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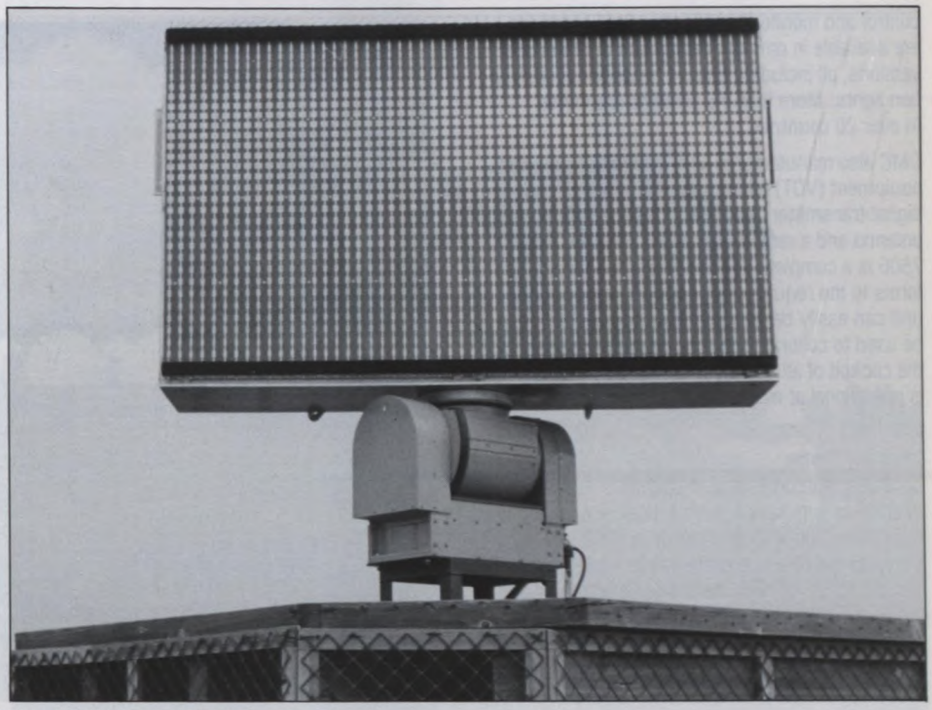
Microwave landing system azimuth antenna

■ Canadian Astronautics Limited (CAL) has developed and tested a unique Microstrip microwave landing system (MLS) azimuth antenna. Key advantages of CAL's microstrip antenna are that it is lightweight, frangible and more economical than conventional slotted waveguide antennas, and that it has been fully tested to meet all ICAO radio frequency (RF) specifications.

Microwave landing system signal analyzer

CAL has also developed an MLS signal analyzer to aid the validation of MLS system performance. This equipment, developed for Transport Canada, analyzes the MLS radiated signal, measures sidelobe performance and reduces expensive airborne flight testing.



◀ Azimuth MLS Microstrip antenna

Company Profile

CAL, established in 1974, is a diversified company that develops and manufactures a wide range of sophisticated and innovative high-technology products and provides quality systems and engineering services. CAL's focus is on the custom design of total radar, space, signal processing or electronic warfare systems. In over 200 contracts since the company started, CAL has served a wide range of customers including various departments of the Canadian government, NASA, the European Space Agency, the Government of Australia and the Government of Saudi Arabia.

Canadian Marconi Company (Navaids Group, Avionics Division)

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Microwave landing system

■ The Canadian Marconi Company (CMC) microwave landing system (MLS) is a new all-weather precision approach and landing guidance system that uses solid-state and microprocessor technologies for greater reliability, easier maintenance and remote maintenance and control capabilities. The CMC Navaids MLS 2500, built under licence from Hazeltine Corporation, uses the patented COMPACT phased array network. In order to suit user requirements, different beamwidth and guidance coverage options are available. Installation is quick and simple, while the modular design, no-break-power-supply and the remote maintenance and monitoring system reduce the mean-time-to-repair to 15 minutes. The system is currently in production, with two systems delivered and installed in Alberta, Canada, and one on order for the United States. Similar systems, manufactured by Hazeltine, have been installed in the United States, the United Kingdom and Italy. CMC also manufactures the CMA-2000 microwave landing system receiver which can be installed in new or used aircraft.

Instrument landing system

The PHL 7404 precision approach instrument landing system (ILS) meets or exceeds ICAO specifications for category I and II, while the PHL 7801 ILS meets or exceeds ICAO specifications for category II and III. The equipment is of highly modular design and features module commonality between the localizer, the glide path and the marker. The equipment is in service at many civil and military airports in Canada and NATO. More than 100 systems have been installed in over 30 countries, including a category III system at Amsterdam's Schiphol Airport.

Standard VHF omnidirectional range beacon

Canadian Marconi Company's PHL 8303 standard VHF omnidirectional range beacon (SVOR) is a conventional VOR beacon that can be used for en route navigation as well as for terminal area use. The equipment is available in both single and dual channel configurations and CMC's VOR is of a highly modular design, with most modules common to both 8303 SVOR and 8304 doppler-VOR. The solid-state equipment, which can be easily interfaced and co-located with any DME system, is available in 25, 50 and 100 W versions and includes an electronic goniometer. The optional no-break-power-supply and remote maintenance monitoring system further enhances reliability and reduces the need for site visits. The system is operational in Canada as well as in numerous other countries. A new SVOR (CMA 8703), complete with remote maintenance and monitoring capabilities, is under development for Transport Canada.

Doppler VHF omnidirectional range beacon

Marconi's PHL 8304 doppler VHF omnidirectional range beacon (DVOR) is a state-of-the-art double sideband en route navigational aid, which is often installed at difficult sites. The solid-state equipment is available in 25, 50 and 100 W versions in both single or dual (redundant) configurations and meets or exceeds ICAO specifications. The beacon can be easily co-located with any kind of DME. The sytem is operational in many Canadian locations as well as in numerous other countries. Marconi is developing a new DVOR (CMA 8704), complete with RMMS, for Transport Canada.

Distance measuring equipment

CMC's PHL 7604 distance measuring equipment (DME) is available in single and dual equipment configuration in both 100 W and 1 000 W versions. The single cabinet equipment can be co-located with VOR, ILS and MLS equipment. Features include automatic changeover, dual monitors, built-in test equipment and a remote