



## VGP Service Bulletin 2 – GamesCare Switch Units May 2025

This service bulletin describes modification details for the GamesCare suite of switches (Smart SCART, Automatic Component Switch and SCART Expansion).

This revision 2 of the bulletin has been updated to reflect further improvements to the products, both for **performance** and **long term reliability**.

**Note that this is NOT a product safety issue.** This upgrade is optional but can be implemented if the user finds issues with the audio output of any of the three products.

To complete the upgrade, there are **two** modifications that need to be implemented.

**The first modification** involves the replacement of two onboard analogue switch chips and changes to their bias arrangement. This increases the headroom and provides true AC signal output. One chip handles left audio, the other chip handles right audio.

Although this modification applies to all three products, the Automatic Component Switch already has the newer analogue switch chips fitted from the factory so only some rework is required, not a complete chip replacement.

**The second modification** applies ONLY to the Smart SCART switch.

The Smart SCART switch buffers its audio outputs through a unity gain operational amplifier. Some production units were manufactured with an LM358 op-amp but a TL972 is preferred as this is a higher performing device and will drastically improve the audio performance of the switch.

***These modifications are all SMD rework level and require a very high level of competence to be correctly carried out. Suitable rework station, fluxes, and solders are required. The modifications should NOT be attempted unless you are confident and skilled to carry out the rework.***

***VGP offer an upgrade service for ALL of these products regardless of source of purchase, please get in touch if you need this rework carried out (<https://videogameperfection.com/contact-us/>).***

In all cases the units will need to be stripped down. All Plexiglass plates and stand-offs need to be removed. Please pay careful attention when disassembling and perform the same steps in reverse to reassemble the units once work is complete.

The following is a list of components as referenced by this bulletin and recommended links for suitable sources are provided.

**Parts needed for all 3 products:-**

1. -5V Buck Convertor  
<https://www.aliexpress.com/item/32955462579.html>  
or a similar device with 200mA capacity.  
QTY 1 required per product.

**Parts needed only for the Smart SCART Switch and Expansion Unit.**

<https://www.mouser.ie/ProductDetail/Texas-Instruments/CD4051BM96?qs=0le1rQK8zxqMHIJa1GNAzQ%3D%3D>  
This is a higher rated analogue switch IC (Texas Instruments CD4051BM96)..  
QTY 2 required per above product.

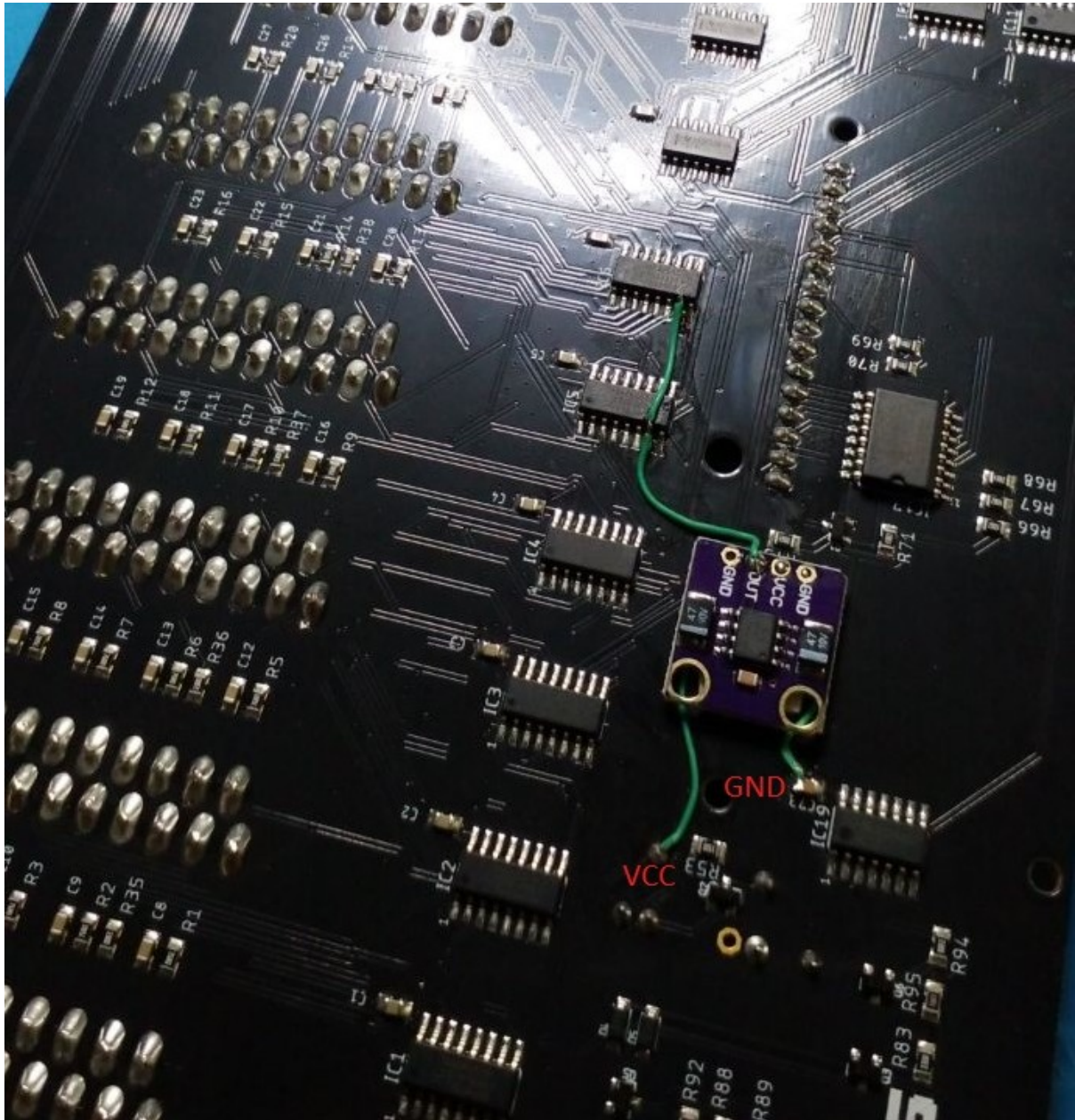
**Part needed only for the Smart SCART Switch.**

2. <https://www.mouser.ie/ProductDetail/Texas-Instruments/TL972IDR?qs=oFh0aswXlb%252Bs7%252BxhuL08lw%3D%3D>  
This is the higher performance op-amp.  
QTY 1 required per switch.

# Smart SCART Switch

All rework is carried out on the rear or solder side of the board.

## 1. IC5 and IC6 Replacement & Buck Converter Installation



Examine the above image and locate IC's 5 and 6

Using SMD rework tools, remove both IC5 and IC6, these will be replaced with uprated versions of the IC.

Before soldering the new IC5 and IC6 components, lift pin 7 of both IC's, ensuring they are clear of the PCB pads.

When soldering the chips into position, do NOT solder pin 7 on both IC's. Ensure these 2 pins, one on each IC, are both kept clear of the PCB.

Fit the buck convertor in place using a suitable insulated fixing method and wire up as shown in the photo above using Kynar 28 awg hookup wire.

Ensure there are no shorts between VCC and GND before connecting power.

## 2. Op-Amp Replacement



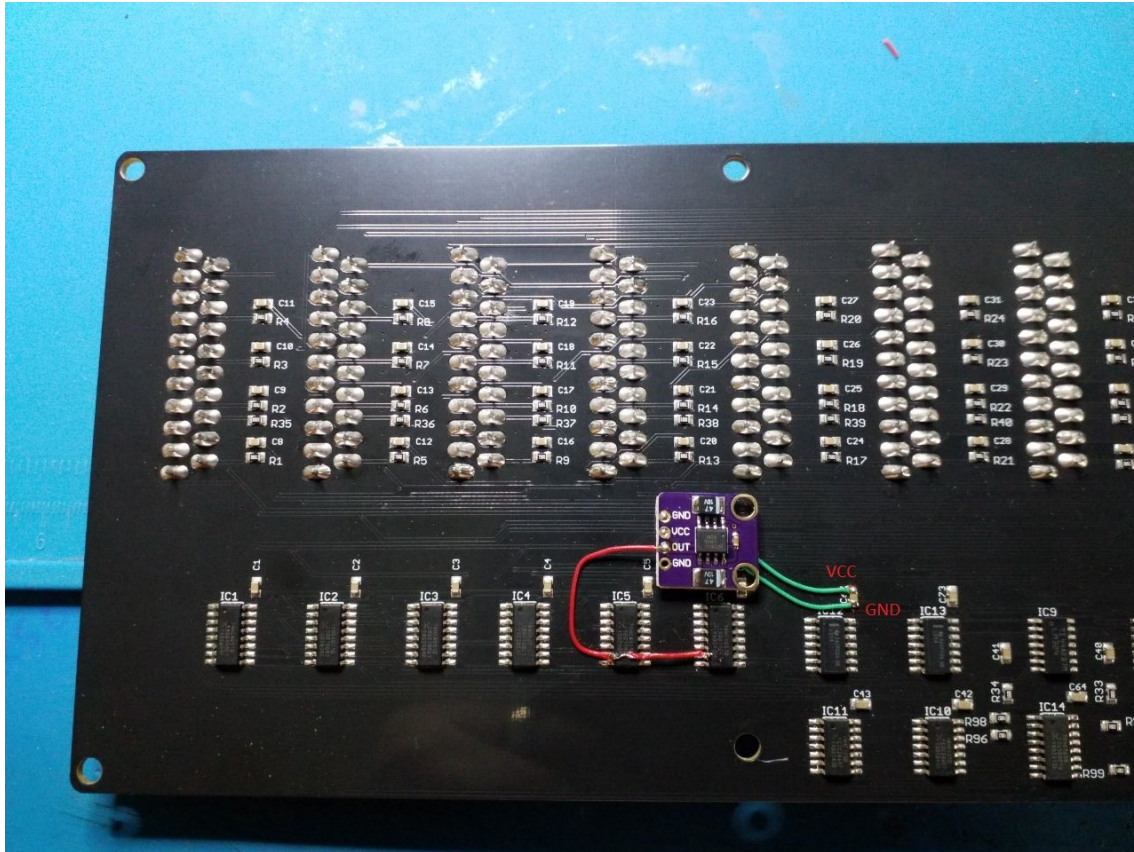
Locate and remove IC18 and fit the new op-amp into place.



## SCART Switch Expansion

The following image depicts the different component locations compared to the main switch unit.

The circuitry change rework is identical to the main switch unit, apart from there being no op-amp replacement required.



## Component Switch



The procedure is largely the same as the SCART switch apart from:-

The modification is carried out on the top side of the board.

There is no op-amp to be replaced.

IC 4 and IC 5 are only to be reworked and not replaced.

Using suitable rework tools, pin 7 of IC4 and IC5 must be carefully lifted ensuring that they are clear of the PCB pads.

Once the wiring has been completed as shown above, it is highly recommended to use some Bostik Fix and Flash, or similar glue, to secure the wire to the points circled in blue in the above photo.