ELECTRONIC SOUNDMAKER & COMPUTER MUSIC

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£2

NUMAN & SHARPE
The Odd Couple

ROLAND JX8P
MSX & MUSIC
MUZIK 81 PROCESSOR
JEAN-MICHEL JARRE

FREE TAPE
60 MINUTES OF ORIGINAL RECORDINGS

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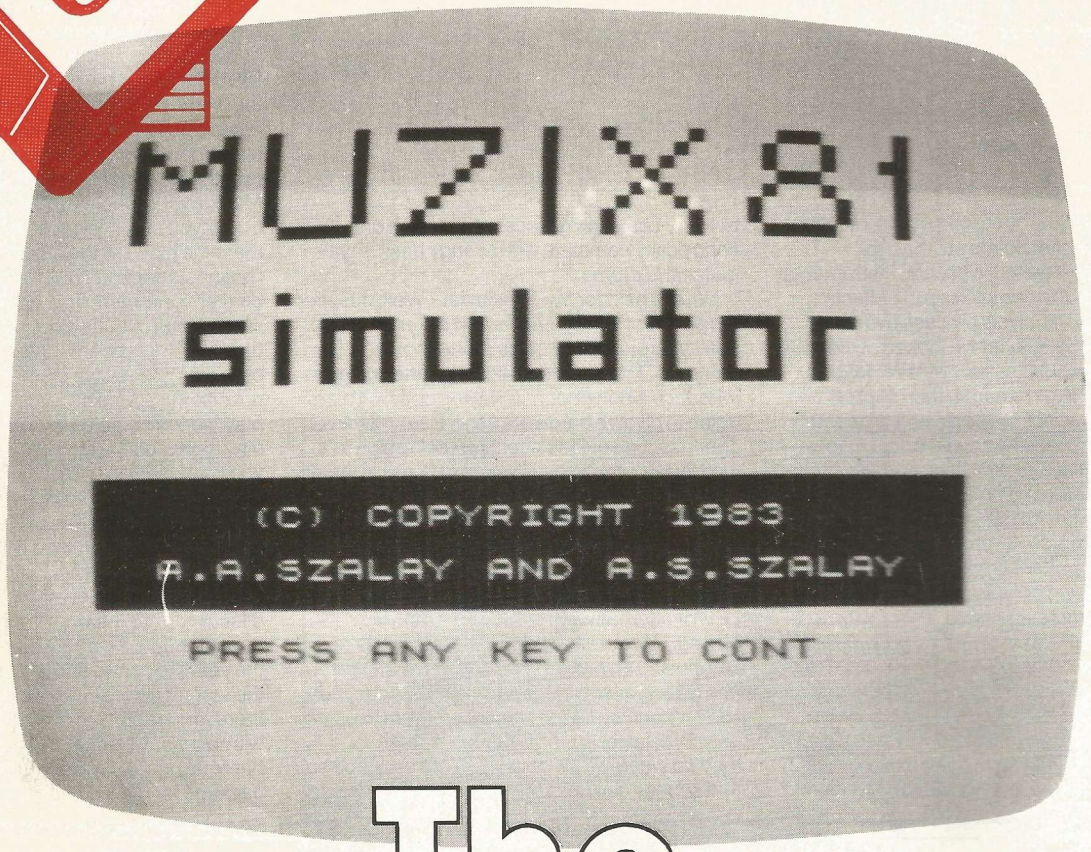
All on tape, plus more in the mag.

The Hungarian Muzik Processor package — Tony Reed previews the machine that does it all.



The Hungarian Revolution

Such is the planetary significance of ES&CM that I was no more than mildly surprised to receive a letter from Hungary a couple of weeks back. Purporting to be from two scientists-cum-musicians, Mr. Szalay and Mr. Kobor, of the group *Omega* it announced the immenent launched of a hardware and software package for the ZX81, capable of giving it the kind of sampling and sound processing facilities previously found only on machines of megabuck proportions (1.6 secs. sample into 44k RAM, up to 37khz bandwidth)

At first, I suspected a wind-up along the lines of the IBM-Frigit hoax of a couple of months back, but further investigations established that it was all for real; and a friend of the Hungarian's London agent, semi-pro musician Chris Palmer, had the only working prototype in the country. First with the news as always, we arranged for him to come down to our recording studio to show us the gadget, the Muzik 81 Processor, and what it could do.

Even as we set about putting a piece together for the tape, however, news came through that the original concept had been extensively modified and updated, to run on a 48K Spectrum. What follows, therefore, is an overview of the whole system as it stands at the moment, followed by a closer look at two of the programs currently available for it.

The system will be based around a hardware add-on for the Spectrum, featuring rear connections for MIDI and CV/Gate in and outs, tape sync, tape in and outs, and signal in and outs. Top panel controls include a Gain pot (with L.E.D. overload indicator) for adjusting incoming signal levels, Feedback control (for reprocessing the signal), and Mix (for adjusting the balance of clean and effected outputs).

Version

The ZX81 version that I saw in operation required a 64k add-on (remember them — the Hungarians do), though the Spectrum version operates within the combined limitations of computer and Processor.

The range of software that is to be available for the system is quite staggering: I played around with the **Simulator** sampler, and the **Audio Effects** package (of which, more later), but also in the pipeline are a **Composer** package, offering 8 voice polyphonic sequencing to MIDI or analogue synths, with extensive editing facilities, save to tape, sync to tape, and optional score printout of completed compositions; a **Drummer** program, offering complementary rhthym composition utilising a variety of sources (A rumoured rack-mounting sampled percussion system, 'slaved' drum machines, or Simulator samples.) A comprehensive **MIDI/Analogue** converter, offering CV/MIDI/MIDI/CV conversion, sync to tape and more (on paper at least, the equal of Korg's KMS 30 Synchronizer); a **Multisampler,** offering up to six user-defined split points on a keyboard, with each resulting section capable of supporting a separate sound making a six-piece sampled drum kit

possible, for instance; a **DX7 Editor** programe; and, perhaps most exciting at all, the **Digisynth** digital synthesiser program, allowing the construction, of 22 different spectrums consisting of 16 Fourier components from which six complex waveforms can be evolved. Additionally, 16 user-defined frequency modulation functions can be defined, chosen for any wave and completed sounds dumped to tape. Yes, we are talking F.M. here!

That's all in the future though; back in the here-and-now, we've connected the CV & Gate sockets from the processor to an SH101 which we're using as a keyboard controller, and Chris is loading up the *Simulator* Sound Sampler programme. I ask him to take us through it.

Sample talks

"First up, you have the main menu screen, offering you a top window with a range of options selected by initial letters from the computer keyboard — R for record, and so on. Beneath that is another window, displaying current status of the system, with sensible default options for the various values."

```
R-REC   D-DISP T-TUNE P-PLAY
I-INP   C-CKEY L-LOOP N-NR/L
V-TRIG  U-USER B-BKWD G-G/TR
5-<=TR  S-SAVE J-LOAD 8-TR=>
```

```
PLAY MODE              NATURAL
DIRECTION              FORWARD
TRUNCATION POINT       1600   MS
LOOP LENGTH            36.5   MS
PEAK VALUE             10     DB
TRIGGER LEVEL          -10    DB
TUNE STATUS            0      CENT
KYBD:CKEY;MODE         19 ;TRIG
```

Menu screen from Simulator *program*

I notice that you've got a definable trigger input.

"Yes — so when you're in record mode, nothing happens until there's something there to record. It defaults to — 10dB, but you can set it to anything you want."

How do you record a sample.

"Easy — connect your sample source — mike or line — to the audio input on the processor, adjust **Gain** so it clips the L.E.D. at peak levels, and press Record. As soon as Trigger level is reached, the machine records your input. The screen goes blank during the recording of your input, and returns to the Main Menu when it's complete. That's it. You can press **Display** (D) for a graphic read-out of the sample in 37 millisecond chunks — which is handy for checking that the level and consistency of the sample was OK, and for helping with any editing.

"Next thing is to select a **Center Key** (C) which will replay the sample at the pitch it was recorded. You just follow the prompt on the screen, and press any key on the SH101 you want to be the center point of the sample. After that, you can play up to one octave above center, and down to any range — although beyond about two octaves the 'run down tape recorder effect' as the sample is read out slower hampers straight 'musical' applications.

"You then have to select **Gate** or **Trigger** mode (Defaults to Trig) — **Gate** starts the sample again only after all the keys on the SH101 have been released. In **Trig** mode, pressing a new key starts it from the beginning. You select between the two by pressing '6' on the ZX. The sample can be played **Backwards** (B) or **Forwards** (F), in **Natural** (N) or **Loop** (L) mode. **Natural** simply plays the sample to the end, but **Loop** can be used to create sustained sounds. To help avoid glitching, you've got 3 options — **Auto,** which looks automatically for the best 'match' between two adjacent segments of the sample, and joins them together."

(Surprisingly effective — it was the option we used most).

"Manual, where you can listen to the sample playing a note on the SH101, and step through the sound in 1 or 10 byte steps; or **Question,** where you are prompted to enter a 'rough guess', in milliseconds, having used the Display mode, perhaps."

"If the sound was shorter than the space set aside for it, you can chop off the silence at the end using **Truncate,** a flexible endpoint selected by the 5 and 8 keys on the ZX, and displayed in milliseconds. This doesn't get rid of the sample beyond the endpoint though, so, on a long sample, you can do some sophisticated things — using Truncate and **Backwards,** you could play half a sample forwards, and then have its second half reversed!...*Whatever* samples you end up with, you can then dump to tape."

And the results? In a word, devastating. We sampled a compact disc of *Carmina Burana* (*The Old Spice ad — Classically-trained Ed.)*, electric bass, some guitar chords, drum sounds — and everything came out crisp and sharp — from an SH101 keyboard! I still can't get over the shock. One finger, and Whuummp! — a hundred voice choir!

Reluctant as I was to leave the sampler alone, and leaving aside some of its more esoteric options — keyboard rescaling, note by note, for example—we next loaded the **Effects** package, which offered, in the same sensible, flexible and error-trapped format **Echo** (1 to 9999 msec, 10 user-definable memories, freeze and unfreeze play live over a 'frozen' echo — full bandwidth up to 1390msecs, with an increasing trade-off up to 9999 msecs — yes, a 10 second delay, which still retained enough bandwidth to be useful for unfussy sounds!); **Reverb,** which allows two independant delay lengths of up to 1480 msecs to be set up, simultaneously, complete with independent phasing; **Transposer,** again with 9 user-definable presets offering transpost in fractions of a semitone, and **Loop** (in msecs-. — Use of feedback can produce ascending or descending scale effects from a single input. And finally, **Dual Transpose,** offering all of the previous facilities on two separate pitch shifts, plus independant mixing of their respective volume levels. Some great harmoniser effects on vocals can be had with this one.

As if that wasn't enough, the package comes complete with a set of diagnostic routines to tailor the package to your synth if it needs it, but we had no problems.

What can I say? If these two programs are an indication of the quality of the whole range, then EVERYONE had better look out. At the moment, these products must be the home recordists dream. If the Hungarians can be persuaded to develop a microdrive option, or, best of all, a CBM64 Disk based version — they could be a major hit with pro musicians too.

Prices and availability of the whole Muzik Processor range have yet to be finalised, but we'll let you know the second (well, the month), that anything is decided. We also hope to bring you in depth reviews of the programs in the range over the next few months. Keep 'em peeled.■

●*U.K. agents for the system are Vulcan Electronics, on 01-203 6366.*

The audio processor with ZX81 and SH101 squeezing into the picture.