

Fast-Forward and Rewind



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[Self-Teaching Patches #1](#)



[The Theory of Electronic Music](#)



[Self-Teaching Patches #2](#)



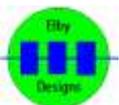
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[Appendices](#)



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EURO-SERGE – WHAT DOES IT SOUND LIKE

THE MUSICIAN'S TAPES

(Transcribed from the original 4-page article by Darrel Johansen.)

The Musician's Tape cassette tape was released in 1983 to allow those who had no access to a Serge synthesizer the opportunity to hear its qualities – qualities that just cannot be described by words.

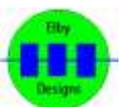
Since 1974 the Serge Synthesizer System has presented a certain appeal to the artist and musician because it had features like no other electronic instrument. In the tradition of the classical studio synthesizer found in many electronic music studios, recording studios and universities, the Serge synthesizer uses patch cords to connect the various modules to produce electronic sounds, but it uses many unique designs for signal processing and controlling patterns of sound (music, when the pattern is right).



Figure 1 – A Tape Cassette

Keyboard controlled synthesizers are now everywhere. These instruments borrowed a few standard 'patches' from the modular synthesizer and built them around an organ-type keyboard. While the widespread use of these instruments has made the electronic synthesizer a little more familiar, there is still a vast range of possibilities that cannot be covered by these dedicated, though sophisticated, instruments. It is common to hear the words VCO, VCF and VCA in music stores, but the Wave Multiplier, the Analogue Shift Register, and the Universal Slope Generator, after years of use, are still relatively unknown module concepts to the average synthesist. The demonstrations planned for this tape were to have made these functions better known, and possibly, would have shown their usefulness to a group of musicians for the first time.

This tape was to have been in two sections. One section was to have employed the standard announcer proclaiming "... and this the sound of the Wave Multiplier", then a short demonstration of some of the sounds available with the device. In conjunction with these short aural demonstrations of many of the unique Serge modules, it was requested that the tape include short musical sections from those using the Serge. With the resulting collection of music covering so many styles it was finally realised that the entire point of the tape could be covered quite explicitly in the music submitted for the tape.



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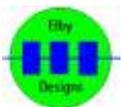
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After all, the synthesizer only generates sounds; it does not (as some would have you believe) synthesize music. The musician is the one who best demonstrates the potential of the instrument, so the Musician's Tapes was released with an incredible sampling of music by those who used the Serge Modular Synthesizer System.

FOOTNOTE:

The Euro-Serge system faithfully tries to emulate the original Serge Modular Synthesizer and there are a number of videos by [Doug Lynner](#) comparing Euro-Serge modules with their Serge Modular counterparts. So although the tapes in the first section of this chapter were created on original Serge Modular systems, the sounds created, the patching techniques and the modules used are almost all equally valid with the Euro-Serge system.

In the closing part of this chapter we present some original sound samples using the Euro-Serge itself.

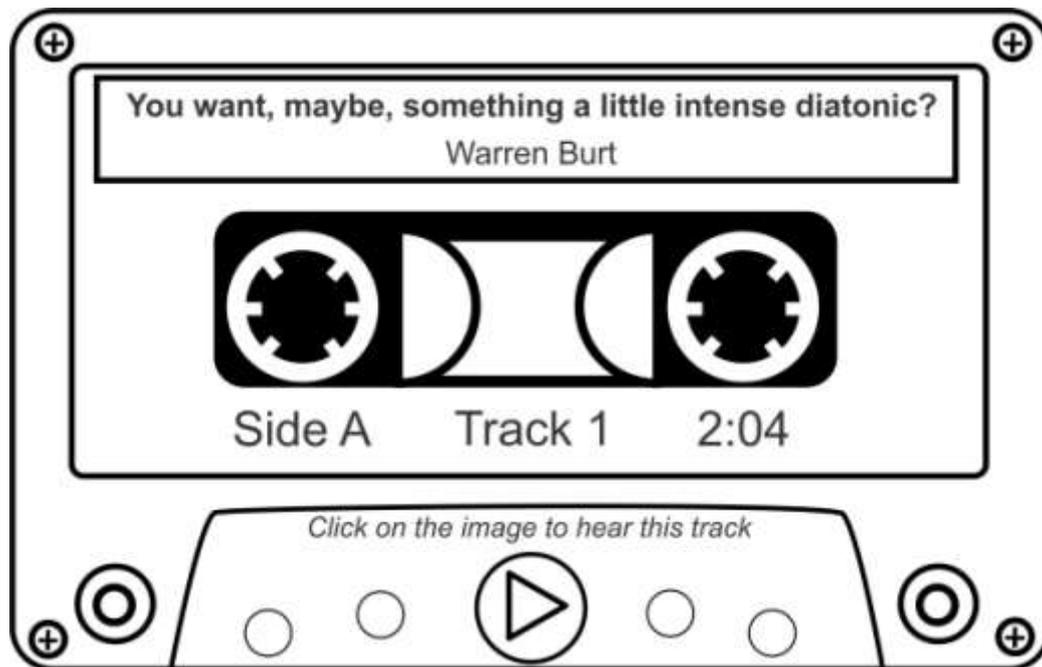


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September 25th 1982, section from “STUDIES (1982) for Synthesizer.
Scarlet Aardvark Tapes

“15-step sequence tuned to Ptolomy’s Intense Diatonic – a just intonation C Major scale. Changing rhythmic sampling routines result in harmonies. Timber: Traditional VCO-VCF-VCA patches.”

“This piece is made up of 17 sections, each 2 minutes long. Each section was made on a combined Serge-Driscoll-Aardvark synthesizer, and each uses different tuning, timbral and rhythmic ideas. Each section was made in real time, or some multiple of real time, and was made using various automated and interactively performed processes. No traditional keyboard was used in making the piece and often the only performing done was to start and stop the process in motion. The sections are formally more complex than the monolithic blocks of sound one usually associates with such processes; however, it was one of the aims of the piece to give each section a fairly intricate formal structure while still using these processes. My prime aim in making the piece was to stretch my use of the synthesizer into areas I knew were possible but which I had not yet explored. These explorations will hopefully serve as the basis for some future work.

Technical concerns catapulted this piece in to being, and if parts of it swing, that swing is probably a by-product of the intense delight I felt in exploring these materials for the first time..... the pieces can be listened to in many different ways, and the delights available in any one way of listening do not



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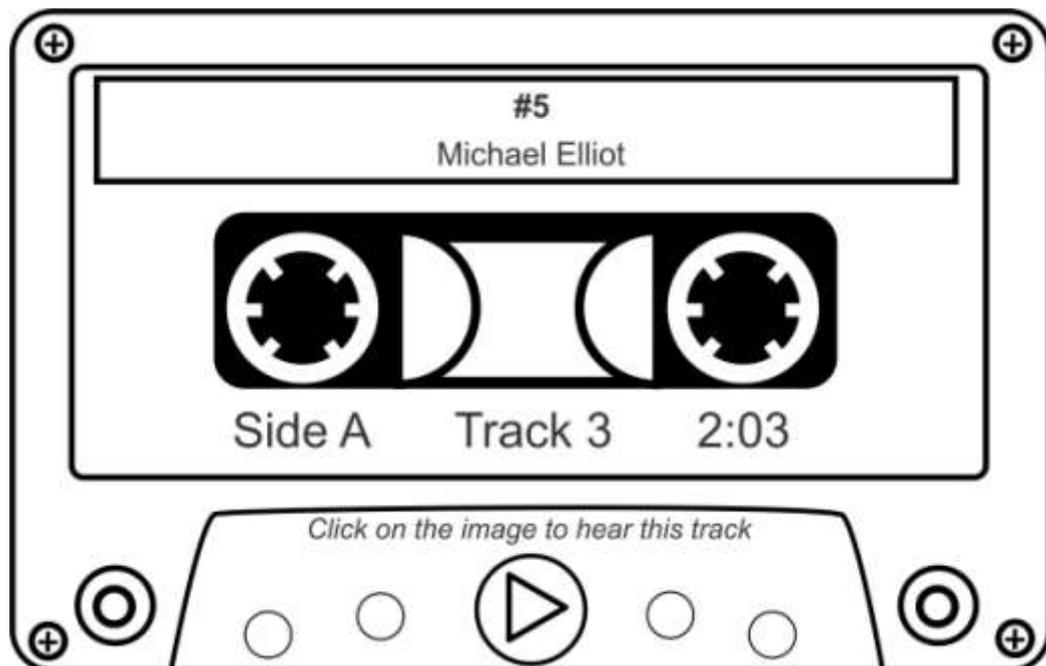
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necessarily cancel out or make inferior the delights made available by listening in other ways. I simply ask you to listen, and if the piece makes you curious enough to start any exploration of your own, it will have been more successful.”.... [Warren Burt](#)



Broadscore – Jill Fraser and Elizabeth Myers



“A drum rhythm exercise, after attending a Blackfoot festival. When hearing the drums, my wife said all that was missing was the coyotes...”



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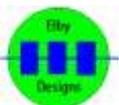
“... Several of these pieces began as exercises.... I included them anyway, due to the pleasant surprise of discovering some musical value in what began as an exercise or improvisations, the latter being an area that is largely unexplored in ‘studio’ synthesizers, and an area in which the Serge system excels....”



“Casio keyboard processed through Serge synthesizer.”

“Did you ever dream you were in a shopping mall and didn’t have your pants on?”

[Scot](#) was the technical director at the Centre for Contemporary Music as the Mills College, and actively composed and performed throughout the San Francisco Bay Area.



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Copyright: 1983 Cybersound Music.

Personnel:

Piano and Synthesiser	Roger Powell
Guitar	Andrea Cairo
Engineer	Paul Antonell

“Except for Piano and Electronic Guitar, all sounds were created on the Serge Modular Synthesizer and recorded at 30ips without noise reduction on an



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AMPEX 16-track deck. Outboard processing included a LEXICON Print Time, AKG BX-10 Reverberator, and (very little) equalization provided within the APSI mixing board modules. No other equipment was used to make this recording – a testimonial to the versatility of the Serge System. Several tracks were synchronized during overdubbing by using basic modules in the Serge to first generate a clock signal of the periodic, tempo-multiple tone bursts which were then read back off the tape by the Sloe Generator module and converted to clock pulses used to drive the sequencer and envelope generators. The Touch Keyboard Sequencer was used to trigger other non-automated sounds. The Wave Multiplier module and the unique Serge filters were used often and impart, I believe, audio characteristics that are unachievable on other systems, especially in the area of non-linear wave shaping techniques.

Although no computers were used in the tape excerpt, I frequently use an APPLE II with my own composition language TEXTURE, to control multiple synthesizer voices during the development and realization of synthesizer-based pieces.



Roger Powell's solo recordings include two albums of synthesizer music: COSMIC FURNACE (Atlantic Records 1973), and AIR POCKET (Bearsville Records 1980). He has recorded and toured with the band UTOPIA and worked with David Bowie during his 1978 world tour.



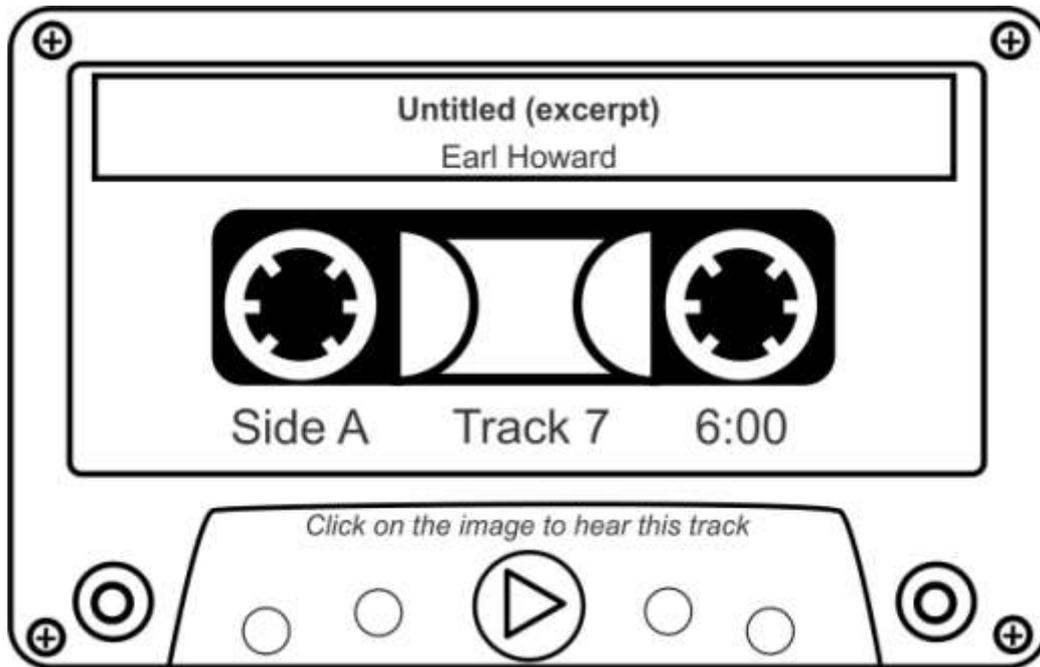
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In 1994 [Earl Howard](#) released *Pele's Tears*, a compilation of works from 1986-1993 in which the first two tracks were solos played on a Serge Synthesizer.



Copyright Rubber Logic Sampler 1982



EURO-SERGE – WHAT DOES IT SOUND LIKE



Copyright (P) [Todd Barton](#) 1982

“All of the sounds were created on a small ‘standard’ system... (this cut was) produced without multi-tracking, i.e. these are all pure, single-event Serge sounds... many of these pieces appear in the pilot of the National Science Fiction Radio Theatre out of Los Angeles.”

Todd Barton is an active composer and is the Music Director of the Oregon Shakespeare Festival Association.



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“When we do our recordings, our approach is to blend together electronic, acoustic and vocals... We went back to our original tapes and extracted those instrumental backups and accompaniments to songs which were done exclusively with the Serge. Many of these songs used acoustic instruments as well in the creation of the instrumental aspect of a song, and these too were eliminated. So, the sounds... are completely Serge system created.

All the rhythms in the songs are seven beats per measure and are made automatically in real time (not multi-tracked) by the Dual Slope Generator clicks through keyboard voltage controlled Variable ‘Q’ VC filters.”



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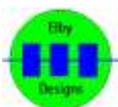
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“On this piece we used objects sonore generated by both Serge’s with the addition of a few twittering background notes done with a Casio M-10.”

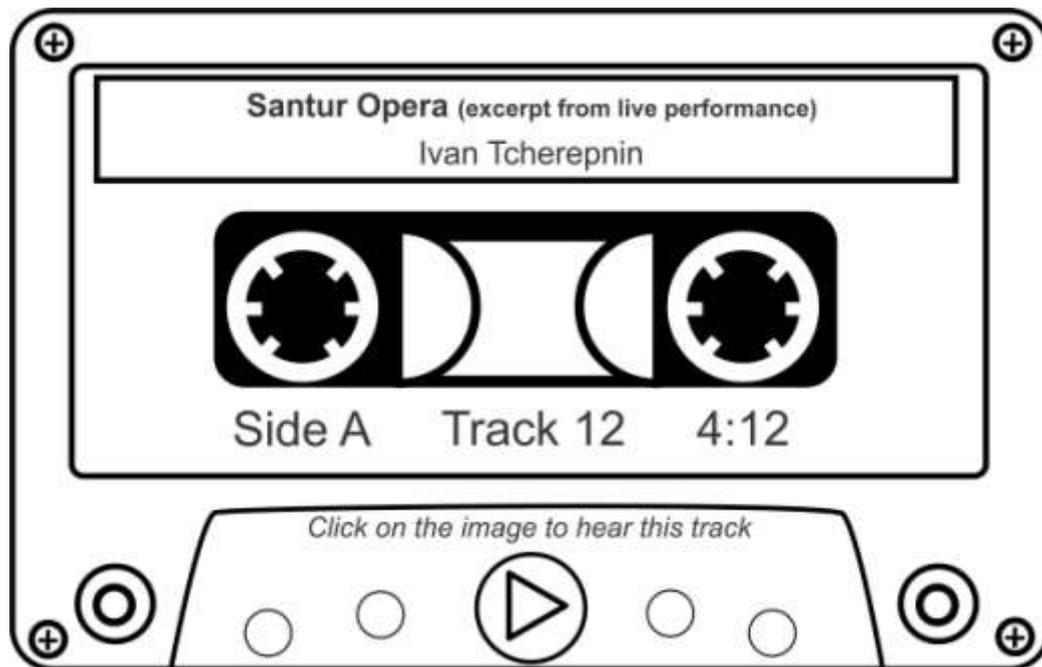


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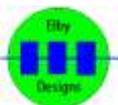


“Santur Opera is without text, without singers and played entirely on the Santur (a Persian zither) and realised with the aid of an electronic synthesizer built by [Mr. Tcherepnin's](#) brother, Serge, and associated electronic instruments built by David Wilson. The word ‘opera’ is used to suggest the presence of an unfolding drama during the improvised performance.

Depiction of the topsy-turvy world of SANTUR OPERA is facilitated by Serge Synthesizer Modules: sequenced oscillators keeping the world a-ticking; and the slews: ‘Running Slew’, ‘Rising Slew’, ‘Slow Slew’, ‘Hand Slew’, and ‘Wandering Slew’; all basically functioning as sub-harmonic generators from an independently controlled Master Oscillator.

‘The Aray and the Chase’ (the section from Santur Opera on this tape) makes use of a voltage controlled Wilson Analog Delay, along with a tabla patch on the synthesizer which is directly dependent on each nuance of the performer’s play. There are two envelope follows for the Santur: one for the voltage controlled filter, and one for the Negative Slew which controls the rate of the Negative Slew driving the Gate.”

Ivan Tcherepnin was born in 1943. He studied with his father Alexander Tcherepnin, and with Leon Kirchner. He taught music at Harvard University where has also supervised the operations of the Electronic Music Studio.



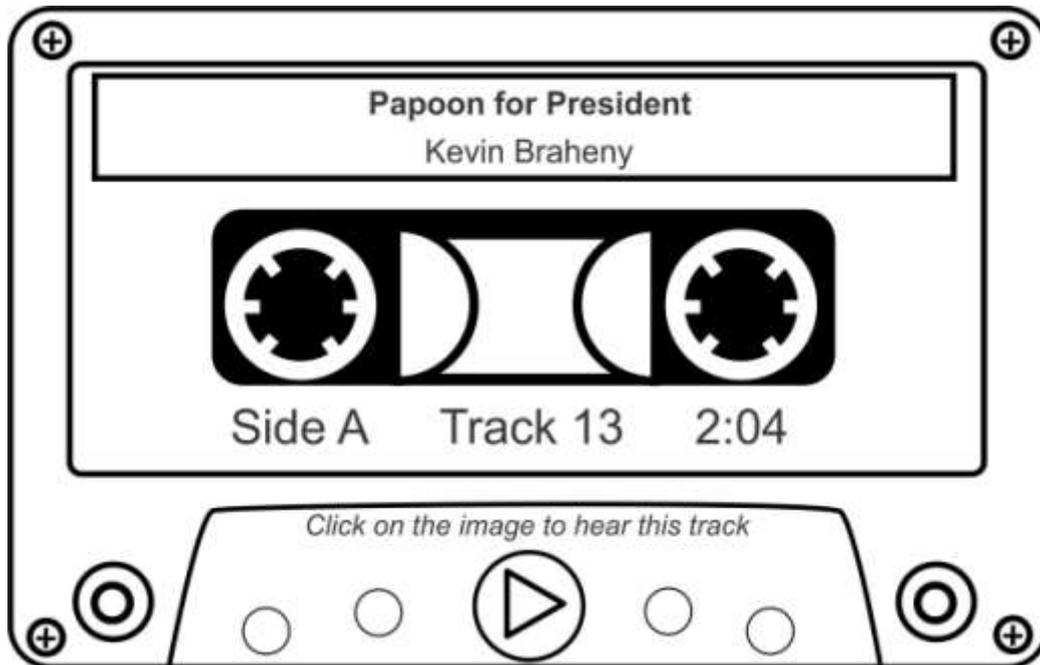
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EURO-SERGE – WHAT DOES IT SOUND LIKE



All sounds done in real time with the *mighty Serge*..... [Kevin Braheny](#)



Copyright Phonogram Tapes.

All instrumentation is done with the Serge.

“Neither a ‘pop’ musician nor a member of the Terry Riley/Philip Glass minimalist school, [Michael Stearns](#) – composer, performer, producer and



EURO-SERGE – WHAT DOES IT SOUND LIKE

recording artist – is one of the creators of a new genre of music that has been flowering in all corners of the globe since the early '70s.

'People use all kinds of names for this music', Stearns says. 'Some call it meditative, transformational, or cosmic music. Others call it New Age or Space music. What we are talking about here is a world of music. The music emerges from all cultures of the world and uses all instruments - acoustic and electronic – as well as newly innovated instruments and tuning systems. It includes sounds both human and mechanical and, of course, the sounds of nature – ocean, wind, rain, animals etc.'

Since 1977 he has recorded a number of major compositions: Planetary Unfolding (1981), Morning Jewel (1979), Sustaining Cylinders (with Gary David), Sleeping Conches (1978), Ancient Leaves (1977) and more recently The Lost World (1995), Sorcerer (2000) and The Storm (2001). Michael Stearns has established himself as one of the foremost creators of visionary synthesizer music.

"The intent of my music is quite different from the intent of commercial music', said Stearns. 'I don't perform, not in the usual sense of the word. In fact, I remove myself as the focal point of the audience's energy. I don't write attention-grabbing hooks, nor do I write music that promulgates or reacts against established forms and cultural values. Instead I create a sustained, alternative context, a life-affirming texture in which there are many melodies. In that context, which is totally open, listeners can hear whatever they want to hear, dream whatever they want to dream. They can guide themselves, using their own power to create their own visions and personal inner musics'".

Notes by Lee Underwood



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“Many Serge modules were used in, on and through this composition. The percussion track was generated by rhythmic sub-division using a Dual Slope generator and a Dual Transient generator with Extended ADSR’s. A MiniMoog was used for the ‘bass’ and it as well as a Casio M-10 and MT-30 were processed through various Serge signal processing modules, including Variable ‘Q’ and Variable Slope filters, Wave Multipliers, and Resonant EQ’s. Also used were Precision VCO’s and New Timbral Oscillators, a Noise Source, and a Touch Activated Keyboard Sequencer.”

[Eric Feldman](#) has played keyboards, synthesizers and bass with Captain Beefheart and the Magin Band since 1976, appearing on the albums ‘Shiny Beast (Bat Chain Puller)’, ‘Doc at the Radar Station’, and ‘Ice Cream for Crow’. He has played with SnakeFinger and co-produced the album ‘Manual of Errors’ on Ralph Records. In recent times, Eric has been associated with numerous acts including Steve LeGrand, Pere Ubu, PJ Harvey and Frank Black.



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Serge System with Casio 202 and Serge Modular N-Voice Controller (Casio Keyboard Interface).



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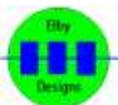
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“This piece is a realization of a short piece written by Elliot Carter for four tympani. Each instrument is of fixed pitch, and the regular meter was an ideal test of a computer rhythm controller I developed. The triggers were used to initiate the percussive ‘voices’ patched on the Serge synthesizer. The entire score was loaded in to computer memory and then ‘played’ without human intervention. In addition, various timbral and spatial parameters were controlled manually and automatically. The piece is performed live.”

Darrell Johansen is the manager of a firm specialising in electronic musical instruments and other diversions.

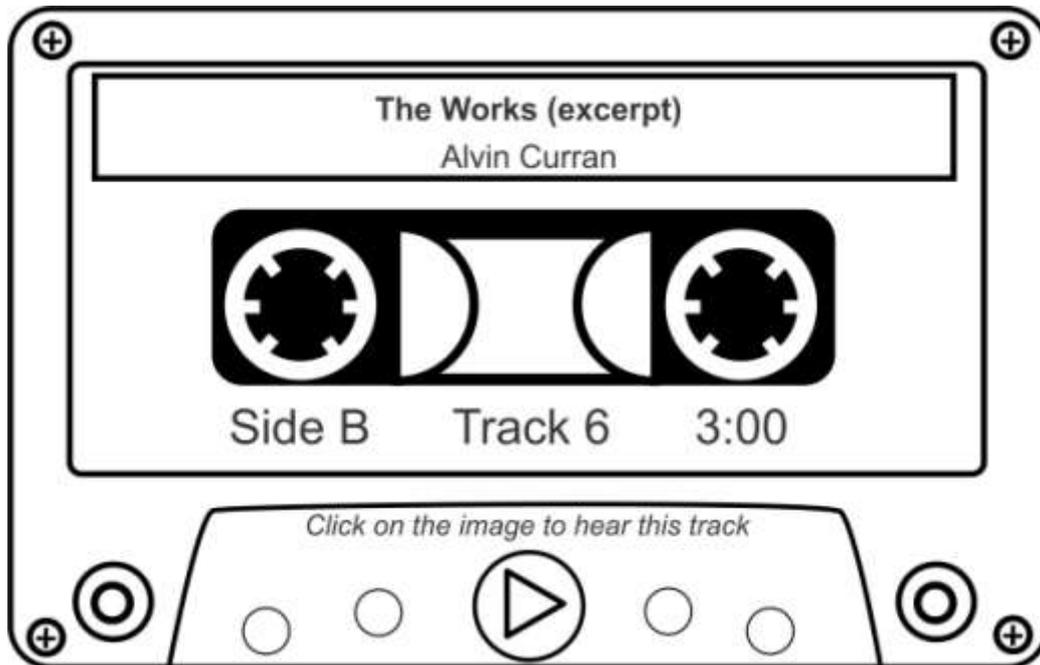


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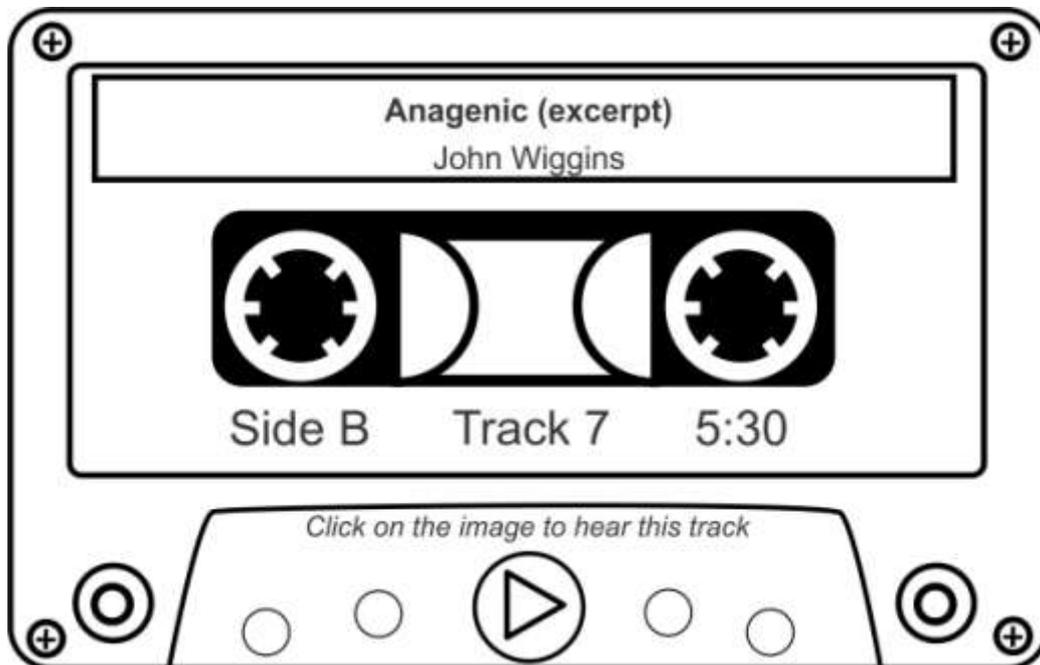
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[Alvin Curran](#)



“... a section from my second cassette ‘Anagenic’ which was available in Summer 1983. My first cassette ‘Tuned Space’ did well, thanks in large part to his instrument builder. Although the piece uses other sounds, the base of all my work is my Serge (6 panel) with my studio built around it and one of my computers dedicated to controlling it. All the sounds were either totally created or processed through my system...” ... [John Wiggins](#)



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Copyright Dental Records 1980.

Personnel:

Serge Synthesizer and Steiner E.V.I - Paul Young
Drums and Synares - Robert Williams

Paul Young is known affectionately among his friends as 'Eazy Teeth' because he is always smiling. When not at the ballpark, racetrack or sushi bar, Mr. Young spends much of his time creating electronic masterpieces at his luxurious, private 8-track recording studio and attending to his trilobites. He has scored pieces for Mary Jane Eisenburg Dance Company in Los Angeles and for other dance companies in Los Angeles and New York.

In his spare time, Mr. Young lifts equipment for himself and others.



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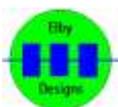
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Copyright Associated Music Publisher 1983.

Music from the film "Matter of Heart", a documentary about C.G. Jung.
Serge Synthesizer with orchestra.



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EURO-SERGE SOUNDSCAPES



"soundscape"

"All of the waveforms faithfully transmitted to our audio cortex
by the ear and its mechanisms" (*)

The following pages include sound examples from the Euro-Serge

(*) Pauline Oliveros, composer of post-World War II electronic are music

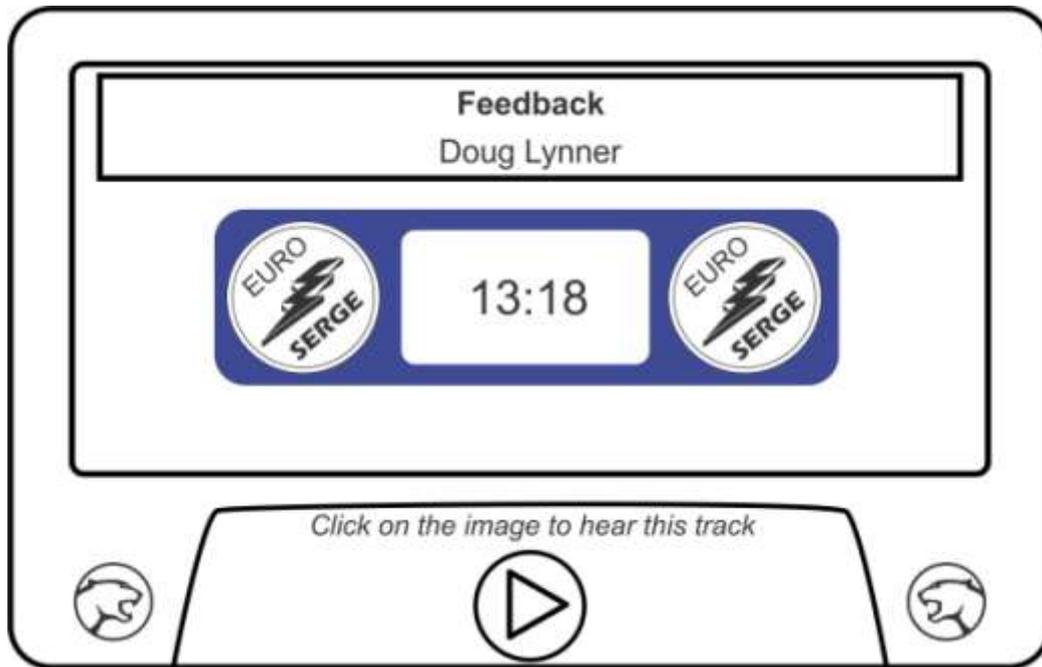


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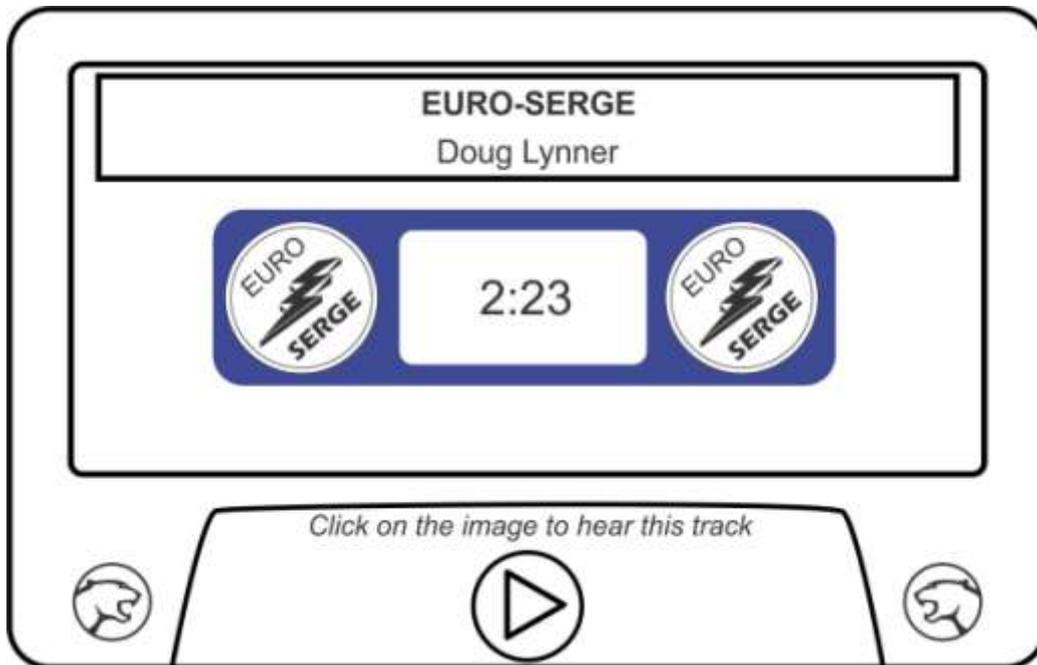
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FEEDBACK



A marriage between the [Euro-Serge Beginner System](#) and Doug's Mystery Serge.



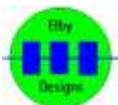
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