

# ES10 Triple Wave Shaper

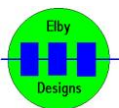


## ES10 Triple Wave Shaper

### Construction Guide

Revision 1.0

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Construction of the ES10 requires the assembly of 4 boards:-

Column 1 - Panther Support 5 PCB ([3D Model](#))

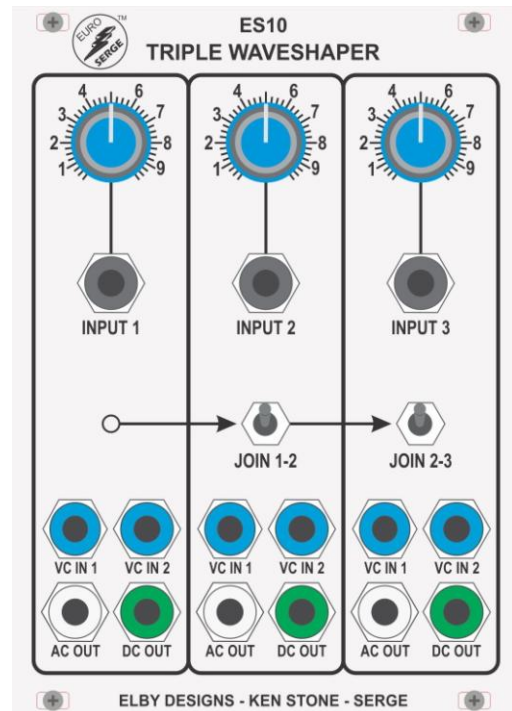
Column 2 - Panther Support 5 PCB ([3D Model](#))

Column 3 - Panther Support 5 PCB ([3D Model](#))

Backboard - ES10 PCB ([3D Model](#))

Constructors should refer to the printed Component Overlay for any specific comments regarding the board assemblies, the Bill of Materials for the current value of all components and [General Construction Notes](#) for general pcb assembly guidelines. You are advised to check all of these documents on our website to ensure you have the latest copy.

1. Assemble the 11 Carrier Board assemblies ([3D Model](#) - [3D Model](#))
2. Fit all components to the boards following normal assembly guidelines except for the switch and jack sub-assemblies
3. Mount 2 jack sub-assemblies on to the Column 1 board
4. Offer the assembly up to the front panel and secure all panel components using the supplied nuts
5. Solder the 2 jack sub-assemblies in to place
6. Remove the assembly from the panel
7. Mount 2 jack sub-assemblies and a switch sub-assembly on to the Column 2 board
8. Offer the assembly up to the front panel and secure all panel components using the supplied nuts
9. Solder the jack and switch sub-assemblies in to place
10. Remove the assembly from the panel
11. Mount 2 jack sub-assemblies and a switch sub-assembly on to the Column 3 board
12. Offer the assembly up to the front panel and secure all panel components using the supplied nuts
13. Solder the jack and switch sub-assemblies in to place
14. Refit Column 1 and Column 2 assemblies
15. Mount the Backboard assembly ensuring the correct alignment of the IDC connectors



## Calibration

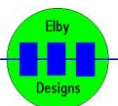
Equipment required:

1. 500Hz 5VAC p-p triangle wave

Calibration procedure:

1. Switch both the [JOIN] switches to the OFF (upwards) position
2. Set all 3 level controls to maximum
3. Monitor [AC OUT] on Column 1
4. Patch the triangle wave in to [INPUT 1]
5. Adjust P101 for 5Vp-p at the output
6. Monitor [AC OUT] on Column 2
7. Patch the triangle wave in to [INPUT 2]
8. Adjust P201 for 5Vp-p at the output
9. Monitor [AC OUT] on Column 3
10. Patch the triangle wave in to [INPUT 3]
11. Adjust P301 for 5Vp-p at the output

If you do not have access to an oscilloscope then a multimeter set to AC Volts can be used.



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