

CARTRIDGE BOARD TYPE 2

For the TI-99/4A

CARTRIDGE PORT

Components:

The board can be populated with a 2764 or 2732 EPROM to utilize the CPU-RAM address range from >6000 to >7FFF available at the cartridge port. If you only plan to use this space, you don't need to populate any of the 74LS ICs other than the 74LS00. The other ICs are needed to simulate a GROM. The EPROM IC1, a 2764, sits at the GROM addresses >6000 to >7FFF. Components should be placed on the side of the board with a single "L" and the side with the initials "HM" is the solder side of the board.

Resistor "R" causes an automatic reset of the TI-99/4A when the module is inserted. If you don't want an automatic reset, you can leave resistor "R" out of the build. To prevent possible shorts, the wires of resistor "R" should be isolated.

The holes in the board are plated through, which means that the components only need to be soldered on the side marked with the "HM." The component side of the board must be up when it is inserted into the cartridge port!

Due to differences in the manufacturing tolerances, some boards may be difficult to insert into the module port. You can eliminate this problem with a little bit of filing at the corners of the board.

Parts List:

IC1, IC2: 2764

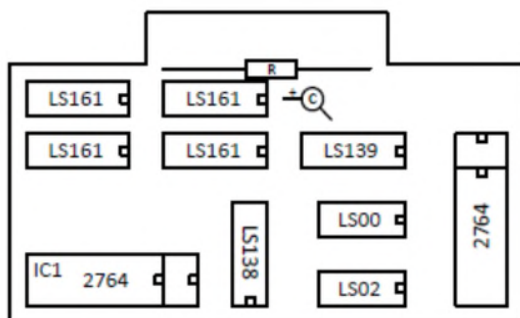
IC3-IC10: 74LS00, 74LS02, 74LS138

74LS139, and 4x74LS161

R 150 Ohms

C 47uF Tantalum, 6.3V

Component layout :



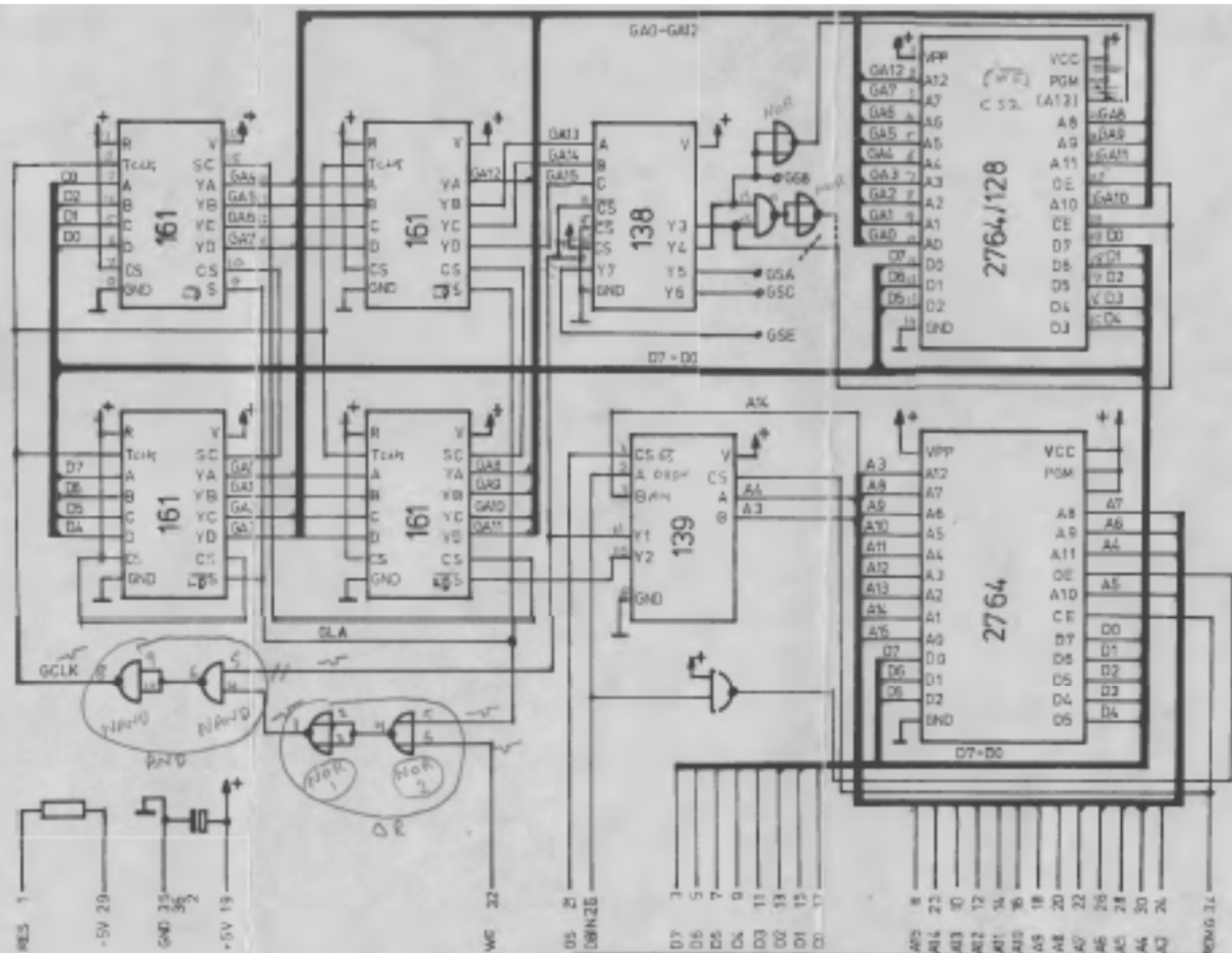
General Notes :

The memory space from > 6000 to >7FFF is available on the cartridge port of the TI-99/4A. Complete programs (for example, games or programming languages like Forth) can be placed in this space. It is possible to launch a program in this space from the Title Screen. You must use the following header to make that possible:

	AORG	>6000	Start Cartridge
	BYTE	>AA	Identification Byte
	BYTE	1	Version Number
	BYTE	1	Enable Program Launch
	DATA	0	
	DATA	0	
	DATA	PRGLNK	Program-Link
*			
*			
PRGLNK	DATA	PRGLK2	This is a "0" When there is no Second Program
	DATA	ENTRY1	Start Address
	BYTE	4	Name Length
	TEXT	'TEST'	Program Name

When creating an Assembly program for a cartridge it is important to remember that the various TI-99/4A Assembly subprograms (e.g., VMBW, KSCAN, and so on) are not available.

The header must also be set in the same fashion for a simulated GROM. The GROM can only contain data or programs written in the GPL language. It is also important to note that the circuit only works as long as at least one real GROM chip remains in the console.



				Modulplatine ROM/GROM für TI99/4A	
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