

in

COLLABORATORS

	<i>TITLE :</i> in		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		February 7, 2023	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

1	in	1
1.1	WildSMEG Turbo 1.2 - DSP Docs	1
1.2	WildSMEG Turbo 1.2 - DSP Docs	2
1.3	WildSMEG Turbo 1.2 - DSP Docs	2
1.4	WildSMEG Turbo 1.2 - DSP Docs	3
1.5	WildSMEG Turbo 1.2 - DSP Docs	3
1.6	WildSMEG Turbo 1.2 - DSP Docs	5

PILOT.PIC Shows Mod for Pilot Wings.

DSP-ROM.PINS

Shows ROM and EDGE Connector pin-outs.

Components Needed

- 1: 74LS139 x 1
- 2: 74LS241 x 1
- 3: Single strand insulated wire.

Continue

when you have your cart and components.

1.2 WildSMEG Turbo 1.2 - DSP Docs

Once you have got your cart and have the components..

It is time to take the cart apart, this can be done with a soldering iron by pulling the cart apart and just warming up the tops of the screws, with the soldering iron stop warm as so as it starts to come apart. This will stop the plastic from getting too melted. Remember you have to put the cart back together after!. Next you will have to remove the unwanted components from the PCB and cut some tracks.

Which cart are you modifying ?

Mario Kart

Pilot Wings

1.3 WildSMEG Turbo 1.2 - DSP Docs

MARIO KART

On this cart you have to remove the ROM / BATTERY / BATTERY RAM / LOCK-CHIP

You will be left with only a 74LS139 / 74HCU04 / DSP1 / XTAL / TRANSISTOR and the odd cap or two..

NEXT Cut all tracks that go to the LOCK-CHIP but leave the pads and the power (pins 8 / 16).

Cut the DSP LEGS pins 26 / 27 but leave enough leg to solder to !!, remove the rest of the leg from the hole.. for both (pins 26 / 27)

It is now ready to be modified..

Main Mod

1.4 WildSMEG Turbo 1.2 - DSP Docs

PILOT WINGS

On this cart you have to remove the ROM / LOCK-CHIP

You will be left with only a 74LS139 / 74HCU04 / DSP1 / XTAL / and the odd cap or two..

NEXT Cut all tracks that go to the LOCK-CHIP but leave the pads and the power (pins 8 / 16).

Cut the DSP LEGS pins 26 / 27 but leave enough leg to solder to !!, remove the rest of the leg from the hole.. for both (pins 26 / 27)

It is now ready to be modified..

Main Mod

1.5 WildSMEG Turbo 1.2 - DSP Docs

THE MAIN MOD !!!

Right solder the 74LS139 in the place where the lock-chip came out, (with pin 1 were pin 1 was !!).

Use diagram PILOT.PIC

Use diagram MARIO.PIC

Bend all the legs out of the 74LS241 and cut them short



(enough to solder to). Stick the chip down with some double sided sponge tape in the middle of the ROMs place, so that pin 1 is near pin 1 and pin 11 is near pin 17.

NEXT comes the wiring ...

On the 74LS241 wire pin 10 to the ROMS pin 16, pin 20 to the ROMS pin 32. This powers the chip.

Wire the rest for the legs using the single strand wire to the correct places on the pcb, this could be a leg of a chip or a pad where the chip was before it was taken out (the ROM). Use the info supplied for this ..

DSP-ROM.PINS

If you are modifying PILOT WINGS (40)A15 is not used on this ←
cart.

You will have to scrape off the lacquer right from the top of the connector and solder your wire on there .

(40 - Edge connector pin 40)

You will see on the diagrams that there are connections marked to go to a pin on a 74LS139 this is not the one in the diagram but the one which was in the cart at the start and not your added one, all connections to this chip are show in the diagram..

For Both Carts And Modes

!! WARNING !!

MAKE ALL WIRES AS SHORT AND AS STRAIGHT AS POSSIBLE. AS GLITCHING CAN HAPPEN IF THE WIRES ARE TOO LONG OR CRISS CROSS ALL OVER THE PLACE !!

Once all the wiring is complete check that it looks right to the diagrams if so PLUG-IN and away you go !!!!

NOTE

DUNGEON MASTER and 3D BASEBALL Both use a DSP 2 chip ...

MARIO KART / PILOT WINGS / AIR DIVER use a DSP 1 chip ...

```

      _____/ \ / \ _____/ \ _____/ \
     /  _____/ /  \ /  \ /  _____/ /  _____/
    /  _____//  /  \ /  \ //  _____/ /  _____/
   /  /  //  /  /  //  //  _____/ //  /  _____/
  \  _____/ \  \ /  \ \  \ \  _____/ \  _____/

```

U T I L I T I E S
Will we ever reach the end ?

THE / \ _____ / \ _____ / \ _____ / \ _____
 / \ _____ / \ _____ / \ _____ / \ _____
 | | / \ | | / \ | | / \ | | / \ | |
 | | / \ | | / \ | | / \ | | / \ | |
 \ / | | | | \ / | | | | \ / | | | |
 \ / | | | | \ / | | | |

THE / \ _____ / \ _____ / \ _____ / \ _____
 / \ _____ / \ _____ / \ _____ / \ _____
 | | / \ | | / \ | | / \ | | / \ | |
 | | / \ | | / \ | | / \ | | / \ | |
 \ / | | | | \ / | | | | \ / | | | |
 \ / | | | | \ / | | | |

and

Servant

1.6 WildSMEG Turbo 1.2 - DSP Docs

CART EDGE CONNECTOR PIN OUTS

05	GND	36	GND
06	A11	37	A12
07	A10	38	A13
08	A9	39	A14
09	A8	40	A15
10	A7	41	A16
11	A6	42	A17
12	A5	43	A18
13	A4	44	A19
14	A3	45	A20
15	A2	46	A21
16	A1	47	A22
17	A0	48	A23
18	-	49	U3-1 (LS139)
19	D0	50	D4
20	D1	51	D5
21	D2	52	D6
22	D3	53	D7
23	/CHIP-ENABLE	54	R/W (SAVE-RAM)
24	CIC-1 (ID-OUT)	55	CIC-2 (ID-OUT)
25	CIC-7 (ID-IN)	56	CIC-6 (ID-IN)
26	U3-13 (LS139)	57	-
27	VCC	58	VCC

512 K ROM PIN-OUTS

```

-----
A17 :   \_/   : VCC
A18 :           : OE
A15 :           : A19
A12 :           : A14
A7  :           : A13
A6  :           : A8
A5  :           : A9
A4  :           : A11

```


A3 : : A16
A2 : : A10
A1 : : CE
A0 : : D7
D0 : : D6
D1 : : D5
D2 : : D4
GND : : D3

THE SMEG...