

Meccano Chain & The Mellotron Story

In 1962, the three Bradley brothers of Birmingham, England (Les, Frank, Norman) were approached by an American named Bill Fransen. Mr. Fransen worked for Harry Chamberlin in Calif. building keyboard instruments, named the "Chamberlin".

The Bradleys were asked to supply a matched



set of 70 tape heads. Intrigued by this request, Les inquired further and discovered their end use in a tape replay musical instrument. With financial backing, the Bradleys designed and built their own model, called the "Mellotron" (Melody Electronics).

The Mark-I Mellotron commenced manufacture in 1963. It was an elegant piece of cabinetry, designed for home use. Its weight was a hefty 375 lb. with equally hefty price-tag then (1000 pounds sterling). Within it resided a total of 1260 sound samples on proprietary 3/8" wide tape. The Mark-I could produce a multitude of rhythms, accompaniments and instruments ranging from flutes, violins, mandolins, brass, church organ, sax and many more.

Internally, the tapes were stored on 4" diameter drums. Three sounds resided on adjacent tracks. And additional sounds could be enabled by shuttling the drums forward/reverse to one of

six "stations" or tape-banks. This was accomplished by the use of Meccano chain and sprockets fitted to the drums and stepping motors.

Not only was Meccano chain utilized, but Meccano sprockets (on tape drums, sync switch, station select motor, tone wheel), and Meccano gears (on volume pedal, sync switch). Unusual applications were as motor clutch, torque multiplier, idler pulley, etc. Meccano parts exist in EVERY Mellotron to this day (2500 produced from 1963-1986, all models) in varying amounts and applications.

A total of 55 Mark-I Mellotrons were produced until 1965. The Mellotrons were an instant success, used by many early British bands of the 60's. Several notable owners were Peter Sellers, John Lennon, Princess Margaret, and even L. Ron Hubbard!

When the improved Mark-II Mellotron debuted that same year, many Mark-I's were returned to the factory for electronic and mechanical upgrades. All but 10 Mark-I's had the changes made. Of these 10, only three orig. MK-I's have survived to this day. Two are still in Birmingham UK area, and only one in the entire USA (S/N 124).

No. 124's revival began in 1998 and took almost five full years to complete cosmetic and functional restoration. Many parts had to be replicated, and others were shipped from Canada/UK. The high-tensile improved Meccano chain as supplied by Lou Boselli saved the entire project from a potential dead-end. The original Meccano chain from early 1960's was case-hardened. For the first time in 25+ years, this Mellotron MK-I is again shuttling tape banks w/o any problems whatsoever!

Back to Meccano. Here's a more detailed description of the misc. assemblies/parts used in the Mark-One.

Tape Storage Drums (qty. 4) - Meccano sprocket on each drum

Tape Transport System (qty. 2) - 1) Approx. 122mm of

sprocket ladder chain on each side of instr. 2) Two sprockets machined and milled to form a motor clutch. Fibre washer fitted between sprockets.

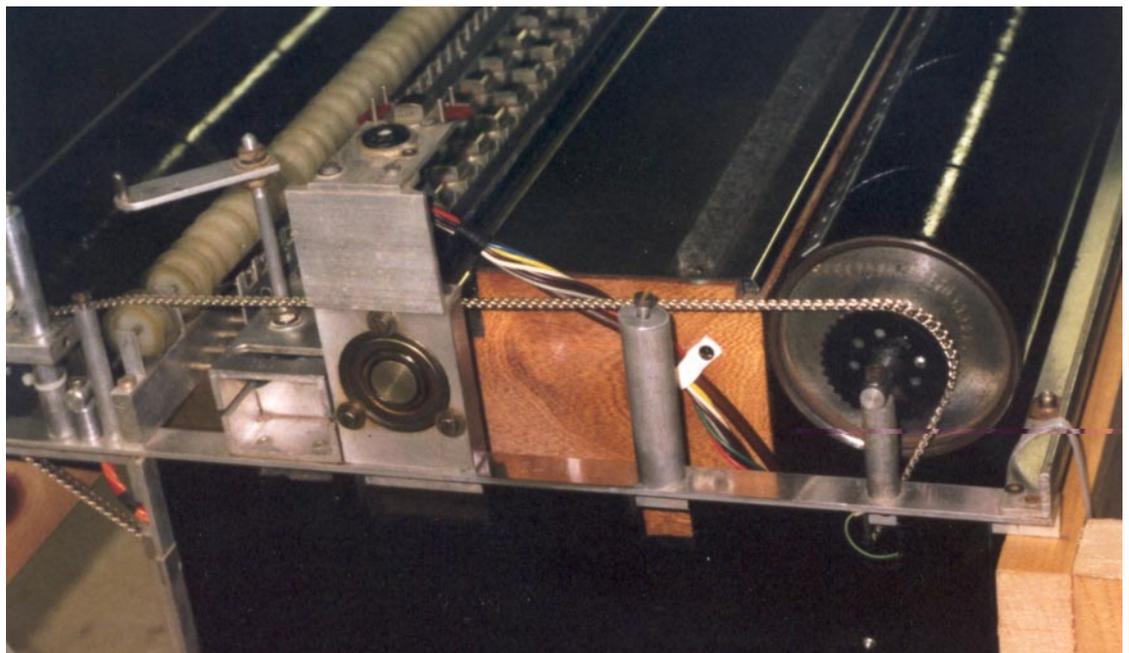
Synchronised Tape Switch (qty. 2) - Meccano sprocket and Meccano bevel/worm gear used for timing. A critical component in transport sys.

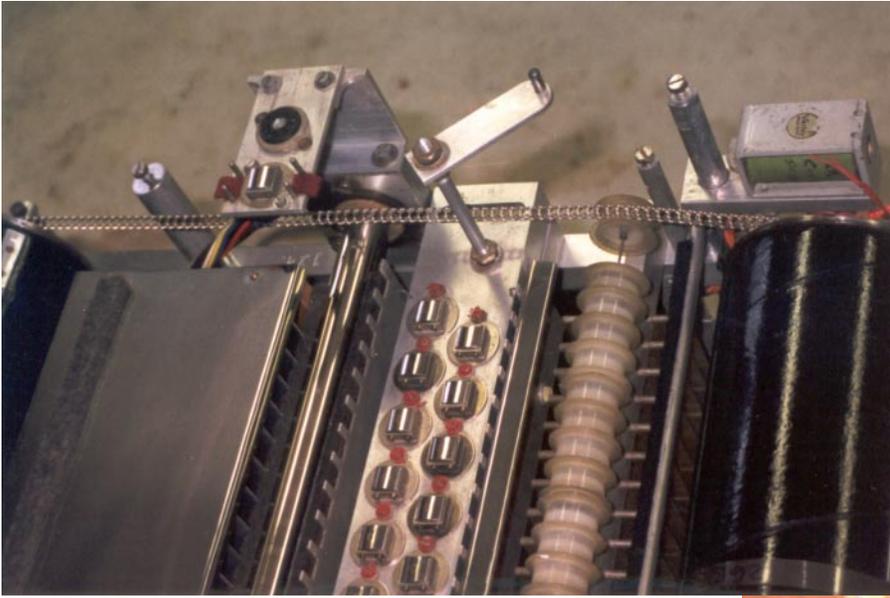
Volume Foot Pedal Assy (qty. 1) - Combination of misc. Meccano gears designed as 8:1 ratio to change control rheostat for lead keyboard.

As mentioned previously, the Meccano sprocket served another unusual function in subsequent Mellotron models. The teeth were slightly rounded-off, and it was attached to shaft of capstan motor. These teeth provided a pulse-signal to a tape-head situated about 2mm distance. Was part of feedback in motor speed control circuit. The pitch of the capstan had to remain spot-on under all environmental and playing conditions. The Meccano sprocket/tone-wheel was used until 1986 when the Mellotron factory closed their doors.

The Mellotron was used on over 1000 albums/CD's to this day. And Meccano was there in its small way, providing the Mellotron with a stable means of reproducing sounds.

The machine I own/restored was built in Oct/Nov. 1963. It is a Mellotron Mark-One, serial number 124. There were 55 Mark-I's built, in 1963-1964. All but ten were returned to the factory for Mark-Two upgrades. Of these theoretical ten still out-there, only three have been actually located. They are:





MK-I/103 - owner, Martin Smith of Staffordshire, UK

MK-I/124 - owner, Jerry Korb of Vermont, USA

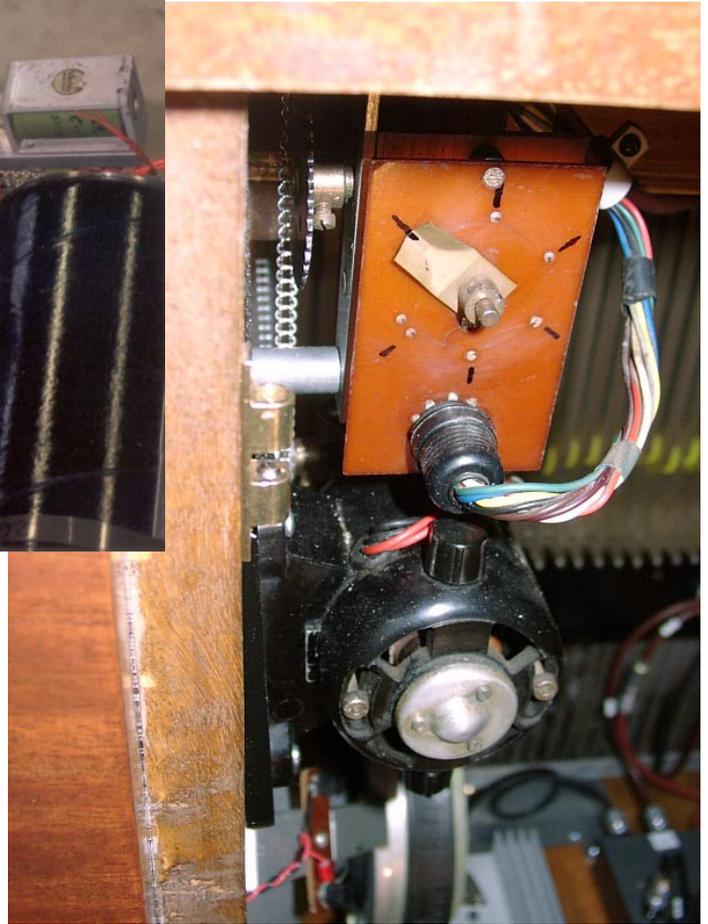
MK-I/132 - owner, John Bradley of Birmingham, UK

John Bradley is the son of Mellotron's inventor/developer, Les Bradley and Les's two brothers, Frank and Norman. The three Bradley brothers improved upon a design which originated in the USA by Harry Chamberlin.

This year of 2003 is the 40th birthday of S/N 124. This rare Mellotron can be seen on the Internet at the following webpage (<http://www.tronsounds.com/JKMKICAS.htm>). Another website is in process enabling viewers to actually see/hear the completed instrument. My special thanks to Streetly Electronics of Birmingham, UK who supplied many OEM parts/tapes needed. And again to Louis Boselli of New York who supplied the "super" Meccano chain for this special project.

Jerry Korb (jkorb@ix.netcom.com)

Editor's note: last year Lou Boselli contracted a production run with Hale Bros., who produce ladder chain. This new chain is considerably stronger than the genuine Meccano article as it's made of high tensile steel to minimize stretching. Also the pitch and width have been "tweaked" so that it "hugs" the sprockets more closely. A side benefit of the latter improvement is that



it also sits on late Erector sprockets. Best of all, this chain is cheaper than the original. (Lou's chain is \$3.00US per foot, cut to any length, plus shipping.)

