Amiga original chipset capabilities:

Maximum resolutions:

736x567i PAL Overscan.
368x567 HAM 4096-color mode.
(HAM mode **is** capable of full-motion game logic).

Maximum simultaneous sprites = 94

Eight re-usable sprite engines with the restriction of a maximum of eight sprites per horizontal line.

Sprite size: Between 1 & 16 pixels wide (any height).

Combining two sprites more than doubles the colors.

Blitter objects can be used in addition to hardware sprites. Blitter and sprite engines are cycle-interleaved.

Blitter objects can be much larger and more colorful than hardware sprites. Amiga blitter manipulates graphics twice as fast as the 68000 CPU and is cycle-interleaved with the CPU. Agnus (which includes the blitter and Copper) has its own RAM and DMA.

Agnus can create polygons using its hardware line draw feature. Specify two lines and it'll automatically create the third line and fill the polygon without using the CPU. Agnus also does complex boolean logic.

Agnus also includes a barrel shifter. There's no more CPU cost to using the shifter as there is not to (free).

Copper included for precise racing-the-beam programming techniques without requiring the CPU.

Hardware scrolling is multi-directional and also supports sub-pixel scrolling.

Two playfields are supported (dual-playfield mode).

The Amiga features two independent memory buses.

Disk drives can be daisy-chained for up to four drives without the need for an external power supply. Drive DMA allows for loading and saving data while playing audio and video without calling on the CPU.

All 25 DMA channels are controlled by Agnus. This same chip can read and write data to most of the registers of the custom chips so that the CPU needn't.

An additional 64-color mode is available which uses 32 colors plus another 32 colors at half intensity. This mode was included in later Amiga 1000 machines and all models of Amiga computer that followed.

Using a special monitor, the OCS Amiga could display a 4-tone monochrome resolution of 1008x1024.

This same resolution (1008x1024) is the maximum area that Agnus can blit (later increased to 32Kx32K).

Maximum serial port transfer speed (without error correction) is 1 million bits per second).

Audio chip comprised of four state-machine sound channels for playback of digital audio. Combining 4 channels into 2 allows for an increase from 8-bit to 14-bit audio. This chip also supports wavetable, FM, and AM synthesis and comes with its own DMA channel, allowing it to run independently of the CPU.

Audio channels can be split into 8 using software.

Genlock synchronization is supported in hardware.

The Amiga chipset was successfully demonstrated at the January and June 1984 consumer electronics shows (CES). Both design leads were ex-employees of Atari.