



GEMClub TurboKit Plus V1.1 - Retrofit Module
For GEM S2 and S3 Musicprocessor Keyboards

TurboKit **Plus**

281042

(GEM # 315025)

Service Manual

(Draft DW2102218)

Back in 1992, GEM (Generalmusic), released the S Series Musicprocessor which proved to be a renowned Synth Worldwide. This was subsequently upgraded in 1994 with the first release of the TurboKit.

This GEMClub TurboKit Plus has been designed to bring life back into both the original GEM S2 and S3 Series. Can also be used in the S Turbokit Series such as S2 Turbo, S3 Turbo and S2/R

The GEMClub TurboKit Plus offers new features and improvements over the original S Series, including:

- Tone generation: variable oscillator assignment options, two new operating modes (dual oscillator and single oscillator)
- Polyphony: max. 32 voices
- Sounds: 500 sounds and 100 ROM performances
- Sequencer: the sounds can be edited while the sequence is running, LFO can be synchronized with MIDI clock
- Internal memory: A battery-backed RAM disk can be set up (with additional memory modules)
- Sample features: Sample Translator integrated into the operating system, import of samples in many formats, Akai multisamples are read (no sound data)
- MIDI: Compatible with the GM and Roland GS standards

In addition to the original GEM Turbokit, 2MB (S)RAM Disk is fitted as standard, together with a large (remotely fitted from PCB), 900mA capacity NiMH battery.

NB. SRAM 2MB = 4 x 4 Mbit (512K x 8bit)

In The Box

- 1 x GEMClub TurboKit Plus (Tested)
- 1 x Installation Information
- 1 x NiMH 3.6.v Rechargeable Battery
- 1 x Set of main CPU PCB upgrade components and wires

Designed and Made in Great Britain by DitroniX Ltd

GEMClub discussions can be found on <https://www.facebook.com/groups/gemclubonline/>

GEMClub Website can be found <https://gem-club.com/>

Disclaimer

This GEMClub TurboKit Plus has been designed to retro fit by a electronics engineer or competent person, into an existing GEM S2 or S3 keyboard.

All parts on this upgrade kit are low voltage (maximum of 5V DC), and is so designed to safely take power from the main product DC supply.

As part of production, this GEMClub TurboKit Plus has been fully tested, prior to packing.

Neither GEMClub, or the manufacturer DitroniX Ltd, accept any liability, faults or losses, as a result of installing this GEMClub TurboKit Plus.

Your GEMClub TurboKit Plus warranty may be voided should damage be caused to the upgrade kit itself, due to incorrect installation, or ESD damage.

Handling ESD sensitive parts



This GEMClub TurboKit Plus use parts that are known to be sensitive to electrostatic discharge (ESD), or static electricity. This typically relates to components such as the SRAM memory, logic devices or EPROMs.

Whilst every design effort has been included to help protect from ESD, ideally keep the kit in its original protective shipping package (ESD bag), until you are ready to install the kit into the GEM keyboard.

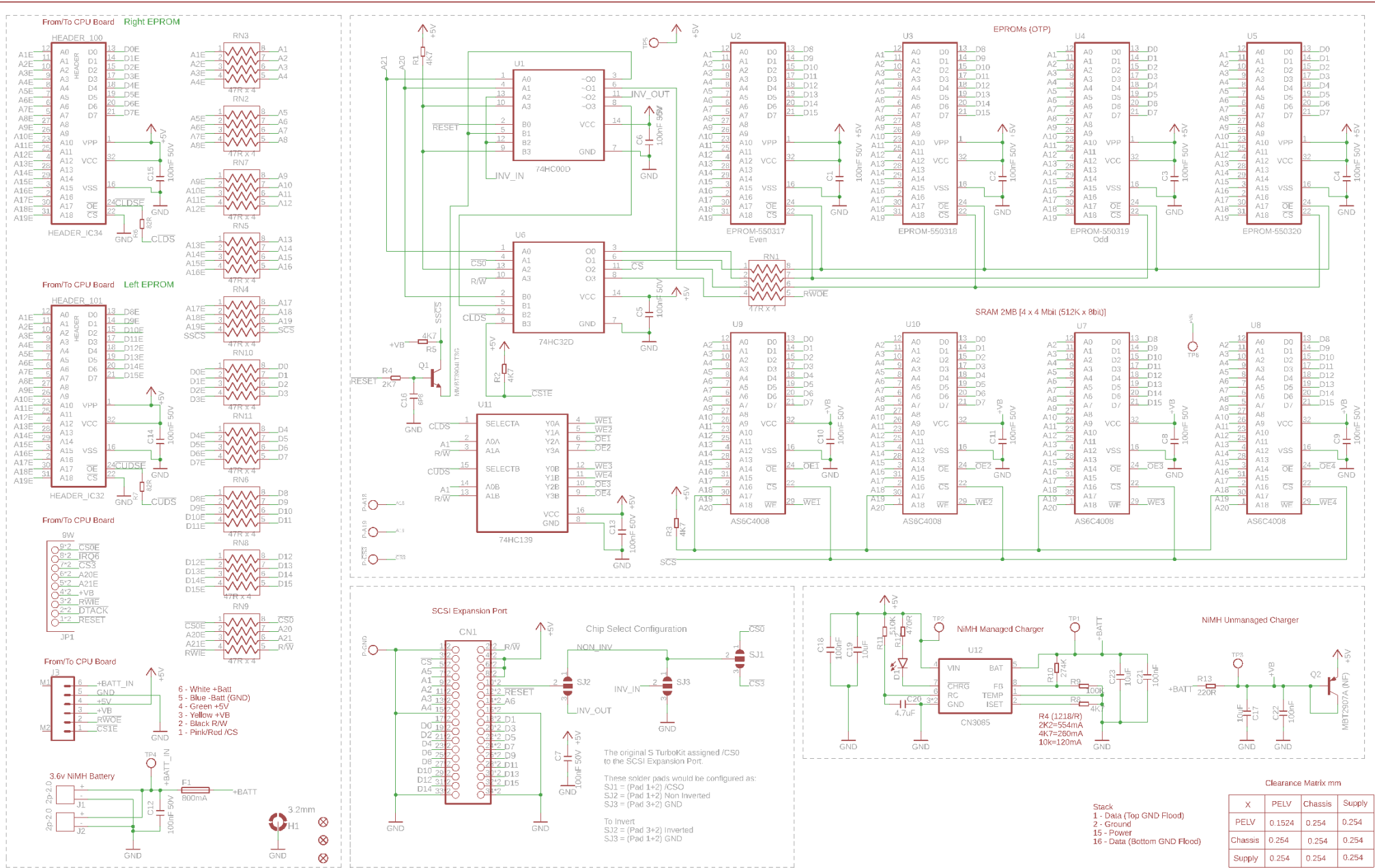
Make the fewest possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture. Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.

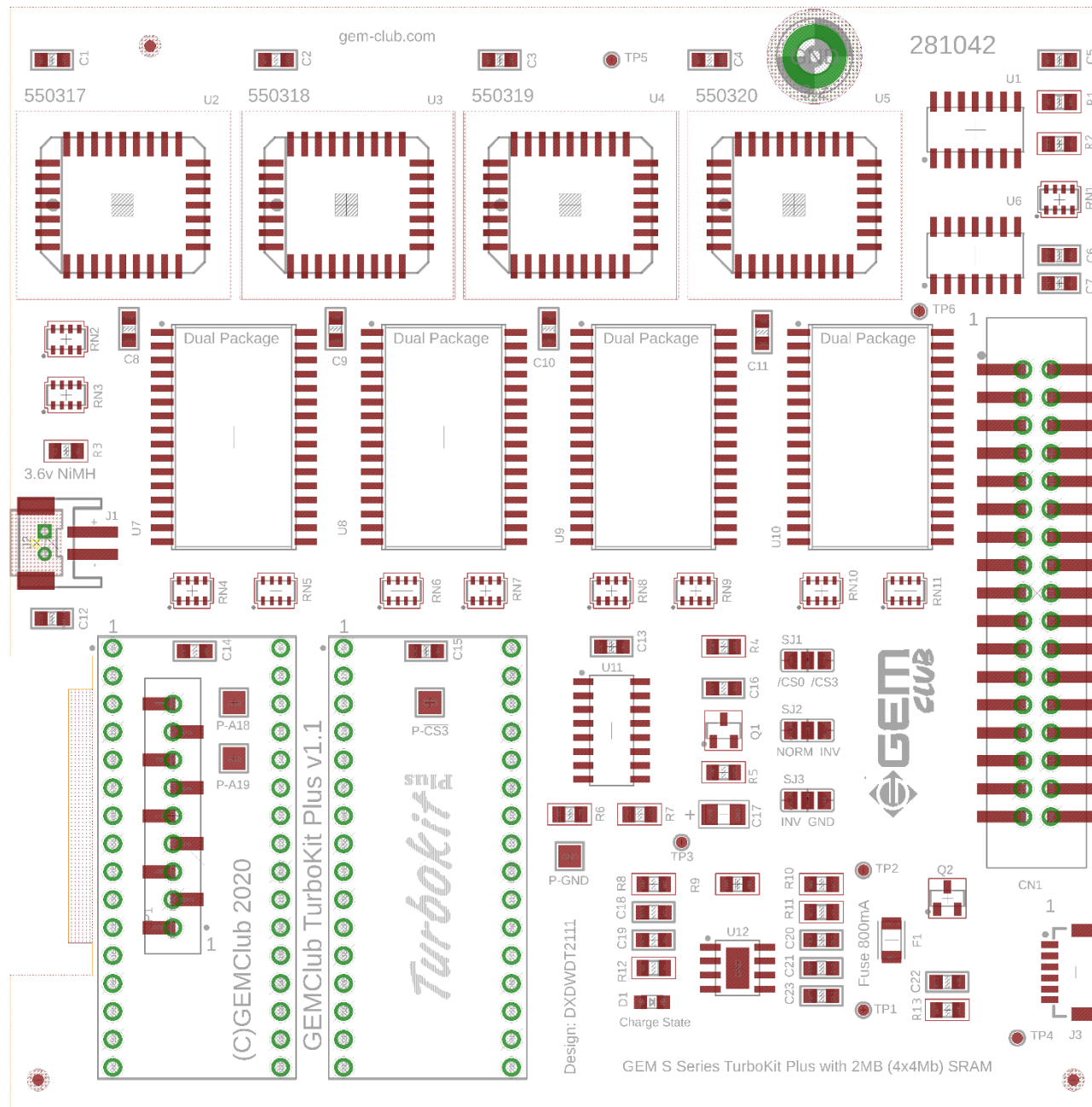
Ideally wear a grounded wrist strap against your skin to eliminate static on your body.

GEMClub TurboKit Plus Installation

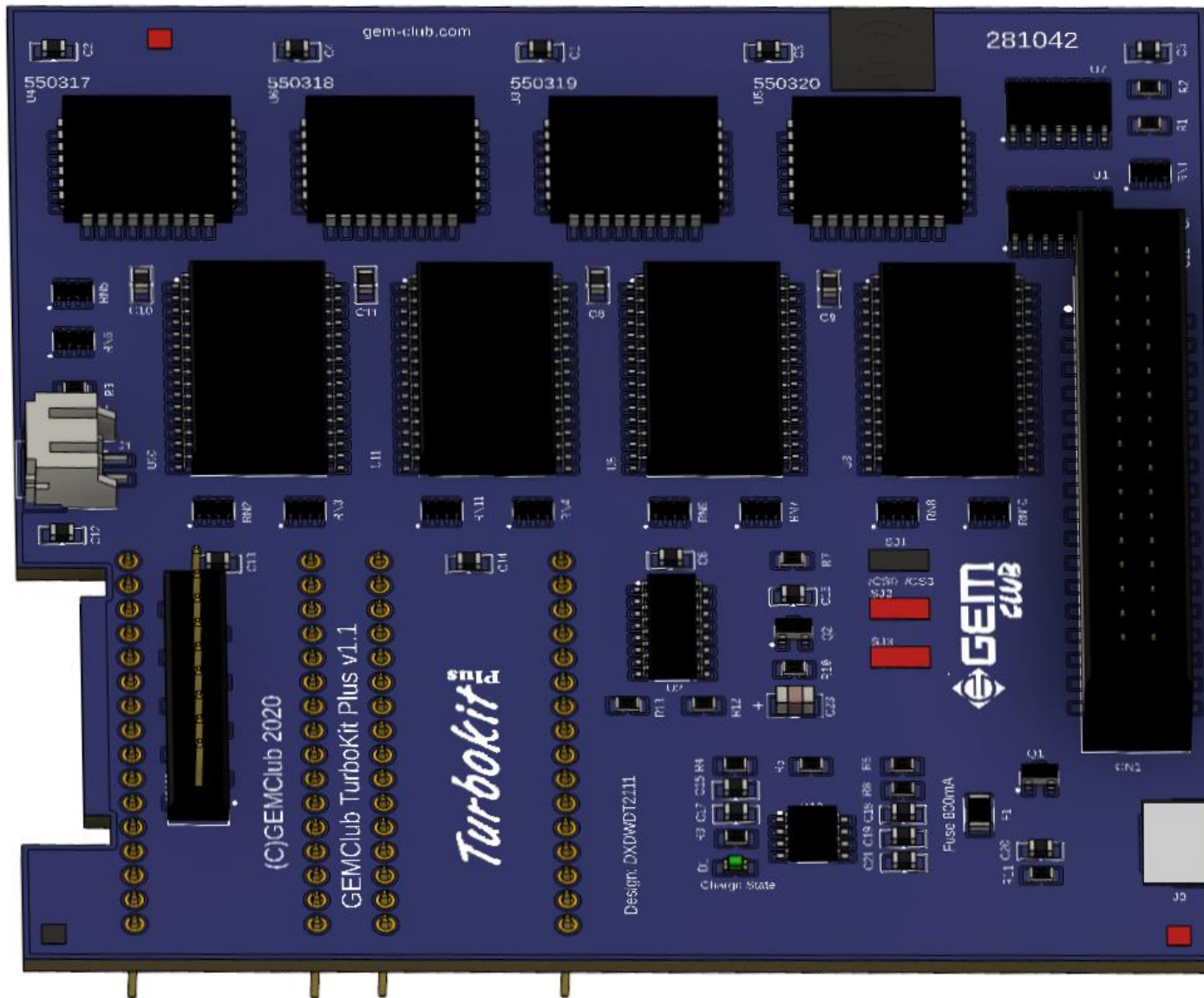
Important: Ensure the keyboard mains power is disconnected, or turned off. The original GEM keyboard mains power supply is not shielded and has high voltage parts exposed.

Place holder. Details to be updated.





Provisional 3D of PCB Layout



GEMClub TurboKit Plus Table

Place holder. Details to be updated.



GEMClub, established in 1990, is known also known as the Generalmusic (GEM), Owners Club.

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