

Re: Help Identifying three IC's

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- *From:* "Michael A. Terrell" <mike.terrell@xxxxxxxxxxxxxx>
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Chris wrote:

Chris wrote:

Rusty wrote:

Hi All,

Is there a machine which you can plug in a 16 pin IC and it will tell you what it is/number is? I have a circuit board with three 741S???? ics which have had the numbers sanded off the top and I need to replace them as they are faulty.

Thanks

Tim

Hi, Tim. If you can get them out of the board in one piece, you should be able to do what you want. The device you're looking for is called a digital IC tester. This capability is also built into many of the older EPROM programmers. They were called "Universal" EPROM programmers. Both of these have the ability to safely test an unknown DIP package logic IC to determine if it's 74-series TTL, or 4000- or 4500-series CMOS, and give you the part number. They're pretty reliable, and won't damage the part.

The biggest hangup is that they don't test every conceivable possibility, especially the oddballs or single-manufacturer parts..
N.B.: Look at the docs to determine which parts it can detect.

BK Precision makes a digital IC tester, but it's a little expensive. I'd look around for an old EPROM programmer, or take a look at eBay. You should be able to pick one up for less than \$100.

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Good luck
Chris

I believe I got my first "universal EPROM Programmer" from somebody in a Tardis back when the earth's crust was still cooling (although it was a blue police box --- I suppose they've fixed the Chameleon Circuit since then).

Phil's right, of course --- if the IC is dead, you can't read it with a digital IC tester. But it's very possible they're not all smoked. If your board only has three 74LS ICs, you might be able to get the ID on two of them, and then make an educated guess as to the third based on pin I/O and circuit functionality.

Or you could always find a known good board, and find out the part IDs from that one.

Good luck
Chris

"That's the trouble with regeneration. You never know what you're going to get."

Or you could draw out the circuit and figure out what the IC functions are from the way the circuit is laid out. Not easy, but it can be done. Another method is to find the +5 VDC and Gnd rails, then remove the chip, power it up and use a weak pull-up resistor on the pins to determine the function. A lot of TTL chips had multiples of the same function, so you can determine what they chip is, then pick a replacement part.

Service to my country? Been there, Done that, and I've got my DD214 to prove it.

Member of DAV #85.

Michael A. Terrell
Central Florida

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