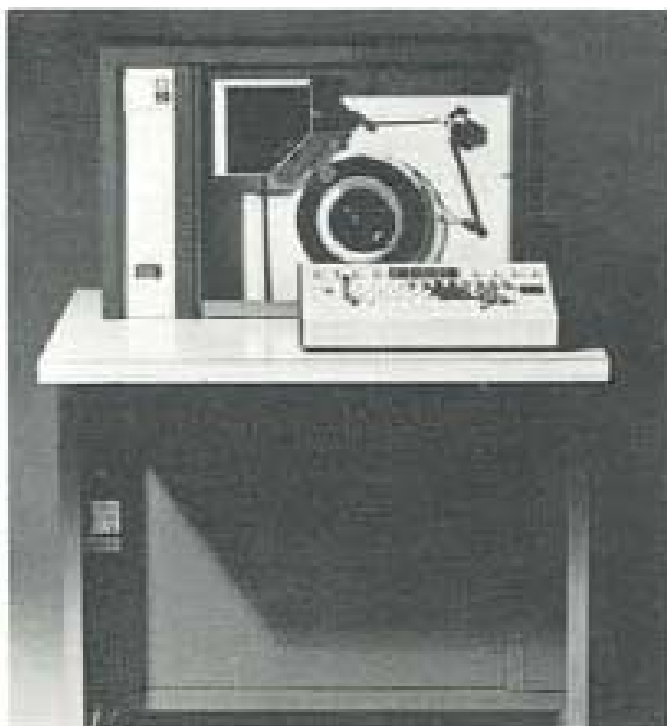


The NCR Class 735 and 736 Magnetic Tape Recorder Memories and Pages of a rare Service Manual

By Emmanuel Georgantas

The NCR C-735 Magnetic Tape Recorder is a little remembered product, but quite successful in the late 1960s to beginning of 1970s. This unit was manufactured by the now defunct New York based Mohawk Data Science (MDS) Company as Model 1101 and 6401, and was marketed by NCR as Class 735 and 736.

The NCR 735 was a data entry system. The operator was key entering records through a keyboard just like punching an 80 column IBM standard Hollerith punched card. The difference was that instead of punching holes on card, all data were written on a magnetic tape which was later read by the tape drive of the mainframe system. The idea



was brilliant because most mainframes were programmed to read punched card data formats, so the upgrade from the mechanical puncher to the modern magnetic tape data entry systems was easy and did not involve the extensive software changes and the high cost involved to implement them.

Many units were sold worldwide and the product had been a great success for a short period of time.

Field Engineering training classes in Europe were regularly given at NCR Augsburg and at the MDS training facilities in the small town of Siegburg, near Cologne, in what was called at that time West Germany.

A complete Operator's Manual for the MDS /NCR Magnetic Tape Recorder can be found at

http://www.bitsavers.org/pdf/mohawk/KeyingMagtapeForComputers_1968.pdf

Olympic Airways was one of the major customers, and had deployed many NCR C-736s in their central EDP installation site in Athens in the beginning of 1970s. Hundreds of tape reels were prepared daily and read by the IBM mainframes.

Aligning the Unit

The Field Engineer who had worked on these units may still remember the Alignment Procedure as a necessary part of the scheduled maintenance. It was a complex task including mechanical and electronic adjustments.

An original **MDS 6401 Service Manual** first published in 1968 and now resting in my library, contains the 9 pages of the lengthy and complicated Alignment Procedure to make them work.

The Core Memory Project

An interesting detail is that the Field Engineer could *visually inspect a tape* to insure that alignment was within specifications.

A piece of a written tape was submerged in a highly volatile liquid compound mixed with iron filings. The tape was left for some seconds inside the liquid, then was taken out and dried by gently blowing on it. However, the tiny iron filings remained on the magnetized spots on the tape attracted by the magnetism of the written bits of information, so one could *actually see the bits* and determine the overall alignment of the magnetic head station.

This exotic procedure was called “developing”, and from what I can remember the liquid compound with the iron filings was supplied under the trade mark of *VisimagTM* and was provided by NCR and MDS.