

AC NO: AC 150/5100-12

DATE: September 20, 1976



ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: ELECTRONIC NAVIGATIONAL AIDS APPROVED FOR FUNDING
UNDER THE AIRPORT DEVELOPMENT AID PROGRAM (ADAP)

1. PURPOSE. This advisory circular lists the electronic navigational aids equipment which are approved for funding under the ADAP.
2. DISCUSSION. The Airport and Airway Development Act of 1970 (Public Law 91-258) includes, under the definition of airport development, "navigation aids used by aircraft landing at or taking off from a public airport." The electronic navigational aids which meet this requirement for funding under the ADAP are as follows:
 - a. Instrument Landing Systems (ILS)
 - b. Distance Measuring Equipment (DME)
 - c. Nondirectional Radio Beacon (NDB)
 - d. Terminal Very High Frequency Omnidirectional Radio Range (TVOR)
 - e. Interim Standard Microwave Landing System (ISMLS)
3. PROCEDURE FOR REQUESTING APPROVAL. Manufacturers desiring approval of their equipment for listing in this document should direct their requests to the Airports Engineering Division, AAP-500, Airports Service, Federal Aviation Administration, 800 Independence Avenue, Washington, D. C. 20591. All requests will be coordinated with the Systems Research and Development Service and the Airway Facilities Service to insure technical compliance with applicable specifications and to insure that the equipment is suitable for use in the National Airspace System (NAS).

4. APPLICABLE SYSTEM AND EQUIPMENT SPECIFICATIONS. The equipment must comply with the following specifications and performance requirements:

- a. ILS. Specification FAA-E-2492, Turnkey Facility Establishment for Instrument Landing System: Part 2, System Equipment Requirements, dated September 14, 1972.
- b. TVOR. "International Standards and Recommended Practices, Aeronautical Telecommunications", Part I, paragraph 3.3 (Annex 10 to the Convention on International Civil Aviation) except that part of paragraph 3.3.7 requiring removal of only the bearing information. In place of that removal, all radiation must be removed during the specified deviations from established conditions and during periods of monitor failure. Also, performance requirements of Advisory Circular No. 00-31, U. S. National Aviation Standard for the VORTAC System, dated June 10, 1970.

NOTE: TVOR equipment shall include provision of a VOR Test Generator, demonstration of 1.5 degree maximum ground check error spread, 0.002% radio frequency stability, and 9960 harmonic suppression as specified for 50 kHz channel spacing.

- c. DME. "International Standards and Recommended Practices, Aeronautical Telecommunications", Part I, paragraph 3.5 (Annex 10 to the Convention of International Civil Aviation). Also, performance requirements of Advisory Circular No. 00-31, U. S. National Aviation Standard for the VORTAC system, dated June 10, 1970.
- d. NDB. "International Standards and Recommended Practices, Aeronautical Telecommunications", Part I, paragraph 3.4 (Annex 10 to the Convention on International Civil Aviation), except that identification by on-off keying of a second carrier frequency, separated from the main carrier by 1020 Hz plus or minus 50 Hz, is also acceptable.
- e. ISMLS. Federal Aviation Regulations Part 171, Non-Federal Navigational Facilities, dated August 19, 1975.

5. APPROVED EQUIPMENT.

- a. ILS.

Wilcox Electric, Inc. - Mark 1-D

b. DME.

AEROCOM	- Model 5351A
Butler National Corp.	- Model 1020
Cardion Electronics	- Type 8974
Wilcox Electric, Inc.	- Model 596B

c. NDB.

AEROCOM	- 5320 (25 watts)
	- 100XLA (50 watts)
Southern Avionics Co.	- SS250B
Vista Manufacturing Co.	- Model VB-50
Wilcox Electric, Inc.	- Model 785E

d. TVOR.

EDO - AIRE	- 780
Wilcox Electric, Inc.	- 585B

e. ISMLS.

Tull Aviation Corp.	- TAC 100A Localizer
	- TAC 200A Glide Slope

6. MANUFACTURERS' ADDRESSES.

(AEROCOM)
Aeronautical Communications
Equipment, Inc.
3090 S. W. 37th Avenue
Miami, Florida 33133
(305) 448-6503

Butler National Corp.
8246 Nieman Road
Lenexa, Kansas 66214
(913) 888-8585

Cardion Electronics
Long Island Expressway
Woodbury, New York 11797
(516) 921-7300

EDO - AIRE
216 Passaic Avenue
Fairfield, New Jersey 07006
(201) 228-1880

Southern Avionics Co.
P. O. Box 5345
Beaumont, Texas 77702
(713) 842-1717

Tull Aviation Corp.
4 Kaysal Ct.
Armonk, New York 10504
(914) 273-9050

Vista Manufacturing Co.
1307 Central Avenue
Kansas City, Kansas 66102
(913) 342-4939

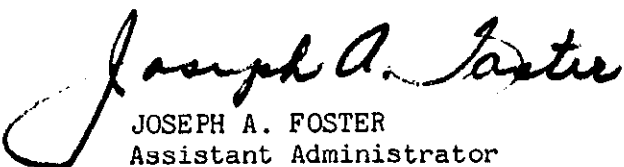
Wilcox Electric, Inc.
14th and Chestnut
Kansas City, Missouri 64127
(816) 231-0700

7. HOW TO OBTAIN REFERENCED DOCUMENTS.

a. Federal Aviation Administration Publications.

- (1) Advisory Circulars, as well as additional copies of this one, may be obtained, free of charge, from the Department of Transportation, Publications Section, TAD-443.1, Washington, D.C. 20590.
- (2) Specifications may be obtained, free of charge, from the Federal Aviation Administration, Configuration Control Branch, AAF-110, Washington, D.C. 20591.
- (3) Federal Aviation Regulations may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Prices of these documents are contained in Advisory Circular 00-44, Status of Federal Aviation Regulations.

- b. International Civil Aviation Organization (ICAO) Publications.
ICAO publications may be obtained from the International Civil Aviation Organization, (Attention: Distribution Officer), P.O. Box 400, Succursale: Place de l'Aviation internationale, 1000 Sherbrooke Street West, Montreal, Quebec Canada H3A 2R2.



JOSEPH A. FOSTER
Assistant Administrator
Office of Airports Programs

AC 150/5100-12

Outdated by AAS-1 letter of 10/17/84