Virtual Boy: hardware







The Virtual Boy's styling makes it the most outlandish console yet seen. The controller has two D-pads and four thumb buttons (top) and two finger buttons under the pads either side of the battery compartment (middle) which powers the main console. The fixed stand (above) makes prolonged playing a strain, as does the 3D graphics system





irtual Boy

Nintendo's new toy is aiming to create a market for itself the same way the Game Boy did six years ago. But basic games and awkward play could make it a novelty too far

Continued next page

Virtual Boy: hardware



The Nintendo-developed *Galactic Pinball* uses its chunky graphics to create four tables in what is a solid playing little game



Hudson Soft's *Panic Bomber* uses Bomberman characters in a Tetris/Puyo Puyo clone that breaks no new ground



***Red Alarm*, by T&E Soft, uses outdated wireframe graphics but still manages to exploit the Virtual Boy's 3D capabilities well**

Created by Nintendo's design guru Gumpei Yokoi, whose past glories include hardware such as the Game Boy, the Game And Watch series and such sterling software as *Super Metroid*, the Virtual Boy was something of a mysterious product to be born of the world's largest videogames company. Unusually, it was a Nintendo product that didn't achieve a universal level of desirability prior to its launch. Conversely, the Super Famicom had been spoken of in hushed, sacramental tones by all within the videogaming community months before its first public airing in 1990 and, right now, the Ultra 64 is generating similar levels of frenzied prelaunch speculation.

What certainly didn't help Nintendo's plans was the rush of opinion offered at the Virtual Boy's unveiling at last year's Shoshinkai show in Chibi, Japan. Most was less than optimistic, and some downright damning. The key area of criticism, as is so often the case with a new system, was its range of launch software – 'uninspired' came some of the kinder reports.

While the Virtual Boy system's 3D capability was certainly perceived as being effective, there was little Nintendo could do to disguise the shallow nature of games such as *Teleroboxer*, a *Punch Out!!* style affair featuring robotic fighters. Worse, there was no big-name Nintendo sales vehicle among the initial titles: Virtual Boy takes on the *Mario*, *Zelda* and *Metroid* themes were conspicuous by their absence at launch.

It was clear that Nintendo had picked up on virtual reality's burgeoning significance in electronic home entertainment. However, rather than approach the challenge head on, producing a full-blown machine with a traditional, coloured display and motion-tracking facility, it opted for a novelty angle. It may be that Nintendo just happened across the concept. Massachusetts-based Reflection Technology is known to have developed the raw display technology independently, before proferring its potential to Nintendo in 1992 in exchange for a doubtless sizeable pile of cash.

The finished unit is certainly a striking piece of gaming kit, designed with an air of Fisher Price flair and finished with the robusticity of a traditional Nintendo product. It stands sturdily on metal feet, and its joypad, which also holds the six AA batteries required to power the system, is comfortably designed, yet sufficiently complex to sit favourably alongside the offerings of both Sony and Sega.

The Virtual Boy's display is absolutely pin sharp, and succeeds in producing a gaming experience truly unlike anything that's gone before. At its most basic level, the 3D effect is achieved by assigning objects on screen to individual planes. So, for example, the court's net in *Mario's Tennis* appears to be halfway between you and you opponent. The implementation of 3D varies throughout the range of launch software, but even Hudson Soft's *Panic Bomber*, which, being a *Tetris* clone, is theoretically the least likely to demonstrate dazzling 3D, manages to produce some of the most terrific animations and effects seen on the system.

Despite housing a 32-bit CPU, the Virtual Boy really doesn't jump through any impressive hoops when examined on the basis of pure pixel shifting. Obviously the strain of producing two independent images simultaneously, each only slightly different, but co-ordinating to create a 3D effect when brought together





naturally prevents by the user's eyes, any particularly advanced sprite shunting or polygon pushing coming in to play. The system's first and so far only polygonal title, *Red Alarm*, can manage only a wireframe gaming environment – a concept that was exhausted on more conventional systems years ago and now redundant elsewhere.

But, like the Game Boy, it won't necessarily be the power of the Virtual Boy's technology that accounts for its success or otherwise. Unfortunately for Nintendo, however, there's no *Tetris* in the launch line-up. What the system desperately needs, of course, is the product of Shigeru Miyamoto, but with his extensive Ultra 64 commitments it could well be some time before his groundbreaking work graces those red lenses.

Gumpei Yokoi believes that the system is best suited to action and puzzle games, though he believes that 'in the future RPGs and simulations will become popular'. However, creating expansive and complex games such as RPGs could in itself be problematic. The Virtual Boy is designed to be used in shortish bursts. Indeed, the games have an optional auto pause facility built into the hardware, which prevents users from overdosing, and simplistic titles such as *Galactic Pinball* consolidate the brief-dabble theory. The same criticism could be levelled at the Game Boy, of course, which is itself far from an eye-friendly experience during long sessions, although one of its key titles, *Zelda: Link's Awakening*, offers a long-term, concentration-packed challenge. Certainly, especially considering Square Soft is a known licensee for the Virtual Boy, more involving, longterm games will appear as the system matures.

Licensees in general would appear to be something of a moot point, however. Nintendo consciously avoided an 'all aboard' policy during the system's infancy, with Yokoi stating that 'if we allow any software publisher to develop games for our platform, there's a danger that poor-quality software will appear… we wanted to limit that danger and maintain as much control as possible'.

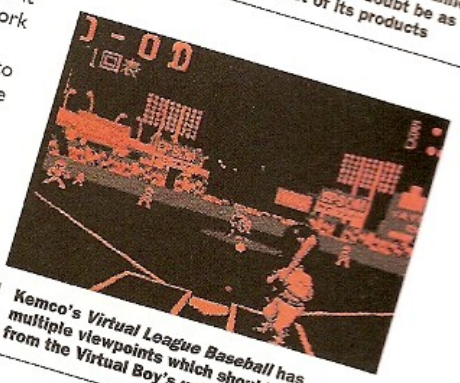
What is of some concern is that Nintendo's machine has apparently been dismissed by some of the industry's most important players. Konami, Capcom and Namco have so far remained uncommitted to the format, leaving the flame to be carried instead by the likes of Hudson Soft, Atlus and T&E Soft.

However should the machine's fortunes pan out, it will be an interesting venture to monitor – its advertising campaign in the US alone has included a multi-million dollar media spend, and Nintendo has, of course, unprecedented experience in the field. Launch sales in Japan have been subdued by the standards of traditional Nintendo wares, and, while perhaps unlikely to languish in the realms inhabited by failures such as the 32X, few expect it to perform as well as the phenomenally popular Game Boy.

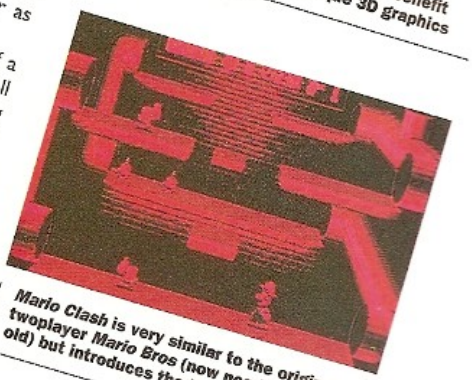
The Virtual Boy is a quirky machine, but it must be borne in mind that it isn't intended to compete in a market currently saturated with the PlayStation and Saturn. Rather, the Virtual Boy has 'created' a market in its own right. Whether this new area ever becomes as large and as lucrative as Nintendo so clearly believes it will is a matter for conjecture. Only Nintendo's software development resources, and strong thirdparty support, can decide. E



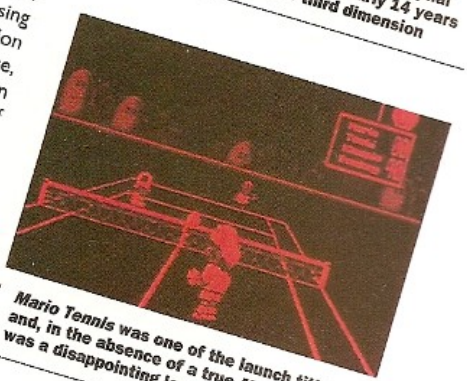
T&E Soft churns out golf sims on all manner of formats and *VR Golf* will no doubt be as workmanlike as the rest of its products



Kemco's *Virtual League Baseball* has multiple viewpoints which should benefit from the Virtual Boy's unique 3D graphics



***Mario Clash* is very similar to the original twoplayer *Mario Bros* (now nearly 14 years old) but introduces the third dimension**



***Mario Tennis* was one of the launch titles and, in the absence of a true *Mario* game, was a disappointing lead title for the VB**

Tech specs: hardware





Virtual Boy

CPU:	32bit NEC V810 operating at 10MHz
Graphics:	Scanned linear array display developed by Reflection Technology, details unclear
Sound:	16bit, details unclear
Misc	Dimensions are 217 x 254 x 110 mm Weighs 760g Powered by 6AA batteries stored in the game controller Accessories include an AC 100V adaptor, battery charger and adjustable stand
Background:	The habitually cagey Nintendo has been even more reticent to divulge too much about the technical prowess of its Virtual Boy system. A legacy perhaps of the machine's debut at the Shoshinkai show in late 1994, when it failed to make the desired impression. Unusual and innovative, the Virtual Boy can be seen as a gamble in the same way that the Game Boy was, but it's a lot harder to see the VB succeeding to the same extent. The 3D effect generated by its fixed headset is convincing but underutilised by the first crop of titles released by Nintendo. Too many of the 3D elements in the first Virtual Boy games were simple shock effects – just like the effects seen in primitive 3D movies. The Virtual Boy's controller is an intriguing creation. Its twin-handed, two joypad approach to game control is innovative and should allow for some interesting games, if designers can look beyond obvious trickery. With the Ultra 64 commanding most of Nintendo's (and everyone else's) attention, it's hard to see the Virtual Boy getting a fair crack of the whip. Whether it will ever be more than a gaming novelty remains to be seen.

Continued

Super Nintendo

CPU:	16bit 65816 RISC chip operating at 3.58MHz
Memory:	128K main RAM 64K VRAM
Graphics:	256x224 and 512x448 240 colours from 32,768 colour palette Four layers of independent scrolling 128 16-colour sprites onscreen at once
Sound:	8 channel PCM audio
Misc:	Custom chips may be added to cartridges to boost specs
Background:	As the Super Famicom this machine enjoyed huge success in Japan, where it is still the dominant games console and its games are among the biggest sellers. The games pedigree of the machine is unmatched, with a strong roster of top titles from *F-Zero* and *Super Mario World* to *Killer Instinct* and *Yoshi's Island*. Custom chips inside cartridges have allowed Nintendo to produce games not possible on other formats. DSP chips and two generations of Super FX chips (developed in the UK by Argonaut) have made games like *Starwing* and *Stunt Race FX* possible. Losing out to a bullish Sega in the UK and Europe, the Super Nintendo market has declined quickly in the UK with peripherals like the Super Game Boy failing to attract new consumers to the console. As the recently released *Yoshi's Island* has proved, the Super Nintendo can still come up with the goods but with so many developers deserting 16bit, its future looks bleak.