the commodore BREADBOX cased computers

After the unmistakable shape of the Commodore PET's 'all in one' computer cabinet the next most noticeable design is the 'breadbox' case used in four models of Commodore 8-bit computers released from 1981 to 1985.

The case is relatively simple in design but offers ample room to fit a small 80's microcomputer and keyboard into one compact unit with a very hand-friendly xx key keyboard with space to spare fore ventilation.

Looking at computers of the time you can imagine of Commodore's inspiration for the case probably came from the sleek TRS-80 computer (though at the time of the TRS-80 the model-1 needed an expansion unit to enjoy more interfacing)

The term 'breadbox' was dubbed by users a due to it's resemblance to the metal breadboxes of the 50s and 60s (picture above-right).

the Radio Shack TRS-80 (model 1) case was probably an inspiration for the breadbox case.

commodore VIC-20

Commodore's Answer to the low-cost home computer market. The VIC-20 was intended to go against the low cost Japanese computers that Jack Tramiel believed would dominate the American Market. Thanks to the VIC-20's low cost (under $300!) and color, it was a tough competitor to beat. Numerous expansions and games came out for the VIC-20.. With the built-in 'Commodore PET BASIC' it was easy for folks at home to sit down and

learn to program.

the VIC-20 attached to a VIC-1020 Expansion Unit.

- Processor 6502 @ 1mghz
- RAM Memory 5k - 3.5K (readily usable by BASIC)
- Graphics VIC (Video Interface Controller) chip
- Screen 22 columns x 23 rows
- two 256 character 8x8 dot matrix character sets and programmable set capability
- Highest Resolution 176 x 184 -8 Main character/hi-res colors with 16 background colors
- 3 voice sound
- Commodore Microsoft BASIC V2
- IEC Serial connection for printers and floppy drives.
- User accessible Parallel port (RS-232 support with adapter)
- Cartridge Expansion Port
- Datasette tape unit port
- Monitor Port (includes external RF Modulator)
- Single Atari compatible Joystick/Paddle port
- LightPen support.

VIC-20
THE FRIENDLY COMPUTER

an unreleased prototype VIC-20 with integrated B&W Walkman TV.

commodore 64

The Commodore 64 would be the 'killer machine' in the 80s home computer market. Designed with powerful custom graphics and sound synthesis chips a whopping 64 kilobytes of RAM memory plus retaining compatibility with VIC-20 devices. The low-cost 'good at just about everything' Commodore 64 slowly won the home computer war against such rivals as Radio Shack, Atari, TI, Coleco, Mattel, even IBM (PC Jr.). The 64 also kept Commodore afloat for many years as it struggled to get their next generation Amiga computer into profitability.

the 64's little brother UltiMax made it only to Japan. Has only 2k RAM and no BASIC.

the sleek portable SX-64: color monitor, sound and disk drive all on one 35 lb. unit.

Over the years the c64 has had a variety of cases and stylings but essentially retained the exact hardware features as released in the early 80s. In 2000 the Giunness Book of Worlds Records heralded the Commodore 64 as the 'most sold computer of one model' with numbers estimated from 17 million to 22 million units world-wide.

the European 64gs (game system) was a true 64 but without

Even today the Commodore 64 shares a special place with many computer enthusiasts either through software/hardware emulation or with various hardware expansions and modifications to the original units that keep it running just a bit behind current technology. Such things as GUI operating systems, connecting to a network, or browsing the World Wide Web are not unknown to the Commodore 64.

The 64 has two different styles utilizing the breadbox case. The first dubbed 'the breadbox 64' is the most common, the second, the Commodore 64g was a limited run of cost-reduced units for a discount retail chain. The 64g unlike the rest of the Commodore 64s did not have the AC circuitry thus making some programs and devices depended on the 9v or (or the 50/60hz timing of the AC) work improperly.

- Processor 6510 @ 1 Mghz (a variation of the 6502)
- RAM Memory 64k (37.9k readily usable by BASIC)
- Graphics VIC II
- Screen 40 Columns x 25 rows
- 2 256 character 8x8 dot matrix character sets and programmable set capability
- Highest Resolution 320 x 200
- includes 8 independently movable sprites
- 16 Color palette
- 3 voice sound synthesis chip (SID) with 4 sound waveforms and ADSR sound support
- Commodore Microsoft BASIC v2
- IEC Serial connection for printers and floppy drives.
- User accessible Parallel port (RS-232 support with adapter)
- Cartridge Expansion Port
- Datasette tape unit port
- Monitor Port
- RF TV video Port (internal modulator)
- Dual Atari Style Joystick/Paddle ports
- LightPen support.

the keyboard.

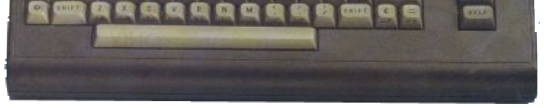
the cost reduced 64g, the white case is nice but no AC caused problems.

in 1985 the '64C'

The Educator 64 is a 64 in a PET case with a monochrome display and built-in speaker.

commodore 16

Looking forward again, Commodore felt there would be a demand for more practical computers designed more for for school and home productivity, not wholly games oriented like the 64 had become. The computers would be based



around a cost reduced cost graphics/sound chip - the TED (nicknamed the Tramiel Editing Device - after the founder of Commodore, Jack Tramiel). Instead of the weak BASIC v2 and game-like sounds and graphics features of the 64, the '264' series (as it was dubbed) would have an advanced BASIC that had graphics and sound commands as well as a better disk drive.

As the development progressed the 264 became the Plus/4 (marketed as 'the productivity machine') and geared for home productivity with four included programs built-in to the computer's ROM memory (a word processor, database and spreadsheet with graph functions). the more advanced 364 was abandoned which would have also added a keypad and voice synthesis. and the Commodore 16 ('the educator') was a feature reduced version (no built-in programs besides BASIC v3.5 or parallel port and only 16k of memory) which should be ideal for school instruction. By using the breadbox case molds and keyboard I'm sure Commodore saved even more on productions costs.

Unfortunately this time Commodore didn't do as well on this concept. Consumers enjoyed the 64s game capabilities and were not ready to step down in graphics and sound features, the built-in software was not on par with most commercial programs, and they broke standards by using non-traditional ports for the game controllers and cassette drive. Add to that the 64s vast library of software compared to the C16/Plus/4's fledgling library. Commodore abandoned it in the US and went back to focusing on the 64 (until the successful C-128 came out in 1985). Even though the +4/C16 floundered in the U.S. the line did well in Europe and also spawned the tiny C-116.

- Processor 7501 @ 1 mghz (a variation of the 6502)
- RAM Memory 16k (12k readily usable by BASIC; 2k in graphics mode)
- Graphics TED chip (Tramiel Editing Device) / 3 voice sound support
- Screen 40 Columns x 25 rows includes a 'flash mode'
- 2 256 character 8x8 dot matrix character sets and programmable set capability
- Highest Resolution 320 x 200
- 16 Color palette w/ 8 levels of brightness totaling 121 colors (minus redundant blacks)
- Commodore Microsoft BASIC v3.5 (adding disk commands, hi-res graphics, and sound support)
- Built-in machine language monitor & mini assembler/disassembler
- IEC Serial connection for printers and floppy drives.
- Cartridge Expansion Port
- Non standard Datasette tape unit port
- Monitor Port / RF TV video Port (internal modulator)
- Dual non standard Joystick/Paddle ports

The Plus/4 originally called the 264 has 64K RAM and four built-in programs.

the tiny C-116 released in Europe

the prototype V364 with keypad and voice synthesizer chip