

"PBUFF" 64K TO 4Mb CENTRONICS PARALLEL TO PARALLEL PRINTER BUFFER KITS.

When I first advertised this kit in Jan. 85 it was a basic 8K to 64K buffer. The 256K version was featured in Australian Electronics Monthly magazine in Mar. 87 as the star project. The 1Mb version appeared in Silicon Chip magazine in Oct. 89. The current Rev. K board has additional provision to install an alternative 256K/1Mb/4Mb SIPP/SIMM type MEMORY MODULE. That means, you can either install standard 16 or 18 pin by 1 bit Drums, or a MEMORY MODULE. Both 8 byte and 9 byte type MODULES can be used. The software ignores the ninth byte.

PBUFF Supports a mixture of 64K/256K/1Mb/4Mb DIP/SIMM/SIPP DRAMs in 10 memory sizes up to 4Mb. Supports 64K, 128K, 256K, 320K, 512K, 1024K, 1088K, 1280K, 2048K, and 4096K (4Mb). Needs user wired 74LS139 decoder chip for some intermediate memory sizes. Some memory sizes can be done with a combination of standard Drums and a MEMORY MODULE. EG:- 512K can be done using a set of 8 by 41256s and a 256K MEMORY MODULE. Standard assembly instructions covers all memory size installations. This version increases saturation loading time by more than 50 per cent over earlier versions. This represents a load rate of over 300K per minute using a PC/AT as the host and a 3.58mhz crystal in PBUFF. Instructions are given to increase the speed of PBUFF to a possible 10Mhz clock frequency. This reflects a load rate of around 900K per minute.

My "PBUFF" printer buffer kit sales now exceed 4000 units worldwide, which I believe speaks for itself. These kits have a single/multiple copy facility, Hexadecimal output mode, OPTIONAL hardware pause, DATA/STATUS LED, power connector for SERIAL board expansion, and extensive ROM diagnostic routines to aid kit builders.

This buffer installs in-line to your printer using standard centronics signals. I have designed it so that it can be powered up with an existing +5 volt supply, or an external input voltage of 9 volts AC or DC. Any plug-pack capable of supplying 400mA or more will suit this project. If a SERIAL board is to be fitted, then a 9 volt @ 1 amp A/C supply must be used.

PBUFF also supports the C3P1 and FPIO (front panel input/output) boards. It has kit builder diagnostics which includes static ram test, 555 timer test, printer test before Drums are installed, and individual DRAM fault checking. A respectable Hex dump format is provided. This complies to a normal utility type format of ADDRESS, HEX data, and ASCII data in three separate columns, with auto flush of the last block of data when the computer goes to sleep for eight seconds, and a last byte in file indicator. It auto senses the DRAM type and sets it's routines accordingly.

I am selling this unit in what I call a "PBUFF SHORT FORM KIT". This consists of:- One bare double sided plated through printed circuit board. One EPROM programmed with PBUFF Ver 5.1E. Full assembly instructions, includes circuit, operator instructions, the memory doubler circuit details, and hardware debugging section. All text is supplied on an MS-DOS format 3.5" floppy. This includes a test program that will verify the memory size and load rate of your buffer, plus the current ROM file as a backup.

You provide all other parts and labour. You must have in your tool kit a multi-meter, and if you do run into real trouble, a Logic Probe may be required.

Check my ORDER FORM for the current price of the PBUFF SHORT FORM KIT. How much are you really up for? You have to provide a suitable case, power-pack, (or transformer) centronics connectors and cables, plus approx. \$30-\$40 worth of additional components, plus your memory chips. If you are a hardware hacker like me, you already have most of the components.

The printed circuit board has been designed to mount straight into the DICK SMITH Instrument case, CAT H-2505 PBUFF accepts from 64K up to 4Mb of characters from a centronics printer port, and stores it until your printer has completed it's task. This releases your computer for other work.

PBUFF is running on all types of computers from the early TRS-80's and Apples to the latest IBM PC/XT/AT/386/486 and compatible clones, Amiga, Macintosh Plus, Microbees, VZ200/300, Tandy Color (using serial board addition), In fact we have yet to find a true CENTRONICS port that it doesn't run off.

Connector J1 on the PBUFF board is an extension of the Z80 chip pinout and is used for connection to FPIO & C3P1 boards, or user prototype boards. A 40 pin dual row male header can be soldered into this position.

The cheapest printer cable that you can buy today is an IBM type DB25 to 36 pin Centronics. The PBUFF board makes use of IBM cables and standard connectors to save cost and simplify construction of cable interfacing. Headers are also provided for IBM standard flat ribbon cable pinout so that the unit can easily be installed inside a desktop if required.

The input and output wiring has now been taken care of on the main PBUFF board. Older boards had a separate Back Panel I/O board. This was known as the BPIO board. Reference may still be given to this board on some of my other assembly instructions. What I have really done is to join the artwork of my PBUFF board to the BPIO board so that it becomes one board, and included the electrical connections in the artwork to save on header and connector costs. Header J2 connects pin for pin to header J7. If isolation is required for Serial or other switch boards, the tracks must be cut between the points marked "A" and "A" on the component side of the board. This bus is called the PBUFF I/O bus. To re-connect this bus for any reason, 26 pin male headers can be soldered into the J2 and J7 positions, and a short length of 26 wire flat ribbon cable that has two IDC crimp headers attached to either end can be inserted onto the male header pins.