ARINC 424 NDB

Draft 1 of Supplement 23
Discussion/Proposal

Location Gdansk, Poland
October 9-11, 2018

~~FIGURE OF MERIT~~ / NAVAID USABLE RANGE

V.0

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SUMMARY
Proposal to clarify Figure of Merit in ARINC 424 and expected data and its use.

1.0   INTRODUCTION/ BACK GROUND

Figure of Merit is element is included in DO-201B DQR table for navaids. The definition was simplified to match the reality of what FOM data values represent. As a result, the name of Figure of Merit was changed to "Usable Range".

DO-201B definition of Usable Range:
Indication that the VHF navaid facility usability differs from the classification or service volume of the navaid.

2.0 DISCUSSION and or ACTION

Review proposals of current Figure of Merit definition. Change the name of Figure of Merit to "**Navaid** Usable Range" to add clarity.

3.0 Changes as depicted (Track Changes is Helpful)

VHF NAVAID Primary Records Column	Field Name (Length)	Reference
1	Record Type (1)	5.2
2 thru 4	Customer/Area Code (3)	5.3
5	Section Code (1)	5.4
6	Subsection Code (1)	5.5
7 thru 10	Airport ICAO Identifier (4)	5.6
11 thru 12	ICAO Code (2)	5.14
13	Blank (Spacing) (1)	
14 thru 17	VOR Identifier (4)	5.33
18 thru 19	Blank (Spacing) (2)	
20 thru 21	ICAO Code (2)	5.14
22	Continuation Record No. (1)	5.16
23 thru 27	VOR Frequency (5)	5.34
28 thru 32	NAVAID Class (5)	5.35
33 thru 41	VOR Latitude (9)	5.36
42 thru 51	VOR Longitude (10)	5.37
52 thru 55	DME Ident (4)	5.38
56 thru 64	DME Latitude (9)	5.36
65 thru 74	DME Longitude (10)	5.37
75 thru 79	Station Declination (5)	5.66
80 thru 84	DME Elevation (5)	5.40
85	~~Figure of Merit~~**Useable Range** (1)	5.149
86 thru 87	ILS/DME Bias (2)	5.90
88 thru 90	Frequency Protection (3)	5.150
91 thru 93	Datum Code (3)	5.197
94 thru 118	VOR Name (25)	5.71
119-120	**Usable Range (D-OSV) (1)**	**5.149**
120 thru 121	**Blank (Spacing) (3)**	
122	Route Inappropriate DME (1)	5.297
123	DME Operational Service Volume (1)	5.277
124 thru 128	File Record No. (5)	5.31
129 thru 132	Cycle Date (4)	5.32

4.1.32.1 TACAN-Only NAVAID Primary Records Column

Column	Field Name (Length)	Reference
1	Record Type (1)	5.2
2 thru 4	Customer/Area Code (3)	5.3
5	Section Code (1)	5.4
6	Subsection Code (1)	5.5
7 thru 10	Airport Identifier (4)	5.6
11 thru 12	ICAO Code (2)	5.14
13	Blank (Spacing) (1)	
14 thru 17	VOR Identifier (4)	5.33
18 thru 21	Blank (Spacing) (4)	
22	Continuation Record No. (1)	5.16
23 thru 27	VOR Frequency (5)	5.34
28 thru 32	NAVAID Class (5)	5.35
33 thru 51	Blank (Spacing) (19)	
52 thru 55	TACAN Ident (4)	5.38
56 thru 64	TACAN Latitude (9)	5.36
65 thru 74	TACAN Longitude (10)	5.37
75 thru79	Station Declination (5)	5.66
80 thru 84	TACAN Elevation (5)	5.40
85	~~Figure of Merit~~ **Usable Range** (1)	5.149
86 thru 87	Blank (Spacing) (2)	
88 thru 90	Frequency Protection (3)	5.150
91 thru 93	Datum Code (3)	5.197
94 thru 123	TACAN Name (30)	5.71
124 thru 128	File Record No. (5)	5.31
129 thru 132	Cycle Date (4)	5.32

5.149 ~~Figure of Merit (MERIT)~~ Navaid Usable Range

Definition/Description: The ~~Figure of Merit~~ **Usable Range** field is used to denote those situations where information has been made available that indicate a Navaid ~~facility is usable~~ **facility usability differs from** ~~beyond~~ the range value that is specified through the Class field. It is also used to denote when a Navaid contained in the database is not available for operational use, i.e., is out of service and to flag a Navaid that is not included in a civilian international NOTAM system.

Source/Content: Actual Field Entry Values are not contained in official government source but rather are derived values based on usage, class, availability, etc. These may be further adjusted by input from actual users. When the field content is equal to the information in the VHF Navaid Class field (Section 5.35), this is an indication that no information has been received indicating usable ranges ~~beyond~~ **that differ from** the Class **or service volume** specification**.**

The content will be as defined in the table below.

Field Content	Usable Range Description
	Navaid Class Power/Range
0	Terminal Use (generally within 25NM)
1	Low Altitude Use (generally within 40NM)
2	High Altitude Use (generally within 130NM)
3	Extended High-Altitude Use (generally beyond 130NM)
7	Navaid not included in a civil international NOTAM system
9	Navaid Out of Service
	DME Operational Service Volume (D-OSV)
A	40NM or less
B	70NM or less
C	130NM or less
D	Greater than 130NM
U	Unspecified

Used On: VHF Navaid Records, TACAN-Only, Navaid Records,

Length: 1 character

Character Type: Numeric