

New BASIC stamps

Lance Wally of *Parallax* just sent me a few samples of his brand new BS1-1C BASIC Stamp Module. This \$29 module is an *entire* computer measuring 0.4 by 1.4 inches. Figure 2 shows the stamp's actual size. The schematic for the new stamp is shown in Fig. 3.

Just in case you've come in late, there's a new microcontroller on the block called a PIC chip from Microchip Technology, Inc. These are clearly *the* hacker component of the decade. They cost under one dollar in large quantities. Dozens of PIC projects already have appeared in print, and hundreds more are on the way.

Thanks to an unusual architecture and a minimal RISC instruction set, PICs blow away *all* of the earlier microcontrollers, usually with three times the performance or more. The same unusual architecture makes it possible to distribute any problem among two or more PIC chips.

The PIC chips are far easier to use than, say, a 555 timer. And lead to *far* lower cost products. If your circuit contains eight or more parts and if one of them is an active de-

vice, then you most likely should use a PIC instead.

As we saw last month, you can easily perform such PIC tricks as creating complete digital sinewave generator with only six bytes of code. But the really great thing about PICs is that they are simple and fun to use. *None* of the traditional microprocessor hassles remain.

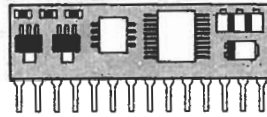


FIG. 2—NEW \$29 BASIC STAMP is an incredibly versatile microcontroller. It is shown here full size.

You can easily code these by hand without ever going near an assembler or an emulator. In fact, I strongly recommend that you write at least your first 1200 lines of PIC code by hand.

For those of you that don't want to jump in with both feet, the BASIC stamps make becoming microcontroller-literate quite easy. After a few of the stamp projects, you can step up to "real" PIC projects with blazing speed.

No matter where you look in the PIC universe, amazing and elegant hacks show up. Note the apparent misprint in Fig. 3, where a logic output becomes the supply pin for another chip. This is in fact a cute power-saving trick. If you aren't immediately using a chip, disconnect it.

I'll get into these a lot more in future columns. But for now, you get started by picking up the free catalog from *Parallax*, the "must have" free *Microcontroller Handbook* and *PIC Applications Manual* from *Microchip Technology*, and the really unique *PIC Tools* and *Stamp Extenders* from *Scott Edwards Electronics*.

As our resource sidebar for this month, I've listed several more key sources for PIC information and applications support. Don't miss this one!

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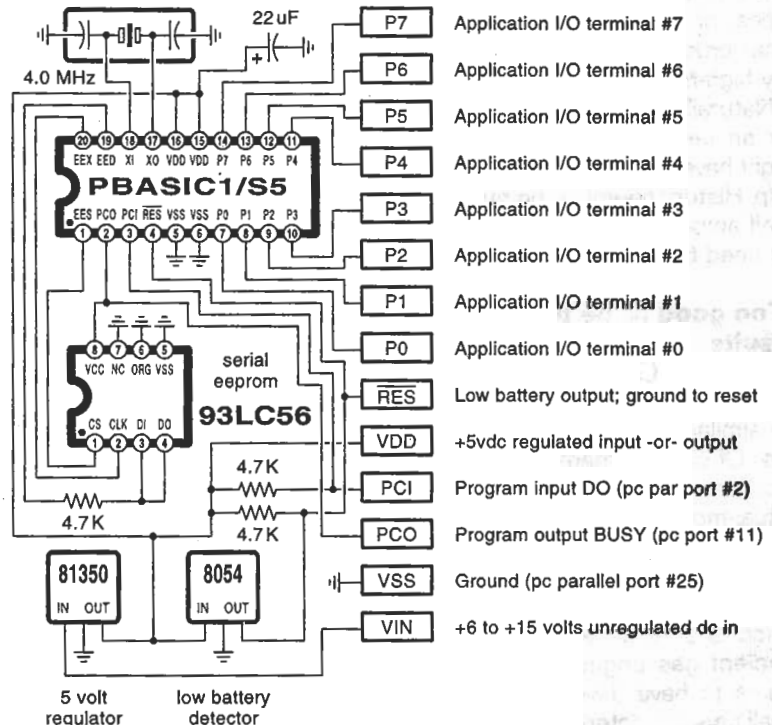


FIG. 3—BS1-1C BASIC STAMP schematic. This is the first microcomputer that is easier to use than a 555 timer.