

Routing Management

6-7 April 2021



ATS Messaging Management Centre



- Routing Management function deals with the creation and distribution of AMHS, CIDIN and AFTN routing tables for all COM Centers in the Middle East
- Migration to AMHS requires integration of the AMHS routing table to the AFTN/CIDIN tables. And change in the AMHS Routing table impact the AFTN/CIDIN Routing tables.
- This centralized function can look at the whole network in the MID and recommends optimal consistent routes.
- The Routing Management function is composed of three sub-functions, "AFTN Routing Table", "CIDIN Routing Table" and "AMHS Routing Table".



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➤ Optimal Route means to create route with minimum number of hops, robust in the case of failures / overload, symmetry of routes, good distribution of traffic, and simple relationships with other Regions.

➤ MID AMC has an automated tool which can detect:

- 1) Asymmetric Routes
- 2) Potential Loop
- 3) Incomplete path

The MID AMC Operator should recommend action to the CCC operator to rectify these inconsistencies hop



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Routing Directory

- Address Management
- User Capabilities Management
- Static Report
- COM Charts

View Pre-Operational Data

- Network Inventory
- Routing Directory and ACK
- Address Management
- User Capabilities Management
- Static Report (updated data)

Enter Background Data

- Network Inventory
- Address Management
- User Capabilities Management

Miscellaneous Functions

- Support Functions
- View Bulletin Board
- View AIRAC Cycle
- AMC Operator Details
- Path Function
- Convert AFTN Address
- Regions
- Send E-Mail to User Groups

Manage Background Data

Routing Directory

Operational Area

[HELP]

AFTN Routing Table | **CIDIN Routing Table** | **AMHS Routing Table**

Region: MID | COM-Centre: OBBI | Location: BAHRAIN INTERNATIONAL | Country: Kingdom of Bahrain | HOME | AFTN Matrix: V101 | SEARCH

MD Common Name: OB | Country-Name: XX | ADMD-Name: ICAO | PRMD-Name: OB | Extended

Destination	Existing Main	MTCU	Existing Altn	MTCU	Planned Main	MTCU	Planned Altn	MTCU
A	WSSS	<input type="checkbox"/>	OOMS	<input type="checkbox"/>		<input checked="" type="checkbox"/>	LCNCA	<input type="checkbox"/>
B	LCNCA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>	OEJNA	<input type="checkbox"/>
C	LCNCA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>	OEJNA	<input type="checkbox"/>
D	OEJN	<input type="checkbox"/>	OOMS	<input type="checkbox"/>		<input checked="" type="checkbox"/>	LCNCA	<input type="checkbox"/>
E	LCNCA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>	OEJNA	<input type="checkbox"/>
F	OEJN	<input type="checkbox"/>	OOMS	<input type="checkbox"/>	OEJNA	<input type="checkbox"/>	LCNCA	<input type="checkbox"/>
G	OEJN	<input type="checkbox"/>	OOMS	<input type="checkbox"/>	OEJNA	<input type="checkbox"/>	LCNCA	<input type="checkbox"/>
H*	OEJN	<input type="checkbox"/>	OOMS	<input type="checkbox"/>	OEJNA	<input type="checkbox"/>	LCNCA	<input type="checkbox"/>

MTCU Means routing to AMHS

AFTN Routing

- Message routing is performed using character sequences extracted from the message addressee indicator
- The destination composed from 1 to 8 characters
- Examples:

Destination	Main	Alternative
A	OSDI	HECA
OE	OEJN	HECA
HE	HECA	OEJN
OJAQZPZX	OJAQZPZX	-



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AMHS Routing

- Message routing is performed using high level attributes (C,A,P) and O in some cases
- The AMHS Routing table should includes route to all AMHS MD worldwide.
- The Destination expressed using the Global Domain Identifier of each AMHS Management domain
- If an AMHS MD selected CAAS addressing scheme and has multiples International COM centers, "O" Value should be used in combination with the GDI as destination in AMHS Routing table



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AMHS Routing



- Routing Directory
 - Address Management
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 - Static Report
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Routing Directory

Operational Area [HELP]

- AFTN Routing Table
- CIDIN Routing Table
- AMHS Routing Table**

Region: MID | COM Centre: OJAM | Location: AMMAN/MARKA | Country: Jordan | AMHS Matrix: V101

MD Common Name: OJ | Country-Name: XX | ADMD-Name: ICAO | PRMD-Name: OJ

Buttons: HOME, SEARCH, Extended

Destination				Existing Main		Existing Alternate		Planned Main		Planned Alternate		Comments
C	ADMD	PRMD	O	COM	M	COM	M	COM	M	COM	M	
XX	ICAO	AG		OEJN	<input type="checkbox"/>	HECA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	AN		OEJN	<input type="checkbox"/>	HECA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	AY		OEJN	<input type="checkbox"/>	HECA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	DA		HECA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	DB		HECA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	DF		HECA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	DG		HECA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
XX	ICAO	DI		HECA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	



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➤ CIDIN Routing table contains all CIDIN routes from each COM Centre supporting CIDIN operationally

AFTN Routing Table | **CIDIN Routing Table** | **AMHS Routing Table**

Region: MID | COM Centre: OLBA | Location: BEIRUT/BEIRUT INTL | Country: Lebanon | AFTN Matrix: V101 | **HOME** | **SEARCH**

MD Common Name: OL | Country-Name: XX | ADMD-Name: ICAO | PRMD-Name: OL | **Extended**

Destination	Existing Main	MTCU	Existing Altn	MTCU	Planned Main	MTCU	Planned Altn	MTCU
A	OBBIA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
B	LCNCA	<input type="checkbox"/>	HECAA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
C	LCNCA	<input type="checkbox"/>	HECAA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
D	HECAA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
E	LCNCA	<input type="checkbox"/>	HECAA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
F	OEJN	<input type="checkbox"/>	OBBIA	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
G	HECAA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
H	HECAA	<input type="checkbox"/>	OEJN	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>



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Routing Acknowledgement

The External COM operator should “ACK” or “NACK” the proposed routing tables set by the AMC operator in the pre-operational Area with status “Proposed”

- ▶ Network Inventory
 - ▶ **Routing Directory and ACK**
 - ▶ Address Management
 - ▶ User Capabilities Management
 - ▶ Static Report (updated data)
-
- Enter Background Data**
- ▶ Network Inventory
 - ▶ Address Management
 - ▶ User Capabilities Management
-
- Miscellaneous Functions**
- ▶ Support Functions
 - ▶ View Bulletin Board
 - ▶ View AIRAC Cycle
 - ▶ AMC Operator Details
 - ▶ Path Function
 - ▶ Convert AFTN Address
 - ▶ Regions
 - ▶ Send E-Mail to User Groups
-
- Manage Background Data**
- ▶ AMHS MD Register
 - ▶ Lock/Unlock COM Centre
 - ▶ Routing Directory

Routing Directory
Pre-Operational Area [HELP]

AFTN Routing Table
CIDIN Routing Table
AMHS Routing Table
Acknowledgement

Description	Status	Ack Deadline	Implementation Date
FIRST ROUTING	I	2014/12/31	2014/12/31

Remark

	<u>COM</u>	<u>Location</u>	<u>Acknowledgement</u>	<u>Remark</u>
	OBBI	Morocco	ACK	
	OIII	Iran, Islamic Republic of	ACK	
	OJAM	Jordan	ACK	
	OLBA	Lebanon	ACK	



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General View



Day in Cycle	Data Entry	Data Validation and Processing	ACK Phase	ACK Processing	Data Retrieval and Implementation (by CCC)
	by CCC / Ext COM / AMC	by AMC	by CCC	by AMC	Data Publication (by AMC)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					

LEGEND



AMC Operator locks COM Centres



AMC Operator releases the routing matrix



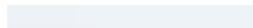
AMC Operator transfers to pre-operational area



AMC Operator moves data to operational area, unlocks COM Centres and makes official publications;



Weekends



CCC Operators use new data for operational service



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- Routing tables can be exported as CSV file (Comma separated values) from the operational Area and loaded into AMHS system

Demonstration

