3DO RGB Installation Guide

By Taijigamer

Welcome to the 3DO RGB installation guide. The aim of this guide is to hopefully illustrate to the user how to install a device which will allow their 3DO to output an RGBS signal to their TV/Monitor. This guide is designed to work with most RGB mods available for 3DO consoles as they all use the same general principles. For the purpose of this guide we will use the author's own RGB conversion board.

Disclaimer: *This mod is not suitable for an electronics novice. If you have never held a soldering iron or have had very minimal experience then please try practising easier modifications on scrap hardware. The author is not responsible for any damage to health or property as a result of attempting these modifications.*

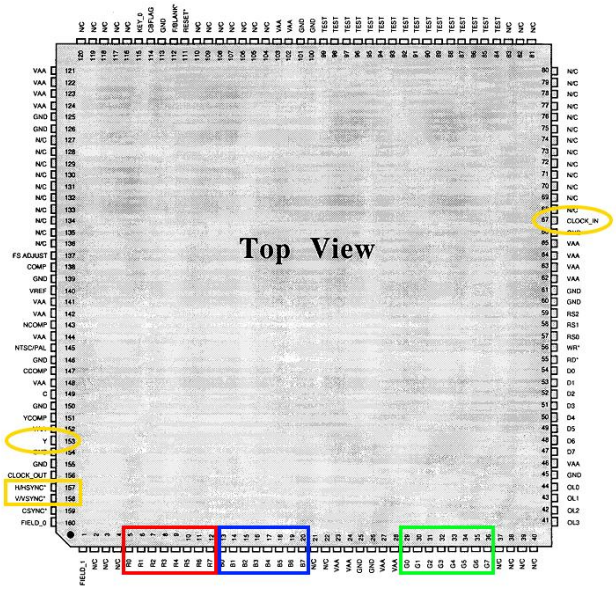
The 3DO was designed to output Composite video and S-Video but unfortunately not RGBS. Luckily the **CLIO** graphics processor outputs **24bit digital RGB** to the video encoder which we can send to a new encoder to produce analogue **RGBS**. We also need a **Sync** signal from either **Luma (Y)** or by stripping **Csync** from the **Luma (Y)** signal using the on board LM1881 sync stripper. Other mods may combine **Hsync** and **Vsync** to give **Csync** instead. This mod also requires a **CLK** signal which we can also get from the **CLIO**.

Please note that late Panasonic FZ-10 and Goldstar GDO-202 model 3DO contain the revised ***ANVIL*** *chip which doesn't output 24bit digital RGB so cannot be modded for analogue RGBS at this time.*

Panasonic FZ-1

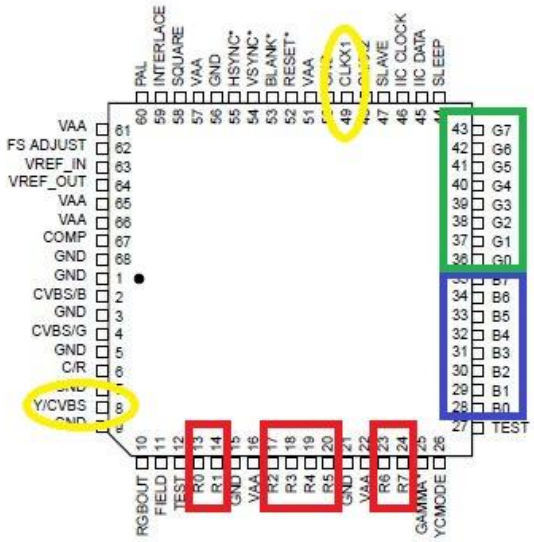
The digital to analogue video encoders found in the Panasonic FZ-1 3DO consoles are BT9101 (Early NTSC FZ-1), BT9103 (PAL/CAN FZ-1), VP536 (Late FZ-1, Early FZ-10).

BT858 (BT9101 equivalent)

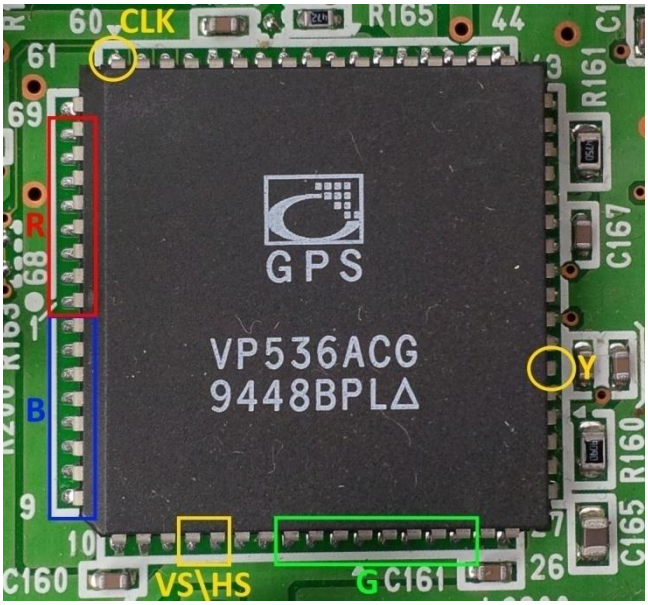


Note: N/C and test pins *must* remain floating.

BT856 (BT9103 equivalent)

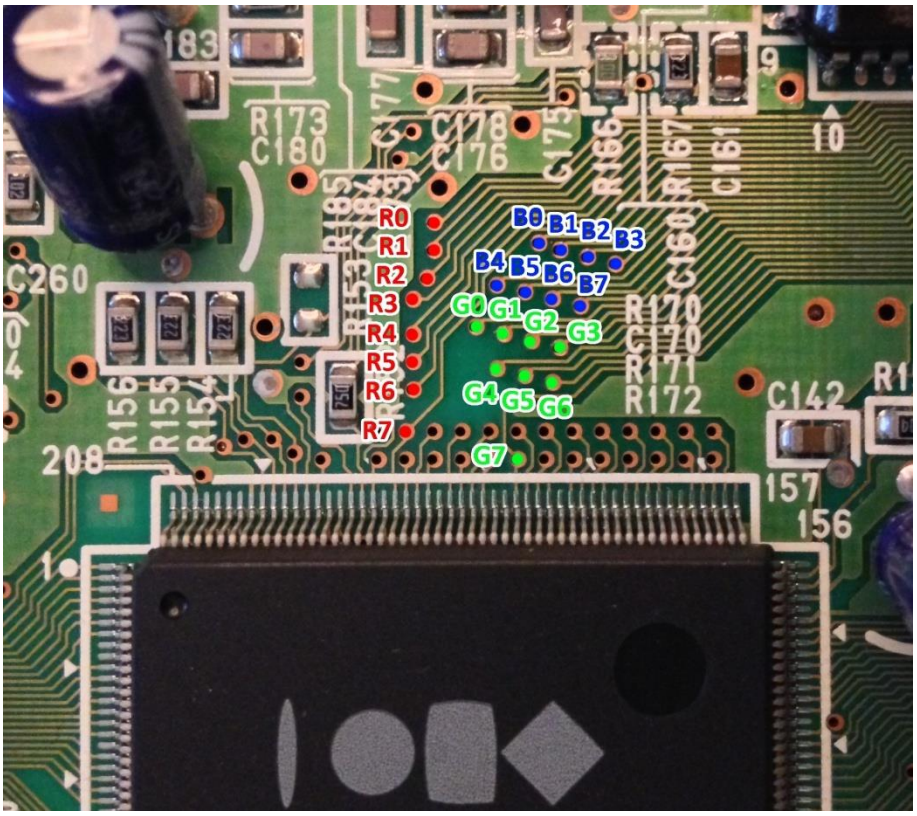


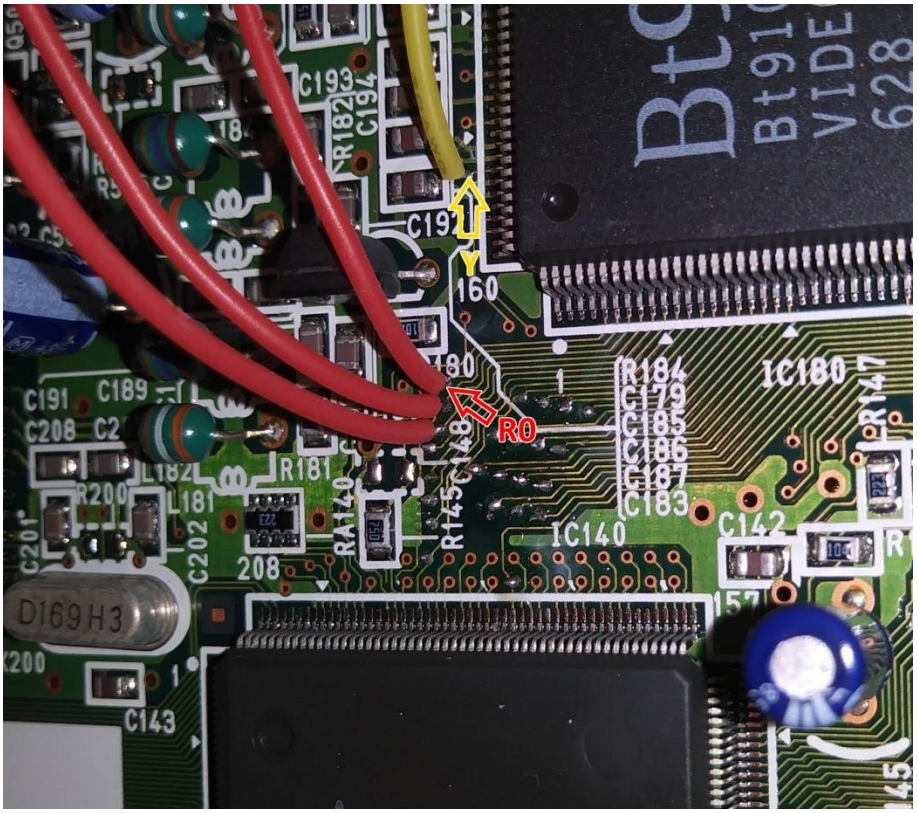
VP536



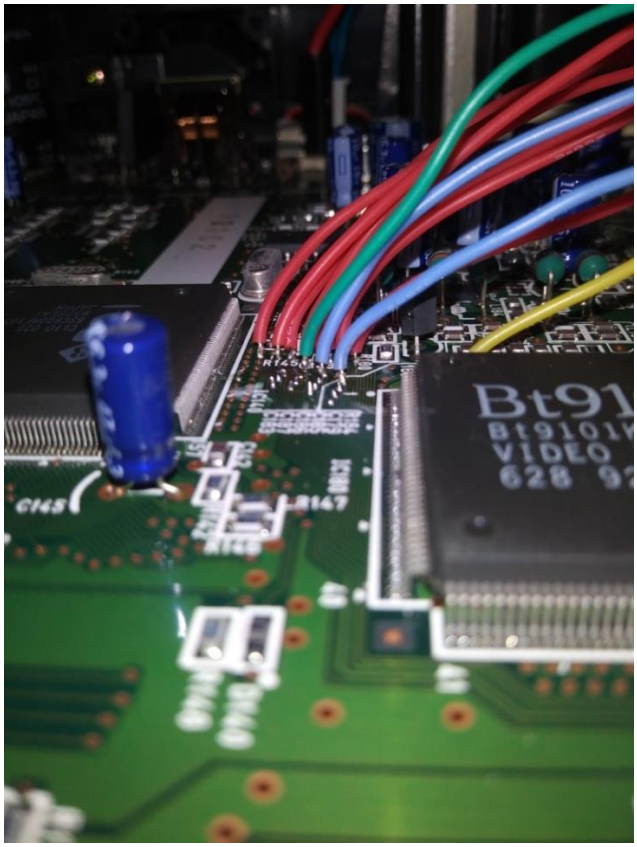
Pin No.	Pin Name	Pin No.	Pin Name
1	R7	35	GND
2	B0	36	CHROMAOUT
3	B1	37	VAA
4	B2	38	CHROMACOMP
5	B3	39	CHROMAGAIN
6	B4	40	VAA
7	B5	41	TEST0
8	B6	42	TEST1
9	B7	43	TEST2
10	VAA	44	TEST3
11	GND	45	TEST4
12	CTRLC2	46	TEST5
13	VS	47	TEST6
14	HS	48	TEST7
15	CTRLC1	49	TCSPK
16	RESET	50	TSURST
17	G0	51	CLK12O
18	G1	52	CTRLB1
19	G2	53	CTRLB2
20	G3	54	CTRLA3
21	G4	55	VAA
22	G5	56	GND
23	G6	57	CLK25I
24	G7	58	CTRLA2
25	VAA	59	CTRLA1
26	GND	60	CLK12I
27	GND	61	CLK25O
28	VREF	62	R0
29	LUMAGAIN	63	R1
30	LUMACOMP	64	R2
31	VAA	65	R3
32	LUMAOUT	66	R4
33	GND	67	R5
34	COMPOUTB	68	R6

24 bit RGB wires can be soldered to the motherboard vias near the CLIO.

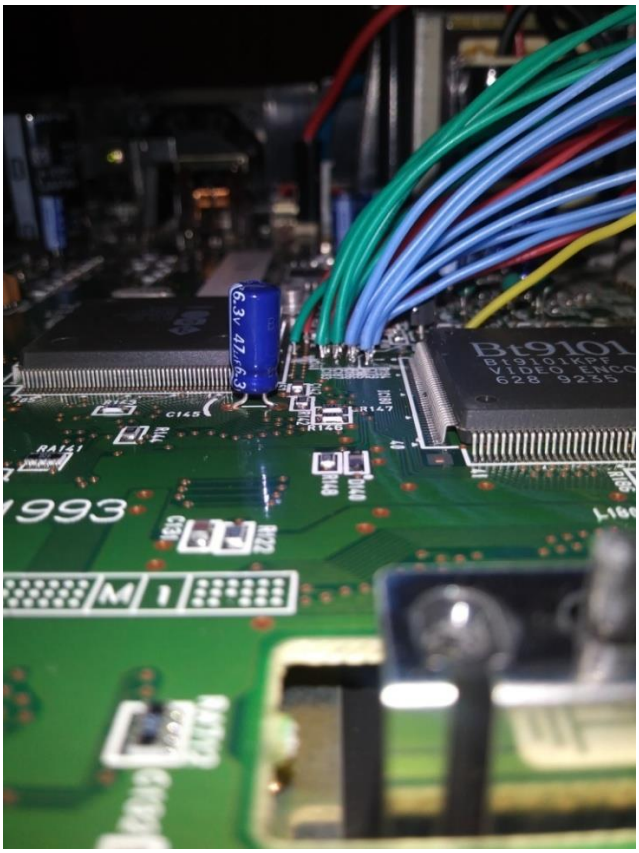




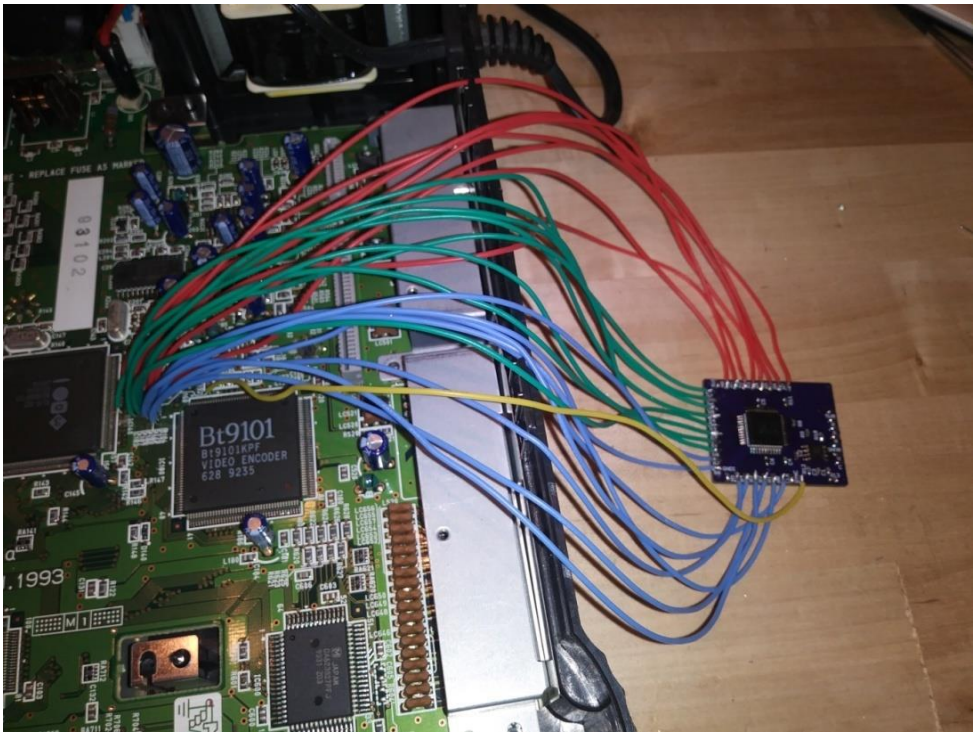
Start by soldering R0-R7, Luma (Y).



Then B0-B7...

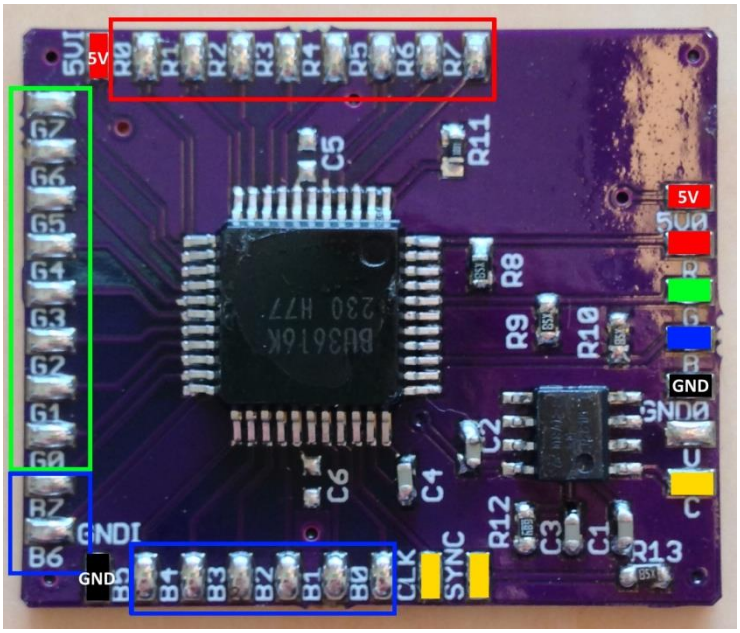


Finally G0-G7.

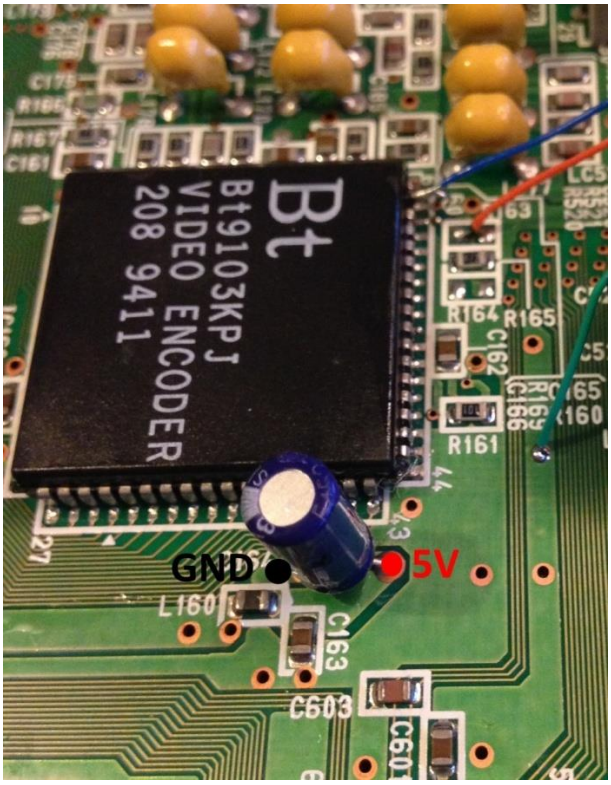


All RGB wires connected.

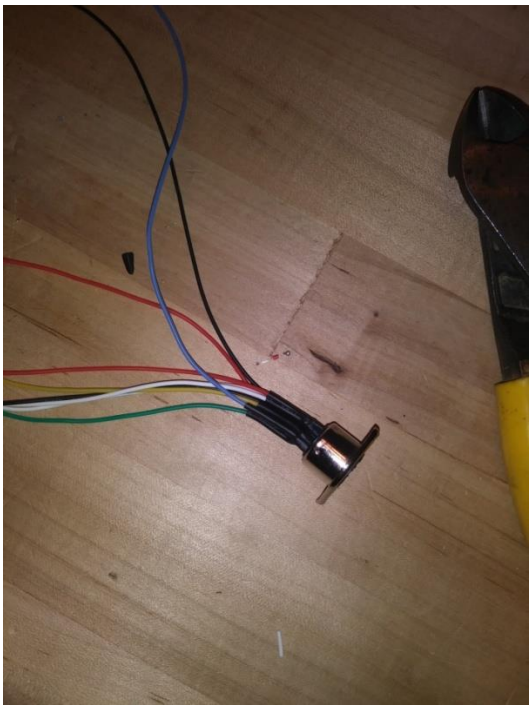
CLK can be soldered to R161 (BT9103), R186 (BT9101) or R163 (VP536).



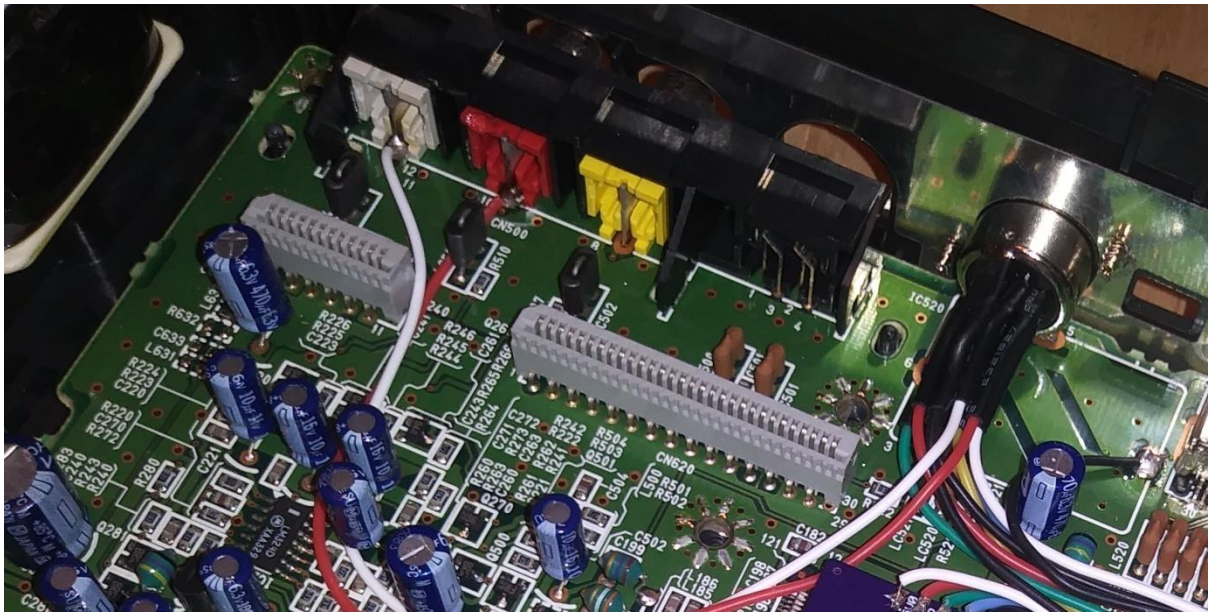
RGB V1.0



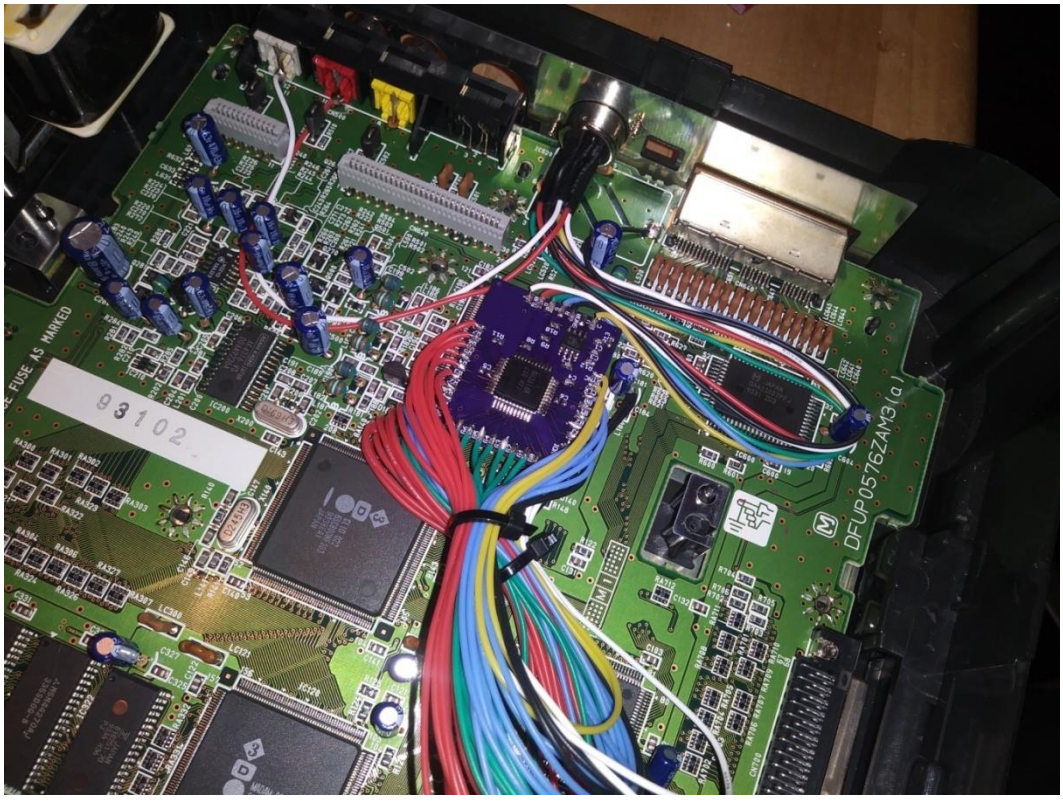
5V, GND - C164 (BT9103,VP536), C184 (BT9101). Remember the orientation of the capacitor is different for different models so make sure you use the correct pins (white stripe for ‘GND‘)



Connect all output wires to an external connector. I recommend an 8 pin ‘C’ Din connector as they are easily available. The pinout is up to you, just make sure it matches your chosen cable.



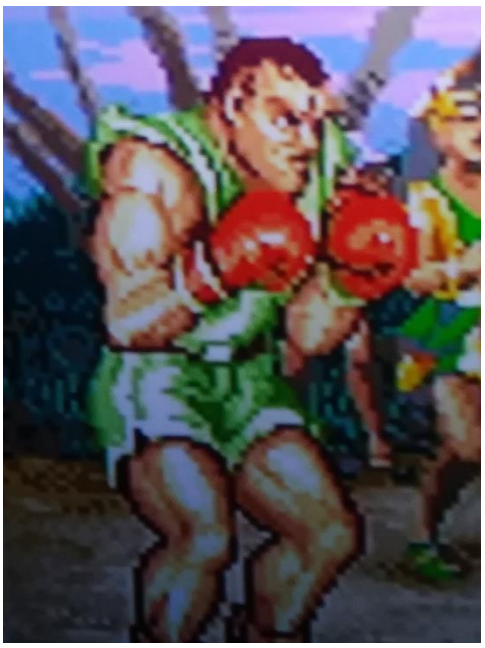
Left and **Right** audio can be soldered directly to the back of the Left and Right RCA connectors.



Finally secure wires and mod inside the 3DO.

View from outside console. Some models might need the RF modulator removed to make space for the connector.

Composite

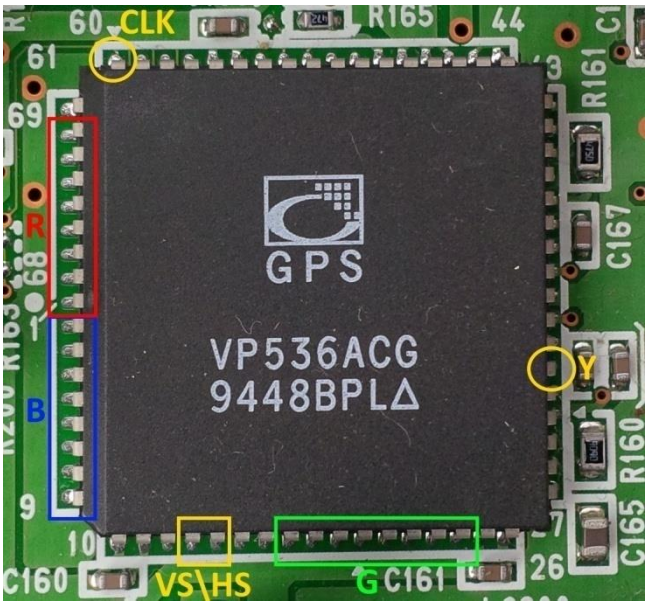


RGB

Enjoy sharper RGB picture.

Panasonic FZ-10

The early Panasonic FZ-10 contained the VP536 encoder. The installer can either solder the 24 bit RGB wires directly to the encoder or to the vias coming off the CLIO.



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3	B1	37	VAA
4	B2	38	CHROMACOMP
5	B3	39	CHROMAGAIN
6	B4	40	VAA
7	B5	41	TEST0
8	B6	42	TEST1
9	B7	43	TEST2
10	VAA	44	TEST3
11	GND	45	TEST4
12	CTRLC2	46	TEST5
13	VS	47	TEST6
14	HS	48	TEST7
15	CTRLC1	49	TCSPK
16	RESET	50	TSURST
17	G0	51	CLK12O
18	G1	52	CTRLB1
19	G2	53	CTRLB2
20	G3	54	CTRLA3
21	G4	55	VAA
22	G5	56	GND
23	G6	57	CLK25I
24	G7	58	CTRLA2
25	VAA	59	CTRLA1
26	GND	60	CLK12I
27	GND	61	CLK25O
28	VREF	62	R0
29	LUMAGAIN	63	R1
30	LUMACOMP	64	R2
31	VAA	65	R3
32	LUMAOUT	66	R4
33	GND	67	R5
34	COMPOUTB	68	R6

JAPAN
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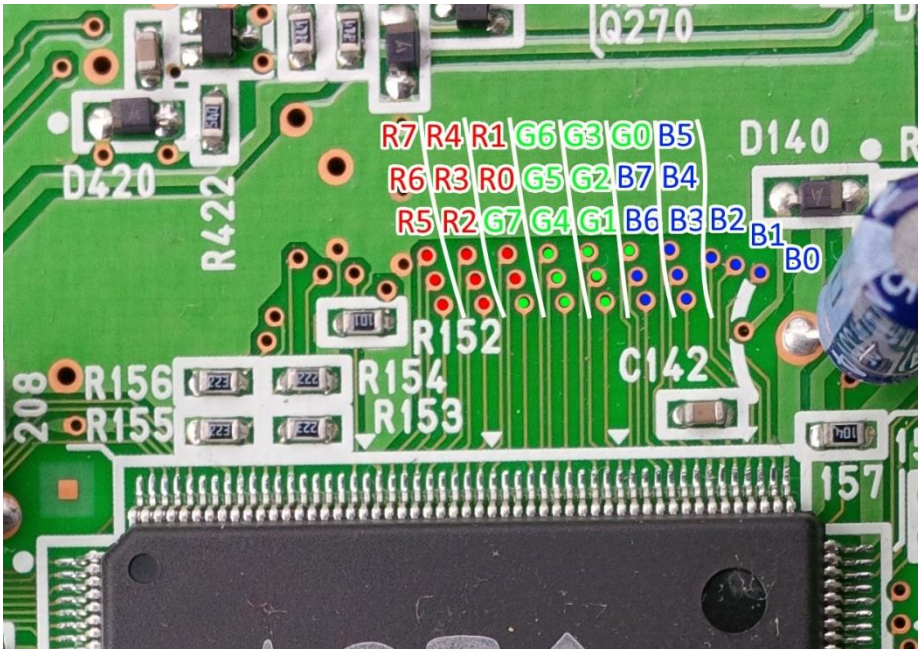
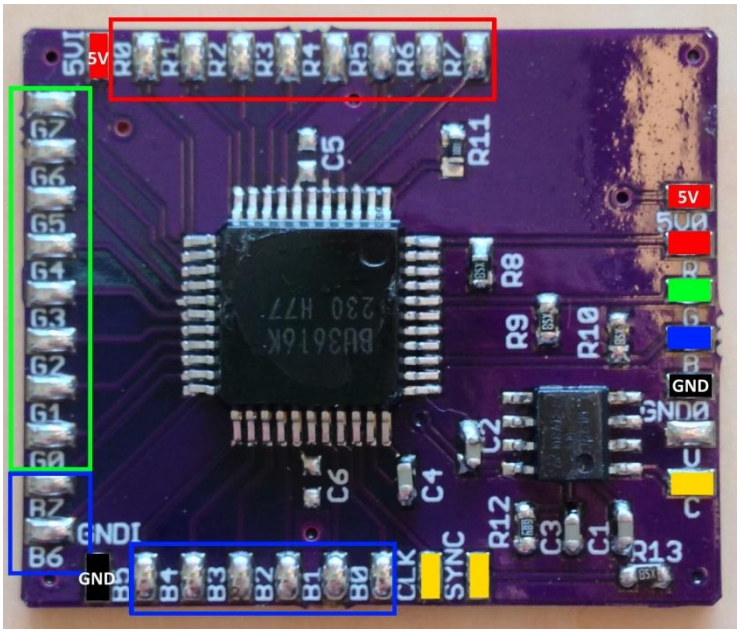
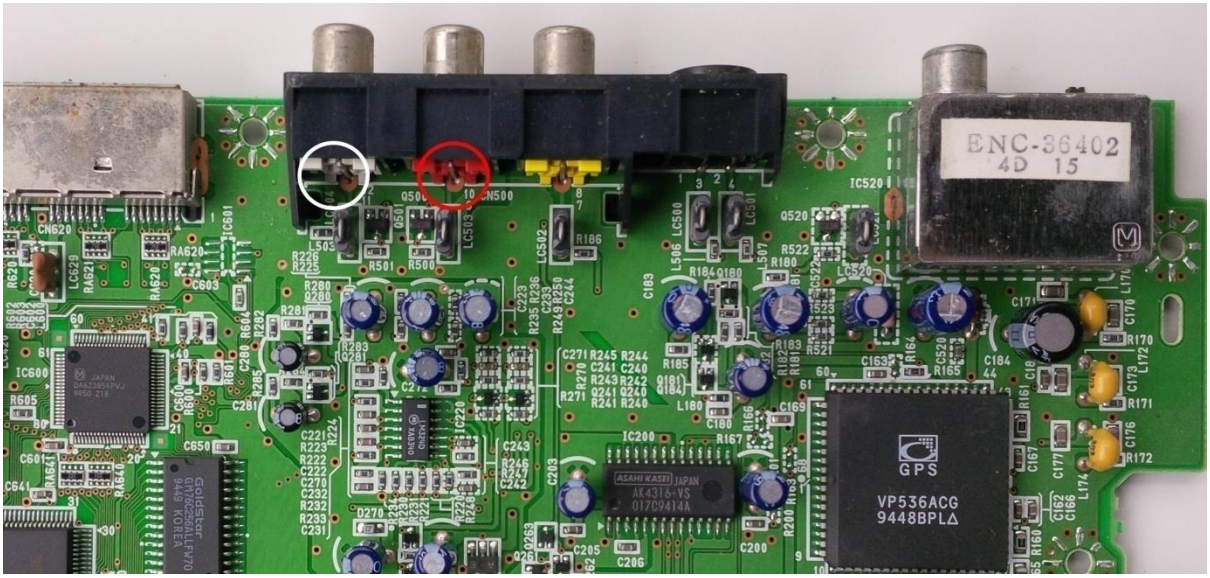
CLIO ADD
00425-002-02
452U1D 68
M3


Q270
D420
R422
D140
R7 R4 R1 G6 G3 G0 B5
R6 R3 R0 G5 G2 B7 B4
R5 R2 G7 G4 G1 B6 B3 B2
B1
B0
R152
R154
R153
C142
R156
R155
157



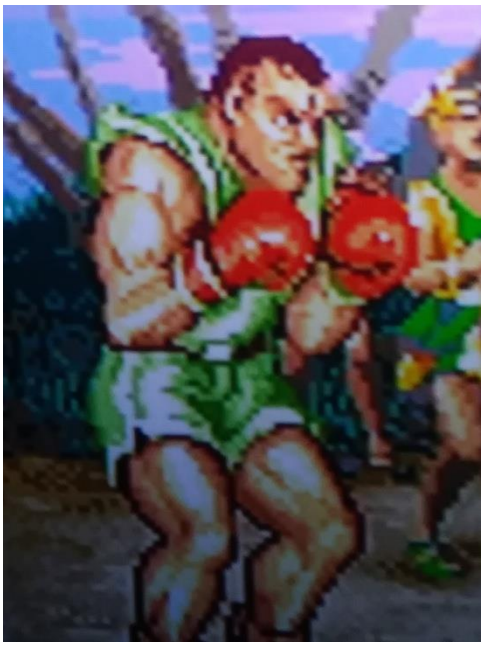
RGB V1.0



Left and **Right** audio can be soldered directly to the back of the Left and Right RCA connectors.

Some Panasonic FZ-10 have an RF modulator that will need to be removed to make room for the RGB connector.

Composite

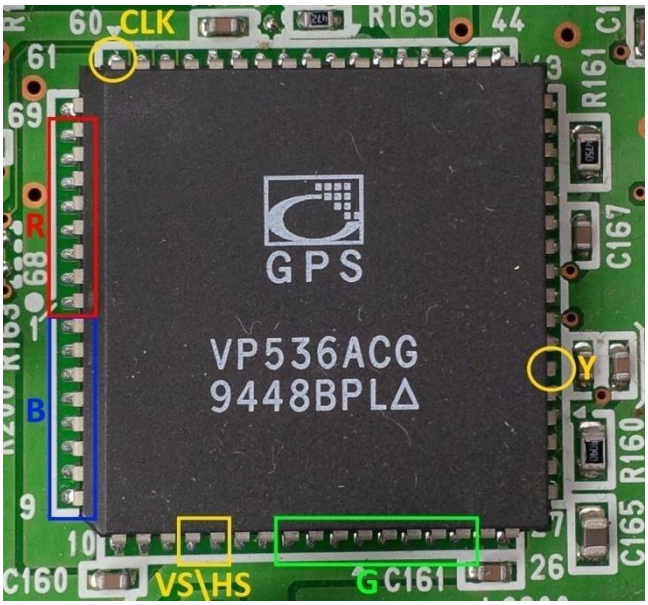


RGB

Enjoy sharper RGB picture.

Goldstar GDO-101

The Goldstar GDO-101 contains the VP536 encoder. The installer can either solder the 24 bit RGB wires directly to the encoder or to the vias coming off the CLIO.



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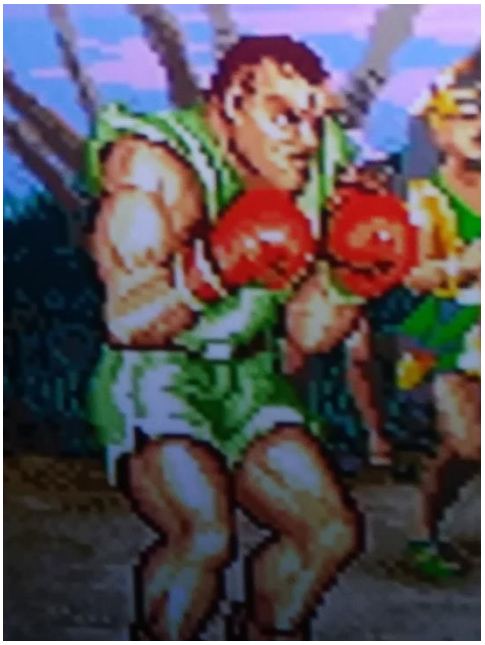
28	VREF	62	R0
29	LUMAGAIN	63	R1
30	LUMACOMP	64	R2
31	VAA	65	R3
32	LUMAOUT	66	R4
33	GND	67	R5
34	COMPOUTB	68	R6

Some Goldstar GDO-101 have an RF modulator that will need to be removed to make room for the RGB connector.

Composite

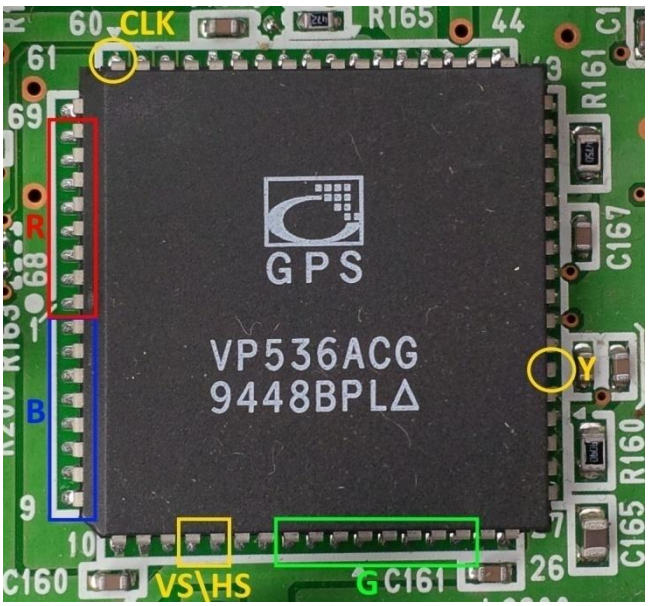


RGB

Enjoy sharper RGB picture.

Sanyo Try

The Sanyo Try contains the VP536 encoder. The installer can either solder the 24 bit RGB wires directly to the encoder or to the vias coming off the CLIO.



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26	GND	60	CLK12I
27	GND	61	CLK25O
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31	VAA	65	R3
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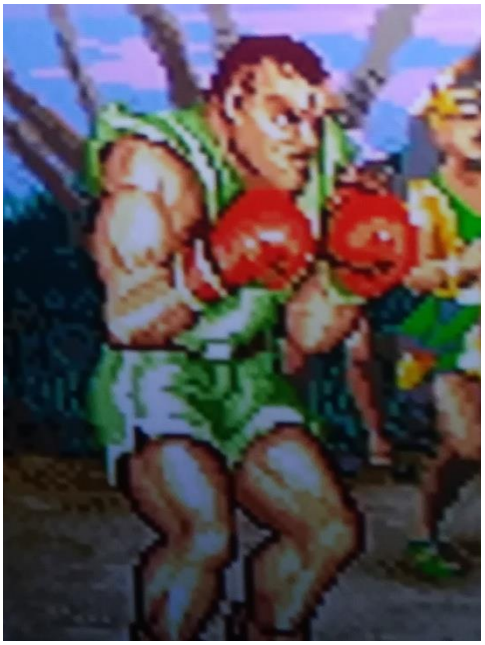
Composite



RGB

Enjoy sharper RGB picture.