWER IS ON.

DO NOT REPLACE A FUSE WITH ANYTHING OTHER THAN THE PROPER VALUE. A BLOWN FUSE INDICATES AN OVERLOAD CONDITION WITHIN THE GAME, REPLACING A FUSE WITH A HIGHER VALUE CAN CAUSE SEVERE DAMAGE TO INTERNAL COMPONENTS IF AN OVERLOAD OCCURS.

ALWAYS CONSULT THE SERVICE MANUAL BEFORE ATTEMPTING REPAIRS.

LASER DISC PLAYER
USER SAFETY SUGGESTIONS

BEFORE USING THE UNIT, BE SURE TO READ APPLICABLE ITEMS OF THE OPERATING INSTRUCTIONS AND TAKE SPECIAL PRE-CAUTION TO FOLLOW THE WARNINGS INDICATED ON THE UNIT AS WELL AS IN THE OPERATION MANUAL.

- * DO NOT DISASSEMBLE THE UNIT,
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK OR HAZARD,
DO NOT DISASSEMBLE THE UNIT. REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

- * DO NOT ALLOW LIQUID OR FOREIGN OBJECTS TO GET INSIDE THE UNIT.
DO NOT PLACE ANYTHING CONTAINING LIQUID OR SMALL METAL
OBJECTS ON OR NEAR THE UNIT.

- * DO NOT USE OR STORE THE UNIT:
 - IN EXTREMELY HOT OR COLD PLACES.
 - WHERE VENTILATION IS INADEQUATE.
 - WHERE IT WILL BE EXPOSE TO DIRECT SUN RAYS.
 - NEAR DAMP OR DUSTY AREAS.
 - NEAR ELECTRO-MAGNETIC EQUIPMENT.

- * DO NOT OBSTRUCT VENTILATION HOLES.
DO NOT COVER VENTILATION HOLES WITH ANY MATERIAL OR PLACE
THE UNIT IN A POOR AIR CIRCULATION AREA.

- * DO NOT EXPOSE THE UNIT TO SHOCK OR VIBRATIONS.
DO NOT DROP OR INDUCE SUDDEN SHOCK TO THE UNIT.

- * DO NOT MOVE THE UNIT WHILE THE DISC IS ROTATING.
MOVING THE UNIT WHILE THE DISC IS ROTATING MAY CAUSE DAMAGE
TO THE DISC OR PLAYER OR BOTH.

LASER DISC PLAYER
USER SAFETY SUGGESTIONS

- * DO NOT OPERATE UNIT IMMEDIATELY AFTER RAPID CHANGES IN TEMPERATURE.
AVOID OPERATING THE UNIT AFTER EXPOSURE TO RAPID CHANGES IN TEMPERATURE.
- * DO NOT OPERATE THE UNIT IN A VERTICAL OR TILT POSITION. OPERATING THE UNIT IN OTHER THAN A HORIZONTAL POSITION WILL CAUSE DAMAGE TO DISC OR PLAYER OR BOTH.
- * CHECK THE VOLTAGE RATING OF THE UNIT BEFORE CONNECTING THE UNIT TO A POWER SUPPLY.
BE SURE TO CONNECT THE UNIT ONLY TO THE POWER SUPPLY INDICATED IN THE OPERATION MANUAL OR AS SPECIFIED ON THE UNIT.
- * REPAIRS
DO NOT ATTEMPT TO REPAIR THE UNIT YOURSELF. EXCEPT FOR THE MINOR OPERATIONAL SET-UP, REFER ALL SERVICE TO A QUALIFIED TECHNICIAN OR YOUR NEAREST SERVICE CENTER.

BADLANDS

GAME INSTRUCTIONS

BUCK, A HARD-WORKING FAMILY MAN WHOSE WIFE AND CHILDREN HAVE BEEN BRUTALLY SLAIN BY A VICIOUS BAND OF THUGS LED BY THE RUTHLESS LANDOLF. BUCK HAS ONLY ONE MISSION: TO AVENGE THE DEATH OF HIS FAMILY. NOT UNTIL LANDOLF AND EACH MEMBER OF HIS MOB IS DEALT WITH WILL BUCK HAVE HIS REVENGE.

THERE'S A PRICE TAG ON THE HEAD OF LANDOLF AND EACH MEMBER OF HIS GANG. BUT REMEMBER, THE BADLANDS IS NO PLACE FOR THE FAINT OF HEART.

PLAY INSTRUCTIONS

- * SHOOT OUTLAWS AS SOON AS THEY THREATEN TO ATTACK BUCK.
- * SHOOT FEROCIOUS ANIMALS AS SOON AS THEY APPEAR.
- * SHOOT OUTLAWS TOO LATE AND BUCK WILL BE SHOT.
- * SHOOT OUTLAWS TOO EARLY AND BUCK WILL BE JAILED OR HANGED.
- * SHOOTING INNOCENT CITIZENS OR ANIMALS RESULTS IN BUCK BEING JAILED OR HANGED.
- * SHOWDOWN WITH LANDOLF; SHOOT THE MOMENT THE COIN THROWN HITS THE GROUND.
- * GAME IS OVER WHEN ALL LIVES ARE LOST.
- * USE "PASS" BUTTON TO OMIT OPENING DIALOGUE.

OPTIONAL DIP SWITCH SETTINGS

1. DIP SWITCH NO.1 (8P DIP SWITCH)

CREDITS

COIN	PLAYS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
1	1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	2	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
1	3	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
1	4	ON	ON	OFF	OFF	ON	ON	OFF	OFF
1	5	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
1	6	ON	OFF	ON	OFF	ON	OFF	ON	OFF
1	7	OFF	ON	ON	OFF	OFF	ON	ON	OFF
2	1	ON	ON	ON	OFF	ON	ON	ON	OFF
2	3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
2	5	ON	OFF	OFF	ON	ON	OFF	OFF	ON
3	1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
3	2	ON	ON	OFF	ON	ON	ON	OFF	ON
3	4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
4	1	ON	OFF	ON	ON	ON	OFF	ON	ON
4	3	OFF	ON	ON	ON	OFF	ON	ON	ON
FREE PLAY		ON	ON	ON	ON	ON	ON	ON	ON

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

NUMBER OF LIVES

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

SW3	SW4	SW5	SW6	SW7
OFF	OFF	OFF	OFF	OFF
SWITCHES SW3 THROUGH SW7 NOT IN USE, KEEP SWITCHES IN "OFF" POSITION.				

AUDIO ATTRACTION

AUDIO MODE	SW8
SOUND ON	ON
SOUND OFF	OFF

ON-BOARD DIAGNOSTIC PROGRAM

SELF TEST:

THE PC BOARD IN THIS GAME CONTAINS A FUNCTIONAL TEST TO CHECK IF ANYTHING IS WRONG WITH THE CABINET OR THE PC BOARD ITSELF.

WHEN POWER IS SWITCHED ON, THE BOARD WILL ALWAYS CHECK THE BASIC BLOCK, AND IF NORMAL, WILL INDICATE OK ON THE MONITOR DISPLAY AND THEN THE GAME WILL START.

IF IT IS NOT NORMAL, THE MONITOR DISPLAY WILL READ BAD AND THE VIDEO WILL STOP. IT WILL AGAIN REPEAT THE CHECK OF THE BASIC BLOCK.

MANUAL TEST:

A) STARTING

TURN THE POWER ON AND PRESS BOTH "PASS" (NO DIALOGUE) AND "START" (DIALOGUE) BUTTONS WHILE RAM ROM CHECK APPEARS ON THE SCREEN.

RELEASE THE BUTTONS AFTER THE COLOR TEST BEGINS.

SWITCH THE POWER OFF ONCE, BEFORE STARTING THE GAME.

B) TEST ITEM SELECTION

TEST ITEMS WILL ADVANCE IN THE FOLLOWING ORDER EACH TIME THE "START" (DIALOGUE) BUTTON IS PRESSED.

TEST ITEM WILL REMAIN ON THE SCREEN UNTIL THE "START" BUTTON IS AGAIN PRESSED. ITEMS WILL BE REPEATED AFTER ITEM 6 ENDS.

C) TEST PROGRAM

<u>ITEM</u>	<u>DETAILS</u>
1. COLOR CONDITION.	STANDARD COLOR-BARS AND SEVEN COLOR BLOCKS ARE DISPLAYED.
2. CONDITION OF PICTURE.	FULL SCREEN CROSS-HATCH IS DISPLAYED.
3. CONTROLS CHECK.	DISPLAYS NAMES OF ALL SWITCHES (COIN SW, ETC.). ACTIVATING EACH SWITCH WILL CHANGE THE "0" NEXT TO EACH SWITCH TO "1".
4. COIN COUNTER CHECK.	TO CHECK COUNTERS, ACTIVATE EACH COUNTER 8 TIMES, THEN PROCEED WITH TEST ITEM 5.
5. DIP SW SET.	DIP SW SET IS DISPLAYED.
6. SOUND CHECK.	AUTOMATICALLY TESTS EACH SOUND WITH A DELAY OF 8 SECONDS BETWEEN EACH. CAN ALSO ADVANCE TO NEXT SOUND BY PRESSING ON "START" BUTTON.

INSTALLATION

YOUR GAME WAS SHIPPED FROM THE FACTORY IN READY-TO-PLAY CONDITION.

A BRIEF INSPECTION IS SUGGESTED BEFORE THE MACHINE IS REMOVED FROM THE CARTON. IF THERE IS DAMAGE TO THE SHIPPING CARTON, CONTACT THE FREIGHT CARRIER FOR CLAIM PURPOSES. EXTERNAL DAMAGE COULD INDICATE POSSIBLE DAMAGE TO THE CABINET AND/OR ELECTRONICS COMPONENTS.

AFTER THE CARTON HAS BEEN SATISFACTORILY INSPECTED, REMOVE THE MACHINE FROM THE SHIPPING CARTON.

EXAMINE THE INTERIOR OF THE GAME FOR DISCONNECTED WIRES, CABLES OR HARNESSSES. MAKE SURE THE ELECTRONIC DEVICES ARE SECURELY MOUNTED IN THEIR SOCKETS, ETC. RECORD THE GAME SERIAL NUMBER, SINCE IT WILL BE REQUIRED FOR REFERENCE AND SERVICING.

ELECTRICAL REQUIREMENTS

UNLESS OTHERWISE SPECIFIED, THIS GAME IS SET TO OPERATE AT 110 VOLTS A.C., FOR 220 VOLTS A.C. OPERATION REFER TO 110/220 VAC CONVERSION INSTRUCTIONS FOUND IN THIS MANUAL.

D.C. POWER SUPPLY CHASSIS SCHEMATIC INFORMATION AND PARTS LIST ARE INCLUDED IN THIS MANUAL.

ROUTINE MAINTENANCE & SERVICE

THIS GAME WILL REQUIRE PERIODIC PREVENTATIVE MAINTENANCE AND OCCASIONAL ADJUSTMENT.

SOUND CONTROLS

THE MASTER SOUND TRIMMER, FACTORY PRESET, LOCATED ON THE PRINTED CIRCUIT BOARD PROVIDES ADJUSTMENT OF THE INPUT SIGNAL TO THE SOUND AMPLIFIER AND CAN BE ACCESSED THROUGH THE REAR CABINET DOOR. THE VOLUME CONTROL, LOCATED ON THE FRONT OF THE CABINET, PROVIDES OVER-ALL VOLUME ADJUSTMENT TO THE SPEAKERS AND CAN BE ACCESSED THROUGH THE COIN DOOR.

VIDEO MONITOR

THE VIDEO MONITOR HAS BEEN PROPERLY ADJUSTED BEFORE SHIPPING. OCCASIONALLY MINOR ADJUSTMENTS ARE NECESSARY. ADJUSTMENT CONTROLS FOR THE MONITOR ARE LOCATED ON THE REAR OF THE MONITOR. TECHNICAL INFORMATION, ALONG WITH SCHEMATICS, CAN BE FOUND IN THIS MANUAL.

AIR FILTER

THIS MACHINE COMES EQUIPPED WITH A RE-USABLE BLOWER MOTOR FILTER. FILTER SHOULD BE KEPT CLEAN, EVERY TWO WEEKS, WASH FILTER WITH SOAPY WATER, RINSE, AND DRY THOROUGHLY BEFORE REUSING.

POWER SUPPLY

THE COMPUTER BOARD IN THIS GAME OPERATES MOST EFFICIENTLY AND RELIABLY WHEN THE POWER SUPPLY IS SET SO THE VOLTAGE ON THE BOARD IS 5.0 VOLTS, ± 0.1 VOLT. TO CHECK THIS, PLACE A METER ACROSS + 5.0 VOLTS AND GROUND, AT THE EDGE CONNECTOR. IF NECESSARY, ADJUST THE SCREWDRIVER CONTROL ON THE POWER SUPPLY, SO THE METER READS BETWEEN 4.9 AND 5.1 VOLTS.

LASER DISC PLAYER

REFER TO "LASER DISC PLAYER OPERATION MANUAL".
CAUTION: FOR POWER TO THE DISC PLAYER, USE ONLY THE A.C. OUTLETS PROVIDED IN THIS GAME.

110/220 VAC CONVERSION INSTRUCTIONS

THIS GAME CONTAINS A HARNESS CONFIGURATION WHICH ALLOWS THE MACHINE TO BE OPERATED FROM EITHER A 110 VAC OR 220 VAC, 50 HZ OR 60 HZ POWER SOURCE. ALL GAMES SHIPPED FROM CENTURI, INC., ARE IN THE 110 VAC CONFIGURATION. TO CHANGE TO THE 220 VAC CONFIGURATION FOLLOW THE PROCEDURE BELOW.

- FIRST: UNPLUG THE MACHINE FROM THE WALL OUTLET TO COMPLETELY ELIMINATE SHOCK HAZARDS.
- SECOND: REMOVE AND DISCARD THE 110 VAC PLUG FROM THE AC POWER CORD AND REPLACE WITH A 220 VAC PLUG. ATTACH THE GREEN WIRE FROM THE AC CORD TO THE GREEN SCREW OF THE 220 VAC PLUG. ATTACH THE WHITE WIRE (NEUTRAL) AND THE BLACK WIRE (HOT) OF THE AC CORD TO THE 220 VAC PLUG.
- THIRD: REMOVE THE SINGLE 3 AMP SLOW-BLOW FUSE FOUND IN THE A.C. DISTRIBUTION BRACKET, AND INSTALL TWO, 1.5 AMP SLOW-BLOW FUSES. NEXT, CUT THE #18 AWG. WHITE JUMPER WIRE AT BOTH ENDS OF THE FUSE HOLDER AND REPLACE THE FIBER COVER.
- FOURTH: ON THE GAME POWER TRANSFORMERS, LOCATE THE TWO "ORANGE" JUMPER PLUGS WHICH ARE MARKED, 110 VAC. UNPLUG THE TWO "ORANGE" JUMPERS, AND PLUG IN THE "RED" JUMPER PLUGS MARKED 220 VAC.

TO REVERT BACK TO 110 VAC OPERATION, REPLACE THE COMPONENTS ORIGINALLY REMOVED FROM THE PROCEDURE STEPS ABOVE.

REFER ALSO TO THE 110/220 VAC POWER INTERCONNECT DIAGRAM.

***NOTE: THE COMMON SIDE OF THE A.C. LINE MUST NOT BE FUSED IN THE 110 VAC CONFIGURATION, REPLACE THE #18 AWG. WHITE JUMPER WIRE REMOVED ON THIRD STEP ABOVE.