



AP/ATM/6
IP/07
22/09/03

**International Civil Aviation Organization
UNDP/ICAO Regional Project RLA/98/003
Transition to the CNS/ATM Systems in the CAR and SAM Regions**

**Sixth Meeting/Workshop of ATM authorities and planners in the CAR/SAM Regions for RVSM,
RNAV routes and RNP Implementation (AP/ATM/6 RVSM-RNAV-RNP)**

(San Jose, Costa Rica, 29 September to 3 October 2003)

Agenda Item 1: Review of the RNAV routes Implementation Programme

**Proposal for amendment to the CAR/SAM Air Navigation Plan related with the inclusion of RNAV
routes**

(Presented by the Secretariat)

Summary

This information paper presents a copy of the proposal for amendment to the CAR/SAM air navigation plan that is being circulated to all States and International Organizations involved, in view of the proposals to implement new RNAV routes, as well as re-alignment, extension and deletion of some existing routes approved during the Fifth Meeting/Workshop of ATM Authorities and Planner for the implementation of RVSM, RNAV routes and RNP (AP/ATM/5) carried out in Panama City, Panama, from 18 to 20 June 2003, which will substantially improve the ATS routes network structure in the CAR/SAM Regions.

1. Introduction

1.1 The AP/ATM/5 Meeting, among other matters, made an assessment of the different proposals of some CAR/SAM States and IATA to the RNAV routes list, proposing the implementation of new RNAV routes as well as the re-alignment, extension and deletion of other routes that would improve globally the routes network in both regions.

2. **Analysis**

2.1 In order to process this re-structuring of ATS routes network, the Secretariat proposed a work programme, and the aeronautical authorities involved initiated the calculation of geographical coordinates and the coordination of these in the FIRs boundaries.

2.2 Once this process was finalized, the Secretariat prepared a proposal for amendment that is being circulated among all parties interested. If there are no objections, it is expected that ICAO Council could approve the mentioned proposal by the end of November 2003. Then, the implementation programme, re-alignment, extension and deletion of the routes proposed would be initiated, foreseeing to carry out this activity on 19 February 2004 for most of the referred routes, and some of them may be pending for implementation for a later date, depending on the status of preparation of the States and International Organizations involved. For information purposes, **Appendix A** to this information paper shows the proposal for amendment circulated among pertinent States and International Organizations.

3 **Suggested action**

3.1 The meeting is invited to take note of the information provided in this information paper, as well as in Appendix A to the same.

Subject: Proposal for amendment to the Air Navigation Plan
 Serial N° SAM 03/1 - ATM

a) **Plan:** CAR/SAM Regional Air Navigation Plan, Volume 1, Basic
 (Document 8733)

b) **Proposal for amendment**

1. **Add** the requirement for new ATS routes UM 799, UM 525, UM 548 UM 400, UM 654, UM 671, UM 788, UM 540, UM 792, UM 415, UM 402 UM 544, UM 419 and UM 529 as follows:

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 799	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 525
Tabón	TABOGA
DILOK	BITIX
ASIMO	SELAN
SIBOX	SIBOX
La Rioja	VESKA
Catamarca	MELLA
Monte Quemado	
VINOS	
AKNEL	
REMEK	
TOSAR	
EGOLA	
TEREB	
VUKER	
Sao Luis	

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 548	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 400
ASUNCIÓN	POSADAS
GAXAS	LODUR
CURITIBA	PARANAGUA

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 654	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 671
Ezeiza	MELO
KUKEN	AKNEN
BUSMA	CAXIAS DO SUL
FORTALEZA	ORANG
	SANTOS

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 788	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 540
CONGONHAS	CARRASCO
PARANAGUA	AKPOD
ASDEK	PORTO ALEGRE
BAGE	JUICE
	SANTOS

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 792	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 415
CONGONHAS	SOROCABA
PARANAGUA	PRESIDENTE PRUDENTE
ASDEK	NUXAR
MILES	NUXAR
CARRASCO	SIDAK
	VIRU VIRU

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 402	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 419
ASUNCIÓN	TABOGA
SIDAK	ANSON
UBKAB	LIBIS
ARPAR	EGLAR
MANAUS	ASOKU

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ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 529	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UM 544
Tabón	ASUNCIÓN
DILOK	AKSUL
ASIMO	CAMPO GRANDE
San Juan	
BURMI	
TIKLA	
Resistencia	

(cf – Doc. 8733, Table ATS-1 – ARN)

2. **Extend and re-align** the following routes: UL 301, UL 310, UN 471, UN 857, UN 873, UN 866, UA 573, A 573 and UB 677, as described below:

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UL 301	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UL 310
CONGONHAS	POSADAS
BOLIR	GEBUN
ASUNCIÓN	CONGONHAS

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UN 471	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UN 857
FORTALEZA	NOROÑA
ILPUR	ANBET
CARDO	BIDEV
TRES MARÍAS	DAGEL
PIRASSUNUNGA	MARICA
GRADE	AKNUB
OROKA	PORTO ALEGRE
BAGE	OGRUN
ISALA	MELO
DURAZNO	DORVO
PAPIX	LA PLATA
EZEIZA	EZEIZA

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UN 873	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UN 866
NATAL	BONSUCESSO
AKREN	DETIL
BUXER	MOSSORO
BARBACENA	

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UA 573	ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE A 573
ORALO	ORALO
ILO	ILO

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE UB 677
KOMPA
CALAMARCA

3. Delete:

- i) the requirement of the segment VIRU VIRU–MORENO (VOR VIR/VOR ENO) of route UA301
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN);
- ii) the requirement of the segment SOROCABA–EZEIZA (VOR SCB/VOR EZE) of route UA 318
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN)
- iii) the requirement of the segment VIRU VIRU–BONSUCESSO (VOR VIR/VOR BCO) of route UA304
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN)
- iv) the requirement of the segment EZEIZA – MANAUS (VOR EZE/VOR MAN) of route UA 300
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN)

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- v) the requirement of route UA 311 in all its length.
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN)
 - vi) the requirement of route UA 302 all its length
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN)
 - vii) the requirement of route UA 425 all its length
(cf – Doc. 8733, Volume 1, Basic, Table ATS-1 – ARN)
- c) **Originated by:** Argentina, Bolivia, Brazil, Colombia, Dominican Republic, Mexico, Netherlands Antilles, Panama, Paraguay, United States, Uruguay, COCESNA and IATA.
- d) **Reasons of the originator for the amendment:**
- 1) Within the framework of ATM evolution, approved by the Third CAR/SAM Regional Air Navigation Meeting (CAR/SAM/3 RAN) the States and International Organizations originating this proposal for amendment, in coordination with users, have considered that these routes shall improve air navigation in the CAR/SAM Regions.
 - 2) During the Fifth Meeting/Workshop of ATM Authorities and Planners (AP/ATM/5) held in Panama City, Panama from 18 to 20 June 2003, it was agreed to incorporate routes RNAV UM 799, UM 525, UM 548, UM 400, UM 654, UM 671, UM 788, UM 540, UM 792, UM 415, UM 402, UM 544, UM 419 and UM529 to the CAR/SAM ANP, ATS routes network, Volume I, Basic, and the deletion of routes UA 311, UA 302 and UA 425 in all its length.
 - 3) It was also approved the extension and re-alignment of RNAV routes RNAV UL 301, UL 310, UN 741, UN 857, UN 873, UN 866, UA 573, A 573 y UB 677, which will enable aircraft flying from and to Europe to use the same route, which will optimize the operation and the routes network structure. The changes made to the aforementioned trajectories, shall permit a diminution in distance and flight time, with the consequent fuel and operational costs saving.
 - 4) The deletion of the segments:
 - i) VIRU VIRU – MORENO (VOR VIR/VOR ENO) of route UA301
 - ii) SOROCABA – EZEIZA (VOR SCB/VOR EZE) of route UA318
 - iii) VIRU VIRU – BONSUCESSO (VOR VIR/VOR BCO) of route UA304
 - iv) EZEIZA – MANAUS (VOR EZE/VOR MAN) of route UA300

And the deletion of routes UA311, UA302 and UA425, in all its length, shall optimize the CAR/SAM ATS routes network structure.

e) Proposed date of implementation:

As of at least three AIRAC cycles, after the proposal for amendment has been approved by ICAO Council, in accordance to specific implementation programmes established to this end, and particularly in coordination with States/International Organizations.

f) Proposal circulated to the following States/Territories and Organizations:

Anguilla (UK)	Honduras
Antigua and Barbuda	Italy
Argentina*	Jamaica
Aruba (NK)	Mexico*
Bahamas	Montserrat
Barbados	Netherlands Antilles (NK)*
Belize	Netherlands (Kingdom of the)
Bermuda (UK)	Nicaragua
Bolivia*	Panama*
Brazil*	Paraguay*
British Virgin Islands (UK)	Peru
Canada	Puerto Rico (USA)
Cayman Islands (UK)	Saint Kitts and Nevis
Chile	Saint Lucia
Colombia*	Saint Vincent and the Grenadines
Costa Rica	Spain
Cuba	Suriname
Dominica	Trinidad and Tobago
Dominican Republic*	Turks and Caicos Islands (UK)
Ecuador	United Kingdom
El Salvador	United States*
France	Uruguay*
French Antilles (France)	Venezuela*
French Guyana (France)	Virgin Islands (USA)
Germany	
Grenada	International Organizations:
Guatemala	COCESNA *
Guyana	IATA *
Haiti	IFALPA

* For information

g) Secretariat's comments:

1. The inclusion of routes ATS UM 799, UM 525, UM 548, UM 400, UM 654, UM 671, UM 788, UM 540, UM 792, UM 415, UM 402, UM 544, UM 419 and UM 529 in the Basic CAR/SAM Air Navigation Plan is framed within the ATM evolution process in the CAR and SAM Regions, approved by GREPECAS and further supported through Recommendations 5/14, 5/15 and 5/16 of the RAN CAR/SAM/3 RAN Meeting.
2. The trajectories have been configured keeping in mind the need for fuel saving and air operations economy. Its inclusion in the ANP will enable a wider use of such routes, benefiting a greater number of the concerned airspace users.
3. The realignment of routes UL 301, UL 310, UN 741, UN 857, UN 873, UN 866, UA 573, A 573 y UB 677, the deletion of routes ATS UA311, UA302 y UA425, and of segments VIRU VIRU–MORENO (VOR VIR/VOR ENO) of route UA301; SOROCABA– ZEIZA (VOR SCB/VOR EZE) of route UA318; VIRUVIRU–BONSUCESSO (VOR VIR/VOR BCO) of route UA304 and EZEIZA–MANAUS (VOR EZE/VOR MAN) of route UA300, shall optimize the CAR/SAM ATS routes network structure.

ADJUNTO AL APÉNDICE A/ATTACHMENT TO APPENDIX A

AA-1

ADJUNTO / ATTACHMENT

RUTA/ROUTE: Santiago de Chile (Chile) / VOR SLI (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 799			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
Tabón	32° 55' 06" S	070° 50' 14" W	VOR TBN
DILOK	31° 56' 00" S	070° 38' 00" W	
ASIMO	31° 53' 00" S	070° 19' 00" W	FIR Santiago-Mendoza
SIBOX	30° 13' 32" S	067° 56' 52" W	FIR Mendoza-Córdoba
La Rioja	29° 23' 19" S	066° 48' 13" W	VOR LAR
Catamarca	28° 35' 01" S	065° 44' 48" W	VOR CAT
Monte Quemado	25° 44' 58" S	062° 52' 03" W	VOR MTQ
VINOS	24° 46' 33" S	061° 55' 23" W	FIR Córdoba-Resistencia
AKNEL	23° 47' 56" S	060° 59' 44" W	FIR Resistencia-Asunción
REMEK	20° 37' 59.3" S	058° 06' 47" W	FIR Asunción-Curitiba intersección UM 402 UM 799)
TOSAR	17° 39' 00" S	055° 31' 30" W	FIR Curitiba-Brasilia
EGOLA	13° 06' 18" S	051° 50' 24" W	Intersección con UA 315
TEREB	10° 48' 10" S	050° 07' 41" W	FIR Brasilia-Belém
VUKER	10° 48' 10" S	050° 07' 41" W	Intersección con UZ 7
Sao Luis	02° 35' 24" S	044° 14' 24" W	VOR SLI

RUTA/ROUTE: VOR TBG (Panama)/MELLA (Límite FIRs Santo Domingo (República Dominicana/Dominican Republic)/San Juan (Estados Unidos/United States)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 525			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
TABOGA	08° 47' 15" N	079° 33' 43" W	VOR TBG
BITIX	10° 34' 40" N	077° 25' 00" W	FIR Panama-Barranquilla
SELAN	13° 53' 00" N	065° 44' 48" W	FIR Barranquilla-Curacao
VESKA	16° 00' 00" N	070° 45' 00" W	FIR Curacao-Santo Domingo
MELLA	18° 13' 00" N	068° 00' 00" W	FIR Santo Domingo-San Juan

RUTA/ROUTE: VOR VAS (Paraguay) / VOR CTB (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 548			
Punto Significativo/ Significant Point	Coordenadas Geográficas		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
ASUNCION	25° 14' 39" S	057° 31' 19" W	VOR VAS
GAXAS	25° 24' 09" S	054° 30' 40.6" W	FIR Asunción-Curitiba/ intersección con UB554
CURITIBA	25° 31' 55" S	049° 10' 058" W	VOR CTB

RUTA/ROUTE VOR POS (Argentina) / NDB PNG (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 400			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
POSADAS	27° 23' 08" S	055° 58' 09" W	VOR POS
LODUR	26° 52' 56" S	053° 41' 13" W	FIR Resistencia-Curitiba
PARANAGUA	25° 32' 05" S	048° 31' 51" W	NDB PNG

RUTA/ROUTE: VOR EZE (Argentina) / VOR FLZ (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 654			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
EZEIZA	34° 49' 27" S	058° 32' 07" W	VOR EZE
KUKEN	34° 10' 58" S	058° 13' 02" W	FIR Ezeiza-Montevideo
BUSMA	30° 53' 46" S	055° 32' 13" W	FIR Montevideo-Curitiba
FORTALEZA	03° 46' 20" S	038° 32' 53" W	VOR FLZ

ADJUNTO AL APÉNDICE A/ATTACHMENT TO APPENDIX A

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RUTA/ROUTE: VOR MLO (Uruguay) / NDB SAT (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 671			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud	Longitud	
MELO	32° 20' 33" S	054° 13' 19" W	VOR MLO
AKNEN	31° 59' 04" S	053° 53' 01" W	FIR Montevideo-Curitiba
CAXIAS DO SUL	29° 11' 53" S	051° 11' 19" W	VOR CXS
ORANG	25° 56' 48" S	048° 01' 17" W	Intersección con UW25
SANTOS	23° 59' 00" S	046° 15' 48" W	NDB SAT

RUTA/ROUTE: VOR CGO (Brasil) / VOR BGE (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 788			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
CONGONHAS	23° 37' 39" S	046° 39' 17" W	VOR CGO
PARANAGUA	25° 32' 05" S	048° 31' 51" W	NDB PNG
ASDEK	28° 35' 41" S	051° 20' 29" W	Intersección con UA310
BAGE	31° 23' 26" S	054° 06' 35" W	VOR BGE

RUTA/ROUTE: VOR CRR (Uruguay) / NDB SAT (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 540			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
CARRASCO	34° 49' 58" S	056° 01' 31" W	VOR CRR
AKPOD	32° 27' 25" S ⁽²⁾	053° 34' 02" W ⁽²⁾	FIR Montevideo-Curitiba
PORTO ALEGRE	29° 59' 46" S	051° 09' 55" W	VOR POR
JUICE	29° 28' 52" S	050° 42' 31" W	Límite TMA Porto Alegre
SANTOS	23° 59' 00" S	046° 15' 48" W	NDB SAT

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RUTA/ROUTE: VOR CGO (Brasil/Brazil) / VOR CRR (Uruguay)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 792			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
CONGONHAS	23° 37' 39" S	046° 39' 17" W	VOR CGO
PARANAGUA	25° 32' 05" S	048° 31' 51" W	NDB PNG
ASDEK	28° 35' 41" S	051° 20' 29" W	Intersección con UA310
MILEX	32° 09' 02" S	053° 42' 31" W	FIR Curitiba-Montevidéo
CARRASCO	34° 49' 58" S	056° 01' 31" W	VOR CRR

RUTA/ROUTE VOR SCB (Brasil/Brazil) / VOR VIR (Bolivia)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 415			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
SOROCABA	23° 30' 25" S	047° 22' 42" W	VOR SCB
PRESIDENTE PRUDENTE	22° 10' 32" S	051° 25' 21" W	VOR PRR
NUXAR	21° 53' 50" S	052° 13' 28" W	Intersección con UB 688
SIDAK	19° 38' 21" S ⁽¹⁾	058° 12' 28" W ⁽¹⁾	FIR Curitiba-La Paz / intersección con UM 402
VIRU VIRU	17° 37' 43" S	063° 08' 59" W	VOR VIR

VOR VAS (Paraguay) / VOR MAN (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 402			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
ASUNCION	25° 14' 39" S	057° 31' 19" W	VOR VAS
SIDAK	19° 38' 21" S	058° 12' 28" W	FIR Asunción-Curitiba-La Paz intersección con UM 415
UBKAB	16° 18' 54" S	058° 36' 31" W	FIR La Paz-Porto Velho- Brasilia
ARPAR	10° 29' 52" S	059° 18' 10" W	FIR Porto Velho/Manaus
MANAUS	03° 02' 12" S	060° 07' 30" W	VOR MAN

ADJUNTO AL APÉNDICE A/ATTACHMENT TO APPENDIX A

AA-5

RUTA/ROUTE: VOR TBG (Panamá) / ASOKU (Límite/ FIR Centro América (COCESNA) y FIR Mérida (México) – Boundary Centro America FIR (COCESNA) and Merida FIR (Mexico)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 419			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
TABOGA	08° 47' 15" N	079° 33' 43" W	VOR TBG
ANSON	10° 42' 36" N	082° 39' 06"	FIR Panamá-América Central
LIBIS	13° 36' 48" N	087° 16' 00"W	TMA
EGLAR	14° 18' 56" N	088° 25' 06"W	Límite Sectores 1 y 2 CENAMER ACC
ASOKU	16° 04' 37"N	091° 22' 56"W	FIR América Central-Mérida

RUTA/ROUTE ASIMO (FIR Santiago de Chile (Chile) y/and FIR Mendoza (Argentina) / VOR CRR Corrientes (Argentina)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 529			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
Tabón	32° 55' 06" S	070° 50' 14" W	VOR TBN
DILOK	31° 56' 00 S	070° 38' 00" W	
ASIMO	31° 53' 00" S	070° 19' 00" W	FIR Santiago-Mendoza
San Juan	31° 33' 50" S	068° 25' 17" W	VOR JUA
BURMI	31° 03' 22" S	067° 07' 39" W	FIR Mendoza-Córdoba
TIKLA	28° 29' 00" S	061° 13' 00" W	FIR Córdoba-Resistencia
Resistencia	27° 26' 49" S	059° 03' 26" W	VOR SIS

RUTA/ROUTE VOR VAS (Paraguay) / VOR CGR (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UM 544			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Inclusión/Inclusion
	Latitud/Latitude	Longitud/Longitude	
ASUNCION	17° 17' 46" S	69° 37' 30" W	VOR VAS
AKSUL	22° 23' 00" S	055° 47' 10.2" W	FIR Asunción-Curitiba
CAMPO GRANDE	20° 28.1' S	054° 40.2' W	VOR CGR

RUTA VOR CGO (Brasil/Brazil) / VOR VAS (Paraguay)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UL 301			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Re-alineamiento/Realignment
	Latitud/Latitude	Longitud/Longitude	
CONGONHAS	23° 37' 39" S	046° 39' 17" W	VOR CGO
BOLIR	24° 52' 52.7 S	054° 31' 59.7 W	FIR Curitiba-Asunción intersección UB554 y realineación de UL 301
ASUNCION	25° 14' 39" S	057° 31' 19" W	VOR VAS

RUTA/ROUTE VOR POS (Argentina) / VOR CGO (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UL 310			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Re-alineamiento/Realignment
	Latitud/Latitude	Longitud/Longitude	
POSADAS	27° 23' 08" S	055° 58' 09" W	VOR POS
GEBUN	26° 34' 40" S	053° 46' 46" W	FIR Resistencia-Curitiba
CONGONHAS	23° 37' 39" S	046° 39' 17" W	VOR CGO

RUTA/ROUTE VOR FLZ (Brasil/Brazil) / VOR EZE (Argentina)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UN 741			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Extensión/Extension
	Latitud/Latitude	Longitud/Longitude	
FORTALEZA	03° 46' 20" S	038° 32' 53" W	VOR FLZ
ILPUR	12° 53' 44" S	042° 46' 25" W	Intersección con la UW10
CARDO	15° 37' 38" S	044° 05' 43" W	FIR Recife-Brasilia
TRES MARÍAS	18° 12' 11" S	045° 27' 26" W	VOR TRM
PIRASSUNUNGA	21° 59' 04" S	047° 20' 39" W	VOR PSN
GRADE	22° 40' 27" S	047° 40' 52" W	Intersección con la UW55
OROKA	22° 38' 36" S	047° 53' 08" W	FIR Brasilia-Curitiba
BAGE	31° 23' 26" S	054° 06' 35" W	VOR BGE
ISALA	31° 40' 34" S	054° 26' 47" W	FIR Curitiba-Montevideo
DURAZNO	33° 21' 22" S	056° 29' 46" W	VOR DUR
PAPIX ⁽¹⁾⁽²⁾	34° 24' 58" ⁽¹⁾	058° 00' 02" ⁽¹⁾	FIR Montevideo-Ezeiza
EZEIZA	34° 49' 27" S	058° 32' 07" W	VOR EZE

ADJUNTO AL APÉNDICE A/ATTACHMENT TO APPENDIX A

AA-7

RUTA/ROUTE VOR NOR (Brasil/Brazil) / VOR EZE (Argentina)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UN 857			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Extensión/Extension
	Latitud/Latitude	Longitud/Longitude	
NORONHA	03° 51' 56" S	032° 26' 54" W	VOR NOR
ANBET	07° 45' 34" S	034° 26' 44" W	Intersección con la UR 551
BIDEV	16° 14' 02" S	038° 58' 20" W	Intersección con la nueva UW 50
DAGEL	18° 00' 24" S	039° 58' 07" W	FIR Brasília-Recife
MARICA	22° 58' 04" S	042° 53' 29" W	VOR MRC
AKNUB	24° 29' 39" S	044° 34' 23" W	FIR Brasilia-Curitiba
PORTO ALEGRE	29° 59' 46" S	051° 09' 55" W	VOR POR
OGRUN	32° 02' 43" S	053° 49' 52" W	FIR Curitiba-Montevidéo
MELO	32° 20' 33" S	054° 13' 19" W	VOR MLO
DORVO	34° 42' 58" S	057° 31' 02" W	FIR Montevidéo-Ezeiza
LA PLATA	34° 58' 33" S	057° 53' 54" W	VOR PTA
EZEIZA	34° 49' 27" S	058° 32' 07" W	VOR EZE

RUTA/ROUTE VOR NTL (Brasil/Brazil)/NDB BBC (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UN 873			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Realineamiento-Extensión Realignment-Extension
	Latitud/Latitude	Longitud/Longitude	
NATAL	05° 54' 30" S	035° 14' 55" W	VOR NTL
AKREN	09° 31' 00" S	037° 08' 52" W	Intersección con la UW10
BUXER	17° 09' 22" S	041° 20' 47" W	FIR Recife-Brasilia
BARBACENA	21° 16' 02" S	043° 45' 51" W	NDB BBC

RUTA/ROUTE: VOR BCO (Brasil/Brazil) / VOR MSS (Brasil/Brazil)

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UN 866			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Realineamiento-Extensión Realignment-Extension
	Latitud/Latitude	Longitud/Longitude	
BONSUCESSO	23° 24' 23" S	046° 23' 08" W	VOR BCO
DETIL	16° 23' 41" S	042° 42' 17" W	FIR Brasília-Recife
MOSSORO	05° 11' 50" S	037° 21' 52" W	VOR MSS

**RUTA/ROUTE ORALO (Límite FIR La Paz (Bolivia) y FIR Lima (Perú) y VOR ILO (Perú)
Aprobada en Reunión Tripartita Bolivia/Chile/Perú – (Boundary La Paz FIR (Bolivia) and Lima
FIR (PERU) AND ILO VOR (Peru) Approved in Tripartite Meeting Bolivia/Chile/Peru)**

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UA 573			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Realineamiento/Realignment
	Latitud/Latitude	Longitud/Longitude	
ORALO	17° 17' 46" S	69° 37' 30" W	FIR La Paz-FIR Lima
ILO	17° 41' 28" S	071° 21' 02" W	VOR ILO

**RUTA/ROUTE ORALO (Límite FIR La Paz (Bolivia) y FIR Lima (Perú) y VOR ILO (Perú)
Aprobada en Reunión Tripartita Bolivia/Chile/Perú– (Boundary La Paz FIR (Bolivia) and Lima
FIR (PERU) AND ILO VOR (Peru) Approved in Tripartite Meeting Bolivia/Chile/Peru)**

ESPACIO AÉREO INFERIOR/LOWER AIRSPACE			
A 573			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Realineamiento/Realignment
	Latitud/Latitude	Longitud/Longitude	
ORALO	17° 17' 46" S	69° 37' 30" W	FIR La Paz/ FIR Lima
ILO	17° 41' 28" S	071° 21' 02" W	VOR ILO

**RUTA/ROUTE KOMPA (Límite FIR La Paz (Bolivia) y FIR Lima (Perú) y VOR CAL (Bolivia)
Aprobada en Reunión Tripartita Bolivia/Chile/Perú - - (Boundary La Paz FIR (Bolivia) and Lima
FIR (PERU) AND CAL VOR (Bolivia) Approved in Tripartite Meeting Bolivia/Chile/Peru)**

ESPACIO AÉREO SUPERIOR/UPPER AIRSPACE			
UB 677			
Punto Significativo/ Significant Point	Coordenadas Geográficas/ Geographical Coordinates		Comentarios/Comments Realineamiento/Realignment
	Latitud/Latitude	Longitud/Longitude	
KOMPA	17° 17' 46" S	69° 37' 30" W	FIR Lima-La Paz
CALAMARCA	17° 41' 28" S	071° 21' 02" W	VOR CAL