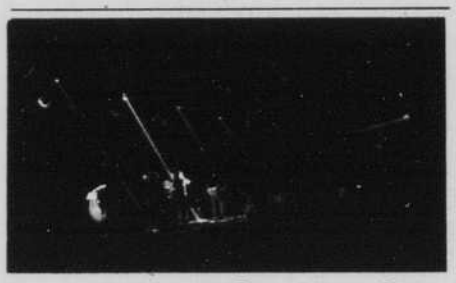
TECHNOROCK

The Wizard

No single artist makes broader or more successful use of Seventies' music technology than **Stevie Wonder.** His synthesizer and electric piano produce a distinctive Wonder sound which weaves together elements of jazz, soul, rock and reggae into such memorable masterpieces as "Superstition" (1972), "Higher Ground" (1973) and "Living for the City" (1974).

Wonder also is foremost in using the recording studio as a tool of musical expression. His 1976 double LP *Songs in the Key of Life* is praised not only for its rich musical diversity, but also for its use of multiple tracking and overdubbing. These techniques enable Wonder to sing his own background vocals and play many instruments—piano, bass, drums, clavinet and harmonica—on the same song.



The New Orchestra

Inspired by the Beatles' use of symphonic strings on "Strawberry Fields Forever," English rocker Jeff Lynne formed **Electric Light Orchestra** in 1971 to take that sound out of the studio and onto the stage. Combining two cellists, a violinist and backup support from Moog with standard rock instrumentation, Lynne forged a unique "orchestra" sound. With a string of hits behind them, including "Roll Over Beethoven," "Evil Woman" and "Telephone Line," ELO continues to produce rich orchestral songs by using modern music technology and Lynne's expert arrangements.

Today's pop stars may sing lines like "Don't know much trigonometry," but they'd better know electronics. In the Seventies, electronic skill is as much a part of the musician's repertoire as knowledge of chords and keys. New electronic instruments like the synthesizer expand creativity in quantum leaps. New in-studio technology like complex mixing consoles and multitrack recorders raises the quality of sound to better-than-live. On stage, wireless microphones give new freedom to vocalists, and groups like Led Zeppelin and ELO use lasers to produce startling visual effects. And staggering amounts of sophisticated gear are lugged along to reproduce their studio sounds in person.

What's in the future? New instruments and even better sound, for starters. Laser technology, computer systems and video discs may turn conventional stereos into dinosaurs. Instead, TV/stereo hookups will use hologram lasers to bring lifelike performers into your own home in 3-D realism. And you thought *Star Wars* was fooling around.

Aerosmith: Mixing hard rock sounds in studio

SOUND SAMPLER

Walter Murphy: *A Fifth of Beethoven* • **Electric Light Orchestra:** *Eldorado* • **Emerson Lake & Palmer:** *Brain Salad Surgery* • **Eno:** *Here Come the Warm Jets* • **Giorgio:** *From Here to Eternity* • **Kraftwerk:** *Trans-Europe Express* • **The Alan Parsons Project:** *I, Robot* • **Pink Floyd:** *Dark Side of the Moon* • **Roxy Music:** *Roxy Music* • **Todd Rundgren's Utopia:** *Todd Rundgren's Utopia* • **Tangerine Dream:** *Encore—Tangerine Dream Live* • **Rick Wakeman:** *Journey to the Centre of the Earth* • **Stevie Wonder:** *Songs in the Key of Life* • **Yes:** Fragile

The New Instrument

The wizardry of today's technical music centers on the **synthesizer**, a machine built to produce an incredible array of electronic sounds. The first synthesizer was a room-sized device, built in 1955 by RCA. With a price tag of $100,000, RCA didn't have musicians beating down doors to get one. Enter Dr. Robert Moog, electronics expert and sometime piano-player. In 1964 he grafted a keyboard onto a much smaller version of the device that looked like a jet plane control panel. Moog's musical Frankenstein was able to mimic a wide variety of instruments by manipulating sound waves through a series of mixers, filters and amplifiers.

Over the years, various refinements including computer applications have made the synthesizer more versatile and "playable." Today its use is widespread, from the rock creations of Keith Emerson to the classical pastiches of Walter Murphy to the avant-garde explorations of Brian Eno. In the works are synthesizers that can be adapted to other instruments besides the keyboard. Soon tuba players and saxophonists may be able to get guitar riffs or piano solos out of their instruments—without even blowing them.

Roots

The first major pop recording to feature a synthesizer was the Beach Boys' "Good Vibrations" in 1966. Walter Carlos's *Switched-On Bach* brought the sound to classical music in 1968, and the British group **The Who** showcased the synthesizer in rock on the 1971 landmark album *Who's Next*. From there, Dr. Moog's invention has gone on to become a virtual rock requisite.