

The Zx Spectrum Ula How To Design A Microcomputer Zx Design Retro Computer

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vLA82 - A Spectrum 48K ULA replacement - The Microdrive ...

ZX Spectrum : Re-coloured During the development of the ZX Spectrum SE , it was originally planned to replace the ULA (which creates the display) with something a little more advanced . However, it wasn't until nearly a decade later after the ULA was reverse engineered that this actually became possible .

ZX Spectrum Service Manual

Nebula Spectrum ULA Chip Replacement Module The Nebula is a Spectrum 48 daughterboard, designed to replace the ULA chip found in UK Spectrum motherboards (versions 2 to 6). It was designed by myself, Phil Ruston (PCB design, mostly) and Alessandro Dorigatti (logic core) between 2015-2016.

ZX Spectrum 48K ULA differences | ByteDelight.com

This is the ULA for a ZX Spectrum 128K or (grey) +2. 8623 Ferranti ULA 6C001E-7. From Brendan Alford (27-12-17) 8625 Ferranti ULA 6C001E-7. From Brendan Alford (27-12-17) 8629 Ferranti ULA 6C001E-7. From Ben Versteeg (22-12-17) 8720 Ferranti ULA6C001E-7. From Brendan Alford (27-12-17)

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ZX Spectrum ULA gallery | ByteDelight.com

The archive contains mostly marketing and publicity but sadly little technical information. There is a technical product brief for the 'R' series ULA, which followed the 1000, 2000 and 5000 series CML ULA's and was available in the early 1980's around the time of the ZX Spectrum.

PDF The ZX Spectrum Ula: How to Design a Microcomputer (ZX ... The ZX Spectrum Issue 4A and above will ONLY work reliable with the 6C001E-7 ULA version; don't use another ULA in an Issue 4A board or later Issue. Of course it's best to use the exact ULA model that corresponds to the ZX Spectrum Issue as listed above; ULA's are getting more rare each day.

hardware - Documentation for the ZX Spectrum ULA ...

To get around, ZX Spectrum clones normally implement ULA functionality using regular logic ICs, but none of them are 100% compatible with the original. Several years ago Chris Smith reverse engineered the ULA, implemented a ZX Spectrum clone (Harlequin), and wrote a book about it.

The Lil Old ZX Spectrum 48k Service Manual - Section 4.1

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A block diagram of the complete ZX Spectrum micro-computer is given below. It is valid for all build standards, fitted with either 16k or 48k bytes of dynamic RAM memory.

ULAplus - Google

A Russian clone of the 48K ZX Spectrum. ULA replacement made with K556PT4 and K155PE3. CPU running at a higher frequency (4 MHz) which made it less compatible. Best III. A ZX Spectrum clone made in St. Petersburg, Russia in 1993. The size of the system unit is 16.8 × 10 × 2½ inches. It even uses a Russian Z80 clone as CPU.

Building ZX Spectrum Clone - Harlequin - Part 1 - Malinov ...

vLA82. The vLA82 is a modern plugin replacement for the Spectrum 48K ULA (type 6C001E-7 or earlier). It is one of several ULA replacements I have made for members of the Sinclair computer family including the vLA81 for the ZX81, the vLA128 for the Spectrum 128K (Toastrack) and +2 (Grey case) and the vLA1 for the Sinclair ZX Interface 1.

The ZX Spectrum ULA: How to design a microcomputer

The ZX Spectrum ULA is an essential read for the electronics hobbyist, student or electronic engineer wishing to design their own retro-style microcomputer or anyone with an interest in historical micro-

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electronic and digital design.

*The ZX Spectrum Ula: How to Design a Microcomputer (ZX ...
ZX Spectrum ULA. The ULA (Uncommitted Logic Array) is a chip which controls most of the interfaces between the Z80 CPU and peripheral functions. The ZX Spectrum 16K/48K ULA went through multiple revisions and is either a 5C or 6C series Ferranti ULA.*

ZX Spectrum on FPGA | Mike's Lab Notes

A gate array is an approach to the design and manufacture of application-specific integrated circuits (ASICs) using a prefabricated chip with components that are later interconnected into logic devices (e.g. NAND gates, flip-flops, etc.) according to a custom order by adding metal interconnect layers in the factory.

List of ZX Spectrum clones - Wikipedia

The ZX SPECTRUM is supplied with either 16k or 48k of on-board RAM. The 16k version is wired so that it can be expanded to 48k by the addition of a number of appropriate plug-in ICs. For details of the memory upgrade, see later on here. Modification History. Two major modifications have been implemented on the Spectrum boards:

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Nebula Spectrum ULA Chip Replacement Module @ Retroleum

The Spectrum keyboard is row-scanned by the 8 upper address bits, with 5 column outputs fed into the ULA and appearing as the bottom 5 bits in its only register. This topology is mimicked here by using an array of 5-bit registers, the appropriate one presented to the ULA depending on the value on the address bus.

Overview :: ULA chip for ZX Spectrum :: OpenCores

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ZX Spectrum ULA - SinclairFAQ

The ZX Spectrum ULA is an essential read for the electronics hobbyist, student or electronic engineer wishing to design their own retro-style microcomputer or anyone with an interest in historical micro-electronic and digital design.

The Sinclair ZX Spectrum ULA Book - ZX Design

Buy, and study carefully, The ZX Spectrum ULA. The book is the result

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of opening the chip and reverse-engineering it down to the transistor level. The book is the result of opening the chip and reverse-engineering it down to the transistor level.

The Zx Spectrum Ula How

The heart of the ZX Spectrum series of computers is a custom chip called the ULA (Uncommitted Logic Array). This was a technology pioneered by Ferranti, of which Sinclair was one of the first adopters (incorporating all of the discrete logic of the ZX80, plus a NMI generation circuit into the initial ZX81 2C158E ULA).

ZX Spectrum ULA Types - Spectrum for Everyone

*The ZX Spectrum Ula: How to Design a Microcomputer (ZX Design Retro Computer) [Christopher David Smith] on Amazon.com. *FREE* shipping on qualifying offers. This book takes the reader through the design and implementation of the Sinclair ZX Spectrum's custom chip*

The ZX Spectrum Ula: How to Design a Microcomputer by ...

ZX Spectrum design in a Digilent Spartan 3 Starter Board. Real matrix keyboard version. ZX Spectrum clone built around an earlier version of the ULA design. This shows the working screen of the first program

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*from the Horizons demo tape (spanish version), the one that teaches
the hardware of the Spectrum.*

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