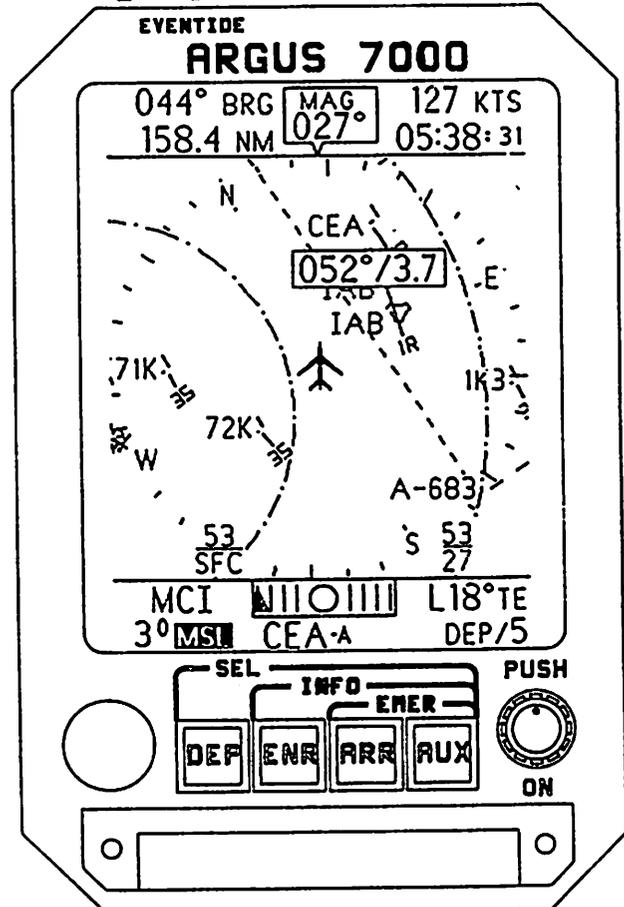
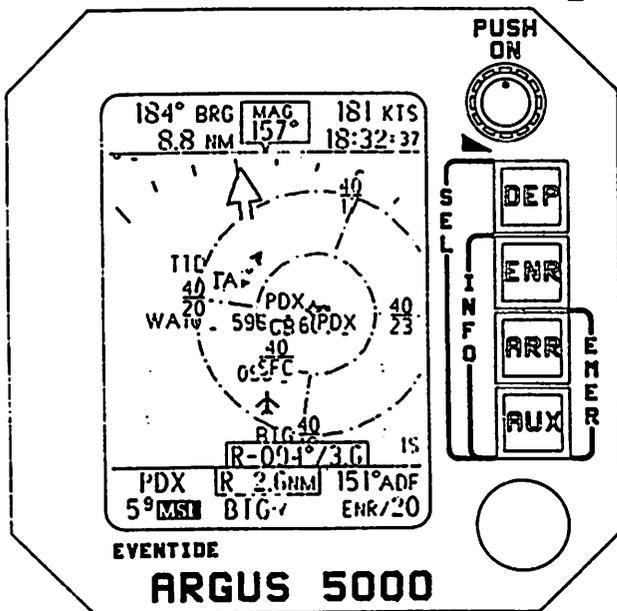


© EVENTIDE AVIONICS  
 Division of Eventide Inc.  
 One Alsan Way  
 Little Ferry, New Jersey 07643  
 (201) 641-1200

## OPERATOR'S MANUAL

### ARGUS 5000 & ARGUS 7000 Moving Map Displays



(Shown Actual Sizes)

Printed in the United States of America  
 Price \$15.00 U.S.

Printed in the United States of America.

Copyright © 1992 by Eventide Avionics, Division of Eventide Inc.

All rights reserved. No part of this Manual may be reproduced or transmitted in any form or by any means without the written permission of Eventide Inc.

Contents of this Manual are subject to change. It is the responsibility of the Operator to assure that the operating characteristics described within this Manual agree with the actual operation of the ARGUS® 5000 and ARGUS 7000 Moving Map Displays.

Additional copies of this Operator's Manual are available upon written request to: Eventide Avionics, Division of Eventide Inc., One Alsan Way, Little Ferry, New Jersey 07643. It is necessary to specify the revision number and date of the Manual requested at the time of the order.

The Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Display operating instructions contained herein were written to provide comprehensive details about the use of the units and their accessories. A thorough understanding of the system concept and experience gained through continued use will ensure maximum appreciation of the features and safety-related benefits.

Methods and apparatus disclosed and described herein have been developed solely on company funds of Eventide Inc. No government or other contractual support or relationship whatsoever has existed which in any way affects or mitigates proprietary rights of Eventide Inc. in these developments. Some methods and apparatus disclosed herein are subject to U.S. Patents 4,855,891, 4,896,154, 4,912,477, 5,057,835, and/or other patents existing or applied for. Eventide Avionics, Division of Eventide Inc. reserves the right to add, improve, or withdraw design specifications or product at any time without prior notification.

ARGUS is a registered trademark of Eventide Inc. and Stormscope is a registered trademark of BF Goodrich Flight Systems.

**Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays**

**TABLE OF CONTENTS**

<b>TITLE</b>	<b>PAGES</b>	<b>ILLUSTRATIONS</b>
<b>WARRANTY POLICY .....</b>	<b>- i -</b>	
<b>PRODUCT DESCRIPTION AND LIMITATIONS .....</b>	<b>1</b>	
<b>FUNCTION CONTROLS AND MODES .....</b>	<b>2</b>	
<b>FEATURES AND FUNCTIONS .....</b>	<b>3</b>	
<b>NAVIGATION WINDOWS .....</b>	<b>4 &amp; 5</b>	
<b>DETAILED OPERATIONS .....</b>	<b>6</b>	
<b>PUSH-ON .....</b>	<b>6</b>	<b>7</b>
<b>ADF MODE .....</b>	<b>8</b>	<b>9</b>
<b>PLAN (Submode) .....</b>	<b>8</b>	<b>9</b>
<b>DEParture .....</b>	<b>10</b>	<b>11</b>
<b>ENRoute .....</b>	<b>12</b>	<b>13</b>
<b>ARRival .....</b>	<b>14</b>	<b>15</b>
<b>SELect .....</b>	<b>16</b>	<b>17</b>
<b>INFOrmation .....</b>	<b>18</b>	<b>19</b>
<b>EMERgency .....</b>	<b>20</b>	<b>21</b>
<b>AMEND .....</b>	<b>22</b>	<b>22</b>
	<b>23</b>	<b>23</b>
	<b>24</b>	<b>24</b>
	<b>25</b>	<b>25</b>
<b>TROUBLESHOOTING TIPS .....</b>	<b>26</b>	
<b>TECHNICAL OVERVIEW .....</b>	<b>27</b>	
<b>DATABASE MANAGEMENT .....</b>	<b>28</b>	
<b>APPENDIX A - LORAN C, GPS &amp; NMS Display Characteristics .</b>	<b>29</b>	
<b>APPENDIX B - Weather Display Mode Operating Instructions ...</b>	<b>30</b>	
<b>APPENDIX C - WDA 5005 and WDA 7005 Adapters Description.</b>	<b>31</b>	

## **INTRODUCTION**

The information contained within this Operator's Manual describes the technical aspects, features, functions, and operation of the Eventide Avionics ARGUS® 5000 and ARGUS 7000 Moving Map Displays and their accessories. Comments or recommendations regarding the features and operation of the ARGUS 5000 or ARGUS 7000 Moving Map Displays or their accessories should be directed in writing to the Customer Service Department at Eventide Avionics, Division of Eventide Inc.

## **WARRANTY POLICY**

Eventide Avionics, Division of Eventide Inc., hereby warrants the ARGUS 5000 and ARGUS 7000 Moving Map Displays and accessories to be free from defects in workmanship and material under normal use and service for a period of twenty-four (24) months from the date of original installation within an aircraft, but in no case in excess of twenty-eight (28) months from date of original shipment to Buyer. Eventide Avionics, at its discretion, may elect to repair or replace any component(s) determined to be unairworthy or defective during that period. **In no event shall Eventide Avionics, Division of Eventide Inc., be liable for consequential or incidental damages due to failure of its product(s).**

**Consequential damages shall include, but not be limited to, loss of anticipated profits, loss of use, loss of revenue, cost of capital, and damage or loss of other property or equipment. In no event shall Eventide Avionics, Division of Eventide Inc. (Seller) be obligated to indemnify Buyer in any manner nor shall Seller be liable for property damage and/or Third Party claims covered by umbrella insurance and/or indemnity coverage provided to Buyer, its assigns, and each successor interest to the goods provided hereunder.**

**Additionally, Seller shall not be liable for damages caused by delay in performance. The sole and exclusive remedy for breach of warranty shall be limited to repair or replacement under the standard warranty clause hereinstated. In no case, regardless of the form of the cause of action, shall Seller's liability exceed the price to Buyer of the specific goods manufactured by Seller giving rise to the cause of action.**

**In consideration of the agreed upon purchase price of the goods, Seller grants only the above stated express warranty; no other warranties are granted including, but not limited to, expressed and implied warranties of merchantability and fitness for a particular purpose.**

**Eventide Avionics, Division of Eventide Inc, its Distributors, Dealers, Installation Agencies, and other Representatives shall not be held responsible for any consequential or incidental damages resulting from the use of or reliance on the ARGUS 5000 and ARGUS 7000 or any of their accessories or associated components.**

It is the responsibility of the Installation Agency to properly complete and return to Eventide Avionics an "Eventide Avionics Warranty Application," Form 5000-W, provided with each new ARGUS 5000, ARGUS 7000, or accessory shipment, and a copy of the FAA Form 337 for the installation within thirty (30) calendar days following the completion date of the installation. The Owner or Operator will be notified upon activation of the warranty. This warranty may be transferable upon written request to, and acknowledgement from, Eventide Avionics. All transportation charges for shipments to and from Eventide are the sole responsibility of the Owner or Operator.

## PRODUCT DESCRIPTION AND LIMITATIONS

The Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays are pictorial navigation instruments which provide visual reference of aircraft position relative to landing facilities, navigational aids, and special use airspace. The ARGUS 5000 and ARGUS 7000 require present geodetic position and other navigation information from LORAN C, Global Positioning Satellite (GPS), Navigation Management System (NMS); or VLF/OMEGA, Inertial Navigation System (INS) or Flight Management System (FMS), when integrated with an optional ARINC 419/429 adapter. Map graphics and bearing orientation are provided by the aircraft's gyroscopic directional heading system or indicator. The standard ARGUS may display an ADF bearing pointer and digital magnetic bearing readout from compatible ADF receivers or indicators. With an optional Eventide Avionics RMI or RMI/ARINC Adapter, the ARGUS may display bearing pointer(s) and digital magnetic bearing readouts(s) from compatible ADF and VHF navigation receivers. Both the ADF MODE and the RMI MODE may be used for ADF or VOR (with optional RMI or RMI/ARINC Adapter), VFR and IFR approaches, independent of the long-range navigation system operation. The bearing pointer(s) may be superimposed on the map graphics screen. An optional adapter is available for display of weather mapping information from a BF Goodrich Flight Systems Stormscope® WX-10 ( ) or WX-11 ( ) Weather Mapping System, but may **not** be used with, or in addition, to the RMI or RMI/ARINC Adapter.

The ARGUS 5000 and the ARGUS 7000 Moving Map Displays utilize a database of information obtained and implemented from various sources. Eventide has taken extensive steps to ensure the translational accuracy of the resource information, however, undetectable errors or inconsistencies may exist which could affect the navigation accuracy. Since the ARGUS relies upon sources of position and other navigation data from a LORAN C, GPS, NMS or other long-range navigation system, as well as orientation from the aircraft's gyroscopic directional heading system, position accuracy, orientation; and related directional guidance must be assured by other means of required navigation equipment.

**Approval of the ARGUS 5000 or ARGUS 7000 or optional adapters for navigational use is not authorized solely by this OPERATOR'S MANUAL.** Acceptance for the installation and use must be sought through the appropriate offices of the Federal Aviation Administration or other certifying agency. All approvals for use as supplemental navigation displays under VFR or IFR may be limited to the approval of LORAN C, GPS, NMS or other long-range navigation system. Although the graphics screen symbology is similar to that depicted on aeronautical charts, the ARGUS 5000 and ARGUS 7000 are not intended to substitute for, nor to replace, approved aeronautical charts, as required by law for appropriate VFR or IFR flight operations. **The ARGUS 5000 and ARGUS 7000 Moving Map Displays are not to be utilized as primary flight guidance instruments except while conducting ADF or VOR approaches in the ADF MODE or RMI MODE (with optional RMI or RMI/ARINC Adapter).** The ARGUS 5000 and ARGUS 7000 must be installed within the Operator's field-of-view. The map graphics displays of ARGUS 5000 and ARGUS 7000 are not to be used for conducting instrument approaches or departures.

**The Eventide ARGUS 5000 or ARGUS 7000 Moving Map Displays, Eventide WDA 5005 or WDA 7005 Weather Display Adapters, Eventide RAA 5007-00 or RAA 7007-00, or the Shadin Company, Inc. 933600 ARINC 419/429 Adapters, must be installed by an authorized Installation Agency in accordance with Eventide Avionics ARGUS 5000/7000 Installation Manual, Part Number 5003. The RAA 5007-01 or RAA 7007-01 RMI Adapter and RAA 5007-02 or RAA 7007-02 RMI/ARINC Adapter must be installed by an authorized Installation Agency in accordance with Eventide Avionics RAA 5007/7007 Installation Supplement, Part Number 5007. Strict adherence to the installation details should ensure alteration acceptance by the FAA or other certifying agency. This Operator's Manual must be used for the operation of an ARGUS 5000 or ARGUS 7000 Moving Map Display which contains software VERsion 03.02, or higher, and must be available to the Operator or flight crew at all times.**

## FUNCTION CONTROLS AND MODES

The function controls are used to apply power, adjust screen intensity of the cathode ray tube (CRT) and LED backlighted function pushbuttons, and to select the various modes and submodes of operation, as explained below and as illustrated on the following pages. A complete explanation of these function controls and their operational modes appears in the **DETAILED OPERATION** section in this Manual.

- **PUSH-ON** - Applies power to the ARGUS 5000 or ARGUS 7000 Moving Map Display upon depression of the control knob. Clockwise rotation of the knob increases the intensity of the CRT and LED backlighted function buttons. Counterclockwise rotation dims the intensity to nighttime viewing levels. Power is removed by pulling the control knob.
- **DEPARTure** - [**DEP**] - Selects the mode that positions the stationary symbolic aircraft at the center of a "Heading-Up" graphics screen, which is surrounded by a "compass rose" with rotating cardinal points when the aircraft's gyroscopic directional system heading input is provided. The selectable screen ranges and proportional sizes of the landing facilities' runway(s) in this mode are from 1 nautical mile (or 2, for VFR) to 40 nautical miles. Depression of this function button will incrementally increase the ranges and reduce the proportional sizes. Holding the function button will decrease the ranges and increase the proportional sizes of airport runway(s).
- **ENRoute** - [**ENR**] - Selects the mode which positions the stationary symbolic aircraft at 20% above the bottom of the "Heading-Up" oriented graphics screen. Depression of this function button will reduce the landing facilities' runway(s) size and increase the ranges from 1 nautical mile (or 2, for VFR) to 240 nautical miles. Holding the function button will decrease the ranges and increase the proportional size. An Auto-ENRoute function automatically adjusts the ranges dependent upon the distance to an intermediate or destination waypoint.
- **ARRival** - [**ARR**] - Selects the mode in which the position and direction of "flight" of the symbolic aircraft, or arrow, which substitutes for the symbolic aircraft when its position is beyond a selected screen range, is determined by the navigation source. Direction of flight is provided by integration with the aircraft's gyroscopic directional heading or LORAN C, GPS, NMS or other long-range navigation system computed Track angle. The graphics screen is a "North-Up" stationary presentation centered on intermediate waypoint(s) or the destination waypoint. Selectable full scale ranges are from 40 nautical miles to 1 nautical mile (or 2, for VFR). Ranges are decreased while the landing facilities' runway(s) size is increased by depressing this function button. Holding the function button will increase the ranges and reduce the proportional sizes of runway(s). An Auto-ARRival function automatically adjusts the ranges dependent upon the distance to an intermediate or destination waypoint.
- **AUXiliary** - [**AUX**] - Enables the **SELEct**, **INFO**rmation, and **EMER**gency submodes for display when used in conjunction with function buttons. It is also used to control access to the **AMEND** submode for selection of characteristics desired for display on the graphics screen, and for selecting the **ADF MODE** or **RMI MODE**; when installed with an optional Eventide RAA 5007-01 (or -02) or RAA 7007-01 (or -02) RMI Adapter (or RMI/ARINC Adapter). Weather mapping information may be displayed on the ARGUS 5000 or ARGUS 7000 graphics screen in **WD MODE**, if installed with an optional Eventide Avionics WDA 5005 or WDA 7005 series Weather Display Adapter for use with a BF Goodrich Flight Systems Stormscope® WX-10 ( ) or WX-11 ( ).

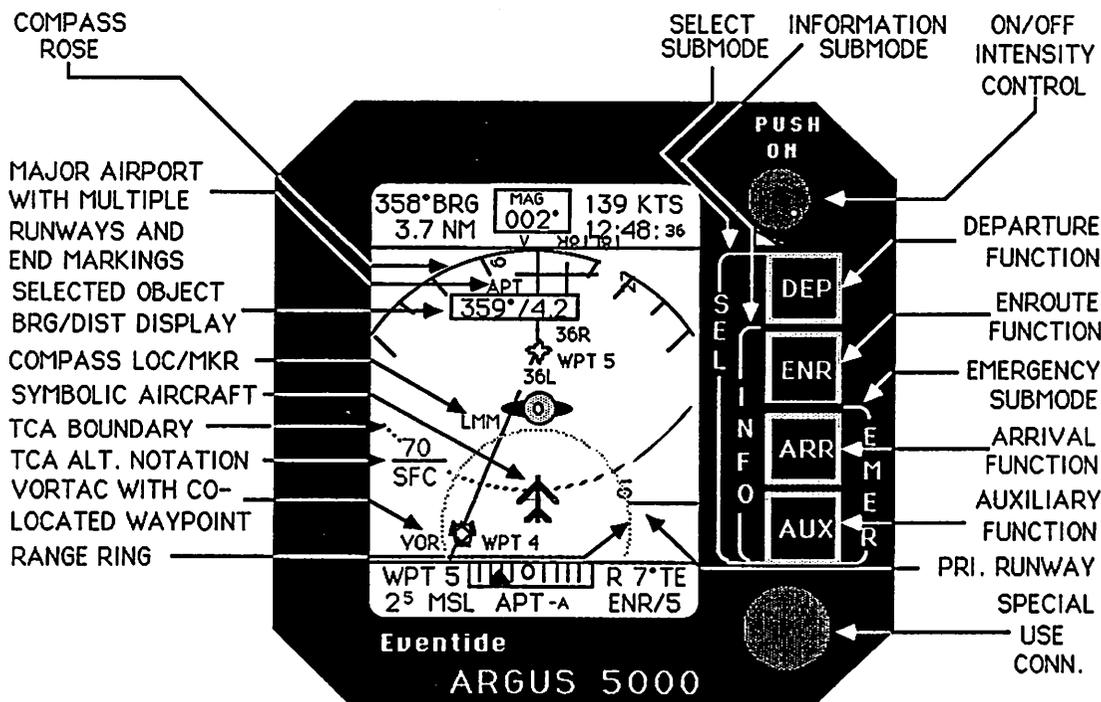
# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

## FEATURES AND FUNCTIONS

The Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays represent *"the next step"* in navigation featuring a high-resolution map graphics screen which depicts aircraft position, orientation, and direction of flight in relation to landing facilities, NAVAIDs and SUAs. These advanced units provide real-time situational awareness designed to reduce cockpit workload and increase safety in today's complex flight regime. Several functional modes are provided for display orientation with selectable ranges which adjust the proportional sizes of airport runway(s) and detail for ease of interpretation during the various flight phases. Some features include:

**A standard user - replaceable database that resides in non-volatile memory, consisting of the following facilities and airspace features:**

- Airports with runways of all surface categories and lengths of 2000 feet and greater for the United States, District of Columbia, U.S. Possessions, and for portions of Canada and the Caribbean.
- NAVAIDs including VORTAC, VOR/DME, VOR, TACAN, NDB, LOM, LMM, and Fan Markers for the United States, U.S. Possessions, and for portions of Canada, Mexico, Central and South America, and the Caribbean.
- Maximum Elevation Figures for Continental U.S., Alaska, and Hawaii, used for computation and display of the Minimum Safe Altitude readout.
- Special Use Airspace including Prohibited and Restricted Areas, Military Operating Areas, Alert Areas, Warning Areas, Terminal Control Areas (TCAs), Airport Radar Service Areas (ARSAs), and Air Defense Identification Zones for the United States and portions of Canada.
- Optional Airspace Fixes including Intersections and Northeast Corridor (standard in the ARGUS 7000).
- Optional Seaplane Bases and Heliports including hospital helipads.
- Optional International database with all facilities and airspace features except for Heliports and Seaplane Bases.



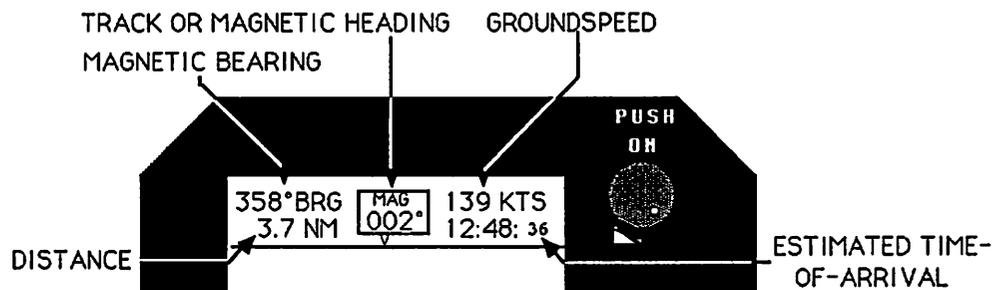
**Function Controls and Graphics Screen Illustration (for ARGUS 5000)**

## NAVIGATION WINDOWS

### Real-time directional guidance and navigation windows containing:

- **Upper Left: Top** - Magnetic bearing to the next or destination waypoint, as computed by the navigation system. Dashes will appear if waypoint is not assigned or flight plan is not activated. In the **EMERGENCY** submode magnetic bearing is displayed to the selected landing facility.
- **Upper Left: Bottom** - Distance in nautical miles to an intermediate or the destination waypoint, as computed by the navigation system. Dashes will appear if waypoint is not assigned or flight plan is not activated. In the **EMERGENCY** submode distance is displayed to the selected landing facility.
- **Upper Center:** Heading from gyroscopic directional indicator or compass system, displayed in degrees magnetic (**MAG**), unless orientation source is computed Track (**TK**) from the LORAN C, GPS, NMS or long-range navigation system.
- **Upper Right: Top** - Groundspeed in nautical miles per hour computed by the LORAN C, GPS, NMS or long-range navigation system.
- **Upper Right: Bottom** - Estimated Time-of-Arrival computed from Distance and Groundspeed, displayed in hours, minutes, and seconds based upon real-time clock setting in **AMEND**. In the **EMERGENCY** submode Estimated Time-of-Arrival is computed to the selected landing facility.

### Upper Window Illustration (for ARGUS 5000)



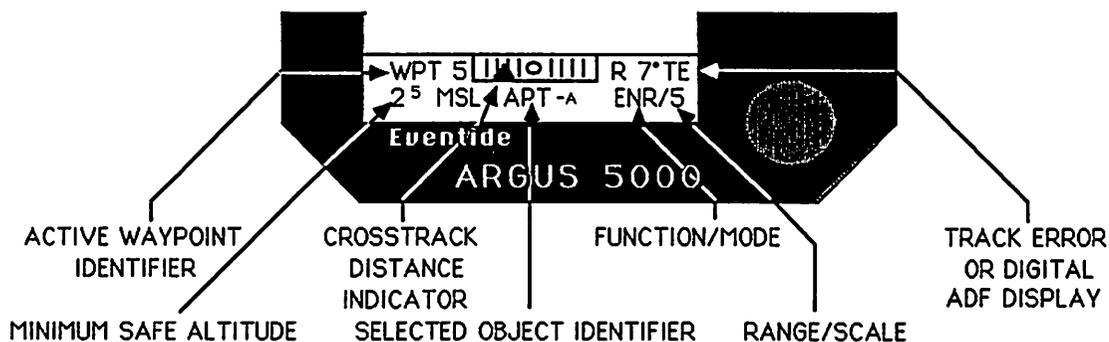
- **Lower Left: Top** - The next or destination waypoint Identifier, if provided by the navigation system. In the **EMERGENCY** submode the radial and distance is displayed from the nearest VOR, VOR/DME or VORT AC.
- **Lower Left: Bottom** - Minimum safe altitude (MSA) is computed from Maximum Elevation Figures (MEFs), derived and stored from NOS VFR Sectional Charts. The MSA readout will change with selected screen ranges. This readout will update as the aircraft position transits "chart" sectors or grids of the stored data. A one-thousand foot buffer is applied to the readout for all geographic areas. The term "**MSL**" (mean sea level) will appear in reverse video to alert the Operator of terrain or an obstruction that is one-thousand feet higher than the MSA readout for **any** selected screen range up to and including 60 nautical miles, thus providing an alert "zone" for 60 nautical miles around the aircraft regardless of the operating mode. It is possible for the **MSL** field to appear in reverse video for each consecutive range change when the aircraft is stationary or when operating over varying contours of terrain. This feature is also presented in the **EMERGENCY** submode. **Caution: This feature is advisory only and must not be relied upon for assuring Minimum Safe Altitude in flight.**

## Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

### Real-time directional guidance and navigation windows (continued):

- **Lower Center: Top** - Cross-track Distance Indicator (CDI) in virtual presentation with selectable scale sensitivity in nautical miles, with "to" and "from" pointer or digital Cross-track Distance display, as selected in **AMEND**. The CDI presentation is not available in the **EMERGENCY** submode.
- **Lower Center: Bottom** - Selected object identifier which appears for any selected facility on the graphics screen. The selected object three letter identifier is followed by a - **V** for VOR, VOR/DME or VORTACs, - **A** for airports, - **H** for heliports, - **S** for seaplane bases, - **N** for NDBs, - **T** for TACANs, - **F** for fan markers. Four and five letter identifiers are displayed for LOMs, LMMs, or optional Intersections and/or Airspace Fixes. In the **EMERGENCY** submode the selected landing facility identifier is displayed.
- **Lower Right: Top** - Track Error (TE) displayed in degrees magnetic or ADF bearing in degrees magnetic (or VOR bearing in degrees magnetic with optional RMI or RMI/ARINC Adapter). ADF (or VOR) digital magnetic bearing is relative to gyroscopic directional system heading. ADF (or VOR) digital display is available in place of Track Error (TE) in the **EMERGENCY** submode.
- **Lower Right: Bottom** - Mode/Range (Scale) legend for the various modes, submodes, and graphics screen ranges in nautical miles. The scale of all runways is the exact representation of the length and width of the surface(s) proportional to selected ranges. All other facilities are of fixed sizes. The range of the graphics screen is the radius, in nautical miles, from the center of the symbolic aircraft in the **DEPARTURE** and **ENROUTE** modes, and in the **EMERGENCY** submode to the compass rose, or the outer range-ring if oriented by computed Track. In the **ARRIVAL** mode the range represents one-half the width and the height of the graphics screen.

### Lower Window Illustration (ARGUS 5000)



**Note:** If navigation or heading data becomes invalid or unusable, dashes will appear in the respective fields of the Upper and Lower Windows. The ARGUS 5000 and ARGUS 7000 will display only the "primary" runway retrieved from the database unless the runway end-point latitude and longitude coordinates are provided from the database source for every runway at a particular landing facility. The ARGUS 5000 and ARGUS 7000 will, however, provide information about all runway(s) within the selected object **INFORMATION** submode. The ARGUS 5000 and ARGUS 7000 will compute the position of a landing facility from the LORAN C, GPS, NMS or other long-range navigation system, however, the presentation accuracy may degrade if the aircraft is considerable distance from such landing facility. This situation will result in displacement of the landing facility from the computed waypoint position when viewed in the **ARRIVAL** mode. It is suggested that the **ARRIVAL** waypoint be activated from **PLAN VIEW**. See **ARRIVAL** for details.

**DETAILED OPERATION**

**PUSH-ON :**

**Sequences and Conditions:**

1. Depress the **PUSH-ON** control to apply power to the unit and rotate clockwise to increase brightness of the screen and the backlighted LED function buttons. Observe the CRT test and the **LIMITATIONS** message. **DEPRESS ANY BUTTON TO MONITOR SELF-TEST.**
2. Wait approximately one minute for the **SELF-TEST** to conclude to observe the approval category of the ARGUS 5000 or ARGUS 7000 and the chart requirements messages. Observe the software **PROGRAM VERsion**. Refer to **TROUBLE-SHOOTING TIPS** if failure is observed.
3. Note the **D-BASE S/N** and type, **EFFective DATE** and **EXPIration DATE** of the database. Upon expiration, **an update is recommended**, otherwise, displayed information may not be accurate. **If the ARGUS 5000 or the ARGUS 7000 is FAA approved for use with an IFR approved LORAN C, GPS, NMS or other long-range navigation system and the database has expired, the minimum range in all modes will be limited to 2 nautical miles.**
4. Depress any function button and observe the **ADF MODE** if the unit is integrated with an ADF receiver or **RMI MODE** if RAA 5007-01 (or -02) or RAA 7007-01(or -02) RMI Adapter (or RMI/ARINC Adapter) is installed and the ARGUS is the "Primary" display source of ADF or RMI. **Cancel it by depressing [AUX] six times, unless desired for use.** The **ADF/REMOTE SWITCHES** must be selected to display bearing pointer and digital magnetic bearing. **ADF MODE** is described on Page 8. **RMI MODE** operations are described in RAA 5007/7007 Operator's Supplement, P/N 5008.
5. Depress **[AUX]** for five seconds or with three consecutive keystrokes to access **AMEND** and to cancel the **ADF MODE** (or **RMI MODE**) unless it is desired.
6. Depress **[AUX]** for one second or with three consecutive keystrokes to exit **AMEND** or to display all waypoint(s) and interconnecting courseline(s), when selected in **PLAN** submode. Waypoint(s) will appear within an automatically adjusted screen range following activation of flight plan or designated waypoint from the **LORAN C, GPS, NMS** or long-range navigation system. If the designated waypoint is beyond the 720 NM display range limit, the **WAYPOINT OUT OF RANGE** message will appear on the graphics screen when **PLAN** submode or **ARRival** mode is selected.
7. Depress any function button to select a specific mode of map operation or select the **WD MODE** if a WDA 5005 or WDA 7005 Weather Display Adapter is installed with a BF Goodrich Flight Systems Stormscope® WX-10 ( ) or WX-11 ( ) Weather Mapping System. See **APPENDIX B** for operational details.
8. If the **LORAN C, GPS, NMS** or long-range navigation system fails to produce proper data, a **LRN DATA LOST** message will appear. If the unit is **SETUP** incorrectly **LRN COMM FAULT** or **LRN NAV INVALID** will appear. The **LRN NAV INVALID** message will also appear if the navigation system should "flag" or become unusable. If the system is connected to a gyroscopic heading source and heading is not valid it will automatically orient the screen to **TK** (track) from the navigation system. If the navigation system has not acquired and is not navigating or, if the aircraft has no groundspeed, the message **NO HEADING OR TRACK** will appear.
9. To turn an ARGUS 5000 or ARGUS 7000 off, pull the control knob or disconnect power to the unit prior to turning off all other aircraft electrical systems.

PUSH ON Sequences and Conditions

**LIMITATIONS**

ACCURACY OF THIS DISPLAY IS AFFECTED BY ITS ASSOCIATED LORAN OR LONG-RANGE NAVIGATION SYSTEM, AIRCRAFT HEADING AND INTERNAL DATABASE.

IFR-NDB APPROACHES MUST BE CONDUCTED IN ADF MODE ONLY.

DEPRESS ANY BUTTON TO MONITOR SELF-TEST

**LIMITATIONS**  
Message

**SELF-TEST IN PROGRESS.**

SYSTEM RAM PASSED  
RS-232 PASSED

**SELF-TEST IN PROGRESS**

**SELF-TEST IN PROGRESS.**

SYSTEM RAM PASSED  
RS-232 PASSED  
INTERRUPT PASSED  
SYSTEM ROM PASSED  
CLOCK PASSED  
A/D CONV. PASSED  
DATA BASE PASSED  
SETUP PASSED

ALL TESTS PASSED

**SELF-TEST IN PROGRESS**

**ARGUS 5000 MOVING MAP DISPLAY APPROVED FOR IFR USE WITH IFR APPROVED LONG-RANGE NAVIGATION SYSTEM. AERONAUTICAL CHARTS MUST BE AVAILABLE AS REQUIRED BY LAW.**

04-FEB-92 12:07:08  
ARGUS 5000 SN 001378  
PROGRAM VER. 03.01  
DATABASE SN 22508-07  
EFF. DATE: 09-JAN-92  
EXP. DATE: 05-MAR-92  
©1987-91 EVENTIDE INC.

**IFR APPROVAL**  
Message

**ARGUS 5000 MOVING MAP DISPLAY APPROVED FOR VFR USE ONLY. USE NOT PERMITTED FOR IFR FLIGHT. AERONAUTICAL CHARTS MUST BE AVAILABLE AS REQUIRED BY LAW.**

04-FEB-92 12:11:22  
ARGUS 5000 SN 001378  
PROGRAM VER. 03.01  
DATABASE SN 22508-07  
EFF. DATE: 09-JAN-92  
EXP. DATE: 05-MAR-92  
©1987-91 EVENTIDE INC.

**VFR APPROVAL**  
Message

**NAVIGATION NOT TO BE PREDICATED ON THE USE OF THIS SYSTEM PENDING FAA APPROVAL. AERONAUTICAL CHARTS MUST BE AVAILABLE AS REQUIRED BY LAW.**

04-FEB-92 12:15:18  
ARGUS 5000 SN 001378  
PROGRAM VER. 03.01  
DATABASE SN 22508-07  
EFF. DATE: 09-JAN-92  
EXP. DATE: 05-MAR-92  
©1987-91 EVENTIDE INC.

**PENDING APPROVAL**  
Message

265° BRG 281 KTS  
3599.2 NM MAG 263° 10:13:53

HNL L1°TE  
3' MSI PLAN/720

**WAYPOINT OUT OF RANGE**

--- BRG MAG --- KTS  
--- NM 254° ---

---MSL 111°ADF  
PLAN/720

**LRN DATA LOST**  
Message

--- BRG TK --- KTS  
--- NM ---

LRN COMM FAULT

---MSL --TE  
PLAN/720

**LRN COMM FAULT**  
Message

--- BRG TK --- KTS  
--- NM ---

LRN NAV INVALID

---MSL --TE  
DEP/1

**LRN NAV INVALID**  
Message

131° BRG TK 100 KTS  
12.1 NM --- 17:39:00

NO HEADING OR TRACK

TEB --TE  
2° MSI DEP/1

**NO HEADING OR TRACK**

## ADF MODE

### Purpose:

To enable means of eliminating the aircraft's ADF indicator or enhancing ADF operation by providing an ADF bearing pointer and digital magnetic bearing display as a separate mode of operation without map graphics.

### Operation:

**ADF MODE is automatically displayed following the initial messages if integrated with an ADF receiver and the ARGUS is selected for display as the primary source. Cancel it by depressing [AUX] six times, unless desired for use. ADF operations may be selected in the DISPLAY FEATURES menu in AMEND for presentation with map graphics in DEParture, ENRoute, ARRival, and EMERgency modes, or PLAN submode. See AMEND for details.**

### Sequences:

1. Use **ADF MODE** or cancel by depressing [AUX] three times or by holding [AUX] for five (5) seconds to access DISPLAY FEATURES in AMEND to select other functions for display. **Or immediately.**
2. Depress [AUX] three times or for one (1) second to display the **PLAN** submode or select **WD MODE**, if equipped.
3. To deselect display of ADF bearing pointer and digital magnetic bearing, actuate the **ADF/REMOTE SWITCHES** to a non-ADF position or select **ADF MODE OFF** in AMEND.

### Conditions:

ADF bearing pointer and digital magnetic bearing are relative to the gyroscopic directional heading system. If Track is selected or is used for orientation, Track Error (TE) will appear in the "lower window" and the ADF bearing pointer will be referenced to a fixed-index card. **IFR/NDB approaches may be conducted only in ADF MODE. Refer to placard or flight manual regarding use limitations.**

### PLAN (submode)

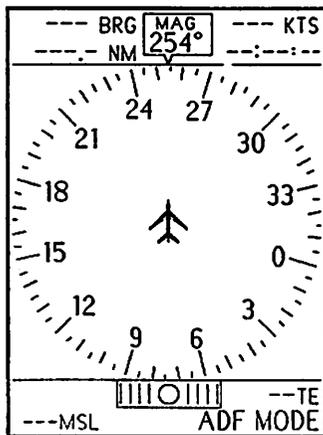
### Purpose:

To provide depiction of waypoint(s) and courseline(s) without map graphics.

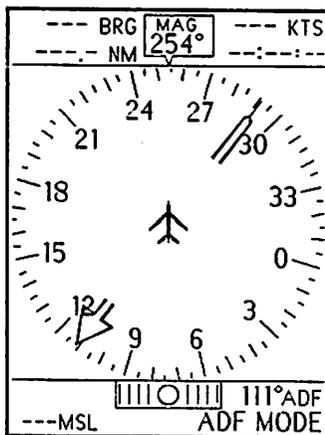
### Operations and Conditions:

Automatically displayed following deselection of **ADF MODE** or **RMI MODE**, if an RAA 5007-01 (or -02) or RAA 7007-01 (or -02) RMI Adapter (or RMI/ARINC Adapter) is installed, immediately after returning from AMEND unless **WD MODE** is selected, or when sequencing beyond the maximum range in DEParture. See DEParture for operational details. Display automatically ranges to include the most distant or destination waypoint(s) up to a range of 720 NM. A **WAYPOINT OUT OF RANGE** message will appear when the selected waypoint is beyond 720 nautical miles. **If waypoint(s) are available in latitude and longitude from a long-range navigation system, any waypoint, when SElected, will illuminate as a filled "star", and will appear in the center of the ARRival screen.**

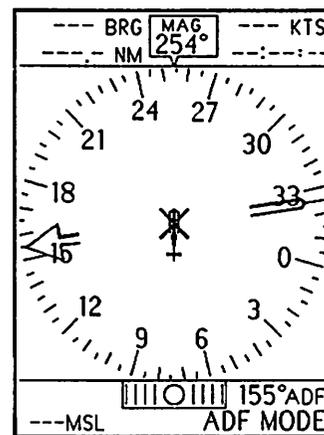
**ADE MODE and PLAN (submode)**



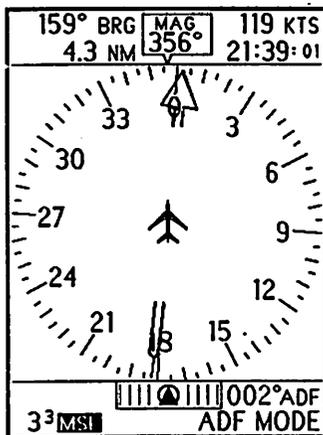
**ADF MODE** selected without input from ADF and navigation system



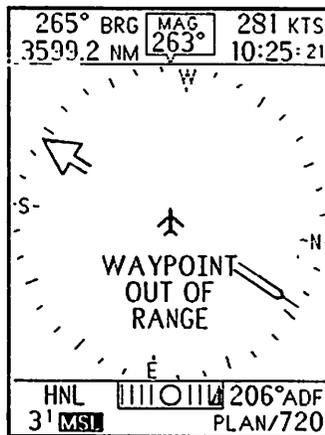
**ADF MODE** selected with input from ADF and without navigation



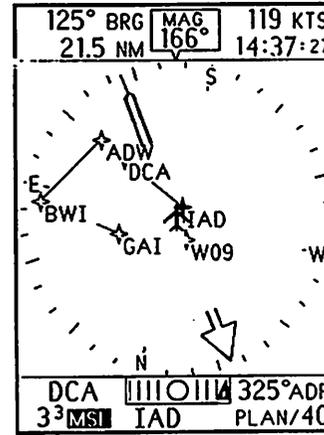
**ADF MODE** selected with input from ADF and without navigation



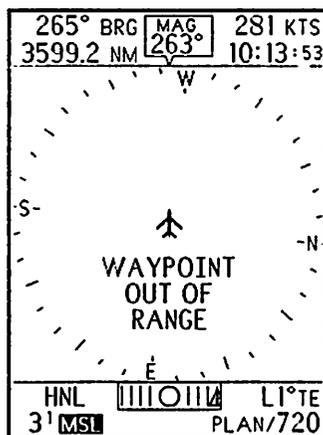
**ADF MODE** selected with input from ADF and navigation system



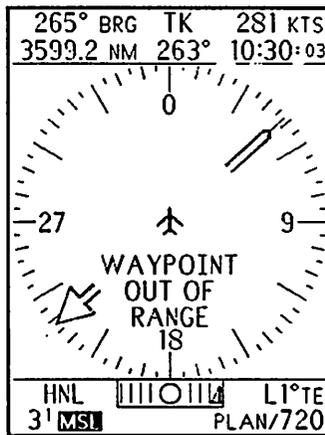
**PLAN - WAYPOINT OUT OF RANGE** Message



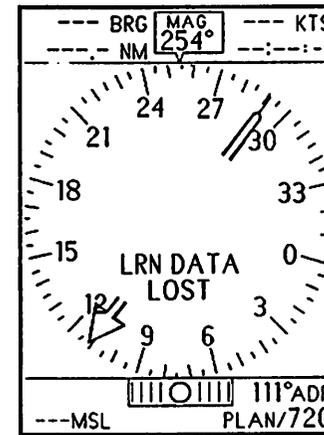
**PLAN** with multiple waypoints and IAD selected for arrival



**PLAN** without ADF selected or available



**PLAN** with ADF Track oriented



**PLAN** with ADF Heading oriented

## Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

DEP arture

### Purpose:

To provide a "Heading-Up" moving map graphics presentation with adjusted runway sizes or scales from selectable ranges of 1 or 2 nautical miles to 40 nautical miles with respect to a centered stationary symbolic aircraft. Desirable for use when departing from or operating near landing facilities for a 360° situation display of the surrounding facilities.

### Operation:

Symbolic aircraft is surrounded by a "compass rose" with cardinal headings and indices which rotate as changes in aircraft heading occur, if inputs are provided from the aircraft's gyroscopic directinal heading system. Range-ring dots will appear instead of the "compass rose" if oriented with computed Track.

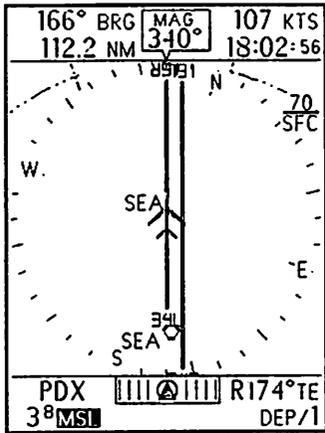
### Sequences:

1. Repeatedly depress [DEP] to increase ranges from 1 nautical mile or 2 to 40 nautical miles.
2. Observe that the range index increases while the scale of the surrounding facilities and airport runway(s) decreases.
3. Depress and hold [DEP] to reduce ranges from 40 nautical miles to 2 or 1 nautical mile.
4. Observe that the range index decreases while the scale of the surrounding facilities and airport runway(s) increases.
5. Continue holding [DEP] to cause reverse "wrap around" to observe longer ranges. Note that there is no selection of the PLAN submode.
6. PLAN submode is activated only after depressng [DEP] beyond its maximum range selection of 40 nautical miles.

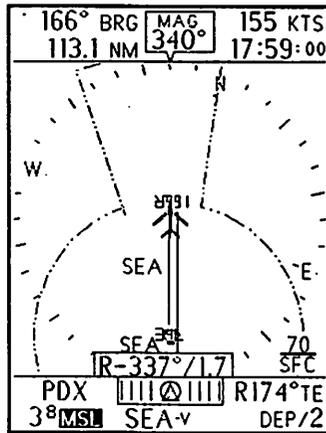
### Conditions:

If the ARGUS 5000 or ARGUS 7000 is approved for use with an IFR approved navigation system and the database is current, the 1 nautical mile range is admitted. The minimum range will become 2 nautical miles upon database expiration. VFR approval provides 2 nautical miles resolution. Upon activation, a "CREATING NEW SCREEN" message will appear within the field above the "lower window" and the ADF bearing pointer, if selected, and compass rose will appear momentarily on the screen. Map graphics orientation response and map refresh periods will vary depending upon the number of facilities on the graphics screen. **Select short ranges in high density areas and long ranges in low density areas to control "clutter" on the graphics screen.** If ADF bearing operations are selected for display, the bearing pointer and tail will appear on the "compass rose". **The moving map will be visible only while taxiing or in flight when the unit is oriented to computed Track.** HEADING selection in AMEND is recommended. **If the heading input should become invalid, the ARGUS 5000 or ARGUS 7000 will revert to Track for graphics screen orientation.**

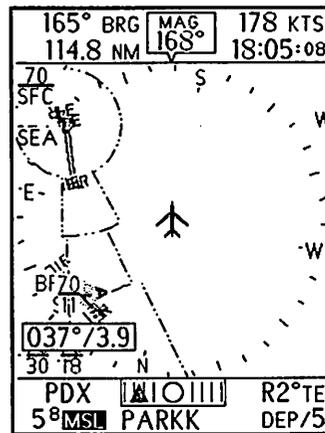
DEP arture Display Characteristics



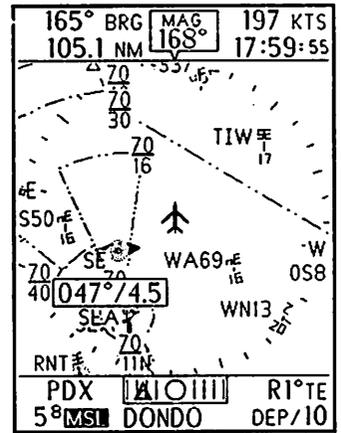
DEP/1, Observe Heading-Up display



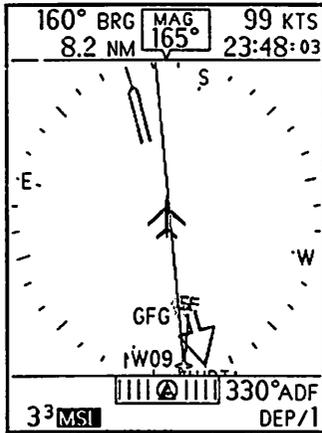
DEP/2, Observe scale reduction of runway(s)



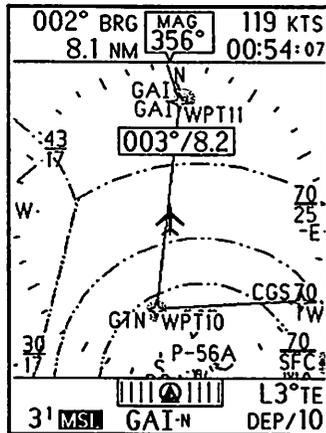
DEP/5, Note positions of surrounding facilities



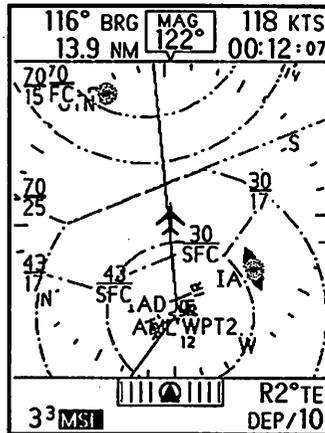
DEP/10, Observe scale proportionate to range



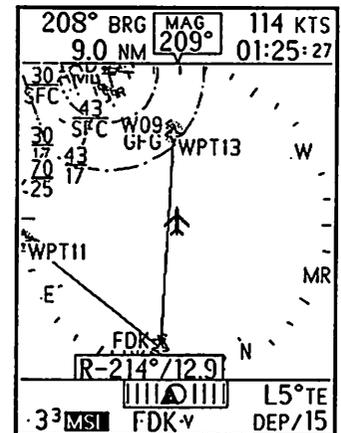
DEP/11, Note Heading Up with ADF bearing



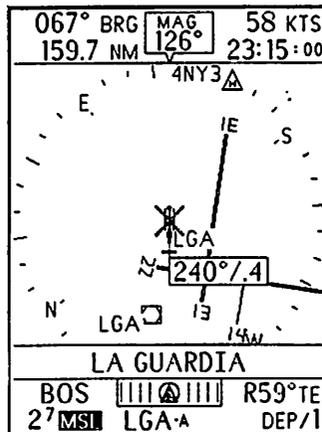
DEP/10, Note names of multiple waypoints



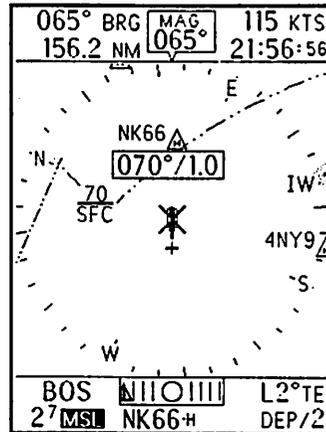
DEP/10, Note detail of TCAs and ARSAs



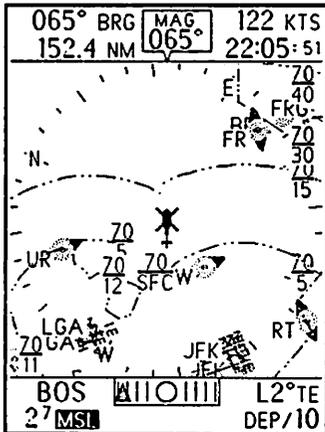
DEP/15, Note names of multiple waypoints



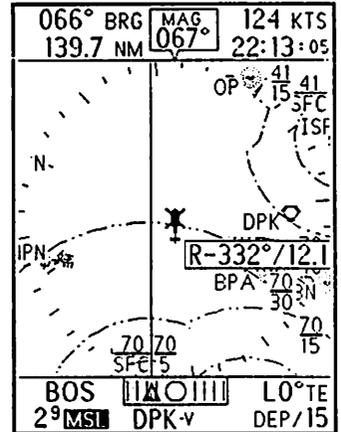
DEP/1, Note helicopter symbology and heliport



DEP/2, Note position and fixed heliport size



DEP/10, Note position in relation to markers



DEP/15, Note position parallel with course line

## Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

ENRoute:

### Purpose:

To provide a "Heading-Up" moving map graphics presentation with adjusted runway sizes or scales from selectable ranges of 1 or 2 nautical miles to 240 nautical miles with respect to a stationary symbolic aircraft positioned 20% above the lower "window". Desirable for use when enroute or when operating near landing facilities for a forward looking situation display.

### Operation:

Symbolic aircraft is surrounded by a forward "compass rose" with cardinal headings and indices which rotate as changes in aircraft heading occur, if inputs are provided from the aircraft's gyroscopic directional heading system. Range-ring dots will appear instead of the "compass rose" if oriented with computed Track.

### Sequences:

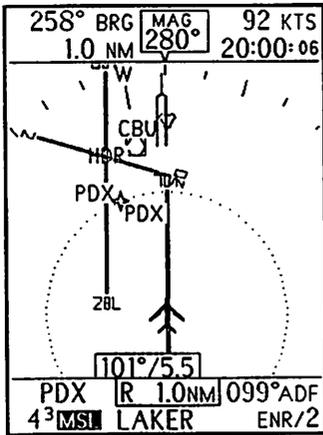
1. Repeatedly depress [ENR] to increase ranges from 1 or 2 nautical miles to 240 nautical miles.
2. Observe that the range index increases while the scale of the surrounding facilities and airport runway(s) decreases.
3. By stopping at the Auto-ENRoute feature, indicated by reverse video of "ENR", the range and scale of the graphics screen will be adjusted automatically to provide constant display of an intermediate or destination waypoint. Many arbitrary ranges may be displayed which are not selectable.
4. Depress and hold [ENR] to reduce ranges from 240 nautical miles to 2 or 1 nautical mile.
5. Observe that the range index decreases while the scale of the surrounding facilities and airport runway(s) increases.
6. Continue holding [ENR] to cause reverse "wrap around" to longer ranges. Note that there is no selection of Auto-ENRoute.

### Conditions:

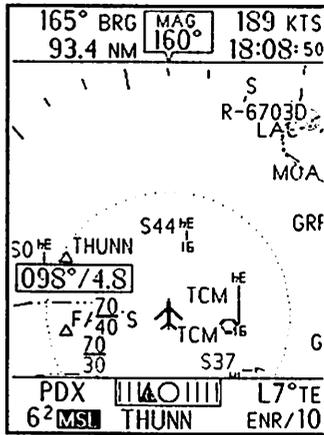
If the ARGUS 5000 or ARGUS 7000 is approved for use with an IFR approved navigation system and the database is current, the 1 nautical mile range is admitted. The minimum range will become 2 nautical miles upon database expiration. VFR approval provides 2 nautical miles resolution. Upon activation, a "CREATING NEW SCREEN" message will appear within the field above the "lower window" and the ADF bearing pointer, if selected, and compass rose will appear momentarily on the screen. Map graphics orientation response and map refresh periods will vary depending upon the number of facilities on the graphics screen. **Select short ranges in high density areas and long ranges in low density areas to control "clutter" on the graphics screen.** If ADF bearing operations are selected for display, the bearing pointer or tail will appear on the "compass rose". **The moving map will be visible only while taxiing or in flight when the unit is oriented to computed Track.** HEADING selection in AMEND is recommended. **If the heading input should become invalid, the ARGUS 5000 or ARGUS 7000 will revert to Track for graphics screen orientation.**

# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

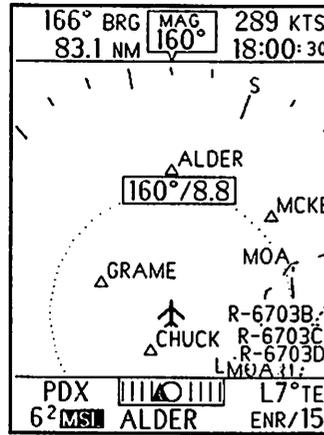
## ENRoute Display Characteristics



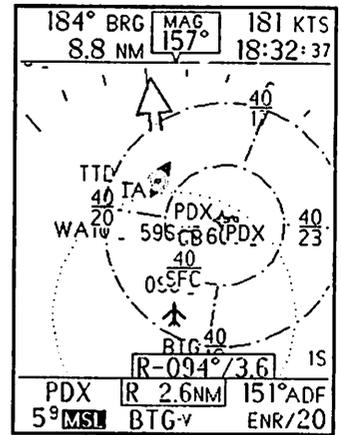
**ENR/2**, Observe detail of runway(s) and ADF



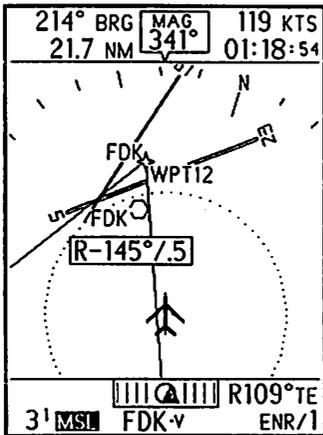
**ENR/10**, Note five letter intersection identifiers



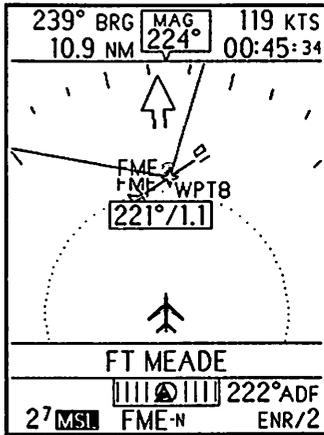
**ENR/15**, Note on-course to intersection and SUAs



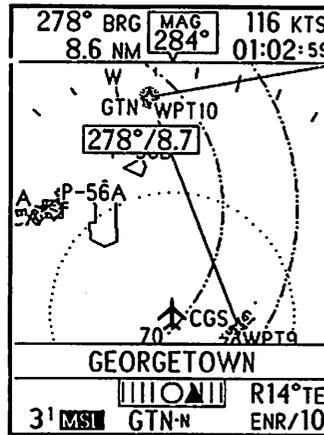
**ENR/20**, Note terminal area situation with ADF



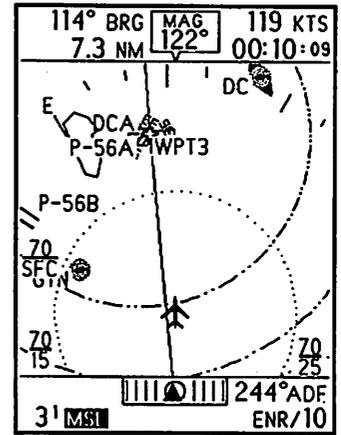
**ENR/1**, Note detail of airport runway layout



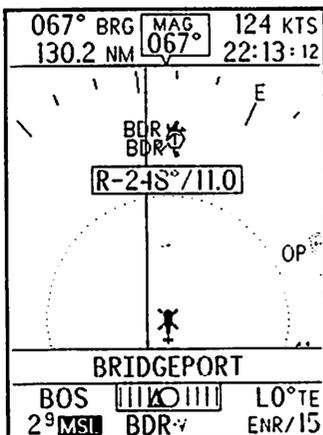
**ENR/2**, Note names of multiple waypoints



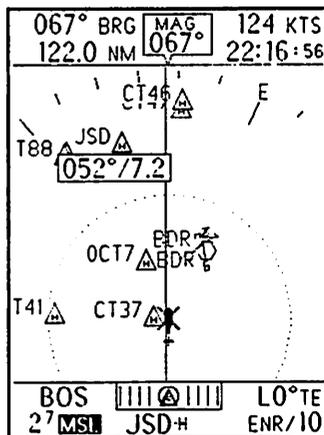
**ENR/10**, Observe course intercept of track to NDB



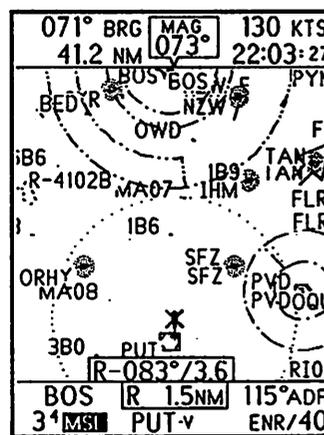
**ENR/10**, Observe track angle and Prohibited SUA



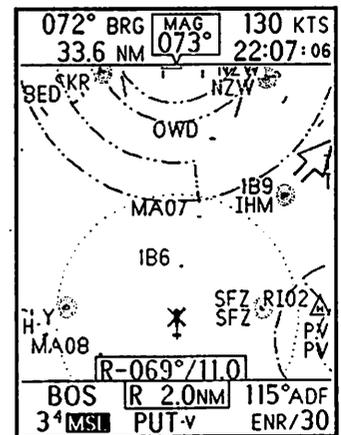
**ENR/15**, Note parallel course and position



**ENR/10**, Observe on-course & heliport position



**ENR/40**, Note position with bearing to NDB



**ENR/30**, Note position from off-screen VORTAC

## ARRival

### Purpose:

To provide stationary map graphics presentation with adjusted runway scales and selectable ranges from 40 nautical miles to 2 or 1 nautical miles with respect to a moving symbolic aircraft or to an "arrow" when present position is beyond a selected screen range. Desirable for use when operating enroute to or near a landing facility for immediate situation awareness. Especially useful during final approach phase of flight and when undergoing radar vectoring.

### Operation:

ARRival situation display mimics a "selectable scale" approach chart with a magnetic "North-Up" display of the destination facility and surrounding facilities centered on the graphics screen.

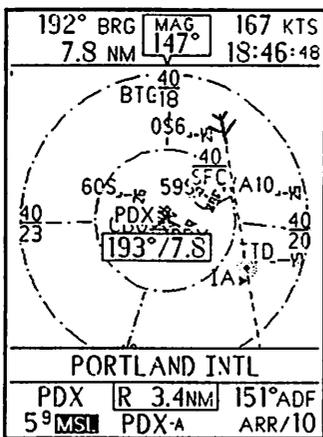
### Sequences:

1. Repeatedly depress [ARR] to reduce ranges from 40 nautical miles to 2 or 1 nautical mile (if IFR approved), to the Auto-ARRival feature, then continue to depress to cause "wrap around" to the longer ranges.
2. By stopping at the Auto-ARRival feature, indicated by reverse video of "ARR", the range and scale of the graphics screen will be adjusted automatically to provide presentation of a visual symbolic aircraft at arbitrary ranges which are not selectable when operating under manual range selection.
3. Observe display of surrounding facilities and scale or size adjustment of airport runway(s) which are displayed in a North-Up presentation.
4. Depress and hold [ARR] to increase ranges from 1 or 2 nautical miles to 40 nautical miles, which causes reverse "wrap around" to the shorter ranges. There is no selection of PLAN submode in ARRival.

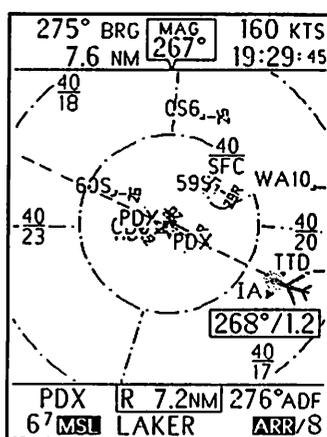
### Conditions:

If the ARGUS 5000 or ARGUS 7000 is approved for use with an IFR approved navigation system and the database is current, the 1 nautical mile range is admitted. The minimum range will become 2 nautical miles upon database expiration. VFR approval provides 2 nautical miles resolution. Upon activation, a "CREATING NEW SCREEN" message will appear within the field above the "lower window" and the ADF bearing pointer, if selected, and compass rose will appear momentarily on the screen. If selected in the ARRival, ADF bearing is represented by a "vector" line which emanates from the center of the moving aircraft in the direction of the tuned and received NDB station. **The vector line is apparent only if the aircraft is on the graphics screen. It is not displayed if the "arrow" is visible.** At shorter selected ranges, when the destination waypoint is at a considerable distance, the facility may not appear in the center of the graphics screen due to anomalies in magnetic variation and bearing computation. **ARRival may be activated from the PLAN VIEW page of the INFORMATION submode which will reposition the enroute or destination waypoint in the center of the graphics screen and cause it to remain in the center until another mode is activated for use.**

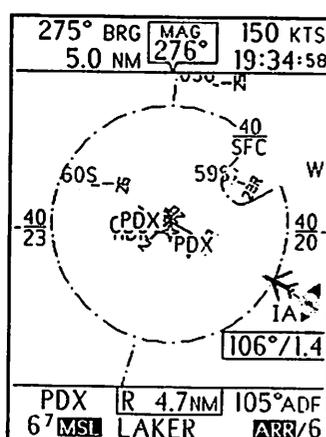
ARRival Display Characteristics



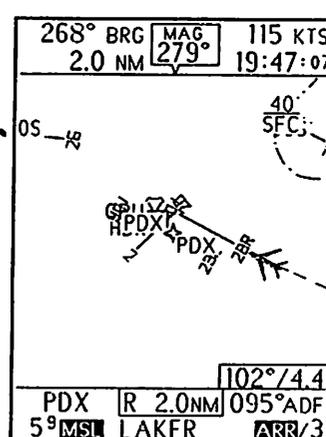
ARR/10, Note moving aircraft with ADF vector



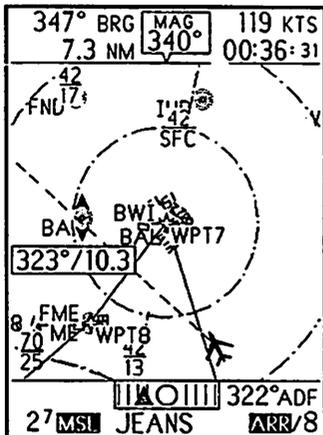
ARR/8, Note AutoARR operation by reverse video



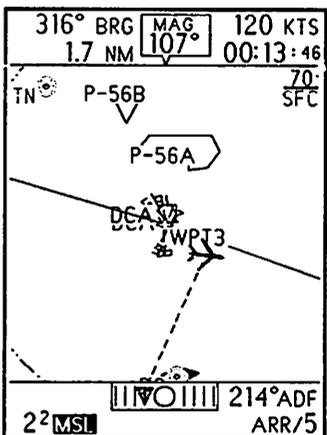
ARR/6, Observe ADF and position to marker



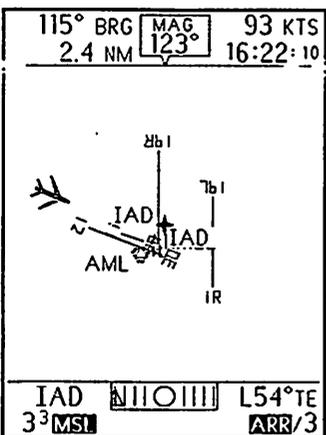
ARR/3, Auto-ARR inbound to runway



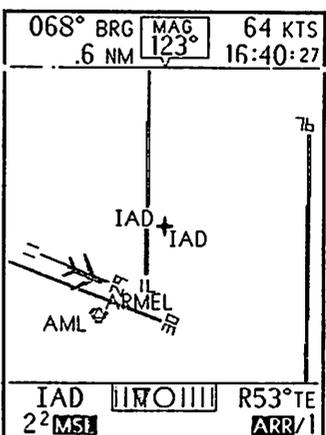
ARR/8, NoteARR ival waypoint in flight plan



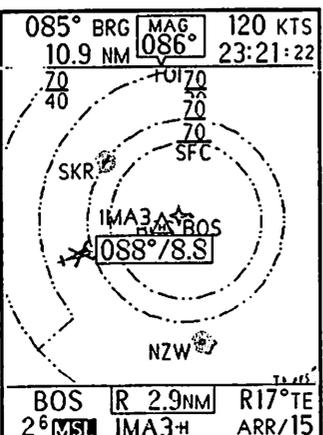
ARR/5, Observe NDB waypoint in flight plan



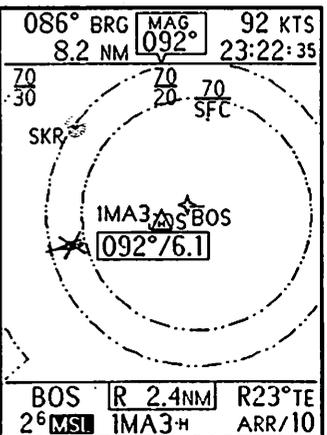
ARR/3, Aligned with runway for landing



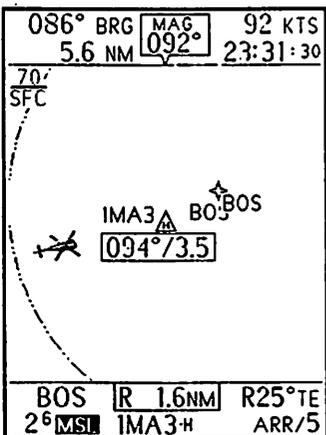
ARR/1, Observe position on runway



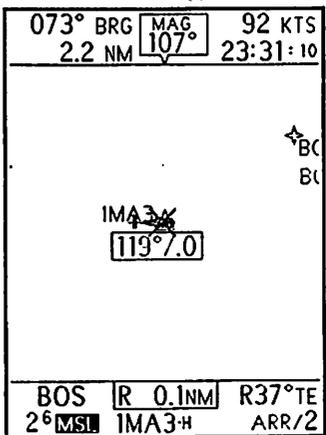
ARR/15, Note position between TCA boundaries flight to destination



ARR/10, Observe inbound flight to destination



ARR/5, Note waypoint entered from PLAN VIEW



ARR/2, Note Distance to LRN assigned WPT

**SELEct:**

## **Purpose:**

To provide an independent "on screen" display of bearing (or radial) and distance to (or from) which is surrounded by a "box" that appears on the map graphics screen. It resembles a digital "VOR/DME" display and is used to access information about a selected facility in the **INFO**rmation submode.

## **Operation:**

Note that the bearing or radial and distance display remains on the screen regardless of selected range and mode. To select any facility to obtain a display of bearing or radial and distance, perform the following steps:

## **Sequences:**

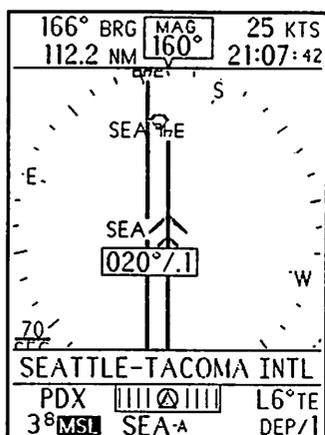
1. Depress the remote **SELECT** or hold [**AUX**] and depress [**DEP**] to display an "on screen" display of bearing or radial (preceded by a **R-**) and distance to or from that facility that will appear adjacent to it. Observe that the name of the selected facility will appear in the field above the "lower window" for 5 seconds. The identifier for each selected facility will appear within the center of the "lower window."
2. Continue to depress the remote **SELECT** or hold [**AUX**] and depress [**DEP**] to observe the bearing or radial and distance to the next nearest facility. Observe that the name and the identifier of the selected facility will appear temporarily while sequencing through various facilities.
3. VOR, VOR/DME and VORTAC facilities will be initially selected if they appear and if they are not deselected for display in **AMEND**, to display radial and distance. All other "on screen" facilities in the order of their distance from the aircraft will be selected next.
4. After the selection of each fifth facility, the selection process is interrupted and the identifier field is resultantly "blanked". Continuing within 10 seconds will advance to the next group of five nearest facilities for selection. Waiting longer than 10 seconds will cause the selection process to revert to the choice of the nearest VOR type or other facility upon actuating **SELEct**.
5. Depress and hold [**AUX**] and [**DEP**] or the remote **SELECT** switch to select facilities in reverse order.

## **Conditions:**

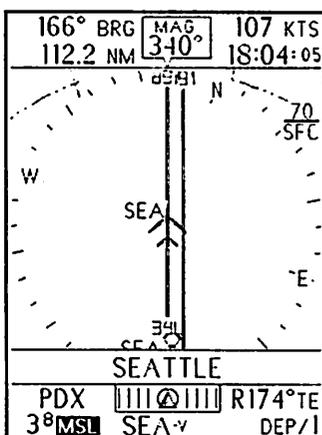
**The accuracy of bearing or radial and distance to a selected facility can degrade at long distances from that facility since the computation is dependent upon factors of magnetic variation and the resolution of digital data output from the navigation system.** For each facility selected having three-character identifiers, the identifier is followed by a suffix abbreviation of - **V** for VOR, VOR/DME, or VORTACs, - **A** for airports, - **H** for heliports, - **S** for seaplane bases, - **N** for NDBs, - **T** for TACANs and - **F** for fan markers. Four and five letter identifiers for LOMs, LMMs or optional Intersections and Airspace Fixes are represented without a suffix abbreviation.

# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

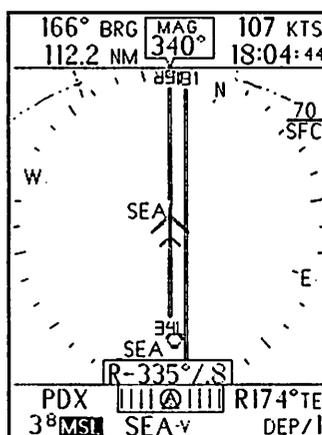
## SELect Display Characteristics



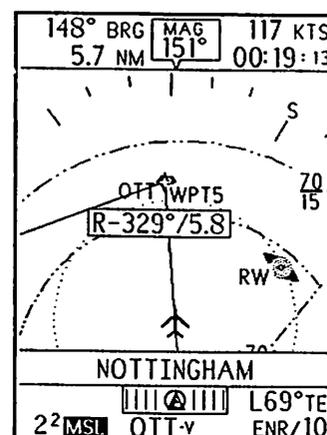
SELected facility SEA-A  
SEATTLE TACOMA INTL



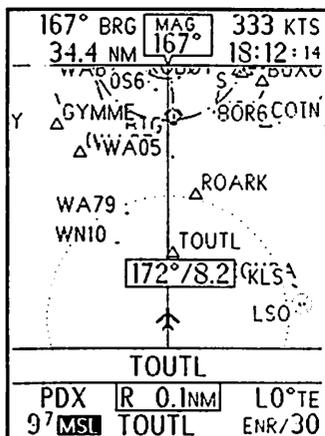
SELected facility SEA-V  
SEATTLE VORTAC



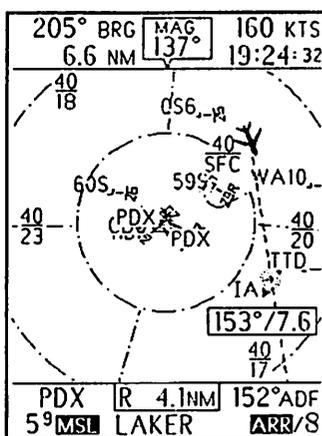
SELected facility SEA-V  
R-335° / 8



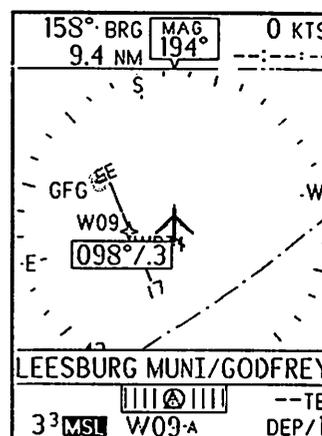
SELected facility OTT-V  
R-329° / 5.8



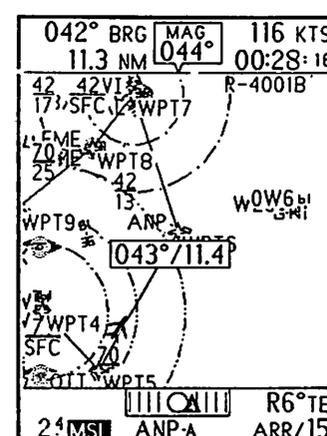
SELected Intersection  
TOUTL 172° / 8.2



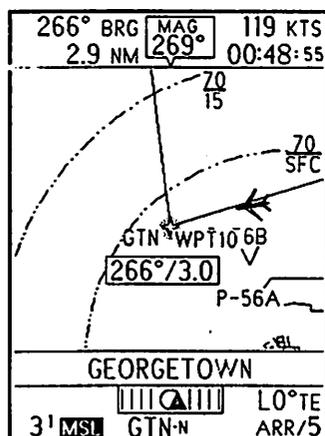
SELected facility PWM-A  
PORTLAND INTL JETPORT



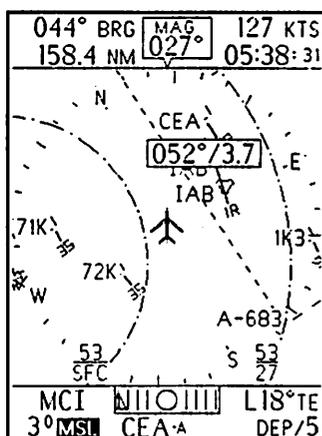
SELected facility W09-A  
LEESBURG MUNI/GODFREY



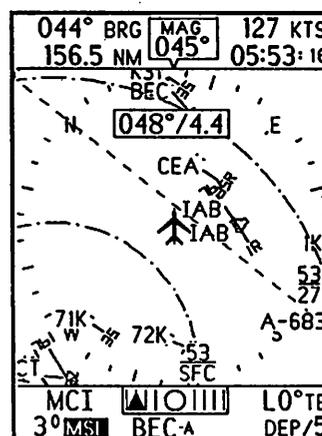
SELected facility ANP-A  
043° / 11.4



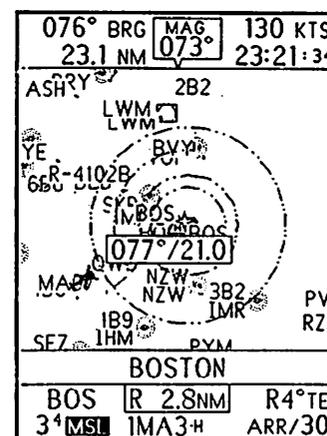
SELected facility GTN-N  
GEORGETOWN 266°/3.0



SELected facility CEA-A  
052° / 3.7



SELected facility BEC-A  
048° / 4.4



SELected facility IMA3-H  
BOSTON 077°/21.0

## Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

### INFORMATION

#### Purpose:

To provide a directory of information about any selected facility which appears on the map graphics screen. In addition, a Bearing-Up or True North-Up oriented depiction of airport runway(s), referred to as PLAN VIEW, is available following selection of the last tabular INFORMATION page.

#### Operation:

As described in SELECT, first a facility must be selected by depressing the remote SELECT switch or the combination of DEPARTURE and the AUXILIARY function buttons. Once a facility is selected:

#### Sequences:

1. Depress the remote INFORMATION switch or hold [AUX] while depressing [ENR], to display a directory of information about any facility after it has initially been selected.
2. Depress the remote INFORMATION switch or [ENR] while holding [AUX] to view additional pages of information for airports, seaplane bases or heliports, when available, or the PLAN VIEW of airport runway(s) with bearing and distance presentation as BEARING UP or TRUE NORTH UP orientation as selected in AMEND. If only one runway is available, a message "PARTIAL VIEW" will appear. **Note: Airports with any runway of greater than 7000 feet in length will be presented at half-scale compared to airports with shorter runways.**
3. Depress the remote SELECT switch or hold [AUX] while repeatedly depressing [DEP] to cause the INFORMATION pages to advance by the sequence of selected facilities as in the SELECT submode.
4. Depress and hold [AUX] and [DEP] or the remote SELECT switch to reverse the selection of facilities as in the SELECT submode.
5. Depress the remote INFORMATION switch or hold [AUX] while depressing [ENR] for one second to return to the previously selected map mode, or depress any function button to select a different mode.

#### Conditions:

If the message **FIRST SELECT AN OBJECT FOR INFORMATION** appears on the graphics screen, select a facility provided that at least one or the desired one is displayed on the map graphics screen. Even if only the primary runway is displayed on the map graphics screen for a particular selection, information will be provided about all runways and helipads, if available. **If the ARRIVAL function button is depressed before any other function button is depressed after selection of PLAN VIEW, that selected landing facility will become centered on the ARRIVAL mode graphics screen. This feature is also useful for selecting an alternate landing facility for display in the ARRIVAL mode. This feature is canceled when another mode is selected.**

# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

## INFOrmation Display Characteristics

166° BRG	MAG 160°	25 KTS
112.2 NM	21:10:08	
SEATTLE WA		
SEATTLE-TACOMA INTL		
N 47° 26.95	429' MSL	
W 122° 18.48	20° E	
ATIS 118.00 TWR 119.90		
APCH 119.20 GND 121.70		
SEA-V RAD: 339°/8NM		
FUEL: JET A/AVGAS		
RWY:16L/34R 11900'X148'		
NONE/ILS		
ASPH/CONC LITED MORE		
PDX		L6°TE
3 <sup>8</sup> MSL	SEA-A	DEP/1

SELected facility SEA-A  
SEATTLE TACOMA INTL

166° BRG	MAG 160°	25 KTS
112.2 NM	21:11:24	
RWY:16R/34L 9424'X148'		
ILS-DME/NONE		
ASPH/CONC LITED		
PDX		L6°TE
3 <sup>8</sup> MSL	SEA-A	DEP/1

SELected facility SEA-A  
RWY:16R / 34L

166° BRG	MAG 160°	25 KTS
112.1 NM	21:27:07	
SEATTLE-TACOMA INTL		
005° BRG	TRUE	.1 NM
PDX		L6°TE
3 <sup>8</sup> MSL	SEA-A	DEP/1

SELected facility SEA-A  
PLAN VIEW (TRUE-NORTH)

050° BRG	MAG 060°	119 KTS
9.3 NM	00:30:08	
OTT-V NOTTINGHAM		
N 38° 42.34	---	
W 076° 44.70	==	
210' MSL 10° W		
VORTAC LOW		
FREQ: 113.70 MHZ		
CHAN: 84X		
RAD: 027°/7.4NM		
WASH		ARTCC
135.00 MHZ		
		R36°TE
2 <sup>4</sup> MSL	OTT-V	ENR/10

SELected facility OTT-V  
NOTTINGHAM VORTAC

167° BRG	MAG 167°	333 KTS
34.4 NM	18:17:11	
INTERSECTION		
TOUTL		
ENR-LOW		
N 46° 01.41		
W 122° 32.73		
BRG: 172°/8.2NM		
PDX	R 0.1NM	L0°TE
9 <sup>7</sup> MSL	TOUTL	ENR/30

SELected facility  
TOUTL INTERSECTION

309° BRG	MAG 292°	25 KTS
131.6 NM	09:58:36	
PORTLAND ME		
PORTLAND INTL JETPORT		
N 43° 38.76	74' MSL	
W 070° 18.55	17° W	
ATIS 119.05 TWR 120.90		
APCH 119.75 GND 121.90		
ENE-V RAD: 062°/18.8NM		
FUEL: JET A/AVGAS		
RWY:11/29 6800'X148'		
ILS-DME/ILS-DME		
ASPH/CONC LITED MORE		
BTV	R 0.3NM	L17°TE
3 <sup>2</sup> MSL	PWM-A	DEP/5

SELected facility PWM-A  
PORTLAND INTL JETPORT

158° BRG	MAG 180°	0 KTS
9.3 NM	---	
LEESBURG MUNI/GODFREY		
093° BRG	→	.3 NM
3 <sup>3</sup> MSL	W09-A	DEP/1

SELected facility W09-A  
PLAN VIEW (BEARING-UP)

036° BRG	MAG 044°	119 KTS
4.7 NM	00:26:12	
ANNAPOLIS MD		
LEE		
N 38° 56.56	30' MSL	
W 076° 34.14	10° W	
CTAF 122.90		
USE: PUB		
BAL-V RAD: 171°/14.3NM		
FUEL: AVGAS		
RWY:12/30 2400'X48'		
NONE/NONE		
ASPH/CONC LITED		
		R7°TE
2 <sup>4</sup> MSL	ANP-A	ARR/6

SELected facility ANP-A  
ANNAPOLIS MD / LEE

285° BRG	MAG 284°	119 KTS
2.9 NM	01:00:57	
GTN-N GEORGETOWN		
N 38° 55.77	---	
W 077° 07.47	==	
- MSL 09° W		
NDB		
FREQ: 323 KHZ		
BRG: 285°/2.9NM		
		R13°TE
3 <sup>1</sup> MSL	GTN-N	ENR/10

SELected facility GTN-N  
GEORGETOWN NDB

044° BRG	MAG 027°	127 KTS
158.4 NM	05:41:30	
WICHITA KS		
CESSNA ACFT FLD		
N 37° 38.91	1378' MSL	
W 097° 15.01	07° E	
APCH 134.80 CTAF 122.90		
ICT-V RAD: 103°/16.9NM		
FUEL: NONE		
RWY:17L/35R 3872'X40'		
NONE/NONE (R)		
ASPH/CONC UNLITED		
MCI		L18°TE
3 <sup>0</sup> MSL	CEA-A	DEP/5

SELected facility CEA-A  
CESSNA ACFT FLD

044° BRG	MAG 045°	127 KTS
156.5 NM	05:54:55	
WICHITA KS		
BEECH FACTORY		
N 37° 41.25	1387' MSL	
W 097° 13.25	07° E	
TWR 126.80 APCH 134.80		
GND 121.70 CTAF 126.80		
ICT-V RAD: 095°/17.7NM		
FUEL: JET A/AVGAS		
RWY:18/36 5000'X100'		
NONE/NONE (R)		
ASPH/CONC LITED		
MCI		L0°TE
3 <sup>0</sup> MSL	BEC-A	DEP/5

SELected facility BEC-A  
BEECH FACTORY

079° BRG	MAG 073°	130 KTS
18.9 NM	23:20:38	
BOSTON MA		
BOSTON		
N 42° 20.68	16' MSL	
W 071° 02.85	16° W	
CTAF 122.90		
USE: PUB		
BOS-V RAD: 269°/2.6NM		
FUEL: JET A		
PAD:HI 72'X68'		
ASPH/CONC UNLITED		
BOS	R 3.1NM	R4°TE
3 <sup>4</sup> MSL	IMA3-H	ARR/30

SELected facility IMA3-H  
BOSTON (PUBLIC HELIPORT)

## Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

### EMERgency

#### Purpose:

To display five or more nearest prequalified landing facilities in a 360° view.

#### Operation:

Automatically adjusts range to most distant of five or more nearest airports (or seaplane bases if amphibious is selected) if operation is within fixed-wing aircraft, or five nearest heliports and two nearest airports, if operation is within a rotary-wing aircraft.

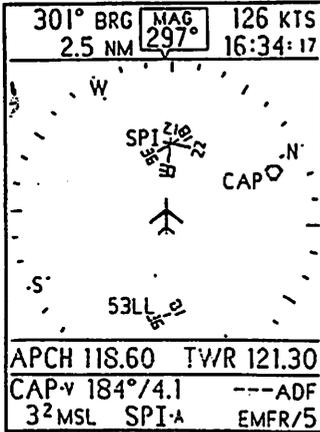
#### Sequences:

1. Depress and hold [ARR] and [AUX] for one (1) second and observe range will adjust to include five or more nearest landing facilities.
2. Observe that Bearing, Distance, and Estimated Time-of-Arrival are displayed to the nearest facility within the "upper window".
3. Depress [DEP] or the remote SELECT switch to obtain the Bearing, Distance and ETA to the next and subsequent landing facilities.
4. Observe that the name of the selected landing facility will appear for one second in a field above the "lower window" and the identifier will appear in the center of the "lower window" for the selected facility.
5. Repeatedly depress [ARR] to reduce range to minimum of 1 nautical mile, if desired.
6. Depress and hold [ARR] to increase range to maximum of 120 nautical miles, if desired.
7. Depress [ENR] or the remote INFORMATION switch to obtain details about a selected landing facility. Depress [ARR] to display map.
8. Depress and hold [ARR] and [AUX] for one (1) second to return from the EMERgency submode to the previously chosen operating mode

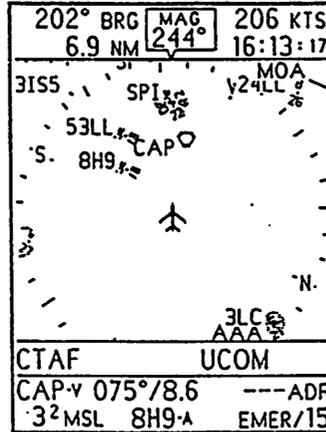
#### Conditions:

Presentation is similar to the DEPARTure mode. The aircraft's position will be displayed from the nearest VOR, VOR/DME or VORTAC in the "lower window." Upon activation, the "CREATING NEW SCREEN" message and the ADF bearing pointer and compass rose, if selected, will appear in the field above the "lower window." Communications frequencies for Public and Private landing facilities will be displayed in the field above the "lower window" following the one second appearance of the name of the selected facility. If selected for display, the ADF bearing pointer and digital magnetic bearing will appear the same as in the DEPARTure mode. **Only prequalified landing facilities, Prohibited Airspace and VOR type facilities are displayed. All other SUAs and NAVAIDs are deleted. Due to the unavailability of runway end latitude and longitude coordinates for some airports, only the primary runway for those airports will appear on the map graphics screen.**

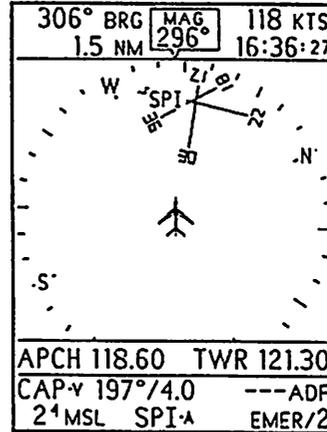
**EMERgency Display Characteristics**



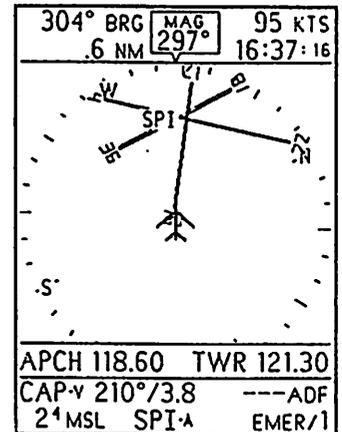
Initial depression of EMERgency displays the nearest facility



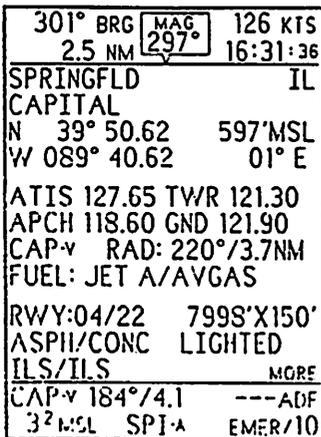
Depression of SELEct displays next nearest landing facility



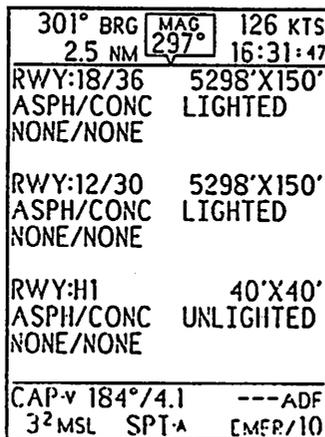
Depression of ARRival reduces screen range for improved definition



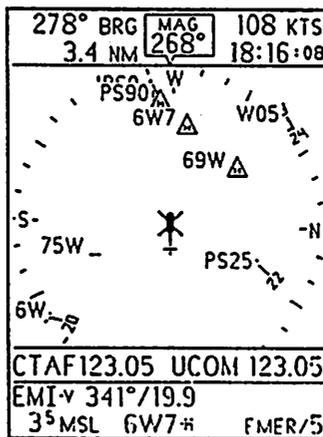
Additional depression of ARRival subsequently reduces screen range



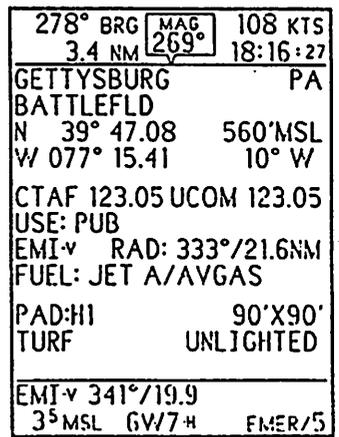
Depression of INFOrmation displays characteristics of landing facilities



Subsequent depressions of INFOrmation displays MORE characteristics



EMERgency activation in rotary-wing recalls heliports and airports



Depress INFOrmation for characteristics about other facilities

**AMEND**

**Purpose:**

To provide the Operator with the means of selecting or deselecting facilities or navigation functions in a menu-driven form which are desired for display. This function is used for graphics screen decluttering and for control of mode selections and adjustment of date and time of the real-time clock.

**Operation:**

The categories for selection in **AMEND** include, in order, DISPLAY OPTIONS such as ADF MODE or WD modes, AIRSPACE FIXES, NAVAIDS, SPECIAL USE AIRSPACE, AIRPORTS, and HELIPORTS. Graphic "soft keys" are produced on the screen which correspond to the function buttons immediately to their right, for the ARGUS 5000 or immediately below for the ARGUS 7000. They are [PAGE] = [DEP], [LINE] = [ENR], [CHanGe] = [ARR] and [ReTUrN] = [AUX].

**Sequences:**

1. Depress [AUX] three times or hold for five (5) seconds to access DISPLAY FEATURES in AMEND.
2. Depress [CHG] to select ADF MODE or ADF display in PLAN or MAP + PLAN or ADF MODE OFF, under the subtitle of DISPLAY OPTIONS.
3. If the ARGUS 5000 or ARGUS 7000 is equipped with a WDA 5005 or WDA 7005 Weather Display Adapter and weather display is desired, depress [CHG] to select WD GYRO ON, for heading oriented weather display, or WD GYRO OFF for non-heading oriented display of weather mapping information, or select WD MODE OFF or ADF & WD OFF to display map graphics only .
4. Depress [LINE] to advance to AIRSPACE FIXES, NAVAIDS, SPECIAL USE AIRSPACE, AIRPORTS or HELIPORTS then depress [CHG]. Choose Y or N to make selections.

DISPLAY FEATURES	
DISPLAY OPTIONS:	
→ ADF MODE	PAGE
Y AIRSPACE FIXES	LINE
Y NAVAIDS	
Y SPECIAL USE AIRSPACE	CHG
Y AIRPORTS	RTN
Y HELIPORTS	
DISP. FEATURES END	

DISPLAY FEATURES	
DISPLAY OPTIONS:	
ADF: PLAN	PAGE
Y AIRSPACE FIXES	LINE
Y NAVAIDS	
→N SPECIAL USE AIRSPACE	CHG
Y AIRPORTS	RTN
Y HELIPORTS	
DISP. FEATURES END	

DISPLAY FEATURES	
DISPLAY OPTIONS:	
ADF: MAP+PLAN	PAGE
Y AIRSPACE FIXES	LINE
Y NAVAIDS	
Y SPECIAL USE AIRSPACE	CHG
Y AIRPORTS	RTN
→N HELIPORTS	
DISP. FEATURES END	

DISPLAY FEATURES	
DISPLAY OPTIONS:	
ADF & WD OFF	PAGE
→N AIRSPACE FIXES	LINE
Y NAVAIDS	
Y SPECIAL USE AIRSPACE	CHG
Y AIRPORTS	RTN
Y HELIPORTS	
DISP. FEATURES END	

5. Press [RTN] to exit AMEND or [PAGE] to advance to additional menu pages in AMEND.

## Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

### AMEND (Continued):

6. Depress [PAGE] to advance to DISPLAY PARAMETERS for display of COURSELINE(S) of NONE, PLAN ONLY, MAP ONLY or MAP & PLAN.
7. Depress [LINE] to advance and [CHG] to choose graphics screen ORIENTATION to HEADING or TRACK.
8. Depress [LINE] to advance to PLAN VIEW and [CHG] to choose either BEARING UP or TRUE NORTH UP.
9. Depress [LINE] to advance and [CHG] to select CDI SCALE to 1.25 NMI, 2.5 NMI or 10 NMI full scale deflection in all modes, or AUTO which is 10 nautical miles full scale in DEPARTure and ENRoute, and 2.5 nautical miles full scale in ARRival, or DIGITAL readout in nautical miles of Cross-track Distance with Left or Right sensing.
10. Depress [LINE] to advance and [CHG] to choose LETTER SIZE in MEDIUM or SMALL character sizes.

DISPLAY PARAMETERS	DISPLAY PARAMETERS	DISPLAY PARAMETERS	DISPLAY PARAMETERS
COURSELINE(S): NONE <span style="float: right;">PAGE</span>	COURSELINE(S): PLAN ONLY <span style="float: right;">PAGE</span>	COURSELINE(S): → MAP ONLY <span style="float: right;">PAGE</span>	COURSELINE(S): MAP & PLAN <span style="float: right;">PAGE</span>
ORIENTATION: → HEADING <span style="float: right;">LINE</span>	ORIENTATION: TRACK <span style="float: right;">LINE</span>	ORIENTATION: HEADING <span style="float: right;">LINE</span>	ORIENTATION: HEADING <span style="float: right;">LINE</span>
PLAN VIEW: BEARING UP <span style="float: right;">CHG</span>	PLAN VIEW: TRUE NORTH UP <span style="float: right;">CHG</span>	PLAN VIEW: BEARING UP <span style="float: right;">CHG</span>	PLAN VIEW: → BEARING UP <span style="float: right;">CHG</span>
CDI SCALE: AUTO <span style="float: right;">RTN</span>	CDI SCALE: → DIGITAL <span style="float: right;">RTN</span>	CDI SCALE: AUTO <span style="float: right;">RTN</span>	CDI SCALE: 1.25 NMI. <span style="float: right;">RTN</span>
LETTER SIZE: MEDIUM <span style="float: right;">RTN</span>	LETTER SIZE: MEDIUM <span style="float: right;">RTN</span>	LETTER SIZE: MEDIUM <span style="float: right;">RTN</span>	LETTER SIZE: SMALL <span style="float: right;">RTN</span>
DISP. PARAM. END	DISP. PARAM. END	DISP. PARAM. END	DISP. PARAM. END

11. Depress [PAGE], then [LINE] to advance and [CHG] to choose AIRSPACE FIXES by category, as desired.
12. Depress [PAGE], then [LINE] to advance and [CHG] to choose NAVAIDS by category and classification.
13. Depress [PAGE], then [LINE] to advance and [CHG] to choose SPECIAL USE AIRSPACE by category. NEC WPTS (Northeast Corridor Waypoints) are optional in Heliport databases and are intended for rotary-wing use. They will appear as waypoint "stars"
14. Depress [PAGE] to view AIRPORT SELECTION, then [CHG] to choose RUNWAY LENGTH in increments of 200 feet from 2000 feet to 8000 feet. **Only those runway(s) which are qualified by minimum length will be displayed in DEPARTure, ENRoute, ARRival or EMERgency. The minimum length may be selected to eliminate any airports which do not meet requirements for balanced field length or start-stop distances.**

# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

## AMEND (Continued):

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th style="text-align: left;">AIRSPACE FIXES</th></tr> <tr><td style="padding: 2px;">→Y ENROUTE HIGH</td></tr> <tr><td style="padding: 2px;">Y ENROUTE LOW</td></tr> <tr><td style="padding: 2px;">Y IAP</td></tr> <tr><td style="padding: 2px;">Y STAR</td></tr> <tr><td style="padding: 2px;">Y SID</td></tr> <tr><td style="padding: 2px;">Y AREA/RNAV</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">Y NEC WPTS</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">AIRSPACE FIXES END</td></tr> </table>	AIRSPACE FIXES	→Y ENROUTE HIGH	Y ENROUTE LOW	Y IAP	Y STAR	Y SID	Y AREA/RNAV		Y NEC WPTS		AIRSPACE FIXES END	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th style="text-align: left;">NAVAID SELECTION</th></tr> <tr><td style="padding: 2px;">VORTAC STATION</td></tr> <tr><td style="padding: 2px;">Y HIGH ALT.</td></tr> <tr><td style="padding: 2px;">Y LOW ALT.</td></tr> <tr><td style="padding: 2px;">Y TERMINAL</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">NDB STATIONS</td></tr> <tr><td style="padding: 2px;">Y AVIATION</td></tr> <tr><td style="padding: 2px;">Y MARITIME</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">LOCATOR/MARKER</td></tr> <tr><td style="padding: 2px;">Y LOM</td></tr> <tr><td style="padding: 2px;">Y LMM</td></tr> <tr><td style="padding: 2px;">→Y FAN</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">NAVAID SELECTION END</td></tr> </table>	NAVAID SELECTION	VORTAC STATION	Y HIGH ALT.	Y LOW ALT.	Y TERMINAL		NDB STATIONS	Y AVIATION	Y MARITIME		LOCATOR/MARKER	Y LOM	Y LMM	→Y FAN		NAVAID SELECTION END	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th style="text-align: left;">SPECIAL USE AIRSPACE</th></tr> <tr><td style="padding: 2px;">→Y RESTRICTED</td></tr> <tr><td style="padding: 2px;">Y ALERT</td></tr> <tr><td style="padding: 2px;">Y WARN/DANGER</td></tr> <tr><td style="padding: 2px;">Y MOA</td></tr> <tr><td style="padding: 2px;">Y TCA</td></tr> <tr><td style="padding: 2px;">Y ARSA</td></tr> <tr><td style="padding: 2px;">Y ADIZ</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">SUA SELECTION END</td></tr> </table>	SPECIAL USE AIRSPACE	→Y RESTRICTED	Y ALERT	Y WARN/DANGER	Y MOA	Y TCA	Y ARSA	Y ADIZ		SUA SELECTION END	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th style="text-align: left;">AIRPORT SELECTION</th></tr> <tr><td style="padding: 2px;">RUNWAY LENGTH</td></tr> <tr><td style="padding: 2px;">→2000</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">RUNWAY SURFACE</td></tr> <tr><td style="padding: 2px;">Y ASPH/CONC</td></tr> <tr><td style="padding: 2px;">Y TURF</td></tr> <tr><td style="padding: 2px;">N DIRT</td></tr> <tr><td style="padding: 2px;">N GRAVEL</td></tr> <tr><td style="padding: 2px;">N TREATED</td></tr> <tr><td style="padding: 2px;">N ICE</td></tr> <tr><td style="padding: 2px;">N SNOW</td></tr> <tr><td style="padding: 2px;">N WATER</td></tr> <tr><td style="padding: 2px;">CONTINUED...</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">PROCEED TO NEXT PAGE</td></tr> </table>	AIRPORT SELECTION	RUNWAY LENGTH	→2000		RUNWAY SURFACE	Y ASPH/CONC	Y TURF	N DIRT	N GRAVEL	N TREATED	N ICE	N SNOW	N WATER	CONTINUED...		PROCEED TO NEXT PAGE
AIRSPACE FIXES																																																								
→Y ENROUTE HIGH																																																								
Y ENROUTE LOW																																																								
Y IAP																																																								
Y STAR																																																								
Y SID																																																								
Y AREA/RNAV																																																								
Y NEC WPTS																																																								
AIRSPACE FIXES END																																																								
NAVAID SELECTION																																																								
VORTAC STATION																																																								
Y HIGH ALT.																																																								
Y LOW ALT.																																																								
Y TERMINAL																																																								
NDB STATIONS																																																								
Y AVIATION																																																								
Y MARITIME																																																								
LOCATOR/MARKER																																																								
Y LOM																																																								
Y LMM																																																								
→Y FAN																																																								
NAVAID SELECTION END																																																								
SPECIAL USE AIRSPACE																																																								
→Y RESTRICTED																																																								
Y ALERT																																																								
Y WARN/DANGER																																																								
Y MOA																																																								
Y TCA																																																								
Y ARSA																																																								
Y ADIZ																																																								
SUA SELECTION END																																																								
AIRPORT SELECTION																																																								
RUNWAY LENGTH																																																								
→2000																																																								
RUNWAY SURFACE																																																								
Y ASPH/CONC																																																								
Y TURF																																																								
N DIRT																																																								
N GRAVEL																																																								
N TREATED																																																								
N ICE																																																								
N SNOW																																																								
N WATER																																																								
CONTINUED...																																																								
PROCEED TO NEXT PAGE																																																								

15. Depress [LINE] to advance and [CHG] to choose RUNWAY SURFACE by category. Optional Seaplane Bases are selected as WATER category. **Runway surfaces of ASPH/CONC and TURF will always be recalled in EMERGENCY unless operation is within a Seaplane with optional Seaplane Bases database. Other surface types will be recalled as selected.**
  
16. Depress [PAGE] to view AIRPORT SELECTION then [CHG] to select FACILITY ACCESS by CIVIL PUBLIC, CIVIL PRIVATE, MIL PUBLIC or MIL PRIVATE. **All Operator prequalified runway(s) under all facility categories will be used in DEPARTure, ENRoute and ARRival. All airport categories are recalled in EMERGENCY.**
  
17. Depress [LINE] to advance and [CHG] to select APTS. W/O ILS/LOC/LDA APPROACHES. **If selected to N, only those airports with precision approaches listed will be used in DEPARTure, ENRoute and ARRival, and recalled in EMERGENCY.**
  
18. Depress [LINE] to advance and [CHG] to select UNLIGHTED runway(s). **If N is selected for UNLIGHTED only those runway(s) with lighting will be used in DEPARTure, ENRoute and ARRival, and recalled in EMERGENCY.**
  
19. Depress [LINE] to advance and [CHG] to choose FUEL TYPE REQ. by category. Only those airports which have fuel in their specific categories of AVGAS (100LL), JET A, or either will be displayed according to the type selected. Choose NONE for no exclusions. **This selection has no effect in EMERGENCY.**
  
20. If Heliport database is installed, depress [PAGE] to view HELIPORT SELECTION then [LINE] to advance and [CHG] to select HELIPAD SURFACE by category. If message, (HELIPORTS NOT INSTALLED) appears, heliports are not contained within the database. **If installed, ASPH/CONC and TURF helipads will be recalled in EMERGENCY if operation is within a rotary-wing aircraft.**

# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

## AMEND (Continued):

AIRPORT SELECTION		HELIPORT SELECTION		HELIPORT SELECTION		HELIPORT SELECTION	
FACILITY ACCESS		HELIPORTS		FACILITY ACCESS		FACILITY ACCESS	
Y CIV PUBLIC	PAGE	NOT INSTALLED	PAGE	→Y CIV PUBLIC	PAGE	→N CIV PUBLIC	PAGE
→N CIV PRIVATE		→N ASPH/CONC		Y CIV PRIVATE		N CIV PRIVATE	
Y MIL PUBLIC	LINE	SURFACE CLASS	LINE	Y MIL PUBLIC	LINE	N MIL PUBLIC	LINE
Y MIL PRIVATE		N TURF		Y MIL PRIVATE		N MIL PRIVATE	
Y APTS. W/O ILS/LOC/LDA APPROACHES	CHG	N DIRT	CHG	Y UNLIGHTED	CHG	N UNLIGHTED	CHG
Y UNLIGHTED		N GRAVEL		FUEL TYPE REQ.		FUEL TYPE REQ.	
FUEL TYPE REQ.	RTN	N TREATED	RTN	NONE	RTN	NONE	RTN
NONE		N ICE		CONTINUED...			
AIRPORT SELECTION END		PROCEED TO NEXT PAGE		HELIPORT SELECT END		HELIPORT SELECT END	

21. Depress [PAGE] to view HELIPORT SELECTION then [CHG] to select FACILITY ACCESS by CIVIL PUBLIC, CIVIL PRIVATE, MIL PUBLIC or MIL PRIVATE. **All heliport categories will be recalled in EMERgency.**
22. Depress [LINE] to advance and [CHG] to select LIGHTED or UNLIGHTED helipads. **If UNLIGHTED is selected to N, only those helipads with lighting will be recalled in EMERgency.**
23. Depress [PAGE] to view DATE/TIME ENTRY, then [LINE] to advance and [CHG] to set the correct DAY, MONTH, YEAR and 24 HOUR TIME adjustable to time zone as desired. Time is updated only after depressing [PAGE] or [RTN].
24. Depress [PAGE] to recycle or [RTN] three times or hold for one (1) second to exit or return to the previously selected graphics map mode.

### Conditions:

All values selected in **AMEND** remain in memory whether or not power is applied. When in **AMEND**, the map display is continuously updated. When selecting a different graphics map mode or returning from **AMEND**, the "CREATING NEW SCREEN" message will appear. If MAP + PLAN is selected in **AMEND** for display of ADF with the map graphics, the "pointer" and/or "tail" will be positioned on the "compass rose" or range ring in **DEParture**, **ENRoute** and **EMERgency**. In **ARRival**, the ADF "vector" line will appear if the symbolic aircraft is on the screen. If PLAN ONLY is chosen and **PLAN** is selected, the ADF bearing pointer and tail will appear with waypoint(s) and course line(s). In these cases, a display of magnetic bearing to the tuned and received NDB will appear within the upper-right corner of the lower "window". If ADF is not installed and/or selected, Track Error (TE) will appear in the "lower window" and the ADF bearing pointer will be referenced to a fixed index card. **Note: On longer ranges, ADF pointer response will be delayed until a new map is created. This condition is inherent with the display update characteristics. The ADF pointer response time may be improved by selecting a shorter range, the PLAN submode, or the ADF MODE, which is the only mode approved for IFR/NDB approaches.**

**TROUBLESHOOTING TIPS**

<b>FUNCTION</b>	<b>DISPLAY SYMPTOM</b>	<b>CAUSE</b>	<b>ACTION</b>
<b>PUSH-ON</b>	Low display or LED intensity	Control adjusted counter-clockwise	Adjust control clockwise until satisfied. Consult Operator's Manual
	No display or LED intensity	No aircraft power supplied or internal failure	Check aircraft power and circuit breaker condition
	Fails self-test diagnostics	Unit defective	Contact Installation Agency or Eventide
<b>DEP</b> arture, <b>ENR</b> oute, <b>ARR</b> ival <b>EMER</b> gency	Heading information erroneous or missing	Malfunctioning heading system or not selected	Check gyrocompass or indicator input and settings in <b>AMEND</b>
	LORAN, GPS, NMS, or LRN data erroneous, missing, or invalid	Malfunctioning or flagged LORAN, GPS, NMS or LRN	Check operation. Notify Installation Agency
	Landing facility off screen in <b>ARR</b> ival Mode	Missing magnetic variation or error	Select waypoint from <b>PLAN</b> VIEW
	No display of function	Unit defective	Notify Installation Agency or Eventide
<b>SEL</b> ect, <b>INFO</b> rmation	Cannot select information about a facility	Improper switch action, faulty remote switch, or not activated	Study appropriate section - Operator's Manual or notify Installation Agency
	No display or function	Unit defective	Notify Installation Agency or Eventide
<b>PLAN</b>	No display of waypoint symbols or course line(s)	LORAN, GPS, NMS or LRN leg-change not entered	Enter leg-change or activate flight plan mode on navigation system
<b>AMEND</b>	Cannot select submode	Improper switch operation	Study appropriate section-Operator's Manual
	ETA erroneous	Clock time incorrect	Set real-time clock (See <b>AMEND</b> )
<b>ADF</b> MODE	Bearing erroneous	Improper response	See <b>AMEND</b> and check ADF Receiver
<b>WD</b> MODE (if equipped)	No weather information	Undetermined	See BF Goodrich Flight Systems Stormscope <sup>®</sup> Owner's Manual and APPENDIX B

Under any failure circumstance which requires return to Eventide for repair, contact Eventide Avionics, Customer Service Department for a return authorization number and a shipping container appropriate for the shipment, if required.

## TECHNICAL OVERVIEW

The Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays are self-contained instruments weighing only 3.5 pounds (1.6 kg.) and 4.5 pounds (2.0 kg.) respectively. The units were designed for use with most manufactured LORAN C, and Global Positioning Satellite receivers, Navigation Management Systems, VLF/OMEGA, Inertial Navigation and Flight Management Systems (with optional ARINC 419/429 Adapter when required). Both units are TSO'd to category C113 as Airborne Multipurpose Electronic Displays. Both the ARGUS 5000 and the ARGUS 7000 conform to RTCA DO-160B Environmental Conditions and Test Procedures for Airborne Equipment for installation within both pressurized and non-pressurized fixed- and rotary-wing aircraft. The units require no external cooling under the qualified environmental category of F1/C/A/P AS/X/X/X/X/X/X/Z/B/A/A/A/A.

The ARGUS 5000 and ARGUS 7000 Moving Map Displays are configured within air transport style enclosures and mount within unitized clamp trays which attach to the instrument panel. The only required connections are input power, a LORAN C, GPS, NMS, ARINC 419/429 Adapter, remote switches for control of SElect and INFOrmation submodes, and optional but recommended aircraft gyroscopic directional system heading input (required for FAA approval for IFR navigation and with some long-range navigation systems), which is used for graphics screen orientation instead of computed Track. A reversionary function will select computed Track, when available, if heading input should become invalid. Connections are provided for ADF AC or DC Sine and Cosine or ARINC 407 Synchro bearing, with special software and external resistors. The ARGUS 5000 and ARGUS 7000 will operate from 11V<sub>dc</sub> to 33V<sub>dc</sub> and requires approximately fifteen watts of power.

The ARGUS 5000 and ARGUS 7000 are designed to interface with the navigation system, or ARINC 419/429 Adapter, through an optically isolated RS-232C/RS-422 port. Another RS-232C port is reserved for input or output and can be used with an ancillary device such as a Weather Display Adapter, navigation source, accessory, etc. A third port, which is accessible from the front panel as well as through the rear connector, is reserved for SETUP use and for other special applications. The Eventide Avionics ARGUS 5000 and ARGUS 7000 employ the popular Motorola MC68000™ microprocessor and a bit-mapped graphics controller. The ARGUS 5000 and ARGUS 7000 video is produced on a high-resolution, monochromatic cathode ray tube (CRT) with concentrated phosphor and laminated narrow-bandpass filter for high contrast and excellent sunlight readability. The graphics screen resolution is 256 x 512. An optional RS-170 video output for monitor interface is also available.

The unit design includes a database which resides in non-volatile read-only-memory (EPROM), that can be updated by exchanging an easily accessible and replaceable circuit card. The memory is cyclic redundancy checked (CRC) to a 16 bit level upon each power application to verify the accuracy of the stored data. In addition, a diagnostic built-in self-test is conducted upon power application to ensure proper operation so that if a failure occurs, a "System Error" message will appear to advise the Operator. The ARGUS 5000 and ARGUS 7000 also contain a real-time clock which is supported by a factory replaceable lithium battery.

**The conditions and tests required for TSO approval of these articles are minimum performance standards. It is the responsibility of those desiring to install these articles either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within TSO standards. If not within TSO standards, the articles may be installed only if the applicant documents further evaluation for an acceptable installation and it is approved by the Administrator of the Federal Aviation Administration or other certifying agency.**

## DATABASE MANAGEMENT

The ARGUS 5000 and ARGUS 7000 Moving Map Displays contain a Memory Board with as many as eight Electrically-Programmable Read-Only Memory (EPROM) integrated circuits within which data can be stored. The memory is non-volatile and each EPROM is error-checked upon every application of power. The Memory Board contains the database which supports the ARGUS 5000 and ARGUS 7000 graphics operations. It is Eventide Avionics' goal to provide and maintain the highest level of product integrity, and to make the database updates available to Installation Agencies, Owners or Operators every fifty-six (56) days (standard) or twenty-eight (28) days (optional International). **Each Owner or Operator should obtain and replace the database every fifty-six days. ARGUS 5000 and ARGUS 7000 units which are FAA-approved for IFR with IFR approved LORAN C, GPS or Navigation Management Systems must be updated every fifty-six (56) days.** A Memory Board may be obtained and replaced by the following methods:

- From the Installation Agency from which the ARGUS 5000 or ARGUS 7000 was originally purchased. The Installation Agency shall be furnished only those Memory Boards which the Owner or Operator requests. Current databases are available by subscription each 28 or 56 day cycle, twice annually and on a one-time basis. The Installation Agency must specify the serial number of the ARGUS 5000 or ARGUS 7000 in order to obtain the proper replacement. The Installation Agency assumes all responsibility for the return of the original Memory Board.
- At Eventide Avionics by return shipment to the factory at least ten (10) days prior to the scheduled update for a given period (usually around the beginning of every **even** month throughout the calendar year). Contact the Customer Service Department to request a return authorization number. Specify the serial number, type and effective date appropriate to the database update desired.
- The ARGUS 7000 Memory Board may be replaced by loosening the two Phillips head screws on the handle and gently removing the board from the front. To install the replacement, gently insert the board into the enclosure slots and apply pressure until the board engages the rear connector and the handle is flush with the bezel. Apply power to the unit and verify that the SELF-TEST passes satisfactorily. **Keep the database within the anti-static envelope when not handling for replacement purposes.** Promptly return the Memory Board in the original anti-static envelope and container to obtain credit.
- Instructions for replacing the ARGUS 5000 Memory Board:
  1. Remove the ARGUS 5000 from the aircraft instrument panel, by loosening the two top-most Phillips head screws approximately three full turns counterclockwise. Apply pressure to them to release the clamp fixture. Insert a removal tool or a dull-edged flat-blade screwdriver into both slots in the sides of the bezel and apply light pulling pressure to remove from tray.
  2. Position the unit with the side-plate adjacent to the function buttons facing up and remove the ten flat-head Phillips screws and the side-plate.
  3. Gently apply slight prying pressure on the Memory Board nearest to the function buttons to disengage it from the underlying processor board. **Extreme care must be taken to prevent damage due to static electric charges. Keep the Memory Board within the anti-static envelope when not handling for replacement purposes.**
  4. Remove the Memory Board and insert the replacement. Be certain to properly engage the front connectors and the two rear connectors.
  5. Reinstall the side plate with the four shortest (1/4") flat-headed screws at the front and rear of the unit.
  6. Reinstall the unit into the aircraft panel and tighten the clamp tray screws.
  7. Apply power to the unit and verify that the SELF-TEST passes satisfactorily.
  8. Promptly return the Memory Board in the original anti-static envelope and container to obtain credit. **The original must be returned.**

# Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays

## APPENDIX A - LORAN C, GPS and NMS Display Characteristics

### Preface

The following table illustrates the characteristics for display of LORAN C, Global Positioning Satellite, or Navigation Management System information on the Eventide Avionics ARGUS 5000 and ARGUS 7000 Moving Map Displays. The various LORAN C and GPS receivers, and NMS listed below do not appear in any order of preference or recommendation. The ARGUS 5000 and ARGUS 7000 are also compatible with the Eventide Avionics RAA 5007-00 or -02 and RAA 7007-00 or -02 ARINC or RMI/ARINC Adapters and the Shadin Company, Inc. Model 933600, ARINC 419/429 Adapters, which are available for interface use with several VLF/OMEGA, Inertial Navigation, Area Navigation, Flight Management Systems and some LORAN C receivers. For more information contact Eventide Avionics.

Nav. System:	Bendix King	Trimble Navigation	ARNAV Systems	BF Goodrich II (Foster)	Morrow Apollo	Northstar Avionics	Texas Instruments	Garmin Pronav
	KLN 88	TNL 2000	R-15/B	RNC-601/A/B	604	M1/A	TI-9100/A	GPS 100
	KLN 90	TNL 3000	R-30/A	(LNS-616)	611	M2V		
		TNL 2100	R-21NMS	LRN-500	612	M2		
		TNL 3100	R-21DMS	F-4	612A/B			
			R-40	LRN-501	612C			
			R-40RDB	F-14	614R			
			R-25	ANI-7000	618			
			R-50, 50v		618C/R			
			R-50i/GPS		800			
			R-60		819, 820, 820+			
					NMC 2001			
Brg.-to-Wpt.	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°
Dist.-to-Wpt.	9999.9	9999.9	Note 5	Note 1	9999.9	9999.9	9999.9	9999.9
TRK	0-359°	0-359°	0-359°	Note 2	0-359°	0-359°	0-359°	0-359°
Heading	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°
GS	0-999	0-999	0-999	0-999	0-999	0-999	0-999	0-999
DTK	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°	0-359°
XTK Dist.	±99.9	±99.9	±99.9	Note 1	±99.9	±8	±99.9	±99.9
Wpt. Ident.	3-5 Chars.	1-5 Chars.	3-5 Chars.	Note 4	Note 3	3-5 Chars.	Note 4	1-5 Chars.
Waypoints	32	Note 6	1	1	Note 3	20	1	32

Note 1. The RNC-601/A/B Distance-to-Waypoint is always displayed to the maximum range of 4095 NM with a resolution of 0.1 NM less than 100 NMi and 1.0 at distances greater than 100 NMi. All others display to 3999.9 NMi except for the ANI-7000 which displays to 9999.9 NMi. Crosstrack (XTK) distance is ±8/±4 for the RNC-601/A/B. All others are ±99.9 NMi.

Note 2. The RNC-601/A/B does not output Computed Track Angle, therefore, the ARGUS 5000 and ARGUS 7000 must be installed with the Aircraft's gyroscopic directional heading system.

Note 3. Waypoint identifiers and multiple waypoints are available only from the Apollo 618 series with Versions 2.2, or higher. Up to 32 waypoints may be displayed from the Apollo 800 series.

Note 4. "WPT" and the waypoint number are created in the lower "window" and on the screen except for the ANI-7000 which is 1-3 Characters.

Note 5. Distance will be displayed only after Groundspeed is computed in the R-21, R-40, and R-60.

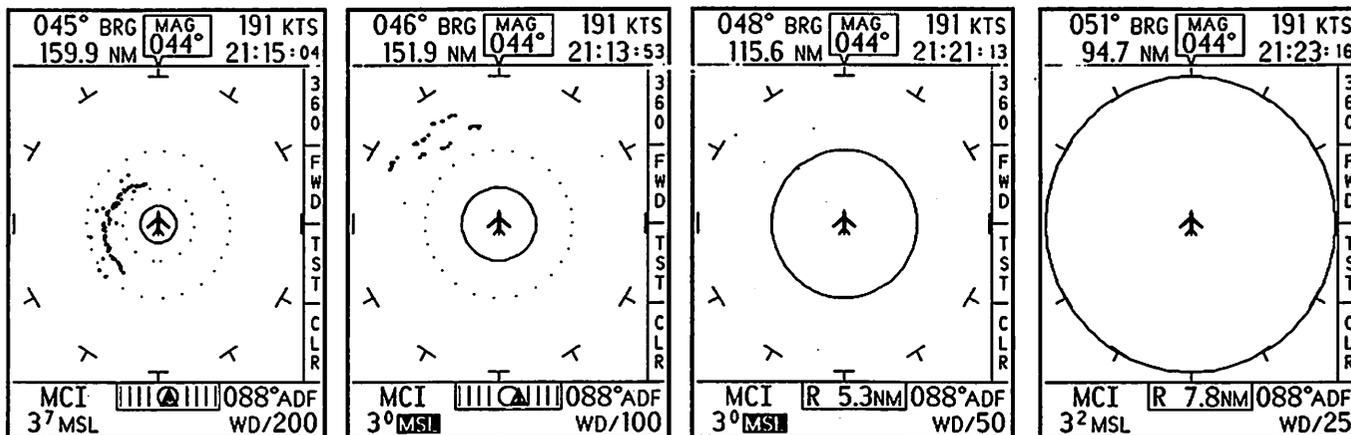
Note 6. Only one waypoint will be displayed from TNL 2000 Version 1.0 and TNL 3000 Version 2.0.

APPENDIX B - Weather Display Mode Operating Instructions

The BF Goodrich Flight Systems Stormscope® WX-10 ( ) and WX-11 ( ) Weather Mapping Systems "OWNER'S MANUAL" must be adhered to for interpreting and understanding the thunderstorm avoidance principals. It is particularly important to note the **WARNING** which states that: "Stormscope" Weather Mapping Systems are not intended for thunderstorm penetration. There is no weather mapping instrument available that can be used safely to penetrate thunderstorms." It also states: "This manual gives examples of aircraft passing close to thunderstorms. It is important to note that it is not always safe to pass this close. The pilot in command is responsible for all decisions regarding flight around thunderstorm activity."

To select operation in the WD MODE, activate the external switch to "WD ON" or select WD GYRO ON or WD GYRO OFF in AMEND. For control of each function, depress [360] = [DEP], [FWD] = [ENR], [TST] = [ARR], and [CLR] = [AUX]. The DEP arture and ENR route function buttons control ranges. If the directional heading system should fail, select WD GYRO OFF to prevent erroneous presentation.

It is critical that when operating in WD GYRO OFF mode that the [CLR] button be depressed to erase possibly erroneous information which has accumulated over the four minute time period allocated by the Stormscope Processor to display information as referred to in the BF Goodrich Flight Systems Stormscope® WX-10 ( ) and WX-11 ( ) Weather Mapping Systems "OWNER'S MANUAL". When selected to WD GYRO ON in AMEND or when the external switch is activated to WD ON, the rotation response rate of the weather display presentation on the graphics screen is three degrees per second.

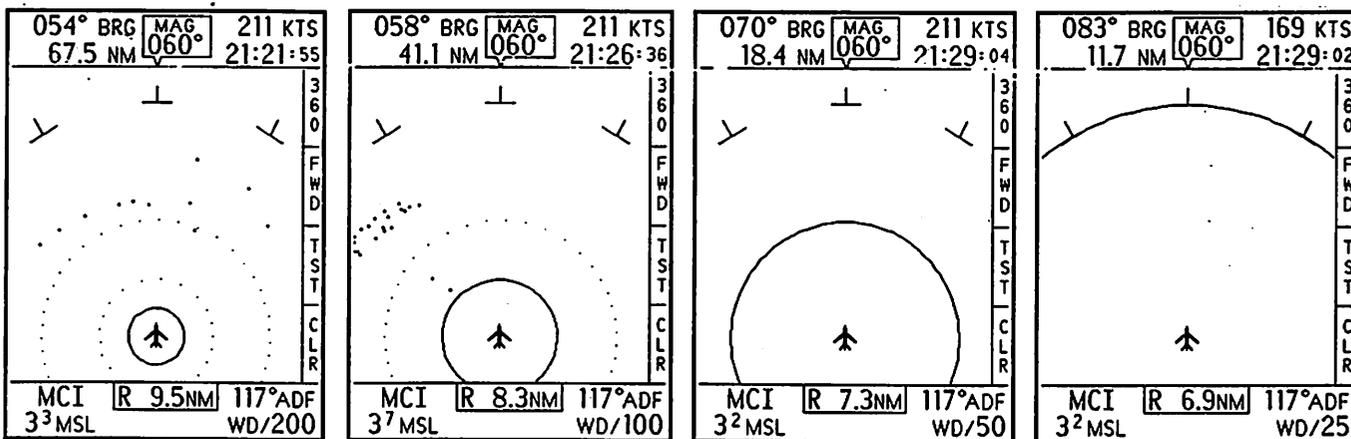


WD/200 (360)

WD/100 (360)

WD/50 (360)

WD/25 (360)



WD/200 (FWD)

WD/100 (FWD)

WD/50 (FWD)

WD/25 (FWD)

APPENDIX C - WDA 5005 and WDA 7005 Adapters Description

The Eventide Avionics ARGUS 5000 or ARGUS 7000 will provide weather mapping display capability with the BF Goodrich Flight Systems Stormscope® WX-10 ( ) and WX-11 ( ) Weather Mapping Systems. When combined with the Eventide Avionics WDA 5005 or WDA 7005 Weather Display Adapter, the ARGUS emulates the functions of the Stormscope displays when interfaced with the Stormscope Processors, as described on Eventide Avionics Drawing 138006. The WDA 5005 and WDA 7005 are TSO'd to C110a and conform to RTCA DO-160B Environmental Conditions and Test Procedures for Airborne Equipment for installation within both pressurized and non-pressurized fixed- and rotary-wing aircraft. The unit requires no external cooling under the qualified environmental category of F1/C/A/P AS/X/X/X/X/X/X/Z/B/A/A/A/A.

The WDA 5005 and WDA 7005 Weather Display Adapters are configured within an ARINC style enclosure and are designed to mount remotely or within the Eventide Avionics Part Numbers 300176 or 300250 Clamp Trays immediately behind the ARGUS 5000 or ARGUS 7000 by connecting directly with ARGUS 5000 or ARGUS 7000 connector 1P1. The unit may also be mounted remotely within an appropriate environment where depth prevents mounting within the Clamp Tray. The WDA 5005 and WDA 7005 are self-contained units which weigh only .66 pounds (.3 kg.) and require +15 Vdc. and -15 Vdc. from the power supply of the Stormscope Processor. The voltage inputs are independently fused to adequately protect the power supply of the Processor. The total power required is approximately 3.0 watts.

The WDA 5005 and WDA 7005 employ a Motorola MC68HC11 microprocessor under software control of the program residing within a 27C64 EPROM. The software was developed under RTCA DO-178A, Software Considerations in Airborne Systems and Equipment, to Level 2, Essential Category, and is maintained under the Eventide Avionics, Software Configuration Management Plan. Inputs to the WDA 5005 and WDA 7005 include the Vertical and Horizontal Deflection and Unblinking components from the output of the Stormscope Processor. The WDA 5005 and WDA 7005 control the operations of Power Switch, Clear, Test, and Forward, as well as Range 1 and Range 2, in the same manner as the conventional Stormscope Display. The WDA 5005 and WDA 7005 communicate the computer digitized intelligence from the Vertical and Horizontal components to the ARGUS 5000 or ARGUS 7000 over the RS-232C Serial Interface bus. The ARGUS Moving Map Display in turn, mimics the display of the derived weather mapping information as a separate mode of operation referred to as "WD MODE" in a method similar to the original Stormscope Display. The ARGUS displays provide heading orientation of the weather information when integrated with the aircraft's gyroscopic directional heading source, in a manner similar to that of the WX-11 ( ) series system. **The WX-11 ( ) Processor excitation source and synchro connections must be disconnected from the unit.** The functions are substituted with the Eventide Avionics "Shunting Connector" Part Number 312134. The function buttons of the ARGUS 5000 and ARGUS 7000 are relabeled as "soft keys" to define the operations which are vertically aligned, to maximize the screen viewing area. They are: [360] = [DEP], [FWD] = [ENR], [TST] = [ARR] and [CLR] = [AUX].

**The conditions and tests required for TSO approval of this article are minimum performance standards. It is the responsibility of those desiring to install this article either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within TSO standards. If not within TSO standards, the article may be installed only if the applicant documents further evaluation for an acceptable installation and it is approved by the Administrator of the Federal Aviation Administration or other certifying agency.**