

Entertainment

So in the confusing world of home entertainment and acronyms, chaos still reigns.

Bugs Bunny says: D-D-D-Dat's all folks

by Dragos Ruiu

The home entertainment industry will blow up in 1987. Terrorists will not be responsible. The number of new innovations will boggle the mind of any consumer.

As the new year rolls around, the rumors about **Digital Audio Tape (DAT)** for short are reaching a crescendo. **DAT** would have the same superb sound quality as **CD's** with the added bonus that you can record as well as play back.

Several Japanese companies are reputed to have whole warehouses of **DAT** decks just waiting to breach North American shores. These final production units are already appearing at trade shows with large stickers marked **PROTOTYPE** plastered all over them (and on the accompanying warranty cards).

Why the secrecy and hesitation about introducing them? Well, the electronics industry has several worries about jumping the gun on **DAT**.

First of all, the recently introduced **CD** technology is just beginning to pick up steam in sales. If a new digital medium were introduced before **CD's** are sufficiently established, it could undermine investments in **CD's**.

The other big concern is anti-piracy legislation. Many lawmakers are on the brink of introducing new laws to curb and hinder copying of pre-recorded material. The **Record Industry Association of America (RIAA)** (record producers group) has a big lobbying push on to delay the introduction of **DAT** and to legislate that anti-copying circuitry be mandatorily included on all decks.

The RIAA's concern: that a copy reproduced digitally does not suffer from the degradation of each copy generation that happens with analog equipment. This means that when you make a copy at home, digitally, it sounds exactly like the master tape; it doesn't have extra hiss and noise, and so on for the next copy. (And they told two friends...)

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The record industry is afraid that given access to **DAT** digital recording decks people would go out, buy **CD's** and bootleg them for their friends with perfect quality. With more and more **CD** players on the market offering direct digital outputs that let the owner bypass the noise-inducing analog stages this is a serious concern. You can conceivably plug your **CD** directly into your **DAT** and have a dandy bootlegging operation.

This worry disappeared with a big **POOF** when the **DAT** standard was set in stone. The manufacturers succumbed to pressure and set the sampling frequency of **DAT** at 48 kilohertz as opposed to the 44.1 kHz for **CD's**. While this difference is slight in effect, it is enough to ensure that you cannot copy directly digitally without expensive converters or noise-inducing analog steps.

The ever faithful idiot tube... ahem... boob-tube didn't escape the axe of advancing technology either.

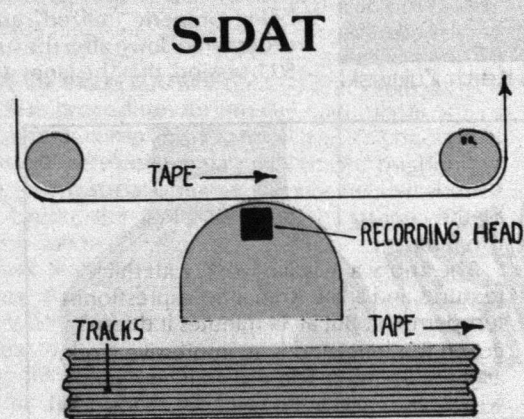
This however did not satisfy the **RIAA**; they are currently trying to have legislation introduced to ensure that **DAT** decks incorporate copy-code scanners — chips that would read a set of inaudible tones at

the beginning of copyrighted works and refuse to record it. While these would not make copying impossible they would certainly make it difficult or expensive.

Interestingly the **DAT** standard is actually two standards, (**VHS** and **Beta** here we go again). The main difference between the two is like the difference between current

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Video and Audio cassettes. In the **R-DAT** (R for rotary head) standard, the playback/record head is a rotating disk set on an angle so the information is recorded diagonally across the tape, (at 2.46 megabits per second for you techies) much like current **VCR's**.



The **S-DAT** (S for stationary head) standard works like a wider version of audio cassettes. The head is stationary and record and playback heads may be separate. The record head records 22 parallel tracks along the length of the tape (versus four for current analog tape, two tracks per side) and only the tape moves, not tape and head as in **R-DAT**. (**S-DAT** has an effective recording rate of 2.4 Mb/s.)

The consumer will not see **S-DAT** for a while as several manufacturers are encountering manufacturing difficulties with the format. So **R-DAT** will be the first on the market and probably be the de-facto digital recording standard because it will have arrived first.

It seems as if the concept of recording digital sound on **VHS** cassettes which has been pushed by **TEAC** has sold quite a few industrial **Digital VHS** decks that will soon be out-paced by the new technology and become obsolescent.

The **R-DAT** cassettes will be 7.3 cm by 5.4 cm and 1.05 cm thick. By comparison current audio cassettes are 10 x 6.35 and 0.8 cm thick. The tape itself will be 4 mm wide — current audio tape is just slightly narrower. The new smaller package will mean that you will be able to get portable digital sound in a slightly smaller unit than the current somewhat bulky and shock sensitive **CD** units.

Expect the first **R-DAT** decks to be in the \$1000 - 1800 range. Prices should drop much like **CD** players as manufacturing gears up.

As far as **CD's** are going, they continue to make inroads into the record business. **CD-only** recordings are coming out, and record sales are slumping. Cassette sales are still increasing, though not as much as in 1983. **CD** sales are constantly increasing but aren't keeping up with the explosive sale of **CD** players. Most of this is due to lack of production facilities. They simply can't keep up to the demand.

This is bound to change as more and more **CD** factories open. Many companies are introducing their whole inventories on **CD**. Motown records led a spate of record

production reductions when they announced that from 1986 on they will no longer produce records. This means that the only way you will be able to get Lionel Ritchie and the other artists signed to Motown will be on **CD** and cassette.

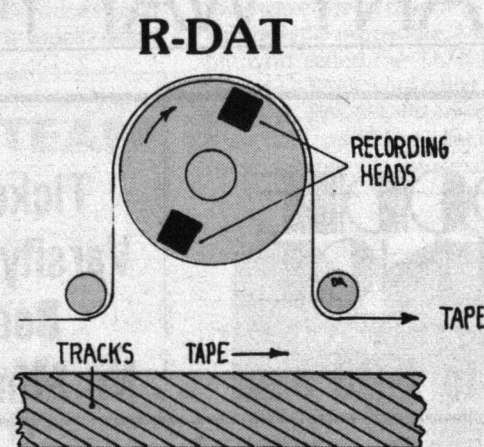
Though the electronics industry doesn't want to jeopardize the imminent success of **CD's**, it seems as if **R-DAT** is inevitable. Companies are stockpiling, awaiting its imminent introduction. It is reported that **Alpine** has promised its dealers that **R-DAT** will be on their shelves by the fall of this year.

The new **R-DAT** has also opened a new chapter in the very confusing video market. **Samsung**, a major Japanese electronics producer, announced that it will introduce a camcorder that will record video on the 4 mm **R-DAT** cassettes.

The portable camera/recorder (camcorder) market is heating up. It used to be that video was a battle between **Beta** and **VHS** (both 0.5 inch formats) when they superseded the old commercial one inch format. **Beta** was pioneered by **Sony** when they decided they wanted to take a bigger market share from the leader **JVC**.

After **Beta**, **VHS** won the consumer market, but not decisively enough to kill **Beta**.

About this time (1983) portable recording became the rage. To make smaller recorders **JVC** came out with **VHS-C** — a smaller cassette using the same tape and recording method, but it only recorded 20 minutes. Its big advantage was that you could play it on normal **VHS** machines by popping the cassettes into an inexpensive full-size adapter. It was never a big success. (Except in adding to the list of confusing acronyms.)



When stereo **HIFI** became the **BIG THING**, **Sony** tried to give **Beta** a shot in the arm by introducing **SuperBeta** — an improved recording method incompatible with the old recorders. (The new machines still played the old tapes).

This was promptly snuffed by the **VHS** camp with **VHS-HQ (HQ - High Quality - Acronym Batty)** which was a set of fine tuning circuits that improved most of the weak points of the **VHS** format and added \$300 to the price; but **HQ** tapes were still playable by the old machines! so **VHS** still led sales. (Much to **Sony's** chagrin!)

Meanwhile, video disks went **POOF!** (for no adequately explained reason).

In 1985 the **Sony/Beta** camp tried a new strategy in the format war. A smaller, narrower, lighter 8mm format was introduced, and in combination with the new small IC sized **CCD** picture elements they were able to produce integrated camera/recorder/players of minuscule size. Sales skyrocketed and 8mm began to make inroads into the other video formats.

In June of last year the **VHS** dudes attacked — led by **JVC**. **VHS-C** was revived and had an **HQ** added to its acronym. They made a new camcorder which

recorded the old/new format in slow speed, thereby allowing the recording of an hour on the tiny tapes. This removed most of **VHS-C's** drawbacks and eliminated 8mm's advantages.

8mm is not dead yet, but it is down and whimpering after the latest **VHS-C HQ** blow. **VHS** is looking pretty dominant this month. **BUT DON'T COUNT YOUR CHICKENS YET!**

In the latest bizarre twist of Format Wars, **Sharp** and **Toshiba** announced digital **VHS** recorders last year. (And who knows what acronym they use for that!) These models still retain compatibility with the old **VHS** but add a whole spate of flashies. This new format eliminates the noise and jitter of still frames, slow motion and double speed-playback. As well, these models have 1.1 megabits of on-board memory and can catch and freeze frames of a live video broadcast while still enabling you to hear the broadcast audio.

We'll just have to watch and see just what happens in the blood and guts world of... **VIDEO WARS!**

The ever faithful idiot tube... ahem... boob-tube didn't escape the axe of advancing technology either. Most of it is good news though for owners of old sets. The new digital and stereo TV's are selling very well, thank you very much!

The big sigh is that although these sets advance flashies, sound and picture quality, their broadcasts are all compatible with the old sets and broadcasts. They merely fine tune the 525 line resolution **NTSC** broadcasts we currently watch. (**NTSC** has been reputed to stand for Never The Same Color Twice by cursing TV technicians).

The **BAD/GREAT** news is that **HDTV** is at our doorstep. The acronym **HDTV** (Arghh!) stands for High Definition TV and it is a quantum leap forward in TV. Its resolution of 1125 lines and 16:9 aspect ratio give it the picture quality of good 35mm motion picture film. It was defined a long time ago (2 years is eternity in this business) and we should see the first trickle of experimental hardware and broadcasts this year. Coming Real Soon Now, so keep watching, and think twice about shelling out big bucks on TV sets.

Even the revered radio business wasn't left alone. While most **AM** stations have gone stereo, the sound quality on **AM** is pitiful compared to **FM**. Last year a 10 kHz **AM** bandwidth was chosen as a standard in the States and that should trickle to our own **CRTC** soon. While the explanation is a bit technical, the upshot of it is that as soon as the stations modify their transmitters and the manufacturers **AM** receivers use the standard, the quality of **AM** should approach **FM**.

What's next? Well one guess is **CD-I**. (Compact Disk Interactive). This standard (!) set up by **Phillips** and **Sony** (and with these giants Standard means Standard, these are the same guys who steam-rolled **CD** over videodisks as a standard).

Essentially **CD-I** is a standard for computer programs — audio, graphics, and video. When **CD-I** finally comes out it could mean a new dimension in games entertainment and educational programs combining computers, digital sound, and video. **CD-I** will be completely stand-alone and you will not need to hook it up to a computer.

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P.S. Even though this has nothing to do with any of the above, did you know that **Sony** owns its competitor **AIWA**!?!?

I can hardly wait for the news to break that, in fact, **Coke** owns the rest of the world. But it's sure to be a standard!