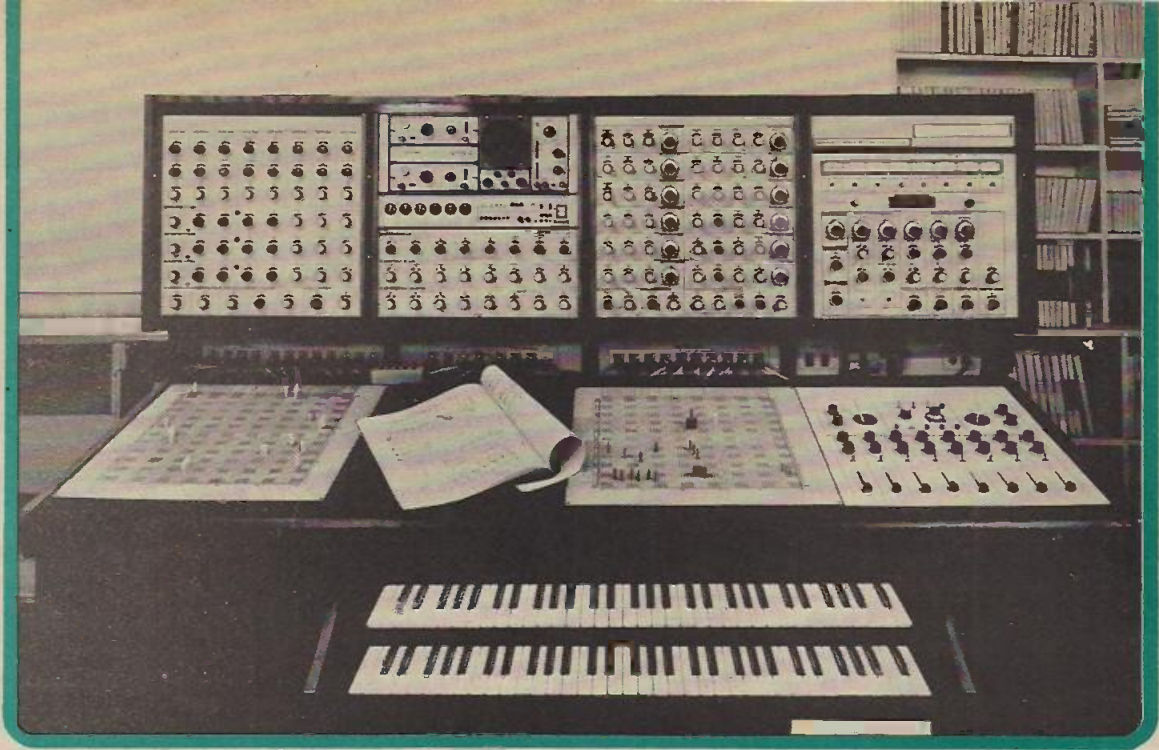
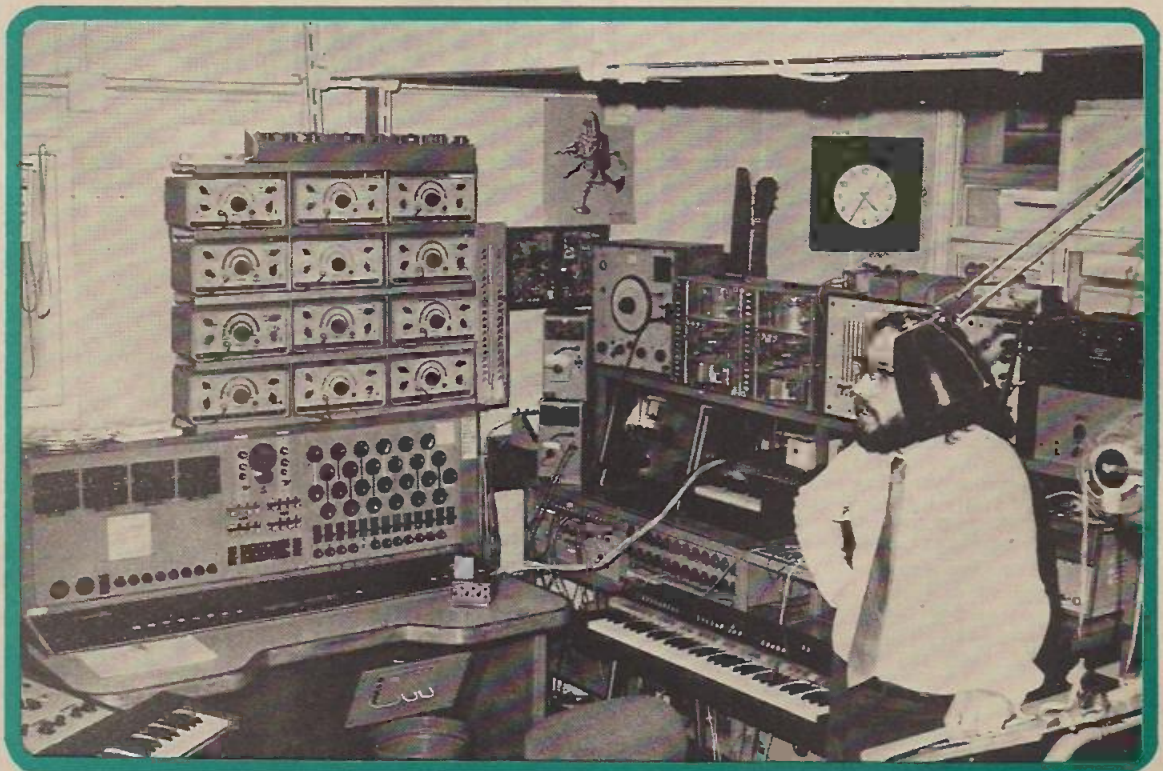




RADIOPHONIC WORKSHOP

Electronic technology evolves its own art forms.



(TOP): Synthi 100 Electronic Music Synthesiser

(ABOVE): General view of one of the Workshop areas showing bank of tuned oscillators.

A CONVERTED skating rink in the heart of London's Maida Vale is the home of the highly specialized B.B.C. department, picturesquely known as the Radiophonic Workshop. Responsible for virtually all the incidental electronic music and effects for BBC radio and television, it is unique in that all of its output is commissioned. Furthermore, this output is the product of a small but dedicated staff of musicians/technicians — the Workshop is not generally open to outside composers nor for the production of electronic music as an end in itself.

The BBC has, however, issued two collections, selected from the Workshop's sizeable output, that offer a fascinating insight into the extent to which electronic technology has evolved its own art forms.

The two discs highlight different modes of working, with some common ground in the manner in which the final tracks have been realized i.e. by the synchronized playing of a number of separate musical tracks.

The individual tracks were physically separate in the case of the LP *"BBC Radiophonic Music" (REC 25M)* — each completed musical part was laced up on a separate Philips EL3566 console tape machine and the final mix conducted by replaying the synchronized tapes and recording the result on a further machine. The playing of machines 'wild' in theory should not work, but in practice, synchronization between tracks is maintained for periods greater than a minute.

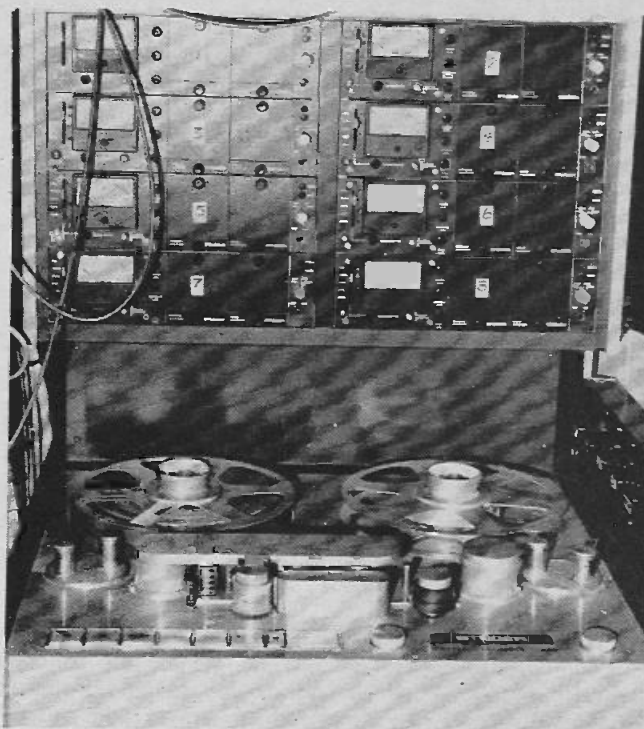
The tracks on the *"Fourth Dimension" LP (RED 93S)* were produced on rather more recognized studio principles with the aid of an eight-track Studer A60 recorder.

"Radiophonic Music", the earlier disc, was only pressed in mono, but notwithstanding, makes highly entertaining listening from the technical aspect alone.

At least three days concentrated effort go into a twenty second piece to produce a final result. After the composition on paper, styled to the wishes of the programme producer who has commissioned it, the worker will explore all possible sounds suitable for the piece. A dripping tap, two bricks knocked together, or a cork pulled out of a bottle, any of these may fit the bill.

The various sounds are recorded and after more careful listening and experimenting, a final selection is made.

Provisionally, three well-contrasting sounds may be selected; loops of tape with the selected sounds are played continuously on a special recorder with incremental speed change facility.



Studer A60 8 track tape recorder.

There are a number of switched steps between one standard tape speed and the next and, as reproduced pitch is relative to the reproducing tape speed, a scale of notes can be derived from a single sound. The scale is recorded on another machine, possibly using filters to change the character of the notes and different recording volumes to give the required dynamic range.

After this comes the exacting task of piecing together all the notes of one 'instrument' in the right order and taking care to space the notes by appropriate silent gaps to give correct tempo.

When the separate musical parts have been compiled, the final mix is carried out as already detailed.

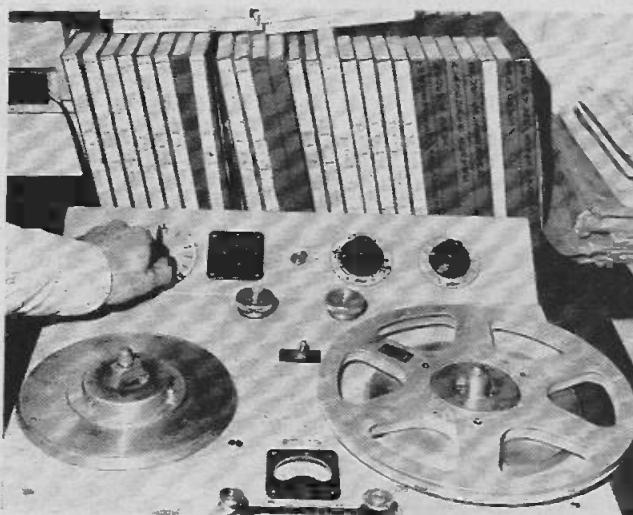
At any stage in the process further tonal modification, reverberation, envelope shaping or a host of other

techniques may be applied to give a 'different' sound.

The music? 'Different' is one, if inadequate, way to describe it. Using natural sounds (though pure electronic tones are used when considered desirable) in this fastidious manner, unique and quite beautiful results are achieved.

All the tunes sound 'fresh' and it is possible to identify each composers individual style. The majority of John Baker's work has a lively almost pointillistic arrangement of melody, counter melody and bass line, each complementing the other. He tends to utilise well-contrasting timbres, offsetting harsh percussive notes with more rounded notes with slow attacks.

My personal favourite is *"Sea Sports"* which features an ethereal watery reverberation, quite different



Variable speed Leavers Rich used to give a chromatic scale from a single note or sound.

from any effect I have heard before.

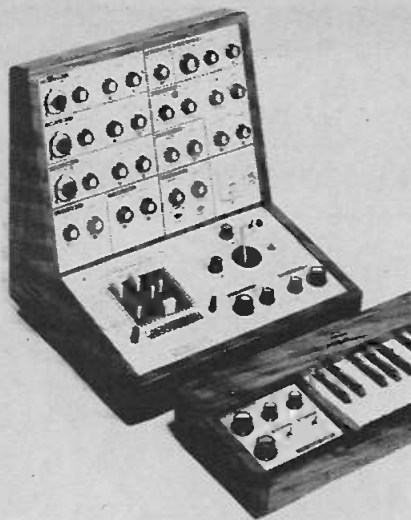
To find out more about the basic sounds he used, I contacted John Baker; the sound sources he said, included twanged rulers, bubbles escaping, plucked undamped piano strings, metal springs being released and corks popping from bottles.

The second composer on this record, Delia Derbyshire, incidentally now no longer with the Workshop, has a rather different approach, preferring to synthesize complex sounds from electronic tones.

I found her offerings on this disc highly evocative, especially her "Blue Veils and Golden Sands" — it was very noticeable how tonal qualities and contrasts have almost a greater role in her compositions than even the melody does, although her "Door to Door", with its collection of 'musical door-knockers' shows her versatility with its infectious foot-tapping lilt.

David Cain is the final composer on this disc. Originally qualifying in mathematics, he joined the BBC as a studio manager on the drama side. His works here span a wide spectrum of styles, ranging from Baker's effervescence to a "classical" Stockhausen-like approach. It is music for the radio production "War of the Worlds" was most thought-provoking.

The second record features Paddy Kingsland's synthesizer work at the



VCS3 Electronic Music Synthesiser.

Workshop. This stereo disc contains twelve tracks composed and produced by Kingsland for various radio and TV programmes.

A different style is once again very evident — on most tracks he uses a basic backing of conventional instruments, drums and guitars with the melody, and one or more harmonies produced on voltage controlled electronic music synthesizers — these being the British

EMS Synthi 100 and its diminutive, though nevertheless extremely versatile, brother, the VCS3.

The Synthi 100, in addition to numerous sine, square and sawtooth generators, noise sources, ring modulators, envelope amplifiers, filters and other signal modifying devices, contains a three parameter 256 event digital memory. Programmed by a conventional keyboard, the recorded information can be 'edited' as required and the sequence run at any speed in either direction.

I was rather sorry that Kingsland placed so much emphasis on acoustic instrumental backing in view of the capabilities of the apparatus at his disposal, but this no doubt must be partly attributed to the wishes of those who provide the Workshop with its commissions.

"Colour Radio" on the second side has some attractive quasi-vocalisations but, of this selection "Flashback" and the title track held my interest most.

In summary, Kingsland reveals himself to be a competent and adept composer and I hope he is given more rein to experiment with the Synthi. It would be an education to hear his work integrated with an 'edited-tape' backing, as featured on the examples on the earlier disc, instead of the 'straight' backings he has used here. ●

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