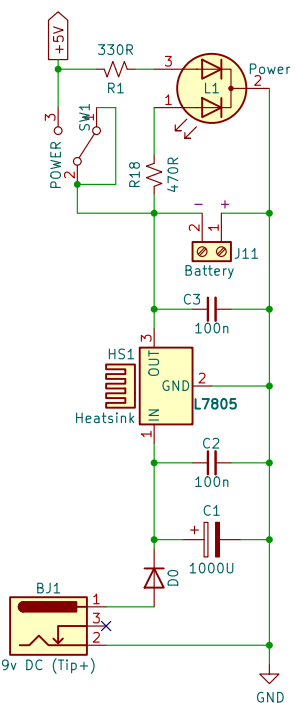
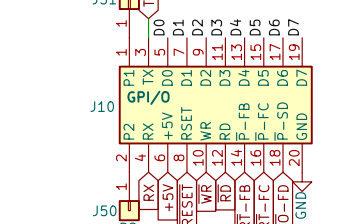


TEC-1G

Power Delivery



General Input/Output



The TEC Deck

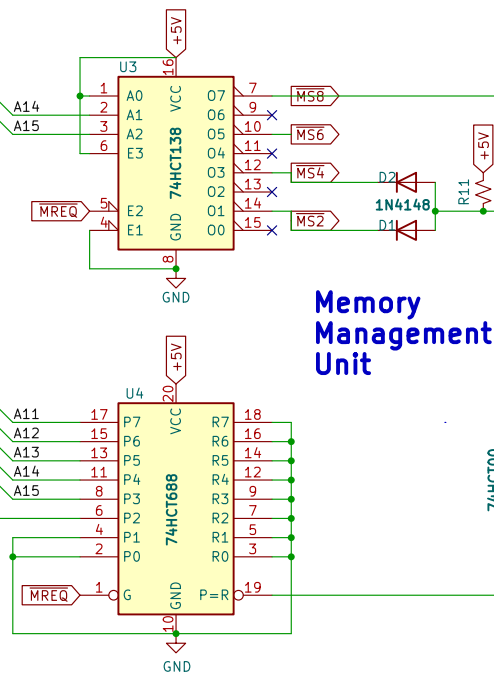
The new way to expand your TEC-1! With appropriate long-legged headers, expansion boards can be stacked on top of each other, just like the original TEC-1, but now you have access to ALL the 280 pins as well as port and memory select lines. No more ugly fly leads or cables. Memory Expansion of 512K with ease. Input/Output options for days!

IOBus



With the Shadow ROM switch ON (on Reset or OUT FF \$01), the lower 2K of the 16K ROM is mapped to the lowest 2K of the memory map. This is to provide backward compatibility to older TEC-1 machines and their Monitors.

Memory Management Unit



The ROM is selected (asserted LOW) if Any address in the lower 2K is requested (with Shadow ON) OR If an address is within the top 16K of 64K. OTHERWISE The RAM is selected if the address falls within the lower half (32K) of the memory map.

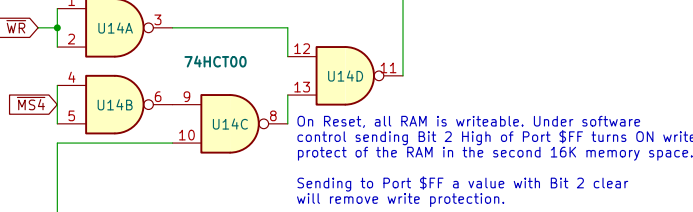
This ROM socket can be configured to hold 2K/4K ROMs like the original TEC-1, by moving all 3 jumpers to positions 1-2, and then physically placing the 24 pin ROM in the upper end of the 28 pin socket.

64k Memory

The lower 32K is all RAM in a single chip. The upper 16K of the memory map is reserved for the system ROM, although it is made up of up to a 64K EPROM to allow selection of multiple monitors, using a pair of switches.

These three jumpers allow for 24pin ROM/RAM to be used in the Expansion socket.

Memory Protection



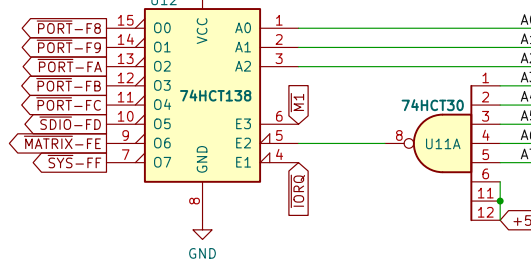
On Reset, all RAM is writeable. Under software control sending Bit 2 High of Port \$FF turns ON write protect of the RAM in the second 16K memory space. Sending to Port \$FF a value with Bit 2 clear will remove write protection.

System Latch

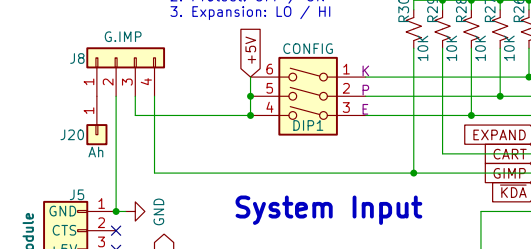
This critical latch controls a lot of important functions and will also be the centre of huge memory expansions to come.

Status lights showing you which system latches are active, as well as HALT and Speaker outputs. LEDs L2 & L3 are only installed if you use an 8 LED Bar.

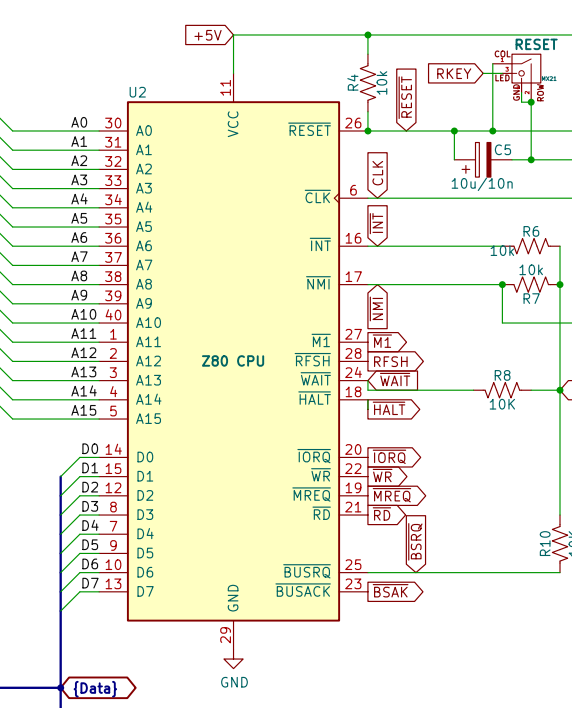
I/O Decoders



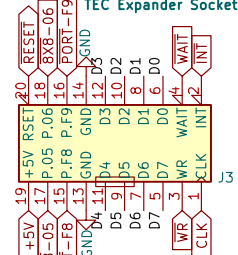
System Input



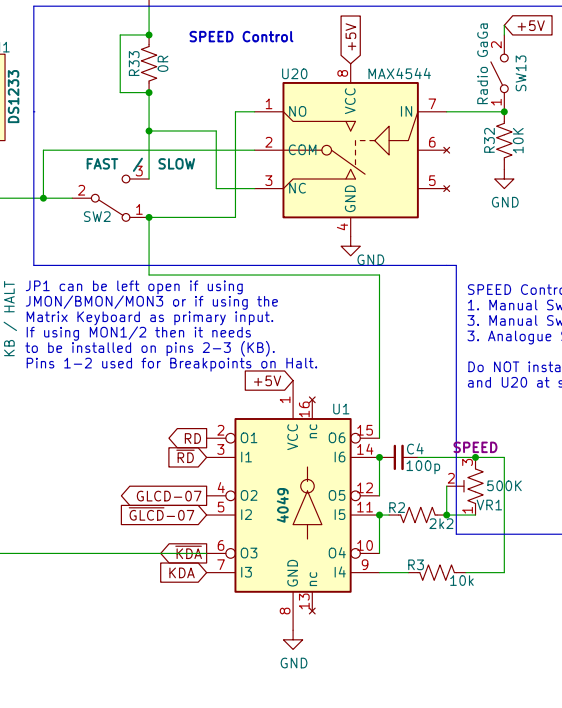
CPU & Clock



Expansion Connectors

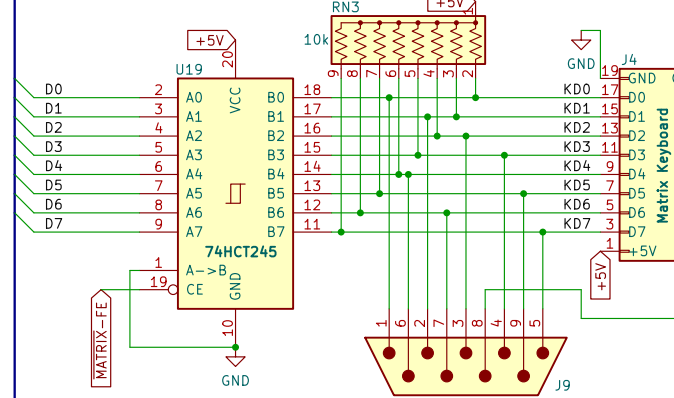


SPEED Control



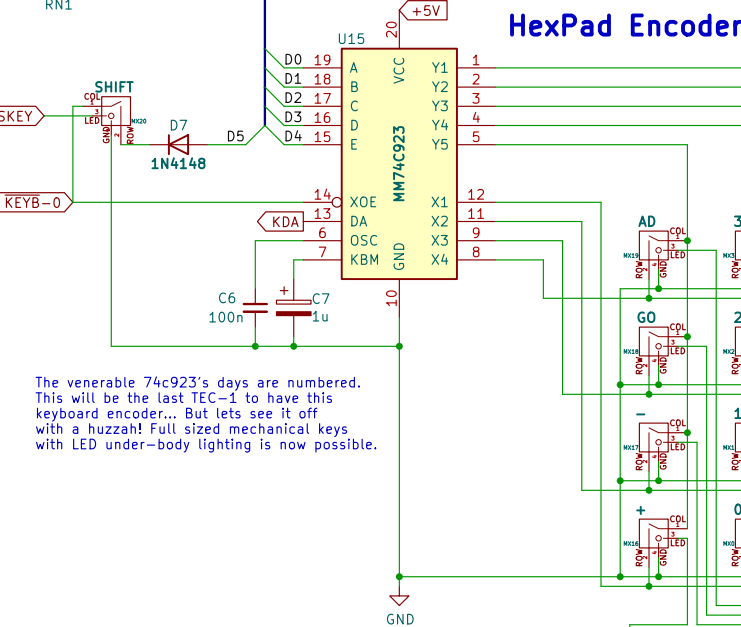
SPEED Control - Pick One
1. Manual Switch & Mini Pot
2. Matrix Keyboard & Radio Pot
3. Analogue Switch (U20) & Radio Pot
Do NOT install Manual Switch and U20 at same time.

Matrix Keyboard & Joystick



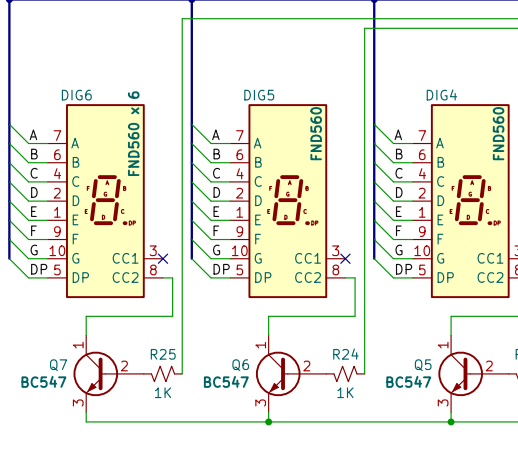
The 74c923 is getting scarce. This new keyboard interface is the stepping stone away from reliance on the keyboard encoder that the original TEC-1 was design around. The Matrix Interface allows for full QWERTY keyboards to be connected to the TEC-1G.

HexPad Encoder



The venerable 74c923's days are numbered. This will be the last TEC-1 to have this keyboard encoder... But lets tie it off with a huzzah! Full sized mechanical keys with LED under-body lighting is now possible.

7 Segment Display Unit

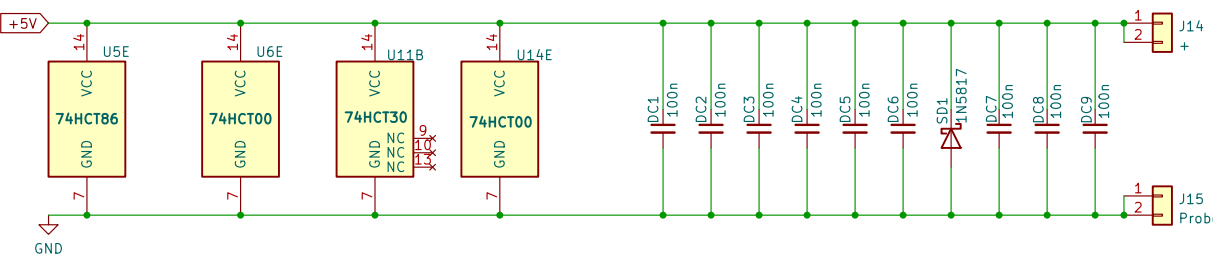
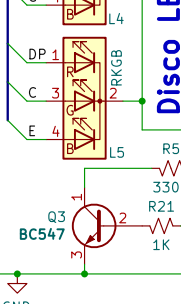


LCD 20 Characters x 4 Lines

(C8 is optional and only required if your LCD display gets corrupted)



Disco LEDs



Modelled on the TEC-1 rev.D with DAT add-on
Originally designed by John Hardy, Ken Stone & Jim Robertson
published in Talking Electronics Magazine, 1983 - 1985
Thanks for assistance from: Craig Hart, Brian Chiha, Ian McLean, James Elphick
© Mark Jelic, 2025
Sheet: /
File: TEC-1G.kicad_sch
Title: TEC-1G (Board revision: Production v1.20)
Size: A2 Date: 2025-01-27 Rev: 1.20
KiCad E.D.A. 8.0.8 Id: 1/1