

**Seatongrove Ltd**  
**(Magic Electronics**  
**USA license)**

**Eight Ball Action**  
**(DK conversion)**

**CONVERSION KIT**

# EIGHT BALL ACTION CONVERSION FOR DONKEY KONG

This is a simple conversion that requires no soldering or harness modifications. Prior to commencing any conversion you must test the game to ensure that the logic board is free of any problems in its present configuration and that the controls work correctly.

**STEP 1.** Remove harness connectors from logic board noting the exact location of each connector so that they can be reconnected correctly. Remove logic board from cabinet.

**STEP 2.** There are basically two types of logic boards used by **NINTENDO** in the **DONKEY KONG** machine. One is a two part logic board assembly containing a CPU board and VIDEO board, the other is a four part logic board assembly containing a CPU board, a VIDEO board, a SOUND board and a CLOCK board. Attached are two layouts for these respective logic boards.

## **TWO PART LOGIC BOARD ASSEMBLY:**

Remove EPROMS at locations 5A, 5B, 5C, 5E, 3F, 3H, 2E and 2F on CPU board. Remove Z80 CPU at location C8 also on the CPU board. Remove EPROMS at locations 7C, 7D, 7E, 7F, 3N, 3P and 2N on VIDEO board. Store these safely in case you wish to use them again.

## **FOUR PART LOGIC BOARD ASSEMBLY:**

Remove EPROMS at locations 5F, 5G, 5H, 5K, 5L, 2J and 2K on the CPU board. Remove the Z80 CPU at location 5C also on the CPU board. Remove EPROMS at locations 4M, 4N, 4R and 4S on the CLK board. Remove EPROMS at locations 3J and 3I on the SOUND board. Remove EPROMS at locations 5K, 5H and 5F on the VIDEO board. Store these safely in case you wish to use them again.

**STEP 3.** Open the package marked ROMS and inspect to ensure that there are 14 chips enclosed.

## **TWO PART LOGIC BOARD ASSEMBLY:**

Install EPROMS at locations 5A, 5B, 5C, 5E, 3H, 2E and 2F on the CPU board. **NOTE:** 3F is left empty. Ensure that the chip is installed in the correct manner. That is, the small notch in one end of the chip is aiming in the same direction as all the other chips on the board. Install EPROMS at locations 7C, 7D, 7E, 7F, 3N, 3P and 2N on the VIDEO board again ensuring that the chips are installed in the correct manner. **BEWARE: It is very easy to bend the pins on these EPROMS. The game will not work if any pins are bent.**

## **FOUR PART LOGIC BOARD ASSEMBLY:**

Install EPROMS as follows: 5E into 5F, 5C into 5G, 5B into 5H, 5A into 5K. **NOTE:** 5L is left empty. 2F into 2J and 2E into 2K on the CPU board. Ensure that the chips are installed in the correct manner (see above). Install EPROMS on CLK board as follows: 7C into 4M, 7D into 4N, 7E into 4R and 7F into 4S. Install EPROMS on the SOUND board as follows: 3H into 3I. **NOTE:** 3J is left empty. Install EPROMS on the VIDEO board as follows: 3P into 5K, 3N into 5H and 2N into 5F. Ensure that these chips are installed in the correct manner.

**STEP 4.** Open the package marked SUB BOARD. Inspect Sub Board to ensure no damage has occurred in transit.

## **TWO PART LOGIC BOARD ASSEMBLY:**

Install the Sub Board in the socket vacated by the Z80 CPU at location 8C on the CPU board. This must be installed in the correct direction as damage will occur if installed incorrectly. The correct manner is so that the offset of the sub board is towards the ribbon cable connector between the CPU board and the VIDEO board. This sub board is a very tight fit in the Z80 CPU socket so that it will never vibrate loose while on location. In order to install the sub board correctly place a small piece of packing between the bottom of the CPU board (directly below the Z80 socket) and the steel chassis. This allows pressure to be applied on the sub board to seat it completely without flexing the logic board. When the sub board is seated correctly only  $\frac{1}{16}$  of an inch of the pins should be exposed above the socket.

## **FOUR PART LOGIC BOARD ASSEMBLY:**

Install the SUB BOARD into location 5C on the CPU board so that the offset of the sub board is towards the ribbon cable connector. In order to install and seat correctly follow the instructions listed above.

**STEP 5.** Recheck the complete installation and ensure that all EPROMS are in their correct locations and all are installed in the correct direction. **NOTE: FAILURE TO RECHECK CAN CAUSE DAMAGE TO THE CONVERSION KIT IF POWERED UP WITH INCORRECT INSTALLATION.**

**STEP 6.** Replace the logic board assembly in the cabinet and reconnect all harness connections in the correct sockets. **DOUBLE CHECK ALL HARNESS CONNECTIONS.**

**STEP 7.** Remove **DONKEY KONG** header panel. Remove and clean the monitor panel. Remove the **DONKEY KONG** control panel overlay.

**STEP 8.** Install the new **EIGHT BALL ACTION** header panel. Install the Monitor panel in the reverse direction so that the smoked side of the glass is facing outwards. Install the new **EIGHT BALL ACTION** control panel overlay.

**STEP 9.** Completely clean the cabinet, repainting if necessary

**STEP 10.** Ensure that the toggle switch on the back of the cabinet is off. Connect the power cord to a suitable supply and switch power on. Switch toggle switch on back of cabinet to the ON position and observe the new game **EIGHT BALL ACTION** on the monitor. In the attract mode Player Instructions can be brought up on the screen by moving the Joy Stick to the LEFT.

**STEP 11. DIP SWITCH SETTINGS:** In the majority of cases these will not have to be changed from the previous settings.

DIP Switch 3 or C now controls the UPRIGHT or COCKTAIL mode. DIP Switches 1 and 2 or A and B are not accessed nor is DIP Switch 8 or H used. DIP switches 5, 6 and 7 or E, F and G perform their normal function of controlling the credits per coin.

**STEP 12.** Place the machine on location and enjoy the profits it will make.

## OPERATOR INFORMATION

### WARNING

#### F.C.C. REGULATION COMPLIANCE

This conversion kit must be installed according to the instructions for F.C.C. regulation compliance. This is required to avoid radio frequency radiation and to 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.

The operation of this equipment in a residential area is likely to cause interference—in which case the user will be required to take whatever actions are necessary to correct the interference at his own expense.

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