BBC SYPHER 2 Suite

An extract from Sound on Sound magazine forum

Someone has posted an old internal training video from the BBC onto YouTube [called “The Sound of Sypher”]

http://tinyurl.com/dywdecp*

It explains how the Beeb's SYPHER 2 suite and the in-house TV dubbing process of that era works — this dates back to the late 1970s and was the first time BBC installation of Neve's NECAM moving-fader automation system.

SYPHER is one of those fab BBC acronyms that stands for '**SY**nchronous **P**ost-production using **H**elical-scan video and **E**ight- track **R**ecorder. Essentially, it was traditional film-dubbing, but optimised for TV production using multitrack machines synced with timecode, rather than sprocketed mag film tracks synced with chains and bi-phase pulses!

I used this kind of technology myself on many programmes, and even project-managed the design and installation of a similar set up at a BBC regional centre long, long ago. It all looks hilariously old-fashioned and crude now, but it was state of the art at the time and worked extremely well.

Don't think the H&S goons would be happy with someone balancing on top of an empty beer keg for the foley work today!

Hugh

Technical Editor, Sound On Sound

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Yes, looks incredibly old-hat and antiquated now.

The PEG system was a unique BBC design that was essentially a mechanical 'sampler' to play sound effects instantly on remote cue using mellotron-like mechanics to pull lengths of quarter-inch tape from a special cassette over a replay head.

Moving fader systems were brand new then too. I remember production teams being quite excited about watching the faders move all by themselves! Lovely old Neve analogue console, too. Hmmmmm...

No one would tolerate the waiting time these days for the Umatic video, two multitracks and quarter-inch machines to wind back and then play and synchronise for each mix pass! I remember having to abort countless drop-ins for continuing to building the mic because one or other machine had failed to achieve stable timecode lock in time!

My memory has faded now, but I remember timecode was always on the highest numbered track (8, 16 or 24), usually with the adjacent track left empty as a guard band to avoid crosstalk.

The 1" multitrack from VT had code on 8, a guide mix on 4 (I think), and simple programmes were dubbed on the 1-inch 8-track directly, using channels 1, 2, 3, and 6 for track-laying, with the final mix going back onto 5 ready for layback to VT. In other words you had the original (usually live studio) mix plus four tracks for effects and music, mixed back in mono to track 5 which was subsequently laid back to VT.

There was always a timecode offset, off course, between the source tracks and the final mix because of the replay-record head gap, and that had to be taken into account by dialling in the correct timecode offset to the synchroniser when syncing to the video for track-laying/mixing, and reviewing or laying-back.

More complex programmes would be track-laid on a 2-inch 16 track but mixed back on to the 1-inch 8-track for VT. The video machine in that clip was a 2" quadruplex machine made by Ampex. Four heads on a helical scanning drum, with a linear audio track running along one edge of the tape. Hideous things to line up, and if you got it wrong (or if the line up drifted... which it did a lot), you would see horizontal bars of a slightly different hue appearing across the pictures! The VT line-up colour bars had a large patch or red across the bottom to help reveal such alignment errors!

This tape-based Sypher dubbing technology persevered right through from the 1970s to the late 1980s, by which time the AMS Audiofile and DAR Soundstation started to take over, followed by all manner of other generic computer-based DAWs and a few hardware audio editors like the Akai DD1500. Digital consoles with full automation facilities started to become the norm then too.

The kids today don't know they're born!

Hugh

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