

ARINC 424 NDB

**Draft 1 of Supplement 24
Proposal**

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NEW WAYPOINT DESCRIPTION CODE #4 VALUES FOR IF

V.0

Joshua Fenwick, Garmin – AVDB Team



SUMMARY

Garmin is proposing a legacy only proposal to add a new waypoint description code #4 values for the currently unsupported combinations with the Intermediate Fix (IF).

NEW WAYPOINT DESCRIPTION CODE #4 VALUES FOR IF

1.0 INTRODUCTION/ BACKGROUND

There are a few cases where the Intermediate Fix (IF) can't be provided in the legacy Waypoint Description Code #4 (field definition 5.17 column 43) because the supplier must choose the Initial Approach Fix (IAF) or Final Approach Course Fix (FACF) values instead. There is a value of "D" for the combination of IAF/FACF but there is not a value for the combinations of IF/IAF or IF/FACF.

Waypoint Description Type/ Function/ Attribute	Used On Enroute, SID, STAR, APCH	Column 43	Remarks
Initial Approach Fix	APCH	A	Note 1
Intermediate Approach Fix	APCH	B	Note 1
Holding at Initial Approach Fix	APCH	C	
Initial Approach Fix at FACF	APCH	D	
Final End Point	APCH	E	Note 1
Final Approach Fix	APCH	F	Note 1
Source provided Enroute Waypoint without Holding	Enroute	G	Note 8
Source provided Enroute Waypoint with Holding	Enroute SID, STAR, APCH	H	Note 8
Final Approach Course Fix	APCH	I	Note 1
Missed Approach Point	APCH	M	Note 1
Engine Out SID Missed Approach Disarm Point	SID (Engine Out), APCH	N	Note 5
Initial Departure Fix	SID	P	Note 7
Quiet Climb SID Restore Point	SID	Q	Note 9

Figure 1: ARINC 424-23 Legacy Waypoint Description Code #4 Values

This is not a problem in the XML because we have a boolean for each type of fix label:

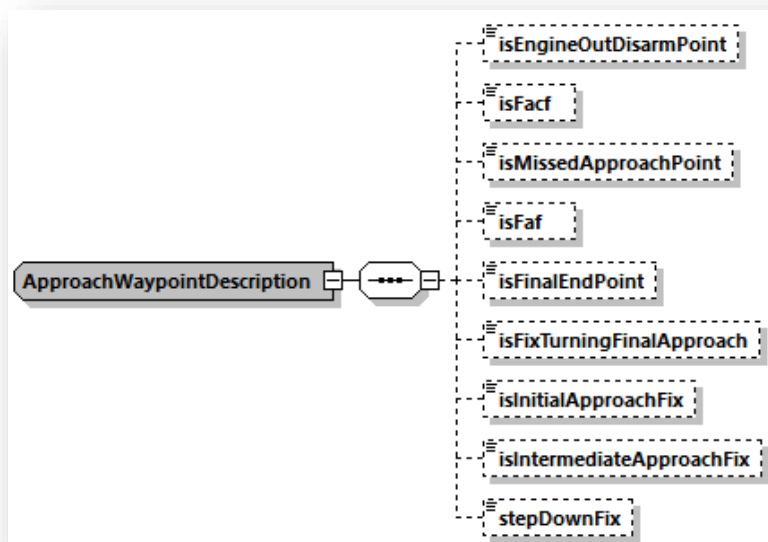


Figure 2: ARINC 424-23 XML ApproachWaypointDescription Values

NEW WAYPOINT DESCRIPTION CODE #4 VALUES FOR IF

Since Garmin is likely to continue to require the 132-column format for the foreseeable future for legacy systems, we would like to be identify the IF in the legacy ARINC 424 for all the charts.

For example, on the KABR R17 approach the FISPO WPT is labelled as “IF/IAF”. Right now, we receive the waypoint description code #4 values for FISPO indicating that is “A” – IAF on the approach transition and “I” – FACF but we don’t know it is also an IF fix.

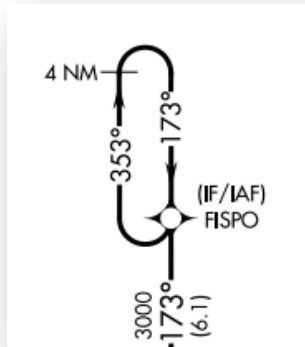


Figure 3: KABR R17 Example

Another good example is on the KOMA I14R/L14R approach where the OTSEE INT is labelled as “IF” but it is only used on the final approach coding. Right now, we receive the waypoint description code #4 value for FISPO indicating that it is the “I” – FACF but we don’t know it is also an IF fix.

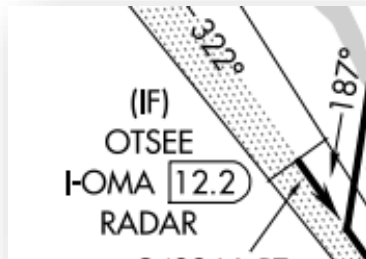


Figure 4: KOMA I14/L14R Example

And there is the PABE RNAV approach where the ROLLR INT is labelled as “IF/IAF” but there are no approach transitions. Right now, we receive the waypoint description code #4 values for ROLLR indicating that is “D” – IAF at FACF but we don’t know it is also an IF fix.

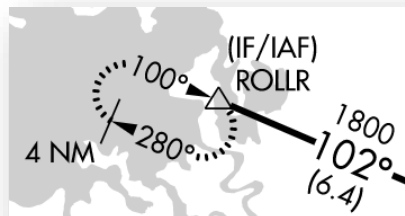


Figure 5: PABE RNAV Example

NEW WAYPOINT DESCRIPTION CODE #4 VALUES FOR IF

2.0 DISCUSSION and/or ACTION

Garmin proposes new Waypoint Description Code #4 values for IF/FACF, IF/IAF and IF/FAF/FACF.

3.0 Legacy ARINC 424 changes as depicted (Track Changes is Helpful)

- 3.1 Add acronyms to the other column 43 values to match the ones in Section 2
- 3.2 Add new “J” value for IF and FACF
- 3.3 Add new “K” value for IF, IAF and FACF
- 3.4 Add new note 10

Waypoint Description Type/ Function/ Attribute	Used On Enroute, SID, STAR, APCH	Column	Remarks
		43	
Initial Approach Fix (IAF)	APCH	A	Note 1
Intermediate Approach Fix (IF)	APCH	B	Note 1
Holding at Initial Approach Fix IAF	APCH	C	
Initial Approach Fix IAF at FACF	APCH	D	
Final End Point (FEP)	APCH	E	Note 1
Final Approach Fix (FAF)	APCH	F	Note 1
Source provided Enroute Waypoint without Holding	Enroute	G	Note 8
Source provided Enroute Waypoint with Holding	Enroute SID, STAR, APCH	H	Note
Final Approach Course Fix (FACF)	APCH	I	Note 1
IF at FACF	APCH	J	Note 1, 10
IF and IAF at FACF	APCH	K	Note 1, 10
Missed Approach Point (MAP)	APCH	M	Note 1
Engine Out Missed Approach Disarm Point	SID (Engine Out), APCH	N	Note 5
Initial Departure Fix	SID	P	Note 7
Quiet Climb SID Restore Point	SID	Q	Note 9

Note 10: [The column 43 values of J and K will only be provided on the final approach coding. The column 43 value of J will only be provided at the FACF fix when the IF indication can't be coded on the approach transition legs. The column 43 value of K will only be provided at the FACF fix when the IAF and IF indications can't be coded on the approach transition legs.](#)

4.0 XML ARINC 424 changes as depicted (Track Changes is Helpful)

N/A – Legacy only proposal