

# DIT-MCO History - From Drive-Ins to Analyzers

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If you've ever wondered what DIT-MCO stands for, you're not alone. The name is actually derived from its humble beginnings in 1948 when founder, George P Heller, seeing the need to supply equipment to the burgeoning drive-in theater market, formed the Drive-In Theater Manufacturing Company. In 1951, the name was changed to DIT-MCO as it began to branch into the production of custom transformers and coils for other electronic manufacturers. By 1952, the company catalog (Fig. 1) boasted not only the iconic speaker assemblies, but also lighted traffic control and building signage, EZ Change letter displays, a rotary power mower, and even playground equipment. All of DIT-MCO's products were sold exclusively through theater supply dealers.



Figure 1 - Portions of the original 1952 DIT-MCO Catalog.

The forward-thinking Heller saw a plateau in the construction boon of drive-in theaters in 1953, and began to pursue other avenues to expand his business. Seeking opportunities for his Transformer Division, he called on a nearby General Motors facility that was building aviation cables. It was then that he ran into GM engineer, Warren Hannon, who had been tasked by GM to solve problems associated with testing the complicated aviation cables.

Feeling certain he could design a machine that could simultaneously measure the continuity and shorts (leakage) in a bundle of insulated wires, Hannon approached Heller with the prospect that he would leave General Motors and come to work at Heller's company, Drive-In Theater Manufacturing, Inc. He offered to design and build a tester to automatically test aircraft cables for shorts and opens in a given engineering specification.

In 1952, Heller agreed, and Hannon came to work for DIT-MCO where he began his research and development of the company's new wiring analyzer. The original design became known as the Model 200 Universal Automatic Wiring Analyzer.

The original Model 200 tested 200 circuits at the rate of approximately 10 circuits per second. A matrix chart identified each circuit under test. A fault in an electrical circuit caused the machine to stop, and the faulty circuit was identified on the Matrix Chart. The resistance of the fault was displayed by a meter incorporated in the Model 200 (Fig 2).

In 1954, DIT-MCO sold the first Model 200 to Goodyear to test electronic assemblies for one of their military electronics divisions. Shortly afterwards, Hannon changed his engineering title and became the head of sales for the DIT-MCO. He began calling on other prospective customers of the Model 200 Analyzer.

Boeing Airplane Company in Wichita, Kansas, was building assemblies for the first U.S. jet bomber, the B-47. In 1954, Hannon called on the company and

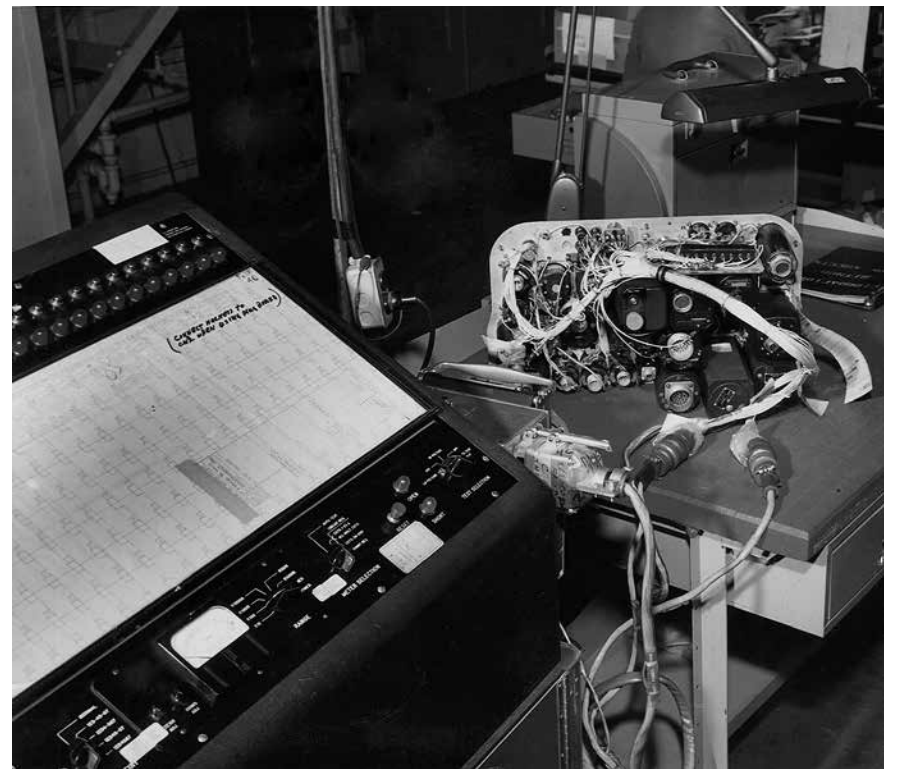


Figure 2 - Original Model 200 Analyzer Testing Panel.

convinced them to allow DIT-MCO to install the Model 200 in their plant for a demonstration to check the B-47 cables. The people at Boeing were so pleased and excited about the analyzer that they not only ordered one, but wrote a favorable report to the Boeing management, which later resulted in orders for the Model 200 at other Boeing locations.

Hannon approached the four Navy Overhaul and Repair (O & R) Facilities at North Island, Alameda, Norfolk and St. Petersburg and piqued their interest in the DIT-MCO Model 200 analyzers. All of the Navy O & R bases purchased the analyzers and together wrote reports and recommendations to their superiors about the speed and abilities of the DIT-MCO Model 200. The U.S. Government adopted the Model 200 specifications which became the specifications for verifying or checking bundles of insulated wires (Fig 3). It became common for the military and its suppliers to say, "This aircraft needs to be DIT-MCOed."

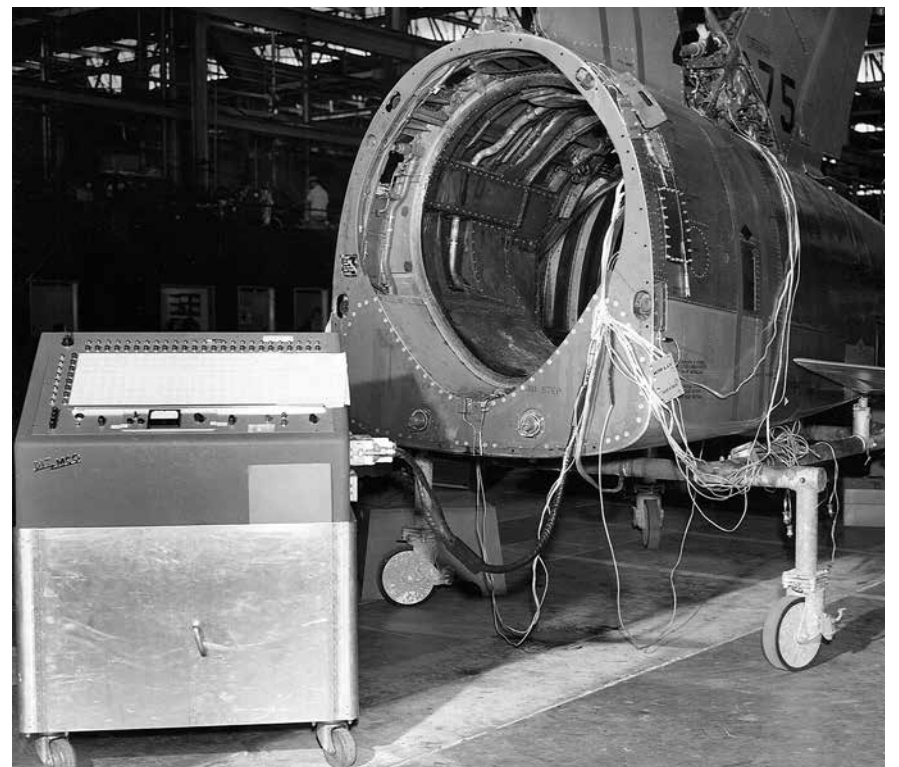


Figure 3 - Checking bundled wire in the tail section with Model 200.

The Model 200 proved to be such a boon to DIT-MCO that by 1959, the Drive-In Theater division was sold to its employees. Simultaneously, the company obtained an order from the Navy for an on-board wiring analyzer known as the DIT-MCO Model 144. It used rugged waterproof construction and 44 units were delivered by the early 1960's.

Hannon resigned from DIT-MCO in 1961 to pursue another one of his inventions related to the newspaper industry, but the company had already built a high level of engineering capability. They continued to create new products to meet ramping technology and the associated testing challenges.

Soon, engineering began on the first random access wiring analyzer. The first units used punch paper tape for control (Fig 4), and were used to test assemblies in support of the Boeing X-20 Dyna-Soar Spaceplane program, Project Mercury that put the first American in space, and the Apollo Saturn V Program that took the first humans to the moon.

In addition to space exploration, DIT-MCO analyzers tested cables in defense missile programs such as the early Hawk Missile, the first intercontinental Atlas Missile, the Polaris Missile for the Navy, and the Titan Missile for the Air Force.