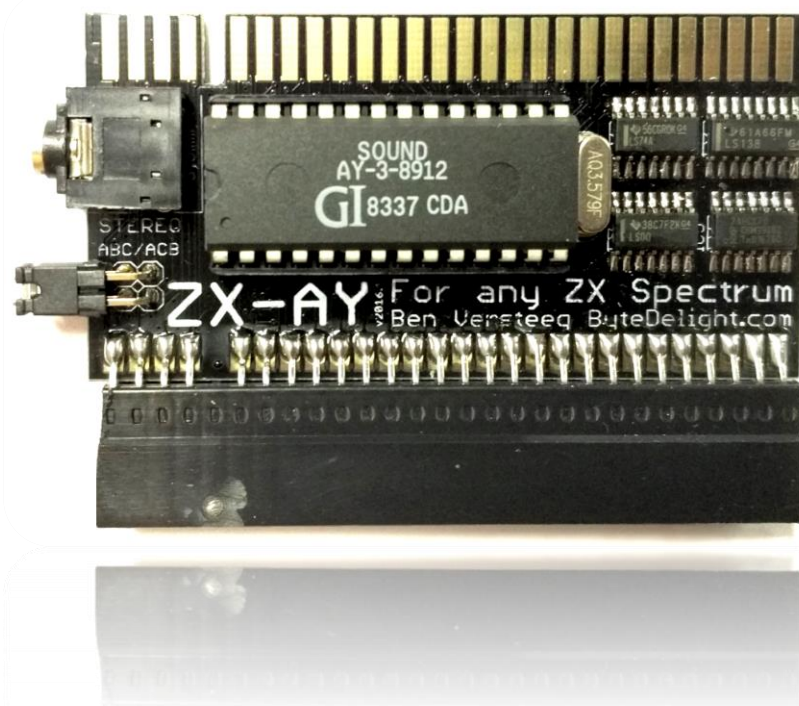




*External 3-channel audio interface  
for the Sinclair ZX Spectrum*



## Manual

***Read this manual before using  
the ZX-AY interface!***

Manufactured by Ben Versteeg

**BYTEDELIGHT**

## Overview

***The ZX-AY is a complete and affordable external high quality stereo sound solution!  
Including BEEPer sound!***

With the ZX-AY you can enjoy crisp stereo sound with equal volume levels on any ZX Spectrum, including the ZX Spectrum 16K/48K!

The ZX-AY has similar audio hardware as present inside any ZX Spectrum 128K model, which includes the AY-3-8912 sound chip and BEEPer sound circuitry, but adds all of the above benefits. There is no need to modify your ZX Spectrum internally or add a stereo output socket to its case!

## Compatibility

The ZX-AY is fully compatible with all Sinclair ZX Spectrum models: ZX Spectrum 16K, 48K, 48K+, 128K, +2, +2A, +2B, +3 and some clones.

The ZX-AY does not output the tape loading sound when loading games.  
The ZX-AY stereo output socket does not support a mono plug.

## Works with ZX Spectrum 16K/48K!

Upgrade your ZX Spectrum 16K/48K with the ZX-AY, and enjoy games and demos that have 3 channel AY-3-8912 sound support and run on a ZX Spectrum 16K/48K (there are many!).

## Find software with 3 channel sound

The first stop for obtaining ZX Spectrum games and demos is World of Spectrum:

Visit [www.worldofspectrum.org](http://www.worldofspectrum.org) to download lots of games and other software!

There are hundreds of titles amongst the archives that support AY-3-8912 sound.

Another great resource of demos is Pouet.net: <http://www.pouet.net>.

Click on 'Prods' in the top menu and then select 'ZX Spectrum' in the platform list, then click 'Submit' and you will see an enormous list of awesome demo titles!

Many of them will also run on the ZX Spectrum 48K!

## Alternative internal solution

If you don't like this external solution, ByteDelight also has available the internal stereo kit for any ZX Spectrum 128K model. Check out the webshop at [Bytedelight.com](http://Bytedelight.com)!



***Please read these instructions carefully  
before powering on your system with the ZX-AY***

**Make sure the ZX Spectrum's edge connector is clean!**

It's important that your ZX Spectrum has a clean edge connector when connecting any add-on to it – many problems and even defects have been caused by dirty edge connectors in the past. Advised is to use cotton swabs with pure alcohol.

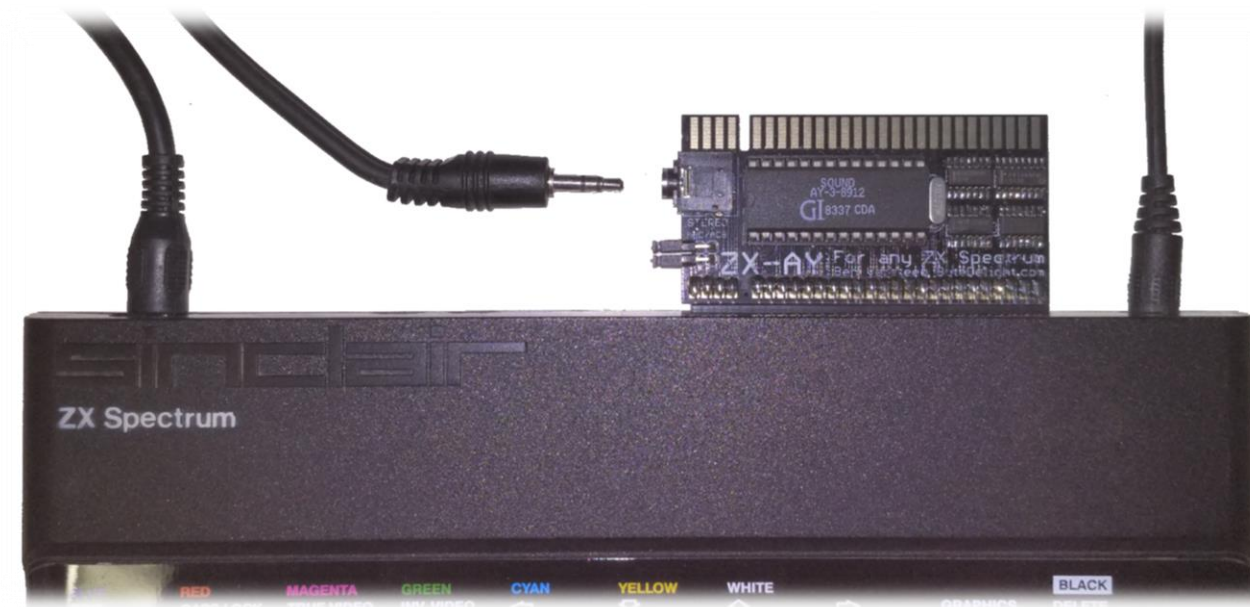
**Connecting the ZX-AY**

***Always disconnect the power from your ZX Spectrum  
before connecting any interface!***

Connect the ZX-AY to your ZX Spectrum carefully.

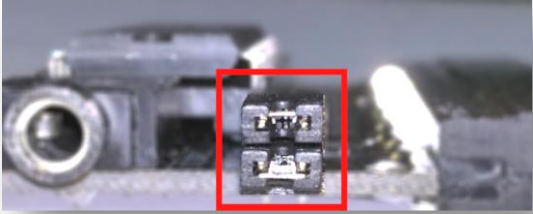
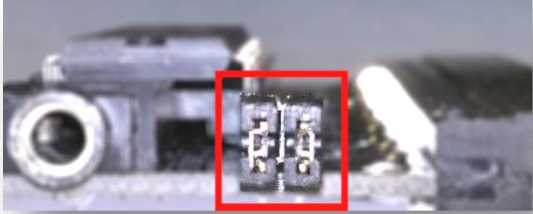
Connect an audio cable with stereo 3.5mm jack plug at one end to the output socket of the ZX-AY. The other side of the cable may go to your TV or amplifier. Small headphones are also supported.

Now you can power up your ZX Spectrum.



## Configuring the ZX-AY

The ZX-AY works straight out of the box without the need of any configuration before use. However there are two jumpers that will configure the audio output in two ways:

<p><b><i>ABC STEREO (default)</i></b> AY-3-8912 channel B is on left and right</p>  <p><b>Left output:</b> AY channel A AY channel B BEEPer</p> <p><b>Right output:</b> AY channel C AY channel B BEEPer</p>	<p><b><i>ACB STEREO</i></b> AY-3-8912 channel C is on left and right</p>  <p><b>Left output:</b> AY channel A AY channel C BEEPer</p> <p><b>Right output:</b> AY channel B AY channel C BEEPer</p>
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Many demos from eastern-Europe are made with the ACB configuration, whereas demos from western-Europe are often in ABC stereo.

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Manual created by Ben Versteeg

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