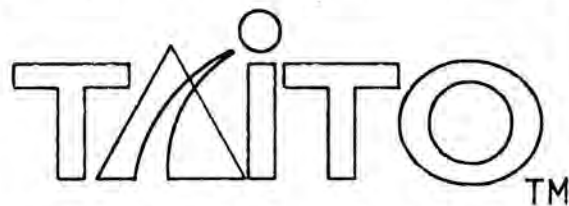


TM

OPERATING MANUAL



TM

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PART NO. 250-20

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GAME DESCRIPTION

Cadash is a multiple player horizontal kit video game. One or two players can play at a single game, and two games may be linked for additional players. A single game has two complete sets of controls, each player has a joystick and two buttons. The player moves his character with the joystick and uses the buttons to attack or jump.

Players can select their characters at the start of the game. Each character type offers a different set of powers:

| | | |
|----------|---|---|
| FIGHTER | - | Best attacking power and persistence |
| MAGICIAN | - | Has strong magical powers |
| PRIEST | - | Has heavy protective magic |
| NINJA | - | Moves the quickest and has knife throwing abilities |

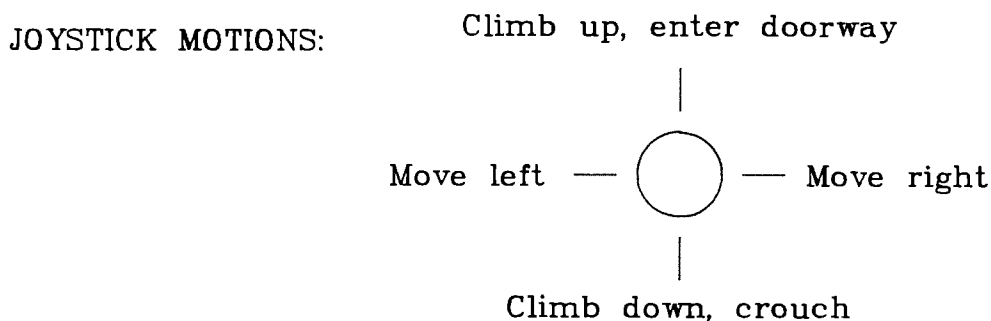
The game begins in the throne room, where the king asks for the rescue of the princess Sarasa. Barrog, the incarnation of evil, has captured the princess.

Players may stop and talk to other travelers and townspeople to receive hints on how to travel through each level of the adventure.

Each subsequent level becomes increasingly difficult as the player encounters different adversaries and the final 'boss' creature of each scene. Different enemies reward the player with bags of gold, which may be retrieved and used later in the game.

Since Cadash is maze-oriented instead of rack-oriented, the players may encounter different adventures each time they play. There is a portal between mazes that all the players must be present at to open.

The "attack" button is used to attack enemies, start conversation with friendly characters, and select items for sale. The "jump" button is used for defensive moves and to climb onto vines. The joystick motions move the character, select items from a menu, cause the player to crouch or enter doorways.



Game is on timer play. Additional time is awarded for level completion. Gold will purchase extra time, weapons, healing potions, armor and even the ability to stop and rest at the inn to regain strength.

GENERAL INFORMATION

This manual will guide you in the conversion of your color monitor upright video game into a "Cadash" game. We strongly urge you to read through the instructions carefully before beginning the conversion.

WARNINGS AND NOTICES

For safety and reliability, Taito America Corporation does not recommend nor authorize any substitute parts or modifications of Taito America Corporation equipment. In addition, any substitute parts or equipment modifications may void FCC compliance.

Use of non-Taito America parts and/or modifications of game circuitry may adversely affect game performance and safety.

Since "Cadash" is protected by Federal copyright, trademark and patent laws, unauthorized altered versions of this game are illegal under Federal law. This also applies to unauthorized facsimiles of Taito America equipment, logos, designs, publications, assemblies and/or games (or features not deemed to be in the public domain) whether manufactured with Taito America components or not.

NOTICE

Certain parts salvaged from your old game are required to complete your kit. These salvaged parts **MUST** operate properly to insure the performance and safety level of this game. Always repair electronics malfunctions and cabinet damage before conversion is attempted.

Be sure the power supply from your old game is capable of delivering +5 vdc at 7 amps, -5vdc at 1A, and +12vdc at 1A. These operating voltages must be regulated and are necessary for your kit. Please note the enclosed warning with the PC board assembly.

Check the parts supplied in this kit against the parts list included in this manual.

This kit is not intended for use with X-Y (vector) monitors. Suitable monitors are horizontal raster-scan RGB types with composite negative sync. The monitor must be connected to the A.C. line through an isolation transformer.

CAUTION

FOR SAFE OPERATION IT IS STRONGLY RECOMMENDED THAT THE CABINET BE PROPERLY GROUNDED. IF YOUR GAME IS EQUIPPED WITH A THREE CONDUCTOR POWER CABLE, THE THIRD PRONG (round) SHOULD AUTOMATICALLY GROUND THE GAME WHEN PLUGGED INTO A PROPERLY GROUNDED THREE PRONG RECEPTACLE. IF IT BECOMES NECESSARY TO USE AN ADAPTER, THE GROUNDING LUG OR WIRE ON THE ADAPTER MUST BE PROPERLY GROUNDED TO ASSURE SAFE OPERATION.

PARTS LIST

| Qty. | Description | Ref. No. | Part No. |
|------|----------------------------------|----------|------------|
| 1 | PCB, Game Logic | | 250-100001 |
| 1 | Harness, Standard Jamma | | 900-601001 |
| 1 | RFI shield (for FCC regulations) | | 900-800401 |
| 1 | Joystick, blue, 8-way | | 900-401601 |
| 1 | Joystick, red, 8-way | | 900-401600 |
| 2 | Ultimate Pushbutton, blue | | 900-400003 |
| 2 | Ultimate Pushbutton, red | | 900-400001 |
| 2 | "Attack" button ident tag | | 900-201107 |
| 2 | "Jump" button ident tag | | 900-201106 |
| 1 | Monitor bezel with artwork | | 250-200101 |
| 1 | Marquee with artwork | | 250-200201 |
| 1 | Control panel overlay | | 250-200301 |
| 1 | Kit instruction manual | | 250-200701 |
| 1 | Game instruction card | | 250-200501 |

The communications kit is optional and must be ordered separately.

TOOLS AND SUPPLIES REQUIRED

- [] Screwdriver, flathead
- [] Screwdriver, Phillips
- [] Pliers
- [] Allen wrench set
- [] Grease pencil or marker
- [] Soldering iron and solder
- [] Hacksaw, Jigsaw or Tablesaw
(with carbide-tipped blade)

- [] Wire cutters
- [] X-Acto knife
- [] Electric drill
- [] 1.125" drill bit (buttons)
- [] 1.375" drill bit (joystick)
- [] .25" drill bit (joystick screws)
- [] Sandpaper, 180 grit
- [] Electrical tape or heat-shrink tubing

GAME PREPARATION

All games require a certain amount of maintenance to remain in good operating condition. A periodic check of mechanical controls would be beneficial to guarantee the profitability of your game.

CLEANING

The exterior of the game, all metal parts and all plastic parts can be cleaned with a non-abrasive cleaner. Caution should be used when cleaning the plastic. A dry cloth can cause scratches and result in a foggy, worn appearance. Plexiglass cleaner on a soft cloth is suggested to keep your monitor crt cover looking new.

Inspect your cabinet for any gouges or items stuck on the cabinet (like chewing gum). Remove all foreign objects and fill in the gouges with any type of quick-hardening wood putty. Sand to ensure a smooth surface. Wipe the outside of the old cabinet clean. Remember that the reason you are converting your old game is to have the increased earnings of a new game, and making your game LOOK new helps spark player interest.

NOTICE

Please make sure you clean the coin mechanisms. It is important that you service them in order for this game to achieve the maximum possible earnings.

CONVERSION INSTRUCTIONS

GAME TITLE MARQUEE

Remove the new "CADASH" marquee from the kit. This new marquee is specifically designed for ease of handling. Place and center the old marquee on top of the new marquee. Border the area that you intend to cut with masking tape. Using an X-Acto or similar knife, score the new marquee and simply break at this score. If your old marquee is made of glass, remove the paint of the old marquee and attach the new marquee behind this glass. If your old marquee is made of Plexiglass, it is recommended that a new, clear plexiglass panel be used to show the CADASH marquee sharply.

MONITOR BEZEL

Remove the new "CADASH" monitor bezel from the kit. Place the bezel around the existing monitor. Using an X-Acto or utility knife, trim the new monitor bezel to neatly fit around the monitor.

CONTROL PANEL

Remove the old control panel buttons, joystick(s) and panel overlay. Refer to the final page of this manual for the preferred positions for the joysticks, buttons and button labels.

Leave your 1 and 2 player start buttons where they are on the old control panel. Drill holes as needed for the installation of the joysticks and buttons. Clean any burrs from around holes. Any hole that is no longer needed we suggest plugging with wood putty or epoxy.

Cut the new "CADASH" Lexan panel overlay to the appropriate size needed to cover the panel. Leave enough to wrap a small lip around the top and bottom of the panel. Remove the backing from the "CADASH" overlay and apply it over the old control panel, being careful to avoid air pockets.

After the Lexan overlay is securely applied, cut through to the holes in the control panel with an X-Acto or utility knife. Install the new jowsticks, buttons, button labels and any necessary hardware previously removed from the control panel. Tighten and secure all hardware.

INSTALLING WIRING HARNESS

This game comes with a color-coded cable for easy installation. Refer to the connection diagram included in this manual for quick hook-up.

Disconnect the old wiring harness from the old cpu board and carefully remove the old EMI shields and circuit boards from the game.

Using the wiring diagrams from your old game, carefully note the function of each wire. Cut the wires near the game's coin door, monitor, control panel, power supply and speaker, leaving several inches of wire hanging from each point. Install the new wiring harness to those points referring to the connector diagram. For best results, solder directly to the lugs at the connection points and remove old wiring completely. Use electrical tape or heat-shrink tubing (preferred) to insulate any necessary wire splices. It is recommended that any wire splices be soldered; while an unsoldered twisted connection will work initially, non-conductive oxides will form on the wires that may cause failure of the junction.

Install the RFI "cage" (for FCC compliance) where the old board set was. Mount the "CADASH" pcb assembly with mounting blocks in the center of the RFI cage. Plug the wiring harness onto the pcb and close the cage securely. To complete proper installation, run a ground termination lead from any available chassis ground to the foil side of the RFI cage.

Check and clean the input jack on the power supply board. Replace any burned or damaged pins.

DIP SWITCH SETTINGS

The following option switch settings were designed to allow the customizing of CADASH'S various game features to suit different environments. If used wisely to tailor a game's features to suit the location, the flexibility they offer can maximise game performance and increase potential earnings.

Since CADASH can be a two-unit communications system, one set of boards would be slaved to the second set. The "master" and "slave" settings are determined by the DIP switch setting, so the two-unit system would have different settings on each of the two boards.

The dip settings are listed in the following chart —

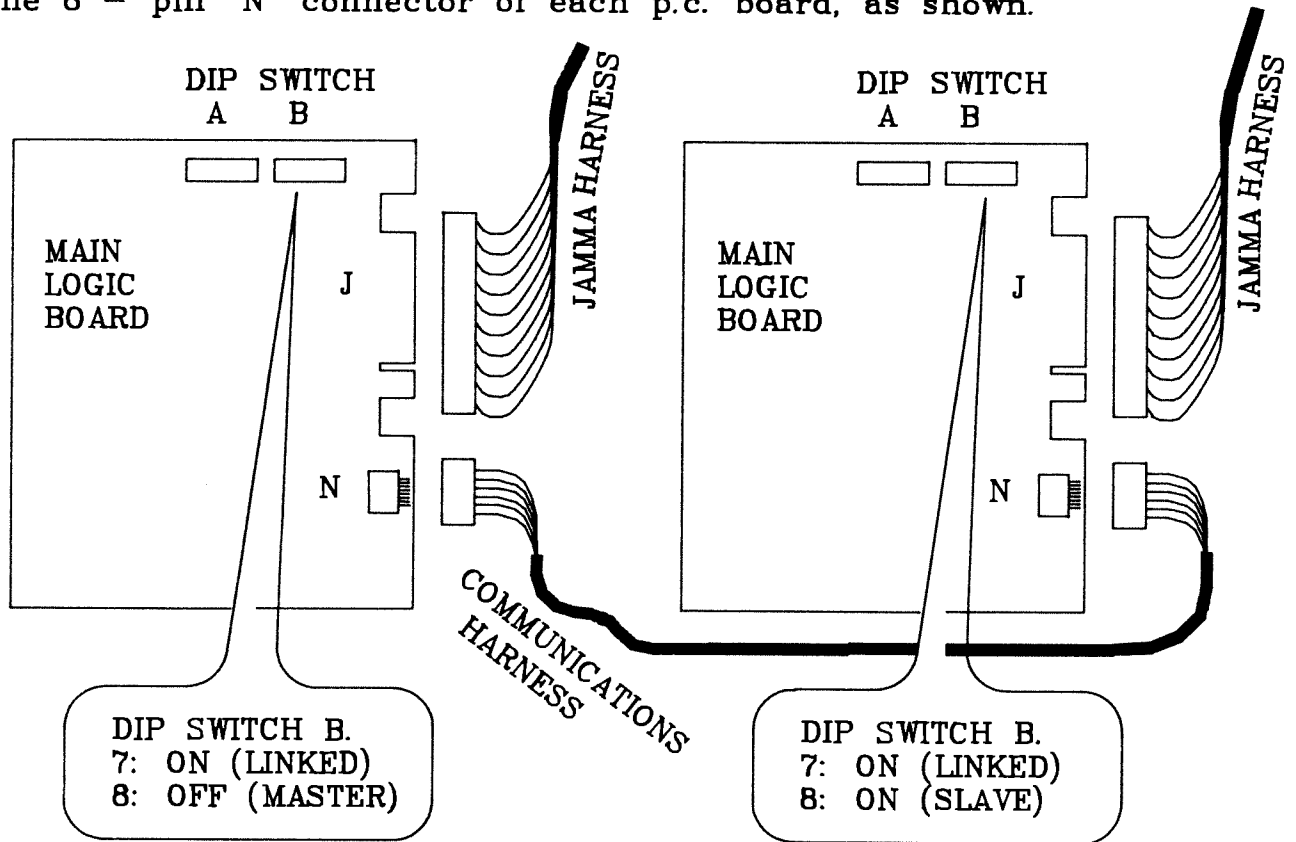
"CADASH" (NORTH AMERICAN VERSION) DIP SWITCH SETTINGS

| DIP SWITCH - A: | | SWITCH POSITIONS | | | | | | | |
|---|-------------------|------------------|------------|------------|------------|------------|------------|------------|------------|
| FUNCTIONS | SETTINGS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| ALWAYS OFF | | OFF | | | | | | | |
| SCREEN INVERSION | NORMAL | | OFF | | | | | | |
| | INVERTED | | ON | | | | | | |
| TEST MODE | NORMAL GAME | | | OFF | | | | | |
| | TEST MODE | | | ON | | | | | |
| ATTRACT SOUNDS | WITH | | | | OFF | | | | |
| | WITHOUT | | | | ON | | | | |
| PLAY PRICING | 1 COIN = 1 PLAY | | | | | OFF | OFF | | |
| | 2 COINS = 1 PLAY | | | | | ON | OFF | | |
| | 3 COINS = 1 PLAY | | | | | OFF | ON | | |
| | 4 COINS = 1 PLAY | | | | | ON | ON | | |
| PRICING FOR CONTINUED PLAY | SAME AS ABOVE | | | | | | | OFF | OFF |
| | 1 COIN = 1 CONT. | | | | | | | ON | OFF |
| | 2 COINS = 1 CONT. | | | | | | | OFF | ON |
| | 3 COINS = 1 CONT. | | | | | | | ON | ON |
| BOLD TYPE INDICATES FACTORY SETTINGS | | | | | | | | | |

| DIP SWITCH - B: | | SWITCH POSITIONS | | | | | | | |
|---------------------------------|---|------------------|------------|------------|------------|------------|------------|------------|------------|
| FUNCTIONS | SETTINGS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| DIFFICULTY LEVELS | MEDIUM | OFF | OFF | | | | | | |
| | EASY | ON | OFF | | | | | | |
| | DIFFICULT | OFF | ON | | | | | | |
| | NEARLY IMPOSSIBLE | ON | ON | | | | | | |
| INITIAL GAME TIME | 7 MINUTES | | | OFF | OFF | | | | |
| | 8 MINUTES | | | ON | OFF | | | | |
| | 6 MINUTES | | | OFF | ON | | | | |
| | 5 MINUTES | | | ON | ON | | | | |
| BONUS TIME FOR STAGE COMPLETION | 8 MINUTES | | | | | OFF | OFF | | |
| | 9 MINUTES | | | | | ON | OFF | | |
| | 7 MINUTES | | | | | OFF | ON | | |
| | 6 MINUTES | | | | | ON | ON | | |
| LINKED - GAME MODES | SINGLE GAME MODE | | | | | | | OFF | OFF |
| | COMMUNICATIONS MODE - MASTER UNIT | | | | | | | ON | OFF |
| | COMMUNICATIONS MODE - SLAVE UNIT | | | | | | | ON | ON |
| | BOLD TYPE INDICATES FACTORY SETTINGS | | | | | | | | |

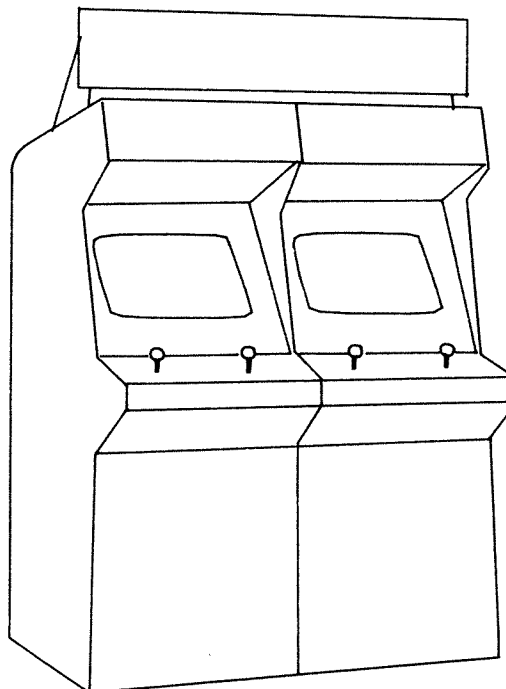
COMMUNICATIONS SYSTEM

Two "CADASH" games may be connected with a communications harness to allow up to 4 players to play together. The communications harness connects to the 8 - pin "N" connector of each p.c. board, as shown.



Change the settings of dipswitch B as shown above. The game cabinets should be put together as shown. A special sign is included with the kit to indicate that these two games communicate.

LINKED
ADJACENT
GAMES

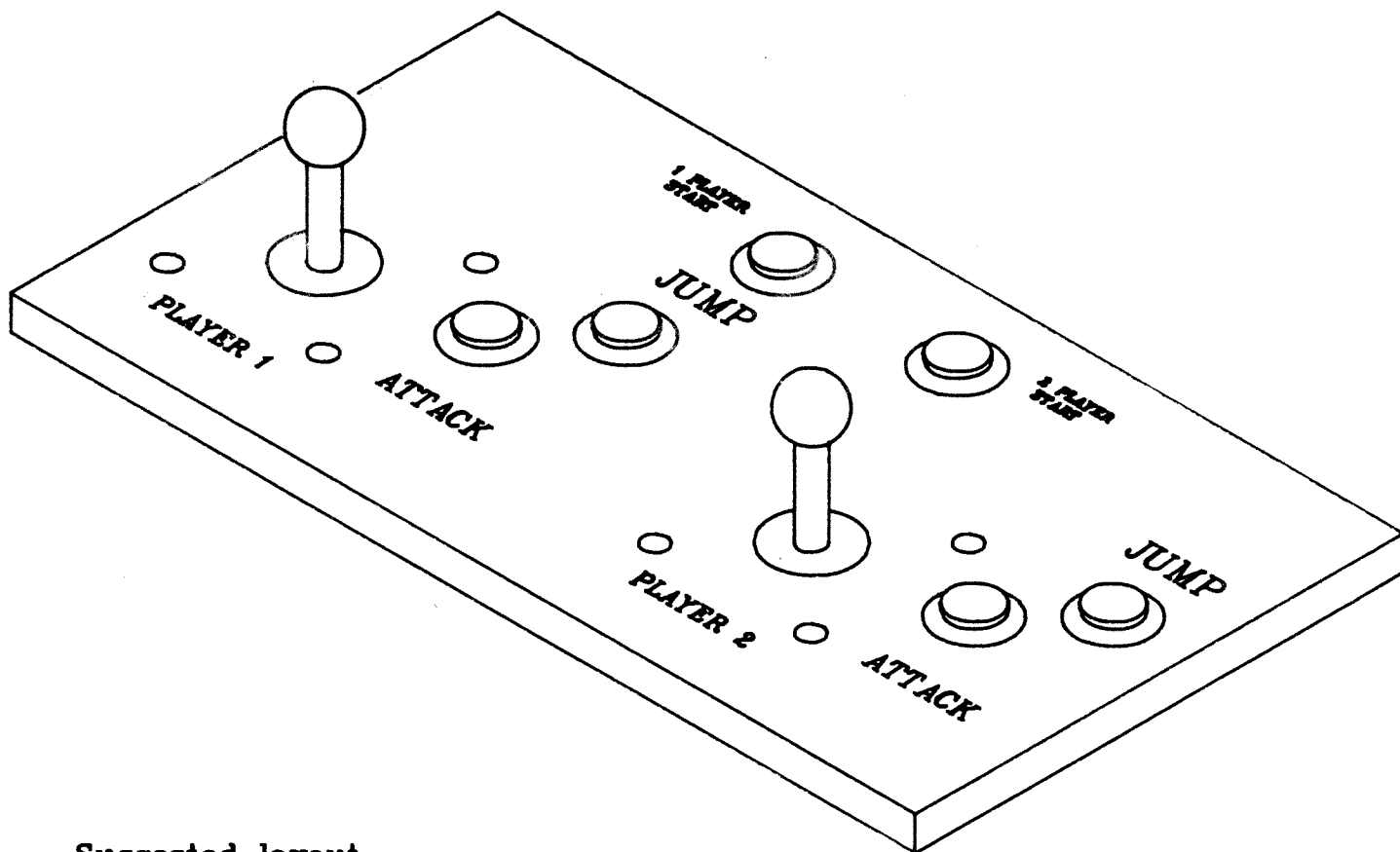


COMMUNICATIONS
GAME
SIGN

CONNECTION CHART FOR "CADASH"

| (SOLDER SIDE) | | JAMMA EDGE CONNECTOR | | (COMPONENT SIDE) | |
|----------------|---------|----------------------|----|------------------|----------------|
| WIRE FUNCTION | COLOR | | | COLOR | WIRE FUNCTION |
| GND | BLK | A | 1 | BLK | GND |
| GND | BLK | B | 2 | BLK | GND |
| +5VDC | RED | C | 3 | RED | +5VDC |
| +5VDC | RED | D | 4 | RED | +5VDC |
| -5VDC | BRN | E | 5 | BRN | -5VDC |
| +12VDC | BLU | F | 6 | BLU | +12VDC |
| KEY | | H | 7 | KEY | |
| COIN METER B | WHT/VIO | J | 8 | BLU/BRN | COIN METER A |
| COIN LOCKOUT B | | K | 9 | | COIN LOCKOUT A |
| SPEAKER (-) | BLK | L | 10 | WHT/BLK | SPEAKER (+) |
| VIDEO GREEN | GRN | N | 12 | RED | VIDEO RED |
| VIDEO SYNC | WHT | P | 13 | BLU | VIDEO BLUE |
| SERVICE SW. | BRN/WHT | R | 14 | BLK | VIDEO GND |
| SLAM SW. | WHT/BRN | S | 15 | YEL | NOT USED |
| COIN B | GRN/YEL | T | 16 | WHT/YEL | COIN A |
| 2PL SELECT | RED/BLK | U | 17 | PNK/BLK | 1PL SELECT |
| 2PL UP | BRN/BLU | V | 18 | ORN/BLU | 1PL UP |
| 2PL DOWN | ORN/WHT | W | 19 | GRN/ORN | 1PL DOWN |
| 2PL LEFT | ORN/GRN | X | 20 | GRN/BLU | 1PL LEFT |
| 2PL RIGHT | WHT/ORN | Y | 21 | RED/YEL | 1PL RIGHT |
| 2PL ATTACK | BRN/BLK | Z | 22 | RED/WHT | 1PL ATTACK |
| 2PL JUMP | YEL/WHT | Ā | 23 | WHT/RED | 1PL JUMP |
| NOT USED | BRN/GRN | B̄ | 24 | YEL/BLK | NOT USED |
| GND | BLK | Ē | 27 | BLK | GND |
| GND | BLK | F̄ | 28 | BLK | GND |

CONTROL PANEL LAYOUT



Suggested layout -

Recommend 4" between joystick center and adjacent button, use 1.125" diameter holes for button mounting, 1.375" diameter holes for joystick knob openings and .25" diameter holes for the joystick mounting screws. Try to avoid obscuring the artwork if possible, it enhances the kit's ability to present itself as a "New Game".

NOTES