

# Logitech Rumblepad 2 USB Driver#

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Tested with a Logitech Rumblepad 2 USB. Other Logitech analog Joypad might work. Please send feedback.

## Description#

USB Register	Byte of HID Packet	Function	Atari Memory Shadow	original Label	new USB label	
\$10	1	left handle horiz movement	\$270 (624)	PADDL0	RPADLHH	
\$11	2	left handle vertic movement	\$271 (625)	PADDL1	RPADLHV	
\$12	3	right handle horiz movement	\$272 (626)	PADDL2	RPADRHH	
\$13	4	right handle vertic movement	\$273 (627)	PADDL3	RPADRHV	
\$14	5 Bit 0-4	digital Joypad	\$274 (628)	PADDL4	RPADDJY	
\$14	5 Bit 5-7	Button 1-4	\$275 (629)	PADDL5	RPADBUT1	
\$15	6	Button 5-10	\$276 (630)	PADDL6	RPADBUT2	
\$16	7	Mode Button Status	\$277 (631)	PADDL7	RPADMODE	

- Byte 1: left handle horizontal movement (\$00 = left, \$80 = middle, \$FF= right)
- Byte 2: left handle vertical movement (\$00 = up, \$80 = middle, \$FF= down)
- Byte 3: right handle horizontal movement (\$00 = left, \$80 = middle, \$FF= right)
- Byte 4: right handle vertical movement (\$00 = up, \$80 = middle, \$FF= down)
- Byte 5: Bit 0-3 digital Joypad (see below)
- Byte 5: Bit 4 - Button 1, Bit 5 - Button 2, Bit 6 - Button 3, Bit 7 - Button 8
- Byte 6: Bit 0-5 - Button 5-10
- Byte 7: Bit 2 - Vibration Switch, Bit 3 - Mode Switch and LED
- Byte 8: unknown

The digital Joypad has a unique value for each direction:

```

      0
    7 | 1
left 6---8---2 right
    5 | 3
      4
    down

```

## Device dependent source#

### Digital Disk Control Driver#

This Source must be included into the [Base HID Driver](#).

```

01000          .LI OFF
01010 *****
01020 ** 6502 USB DEVELOPMENT      **
01030 ** (C) 2004 BY ABBUC        **
01040 ** REGIONALGRUPPE FFM       **
01050 ** DEVICE DRIVER FOR        **
01060 ** LOGITECH RUMBLE PAD 2     **
01070 ** VERSION 1.0 20041214     **
01080 ** LICENSED UNDER THE       **
01090 ** GNU PUBLIC LICENSE       **
01100 ** (GPL) VERS. 2 OR LATER   **
01110 **                            **
01120 *****
01130 ; THIS FILE MUST BE INCLUDED
01140 ; FROM USBHID.SRC!
01150 ;
01160 ; ATARI MEMORY LOCATIONS
01170 ;
01180 STICK0      = $0278
01190 STICK1      = $0279
01200 STRIG0     = $0284
01210 STRIG1     = $0285
01220 ;
01230 ; USB JOYSTICK SHADOW REGISTER
01240 ;
01250 RPADLHH     = $0270
01260 RPADLHV     = $0271
01270 RPADRHH     = $0272
01280 RPADRHV     = $0273
01290 RPADDJY     = $0274
01300 RPADBUT1    = $0275
01310 RPADBUT2    = $0276
01320 RPADMODE    = $0277
01330 ;
01340 -----
01350 POLLDEVICE
01360 ;
01370          LDA #03
01380          JSR PROCESS
01390 ;          AND #01
01400 ;          BEQ .2 ; NO DATA
01410 ;
01420          LDX #$14
01430          JSR REGFETCH
01440          PHA          ; SAVE VALUE TO STACK
01450          AND #$0F      ; CLEAR TO NIBBLE BIT 4-7

```

```

01460          STA RPADDJY
01470          PLA           ; RESTORE VALUE FROM STACK
01480          LSR           ; MOVE TOP NIBBLE
01490          LSR           ; DOWN
01500          LSR
01510          LSR
01520          STA RPADBUT1 ; STORE IN SHADOW
01530 ;
01540          LDX #$15
01550          JSR REGFETCH
01560          STA RPADBUT2
01570 ;
01580 .2        RTS
01590 -----
01600 USB2ATA
01610          LDA #$0F
01620          STA STICK0
01630          LDA #1
01640          STA STRIG0
01650 ;
01660          LDA RPADBUT1
01670          ORA RPADBUT2
01680          BEQ GETSTICK1
01690          LDA #0
01700          STA STRIG0
01710 ;
01720 GETSTICK1
01730          LDY RPADDJY
01740          LDA JOYTAB,Y
01750          STA STICK0
01760          RTS
01770 -----
01780 JOYTAB     .DA #14,#6,#7,#5,#13,#9,#11,#10,#15
01790 -----
01800 VBI
01810          LDA STICK0
01820          EOR #$0F
01830          BNE .1
01840          LDA STRIG0
01850          BEQ .1
01860 ;
01870          JSR POLLDEVICE
01880          JSR USB2ATA
01890 .1        JMP XITVBV
01900 -----
01910          .OR $7400
01920 -----
01930 PRINTDEVICE
01940          JSR PRINT
01950          .AS "Logitech Rumblepad 2 Driver"
01960          .HX 40
01970          RTS
01980 -----
01990 PRINTVERSION
02000          JSR PRINT
02010          .AS "Version 1.0 (DIGITAL)  "
02020          .HX 40
02030          RTS
02040 -----

```

```

02050 PRINTCOPY
02060          JSR PRINT
02070          .AS "(c) 20041214 C. Strotmann/ABBUC"
02080          .HX 40
02090          RTS
02100 -----

```

## Analog Handle Driver#

This Source must be included into the [Base HID Driver](#).

```

01000          .LI OFF
01010 *****
01020 ** 6502 USB DEVELOPMENT **
01030 ** (C) 2004 BY ABBUC **
01040 ** REGIONALGRUPPE FFM **
01050 ** DEVICE DRIVER FOR **
01060 ** LOGITECH RUMBLE PAD 2 **
01070 ** VERSION 1.0 20041213 **
01080 ** LICENSED UNDER THE **
01090 ** GNU PUBLIC LICENSE **
01100 ** (GPL) VERS. 2 OR LATER **
01110 ** **
01120 *****
01130 ; THIS FILE MUST BE INCLUDED
01140 ; FROM USBHID.SRC!
01150 ;
01160 ; ATARI MEMORY LOCATIONS
01170 ;
01180 STICK0      = $0278
01190 STICK1      = $0279
01200 STRIG0      = $0284
01210 STRIG1      = $0285
01220 ;
01230 ; USB JOYSTICK SHADOW REGISTER
01240 ;
01250 RPADLHH     = $0270
01260 RPADLHV     = $0271
01270 RPADRHH     = $0272
01280 RPADRHV     = $0273
01290 RPADDJY     = $0274
01300 RPADBUT1    = $0275
01310 RPADBUT2    = $0276
01320 RPADMODE    = $0277
01330 ;
01340 -----
01350 ; THRESHOLD ANALOG->DIGITAL
01360 THLEFT      .HX 60
01370 THRIGHT     .HX A0
01380 THUP        .HX 60
01390 THDOWN      .HX A0
01400 -----
01410 POLLDEVICE
01420 ;
01430          LDA #03
01440          JSR PROCESS
01450 ;          AND #01
01460 ;          BEQ .2 ; NO DATA
01470 ;

```

```

01480          LDX #$10
01490          JSR REGFETCH
01500          STA RPADLHH
01510          LDX #$11
01520          JSR REGFETCH
01530          STA RPADLHV
01540          LDX #$12
01550          JSR REGFETCH
01560          STA RPADRHH
01570          LDX #$13
01580          JSR REGFETCH
01590          STA RPADRHV
01600          LDX #$14
01610          JSR REGFETCH
01620          PHA          ; SAVE VALUE TO STACK
01630          AND #$0F    ; CLEAR TO NIBBLE BIT 4-7
01640          STA RPADDJY
01650          PLA          ; RESTORE VALUE FROM STACK
01660          LSR          ; MOVE TOP NIBBLE
01670          LSR          ; DOWN
01680          LSR
01690          LSR
01700          STA RPADBUT1 ; STORE IN SHADOW
01710 ;
01720          LDX #$15
01730          JSR REGFETCH
01740          STA RPADBUT2
01750 ;
01760          LDX #$16
01770          JSR REGFETCH
01780          STA RPADMODE
01790 ;
01800 .2      RTS
01810 -----
01820          .OR $0400
01830 USB2ATA
01840          LDA #$0F
01850          STA STICK0
01860          STA STICK1
01870          LDA #1
01880          STA STRIG0
01890          STA STRIG1
01900 ;
01910          LDA RPADBUT1
01920          ORA RPADBUT2
01930          BEQ GETSTICK1
01940          LDA #0
01950          STA STRIG0
01960          STA STRIG1
01970 ;
01980 GETSTICK1
01990          LDA STICK0
02000          LDX RPADLHH
02010          CPX THLEFT
02020          BCC .1      ; LEFT
02030          CPX THRIGHT
02040          BCS .2      ; RIGHT
02050          BCC .10
02060 .1      EOR #$04 ; LEFT

```

```

02070          BPL .3
02080 .2      EOR #$08 ; RIGHT
02090 .3      STA STICK0
02100 .10
02110          LDX RPADLHV
02120          CPX THUP
02130          BCC .11 ; UP
02140          CPX THDOWN
02150          BCS .12 ; DOWN
02160          BCC GETSTICK2
02170 .11     EOR #$01 ; UP
02180          BNE .13
02190 .12     EOR #$02 ; DOWN
02200 .13     STA STICK0
02210 GETSTICK2
02220          LDA STICK1
02230          LDX RPADRHH
02240          CPX THLEFT
02250          BCC .1 ; LEFT
02260          CPX THRIGHT
02270          BCS .2 ; RIGHT
02280          BCC .10
02290 .1      EOR #$04 ; LEFT
02300          BPL .3
02310 .2      EOR #$08 ; RIGHT
02320 .3      STA STICK1
02330 .10
02340          LDX RPADRHV
02350          CPX THUP
02360          BCC .11 ; UP
02370          CPX THDOWN
02380          BCS .12 ; DOWN
02390          BCC .20
02400 .11     EOR #$01 ; UP
02410          BNE .13
02420 .12     EOR #$02 ; DOWN
02430 .13     STA STICK1
02440 .20     RTS
02450 -----
02460 VBI
02470          LDA STICK0
02480          EOR #$0F
02490          BNE .1
02500          LDA STRIG0
02510          BEQ .1
02520 ;
02530          JSR POLLDEVICE
02540          JSR USB2ATA
02550 .1      JMP XITVBV
02560 -----
02570          .OR $7400
02580 -----
02590 PRINTDEVICE
02600          JSR PRINT
02610          .AS "Logitech Rumblepad 2 Driver"
02620          .HX 40
02630          RTS
02640 -----
02650 PRINTVERSION

```

```
02660      JSR PRINT
02670      .AS "Version 1.0"
02680      .HX 40
02690      RTS
02700 -----
02710 PRINTCOPY
02720      JSR PRINT
02730      .AS "(c) 20041213 C. Strotmann/ABBUC"
02740      .HX 40
02750      RTS
02760 -----
```