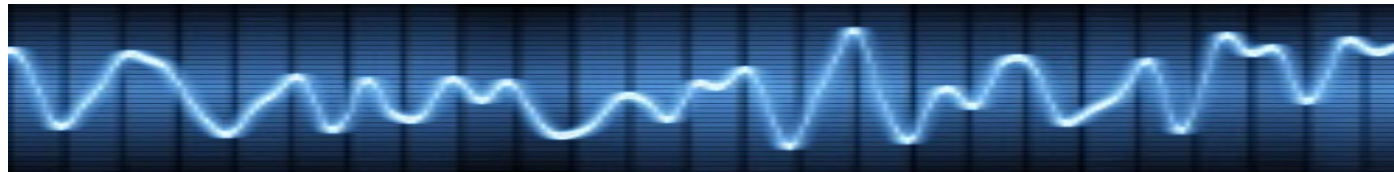




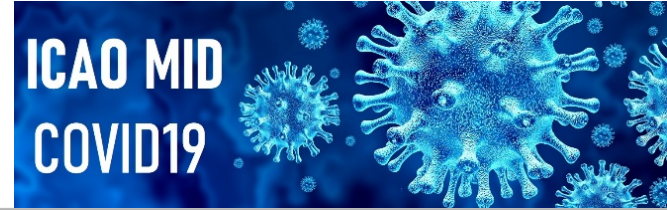
First meeting of the Frequency Management Working group (FM WG/1)

Virtual meeting

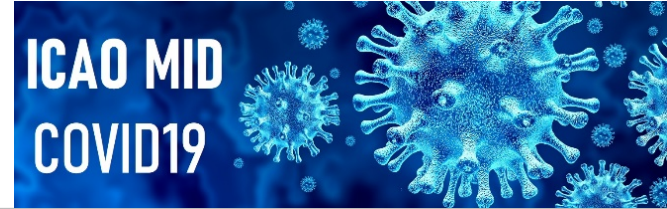


28-29/7/2020

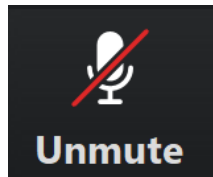
Day 1 presentation



Welcome & Introduction



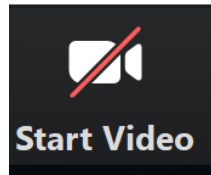
Meeting Notes



Unmute

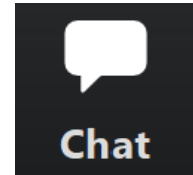
Keep Mic muted

Unmute your mic only when invited to speak



Start Video

Switch off camera if the quality of Internet is not good

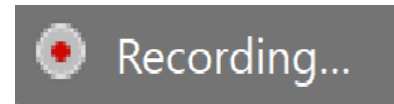


Chat

use "Raise hand" or chat box if you wish address question or comment



Raise Hand



Meeting is recorded



Group Photo



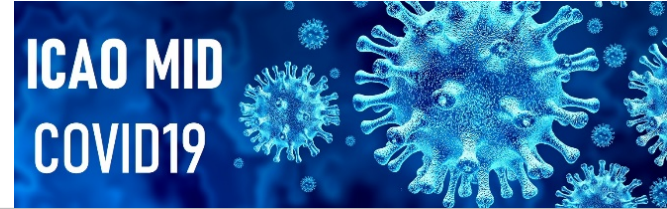
A screenshot of a Zoom meeting grid showing 63 participants. The grid is arranged in approximately 8 rows and 8 columns. Each tile contains a video feed of a participant, their name, and a mute icon. The participants' names include: Sharron Caunt, Stefano Baronci, Robert Roxbrou, speed ahmed b., Amer, emasa, Youns, Mohammed Ar..., Rashad Karaky, Walid Elhoss, Mubarak Al-Ghelani, Souhail DALLEL, Gary Leung ACI, Ali Ahmed, Mohermad Hu..., Hussain Alyami, alhammadi, Ahmed Al-Jalaf..., SL Wong ACI, Mohamed Thami, Fateh Bekhti, Shayne Campbe..., Jack Netskar, A.M.R. Arjoub11..., Ahmad Amireh, nasser al-sowaidi, Mohamed Ghakib, Walid Rahmani, Ahmad Amireh, CANSO Nico Vo..., Haitham Misto, manal fares, Hamed Al-Abri, Ahmad Kaveh, Khaled Antar, Bander Almgbel, Mohammed Na..., faqirj, Mr MANAR, Abdul Wahab T..., Manal DIAB, Abdullah Alomair, Dr. Bader Al Sagri, radhouan aissa..., Amany Habashy, Sue Kodsi, Mashhor Alblowi, Mohammed Na..., A.M.R. Arjoub11..., Hamed Al-Abri, Ahmad Amireh, Kamal Riyadh A..., room:MD@icao.int, Sonia ElSakka, Sharron Caunt..., Stefano Baronci..., Robert Roxbrou..., Ahmed Al-Jalaf..., Dr. Bader Al Sagri, Abdullah Alomair, Youns, Bander Almgbel, Rashad Karaky, Walid Elhoss, Mubarak Al-Ghelani, Souhail DALLEL, Gary Leung ACI, Haitham Misto, Ali Ahmed, Hussain Alyami, Mohammed Alr..., SL Wong ACI, Mohamed Thami, Fateh Bekhti, Shayne Campbe..., Jack Netskar, nasser al-sowaidi, radhouan aissa..., Scott F, CANSO Nico Vo..., Haitham Misto, Hamed Al-Abri, Mashhor Alblowi, Ahmad Kaveh, Walid Rahmani, Muna ALNADAF, Khaled Antar, faqirj, Mr. MANAR, Abdul Wahab T..., Manal DIAB, Abdullah Alomair.

At the bottom of the grid, there is a control bar with the following icons and labels: Unmute, Stop Video, Participants (63), Chat, Share Screen, Record, Reactions, and Leave Meeting.

Meeting Agenda



- 1** Adoption of provisional agenda
- 2** Follow-up on MIDANPIRG/17 & MSG/6 conclusions relevant to FM
- 3** Update on frequency finder tool
- 4** Spectrum capacity assessment for the band 108-117.975 MHz
- 5** Future work programme
- 6** any other business



No.	Conclusions & Decisions	Concerns/ Challenges/ Rationale	Deliverables/ To be initiated by		Target Date	Status/ Remarks
C. 6/26	<p>Registered Frequency Update</p> <p>That, for an optimized frequency assignment process and in order to ensure that assigned frequencies to MID States are not interfering, States that have not yet done so, be urged to:</p> <ul style="list-style-type: none"> a) verify and update existing registered frequencies in the COM list b) add any missing frequencies with the full details, where applicable; c) delete unused frequencies; d) send the changes in excel format generated by the FF export function; and e) provide the ICAO MID Office with feedback before 15 February 2019. 	To optimize frequency assignment process and reduce interferences	State Letter Registered frequency database is up to date	ICAO States	Dec. 2018 15 Feb. 2019	Actioned/Completed SL Ref. AN 7/5.7 – 18/410 dated 19 December 2019. Replies received from Bahrain, Egypt, Iraq, Kuwait, Qatar, Saudi Arabia, Sudan, and UAE



No.	Conclusions & Decisions	Concerns/ Challenges/ Rationale	Deliverables/ To be initiated by		Target Date	Status/ Remarks
C. 6/25	Frequency Management Workshop That, ICAO consider the organization of a Workshop on the Frequency Finder Tool jointly with ACAO in 2020.	To protect Aeronautical Spectrum, reduce interferences and optimize frequency assignment process	Frequency Management workshop	ICAO MID	2020	Ongoing

The ACAO/ICAO Frequency Management workshop is postponed to 1-5 November 2020 (Casablanca, Morocco)
Back to back with the FM WG/2 meeting



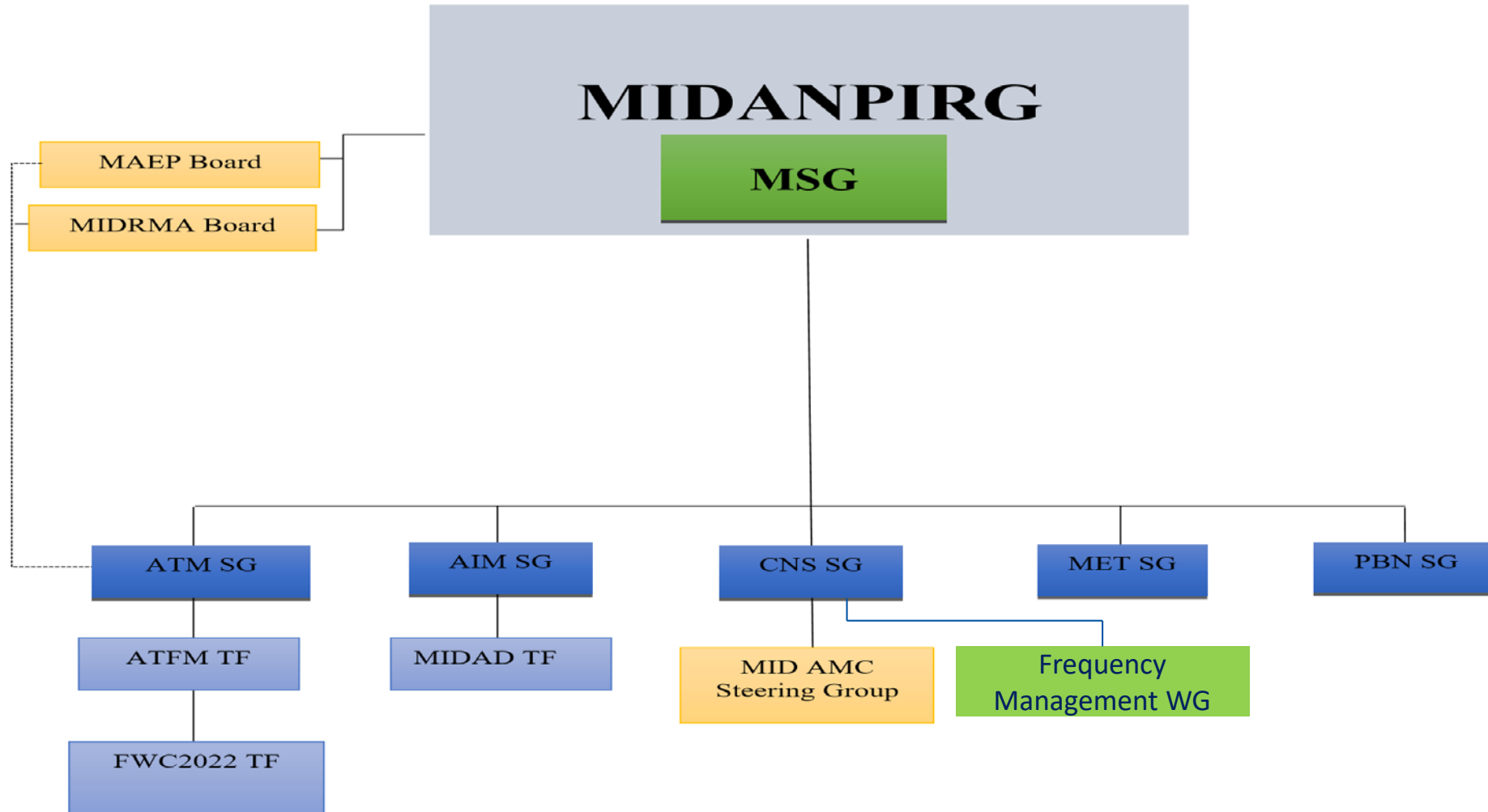
No.	Conclusions & Decisions	Concerns/ Challenges/ Rationale	Deliverables/ To be initiated by		Target Date	Status/ Remarks
C. 17/33	<p>FREQUENCY MANAGEMENT AD-HOC WORKING GROUP</p> <p>That, the Frequency Management Ad-hoc Working Group be established with Terms of Reference as at Appendix 6.2U.</p>	<p>To support States in fulfilling ICAO Radio Frequency Spectrum Requirements</p>	<p>State Letter</p>	<p>ICAO</p>	<p>August 2019</p>	<p>Actioned</p> <p>SL AN7/38 – 19/243 dated 6 Aug. 2019 (Replies: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon Oman & Qatar)</p> <p><i>First meeting of the FM WG/1 will be conducted via VTC in July 2020 to address urgent matters</i></p>

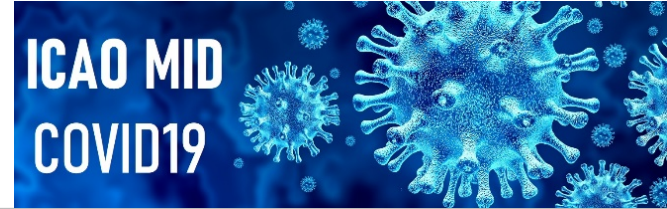


- The MIDANPIRG/17 meeting agreed to establish a Frequency Management Ad-hoc Working Group
- composed of representatives from States (CAA and TRA) to:
 - support States in fulfilling ICAO Radio Frequency Spectrum Requirements
 - develop MID Region frequency assignment plan
 - find solutions for the interference occurrences between MID States in a timely manner
 -
 -
 - etc.



MIDANPIRG ORGANIZATIONAL CHART





No.	Conclusions & Decisions	Concerns/ Challenges/ Rationale	Deliverables/ To be initiated by		Target Date	Status/ Remarks
C. 6/27	<p>FREQUENCY MANAGEMENT FOCAL POINTS</p> <p>That, States, that have not yet done so, be invited to assign Frequency Management Focal Points by 15 February 2019, for a better coordination of frequency management issues, including harmful interference.</p>	To resolve frequency interferences incidents in a timely manner	Frequency focal points	States	15 February 2019	<p>Actioned/completed</p> <p>SL Ref. AN 7/5.7 – 18/411 dated 19 December 2019</p> <p>Replies received from Bahrain, Egypt, Iraq, Jordan, Kuwait, Saudi Arabia, Sudan and UAE</p>



ICAO

UNITING AVIATION

FM WG members



STATE	MEMBER	ALTERNATE
BAHRAIN	Mr. Ali Abdul Latif Tulefat	
	Mr. Yousif Bucheeri	
EGYPT	Mr. Ahmed Mostafa Mohamed Arman	Mr. Ahmed Abdel Wahab
		Mr. Ahmed saied abdel monsef
IRAN	Mr. Mojtaba Chatrooz	Mr. Ali Ashtiani
IRAQ	Eng. Ali Abd AL-Saheb Mahdi	
JORDAN	Eng. Amena Dodin	Eng. Neveen Askar
KUWAIT	Eng. Fahad Saleh Albaloushi	

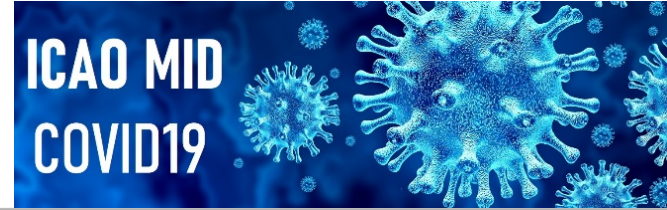


STATE	MEMBER	ALTERNATE
LEBANON	ENG. AMIN JABER	ENG. MOHAMAD SAAD
LIBYA		
OMAN	MR. MUSLEH ABDULLAH AL JAHDHAMI	MR. SAID HUSSAIN AL BALUSHI
QATAR	MR. SALEH AL MANSOORI	MR. NAYIF AL JABER
SAUDI ARABIA	MR. TURKI YOUSEF	ENG. RIDAH SALAH DRIDI
SUDAN		
SYRIA	MR. NADIM SALIM	
UAE	ENG. JACOB AVIS	ENG. ABDELRAHMAN AL MUAINI
Yemen		

Meeting Agenda

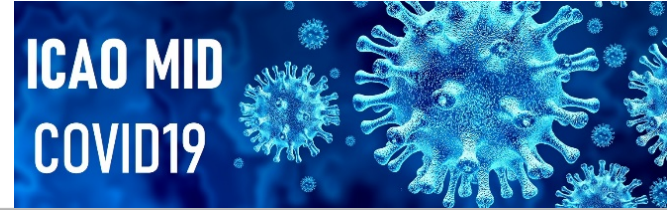


- 1** Adoption of provisional agenda
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Frequency coordination process

- The current practice of frequency coordination
 - a) Frequency coordination is **performed by the Regional Office**
 - b) **States/GCC can submit** to the Regional Office their requests for new or modified frequency assignments in **any format** (e.g. letter, email)
- The **introduction and use of the ICAO Frequency Finder tool** for the coordination of frequency assignments within the MID Region as well as with adjacent Regions has presented the opportunity to **improve the efficiency in the frequency coordination and frequency assignment processes**
- Harmful interference incidents management process.



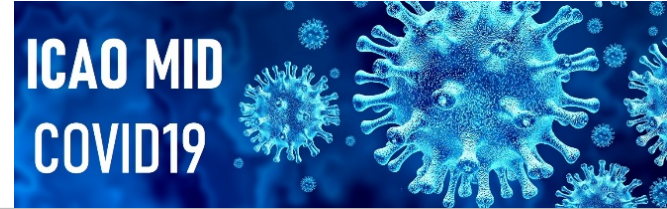
Frequency coordination process

➤ Preferred format:

Frequency Finder tool offer the option of **generating electronic submissions** for new or modified frequency assignments.

This option permits States to **check a selected frequency** to satisfy any operational need and to **check the compatibility** of this (proposed) frequency with other frequency assignments in the Frequency List.

The electronic submission(s), in the format of an **Excel file**, can be sent to the ICAO Regional Office

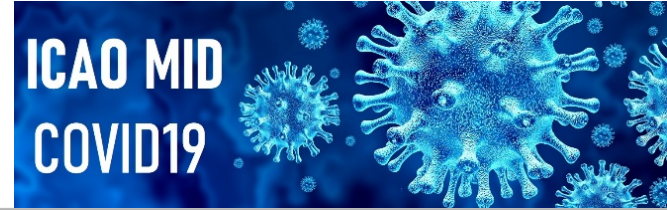


Frequency Finder Tool (FF Tool)

- FF tool latest version (FF2020.04R) is provided with more functional modules, inter alia, new **VHF NAV and Mode S SSR II code** modules

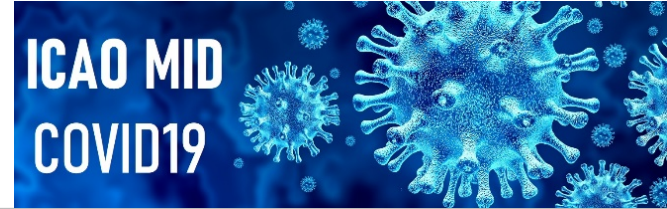
<https://www.icao.int/safety/FSMP/Pages/Documents.aspx?RootFolder=%2Fsafety%2FFSMP%2FDocuments%2FFrequencyFinder&FolderCTID=0x012000B1461A5DA8C64241AA4DE4F91CB1D9AF&View=%7BE11C4C29%2DDDD83%2D4B87%2DAAAE%2D2330E3DE14D8%7D>

- The technical aspects of the frequency coordination are contained in the ICAO Handbook on Radio Frequency Requirements for Civil Aviation (Doc. 9718), Volume II .



The Minimum System Requirements for Operating Frequency Finder (FF)

- MS Windows 7 or higher
- CPU: Intel Core i5 or better, or equivalent AMD recommended
- RAM: 2GB or higher
- Video display with resolution of 1440 x 900 (or better) recommended
- Google Earth installed on the computer
- The user should have right to install a programme on the computer
- The runtime version does not require FileMaker Pro to be installed on the computer.



File Edit View Insert Format Records Scripts Window Help

ICAO OACI ICAO

FREQUENCY FINDER

FF-2020-3

User Manual ST Time Zone 2
 Sync Manual NV Pro 16.0.4

Applications
VIEW ROUTES

Start page - Select system

VHF COM VHF NAV NDB HF COM SSR II

Server <https://frequency.icao.int/ffopen/>
 User Regional Office

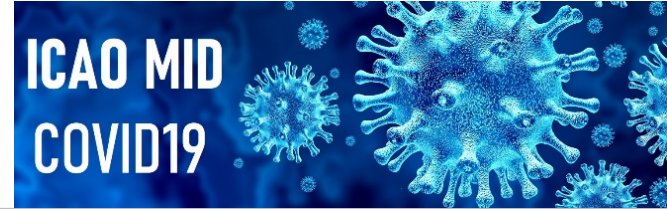
The server <http://frequency.icao.int/fflogin> is not operational until the compatibility issues with Windows 10 have been addressed.

Active Region
==MID

The ICAO Regional Offices are responsible for the coordination of frequency assignments.

Start page for frequency assignment planning for CNS systems

Welcome to the Frequency Finder Server - Open Access (temporary)



a draft frequency assignment in your location

Station

Insert from menu or type name

Region MID
 Key D 603169
 Cat
 Channel spacing

Country
 Ctry
 25 kHz

Location
 8.33 kHz

Latitude D ' " N S
 Frequency 0.000

Longitude D ' " E W

Service
 DOC

Stat
 Drop down disabled
 MOD Range (NM)
 MOD Height (feet)

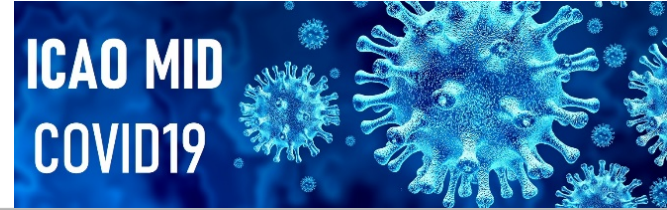
ER family
 Example: ER-BOT-1

PolyID

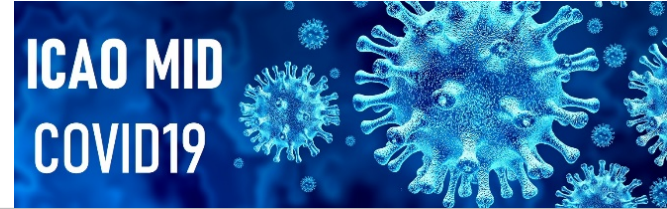
Required fields FIR SECTORNAME

Remarks
 Upload Status DN

 Not tested



- Its very important that states provide accurate information to the extent possible about frequency usage.
- Designated Operational Coverage (Range and height)
- Inaccurate info may result in either:
 - an overprotection of the desired facility or,
 - an erroneous incompatibility of current frequency assignments
- ICAO MID office issued a state letters Ref: AN7/5.7-20/117 dated 21 May requesting States to review and update the registered frequencies in the ICAO COM List2 using the exported Excel form.
- Reply received from **12** States (Bahrain, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria and UAE)



Frequency Finder

File Edit View Insert Format Records Scripts Window Help

Start **Home page for ILS, VOR, DME and GBAS systems** [User Manual](#) [Sync Manual](#) [ST](#)

FF-2020-3 [Regional Office](#) Pro 16.0.4 **MID** Connected [VIEW ROUTES](#)

Server <https://frequency.icao.int/ffopen/> Time Zone 2

Download MOD NAV list 2 **Download ALL NAV COM list 2**

Synchronization (all times in UTC; dd/mm/yyyy hh:mm)

Recent download from Global COM list 2

[Check Sync](#) Download NAV 28/05/2020 01:22:59

NAV list 2 synchronized

Recent uploads to Global COM list 2

NAV AFI synchronized	06/02/2019 03:10:33
NAV APAC synchronized	25/05/2020 13:01:24
NAV CAR synchronized	15/12/2019 16:46:22
NAV EUR synchronized	23/09/2018 00:10:34
NAV MID synchronized	14/02/2020 14:51:37
NAV SAM synchronized	15/12/2019 16:00:07
Summary NAV:	25/05/2020 13:01:24

LOCAL BACK UP

Recover from local back-up
dd/mm/yyyy
26/05/2020 3:01:22

Go to COM list 2:

AFI

APAC

CAR

EUR

MID Active Region

SAM

GLOBAL

Polygons ICAO FIR synchronized

For any question or comment, contact Loftur Jonasson at ljonasson@icao.int or the CNS Officer at the ICAO Regional Office.
14 May 2020. Frequency Finder version FF-2020-04R available

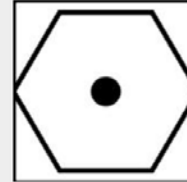


Go to
MID COM list 2

Save as draft record

Save as registered record

Delete draft record



ST

NEW / MOD / DEL FACILITY

Press Esc to cancel running scripts

records found **1** MOD **DN** Key **928269** D

Insert here new or modified characteristics

Insert from menu or type name

Region MID **New assignment** Cat Select

Country Select from drop-down menu Ctry

Location Select from drop-down menu or type new name

Latitude ? D ? ' ? " ? N S Frequency 0.000

Longitude ? D ? ' ? " ? E W Channel n/a

Facility ILS GlidePath 0.000

ID Select

ILS 25/62.5 Range (NM) 25 Height (feet) 6250 eirp (dBW) 17

Remarks ENTER REMARKS

System

ILS 1

VOR 2

DME 3

GBAS 5

VDL M4 6

Channel spacing

100 kHz

50 kHz

25 kHz

Insert here parameters for finding new frequency

Set VHF or UHF (DME)range

START 108.100 MHz

END 111.900 MHz

SEARCH RANGE 108.099...111.901 MHz

Max. # of frequencies 10

FOUND 0

START SEARCH

VHF freq Summ

UHF ch Summ

Searching

Frequencies/Channels found

Select	VHF	DME	Glide Path
FF1			
FF2			
FF3			
FF4			
FF5			
FF6			
FF7			
FF8			
FF9			
FF10			

Selected Frequency / Channel

View calculation results

MLS selection is currently not included.
Frequency Finder inserts automatically the user name and the date of the modification to the table COM list 2 (NAV systems).

Required fields

Test characteristics changes

HFcoSumm

HFadjSumm

UHFcoSumm

UHFadjSumm

Ch_date3 28/07/2020



- In some cases, it may be possible that **States have put into operation NAV facilities** with frequency assignments that have **not been coordinated** with ICAO. This may **result** in such facilities **not being protected** from harmful interference or such facilities **causing harmful** interference to facilities for which the frequency assignment has been coordinated with ICAO.
- it is recognized that some NAV facilities are in operation and do not cause harmful interference to NAV facilities that are in operation in adjacent countries may not require coordination with ICAO; in these cases, States **themselves are responsible for the necessary (internal) frequency coordination.**
- ICAO holds the view that frequency assignments that have been coordinated with ICAO **have priority over those** that have not been coordinated.



- The meeting is invited to urge States to:
 - 1) *Download the latest version of the FF tool;*
 - 2) *Provide ICAO with updated frequency list for COM VHF and NAV with accurate info to the extent possible if have not done so;*
 - 3) *Use FF tool in frequency coordination process;*
 - 4) *Provide feedback on FF tool usage, suggestions, bugs, recommendations,....,etc;*
 - 5) *Nominate FM members if have not done so; and*
 - 6) *Participate actively in the frequency management workshop planned in November 2020 and FM WG/2 meeting in Morocco.*

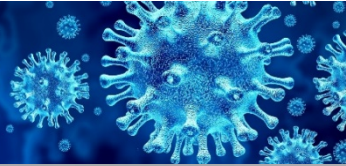
Meeting Agenda



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Day 2 Meeting time : 1000 UTC???

Zoom invitation will be sent in a while



Thank you for your Attention