AC NO: AC 90-64
DATE: 6/22/73

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUBJECT: AUTOMATED RADAR TERMINAL SYSTEM (ARTS) III

1. PURPOSE. To advise the aviation community of the capabilities of the Automated Radar Terminal System and the associated services provided by ARTS III equipped air traffic control facilities.

2. DISCUSSION.

   a. The Federal Aviation Administration has installed the Automated Radar Terminal System III (ARTS III) at 61 select high density terminal locations. (See Appendix 1). This equipment has undergone extensive testing and verification.

   b. The primary purpose of the ARTS III is to enhance the safety and efficiency of the terminal air traffic control environment.

   c. The ARTS III uses transponder returns and is designed to display alphanumeric data blocks associated with appropriate aircraft beacon targets on the controllers radar indicators. Data blocks consist of aircraft identification, computed ground speed and, for those aircraft with automatic altitude reporting capability, altitude.

   d. The information contained in the data blocks will substantially reduce clerical, communications, and coordination workload for the controller and communications workload for the pilot. The ARTS III system should enable the controller to devote more time and attention to the air traffic management function. This will result in more efficient traffic flow, less congestion or delay, and improved airspace utilization.

Initiated by: AAT-320

e. Maximum, effective use of the new system is dependent on the operational status and use of the airborne transponder equipment. Therefore, the following recommendations are offered for the use of your transponder equipment.

(1) Always indicate on your flight plan the proper suffix to identify the maximum capability of your transponder and navigational equipment. Proper suffixes are listed in the Airman's Information Manual, Part I. Some pilots are not indicating that they have 4096 code capability because they do not have altitude reporting equipment. This is a misunderstanding; the code capability is completely independent of altitude reporting equipment.

NOTE: FAR 91.24 prohibits the use of certain transponders after specified dates.

(2) It is very important when selecting the assigned discrete beacon code (4 digits) that there is no delay between selecting digits. Excessive time taken in selecting your code is just as problematic as selecting the wrong code and causes your target to be tagged with an erroneous data block. Be as sure of your assigned code as you are of your assigned altitude. Also remember that the code assignment for your target normally terminates when you terminate your flight. If you depart again with your transponder operation on the last assigned code, you will likely pick up the data block of the aircraft to which that code has been newly assigned. Therefore, it is very important that the last 2 digits of your transponder be set on "OO" unless otherwise specified by ATC.

(3) Unless specifically requested to turn the altitude equipment off (controller phraseology . . . STOP ALTITUDE SQUAWK) the altitude reporting equipment should be turned on prior to taking off and remain on throughout the duration of the flight.

In order to utilize the displayed altitude information for aircraft separation purposes, the controller must verify that it agrees with your altimeter within prescribed tolerances. To keep frequency congestion to a minimum we request that you report your actual altitude on initial contact with approach control when inbound and actual altitude on intial contact

with departure control when outbound. These reports should be as accurate as possible and will serve to verify the information displayed from your altitude reporting equipment.

Raymond G. Belanger

RAYMOND G. BELANGER
Acting Director, Air Traffic Service

APPENDIX 1

ARTS III LOCATIONS:

Albany, N. Y.
Albuquerque
Baltimore
Birmingham
Boston
Buffalo
Burbank
Charlotte, N. C.
Chicago (O'Hare)
Cincinnati
Cleveland
Columbus, O.
Dallas/Ft. Worth
Dayton (Wright-Patterson AFB)
Denver
Des Moines
Detroit
Dulles
El Paso
Hartford
Honolulu
Houston
Indianapolis
Jacksonville
Kansas City
Las Vegas
Los Angeles
Louisville, Ky.
Memphis
Miami
Milwaukee
Minneapolis
Nashville, Tenn.
New Orleans
Norfolk
Oklahoma City (Tinker AFB)
Omaha
Orlando
Philadelphia
Phoenix
Pittsburgh
Portland
Providence (Quonset PT. NAS)
Sacramento (McClellan AFB)
Salt Lake City
San Antonio
San Diego (Miramar NAS)
San Francisco/Oakland
San Juan
Santa Ana (El Toro NAS)
Seattle/Tacoma
Shreveport
St. Louis
Syracuse
Raleigh/Durham
Riverside
Rochester
Tampa
Tucson
Tulsa
Washington National

NOTE - New York, Atlanta and Knoxville are equipped with similar systems.