Another important feature of the GR-700 is that Roland have realised that guitarists want to keep their Les Pauls, Strats and Satchel's, so they're setting up guitar centres to insert the electronics into your own guitar to give full polyphonic synthesiser (plus the original guitar sound and external MIDI control). Chandler guitars are the first appointed UK centre.

Although, in principle, any solid guitar can be retrofitted, the guitars have as many as five or six dead spots where the fundamental is missing and its presence is required for correct operation. The GR-707 is fitted with a stabiliser arm to eliminate unwanted resonances and maintain stable performance on all notes. The new GR-702 synth unit will also operate from the existing GR-500s and GR-300s guitars.

Completing the MIDI line-up, several companies have produced a MIDI/Control interface to put your analogue 1V/octave mono synths into your MIDI system. There are also expansion boxes (one MIDI In to four Thru) and master clocks with tempo compatible with SMPT and EBU time codes for control of real-time effects and locate capability. As well as possibilities, it is almost incredible to see and hear a guitar player using Hammond organ or a pianist playing a dynamic drum solo.

Moving more to the micro end of MIDI, a whole series of software/hardware packages should be around for the Frankfurt Music Fair for sophisticated sequencing, programming, graphics and training. In this country there is a special company called Electronic Music Ltd set up in liaison with the main manufacturers to answer musicians' problems on interfacing, as well as provide suitable hardware/software.

Choosing the right micro for full exploitation of MIDI will be essential and although the recent implementation of either ZC-60 or 650-based 8-bit micros in the home will make software programming possible one way or the other. So the term 'home' applied to computer is not strictly true for the musician, because of those which will be ideal for stage and studio use.

The Apple II (and IIE) is already well established as a 'musician's micro' with several dedicated systems (more on this later). It's Z80-based and is likely to be joined by another 6502 machines: the BBC B and the Commodore 64. The latter is already widely used in Europe and the United States. The Sinclair Spectrum with its extended forum favourite tool but the latest issue 3 of the micro has internal configuration changes that are already causing many problems for games software manufacturers.

Other less obvious candidates to pick up much music software are the IBM PC, TRS-80 and 4, Oric (very popular in France), Lynx, Dragon, Atari, with ZX-81, Sharp MZ-80A, Sord MS, Aquarius and Texas TI 99-4 at the end of the line. What may sway you into your final choice might be the appearance of the Apple II (usually Amdek) Computel, Amiga. For the novice user, a whole range of manufacturers have produced a special SID music chip, ZX-81 runs the MDC1 Drum Computer and the MK-1000; and of course, the basic music synthesiser offered on the actual micro.

Interfacing and control

In a well-equipped studio, a lot of time can be spent setting up correct triggers and sync to instruments and tape machines. Simple trigger interfaces can be made, to invert or divide master clock outputs and so on, but the one instrument that covers most possibilities is Garfield's Digidesign Click Controller from Syco Systems. It also gives two independent rhythm-activated envelopes as well as outputs synchronised to a live drummer. However, the use of MIDI could reduce interfacing to single cables that never need changing once set up as all switching functions are handled digitally.

As an alternative to the serial MIDI, the Chroma keyboards division of Fender Musical Instruments introduced the TRIAD system that connects synthesiser to micro via a 25-pin D connector cable. Multi-instrument setups can use one TRIAD as a single interface controller. It operates via two uni-directional 8-bit parallel ports, offering similar features to MIDI and connecting to the Rhodes Chroma and Polaris. Its unusual function on the latter is a general control that sets an external drum machine or sequencer to give the right playback record.

Another kind of interfacing is the link between humans and the synthesiser controller. Whils not forgetting Synclavier II link to a Roland GR-500 guitar, it’s Roland’s new guitar controller that could put the guitarist’s skills back in perspective, and instruments like the Lyricon wind synthesiser have led Yamaha to incorporate a unique breath controller on their CS01 and DX instruments.

External control of echo to synthesise with your drum machine or tape tracks can now be cheaply done using the Boss DE-200 digital delay system's ‘rhythm sync’ function. Natural sounds can be captured and replayed in time in the same way as a sampling machine.

Drum machines

It is worth pausing here to consider the influx of drum machines we’ve had over the last year or so. We’ve seen the change from analogue to sampled sounds and the use of micro control to create sophisticated playback of complete ‘songs’. In retrospect, many would say they know a Linx (for example) when they hear one – and that might suggest that the ultimate is still the Fairlight, in conjunction with its latest real-time sequencer, because of its complete facility to change all the sounds at any time.

From the studio angle, a lot of mixer channels can be saved by using a single sync track to control an output machine with its own stereo panned mixdown and treatment send/returns. While variations on the analogue/digital PCM, sampled sound continue to appear, the M113 link could clinch the control possibilities.

Multitrack

With the inclusion of sophisticated multitrack recording on board the Fairlight CMI, PPG and the Synthiaker II, it’s not surprising that the trend in polyphonic synthesisers has been to include similar facilities, albeit at a much less intelligent level in many cases. Instruments like the EMU, Prodigy, Voyager 8, Prophet 600 and TR, Roland JX-3P, Yamaha CS-700, Elka Synthesizer, Oscar and the new Moog SL-8 all have sequencers built in. Most are concerned with remembering notes and although some allow a few musical notes (playing more than one voice per track), you have to go to a dedicated computer-linked system to get completely different voices per track.

Another point to consider is the method of input: manual (step-by-step) or Real Time. Most of these polyphones have real time recorders, that is, you input facts exactly as they should play back. Often, this can be done at a slower speed than actually required and various levels of editing would be available.

The method of Manual input has definite advantages for certain types of music sequence and is certainly not just for the less able playing-wise. The more experienced in musicianship, the Casio, Yamaha, Technics, and other manufacturers—particularly Seiko, with their new DS-320 digital 4-track recorder—have manual and/or real time recording systems that puts this facility right across the price range.

Storage of sequences can be from internal memory with battery back-up, cassette tape, floppy disk, or a special memory cartridge. Tape storage, significantly slower than the others but unsuited to stage use and, while the cartridge format gives instant access in a handy portable pack, the new Sony 3·5 in floppy disk may prove a less costly storage medium as it becomes more available, as well as being more rugged down than the current 5·25 in or 8 in disks.

The implementation of manual input does open the door to sound engineers and non-musicians having a hand more than the others. But there are already plenty of people who can type in the required data straight from a music score into the machine without having to play a note of music. Nevertheless, serious use of manual input systems in studios is only possible when all time signatures can be freely used and clear graphics define the composed score for quick editing over several tracks. Adequate sync is essential.

Both Yamaha and SCI will soon bring out the new GR-707 guitar controller.

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