



*International Civil Aviation Organization*  
CAR/SAM Regional Planning and Implementation Group (GREPECAS)  
**First Meeting of the Communications, Navigation and Surveillance / Air  
Traffic Management Subgroup (CNS/ATM/SG/1)**  
(Lima, Peru, 15-19 March 2010)

**Agenda Item 4: Review of pending matters of the ATM/CNS/SG, ATM/COMM, CNS/COMM, and the respective Task Forces, for their consideration in the work programme of the CNS/ATM Subgroup**

**FOLLOW UP ON THE MEVA II / REDDIG INTERCONNECTION ACTIVITIES**

(Presented by the Secretariat)

**SUMMARY**

This working paper presents the follow up on the activities for the interconnection of the MEVA II / REDDIG VSAT networks.

**References:**

- Report of the GREPECAS 14 meeting (San José, Costa Rica, 16-20 April 2007);
- Report of the Fifth MEVA II/REDDIG Coordination Meeting (Mexico City, 3-5 October 2008); and
- Report of the Sixth MEVA II/REDDIG Coordination Meeting (Lima, Peru, 7-8 May 2008).
- Report of the Seventh MEVA II/REDDIG Coordination Meeting (Mexico City, 10-11 June 2009)

<b>ICAO Strategic Objective:</b>	<i>D - Efficiency</i>
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**1. Introduction**

1.1 Taking into account the operation and regional scope of the MEVA II and REDDIG digital networks in the CAR and SAM Regions, respectively, GREPECAS has urged the member States of both networks to implement the interconnection of these networks. Several conclusions and actions have been formulated since GREPECAS/10 up until the last GREPECAS meeting.

1.2 The purpose of the interconnection/interoperability of digital networks in the CAR/SAM Regions is to improve efficacy, efficiency, quality, and availability of the voice and data communication circuits of the aeronautical fixed service (AFS), thus reducing costs, and to facilitate the evolutionary introduction of ATN and its ground-ground applications.

1.3 The Seventh MEVA II / REDDIG Coordination Meeting, held in Mexico City, on 10-11 June 2009, updated the action plan approved by GREPECAS/14, based on the information provided by the REDDIG Administration, the MEVA II service provider, and the States, Territories, and International Organisations involved in the MEVAII / REDDIG interconnection.

## 2. Analysis

### *Follow up on pending activities for the implementation of the MEVA II/ REDDIG interconnection*

#### *Action Plan for the MEVA II/REDDIG Interconnection*

2.1 The action plan for the MEVA II/REDDIG interconnection has required several updates since the Seventh MEVA II / REDDIG Coordination Meeting, in terms of the date of implementation of some of its activities due to delays in their execution.

2.2 These delays were due to:

- a) the acquisition of the three Linkway 2100 modems from Viasat up in late September 2009 rather than in March 2009 as foreseen. This model of MODEM is no longer produced and was not readily available on the market.
- b) preparatory work by INTELSAT for the migration from the INTELSAT IS IR satellite, to which the MEVA II and REDDIG networks are connected, to the INTELSAT IS 14 satellite, located on the same orbital position. The migration to the IS-14 satellite was done on 15 December 2009 at 06:45 UTC in a smooth and seamless way for the operation of the MEVA II and REDDIG networks.
- c) excessively long time taken for customs clearance of the equipment for the MEVA II/REDDIG interconnection in some States involved in the MEVA II/REDDIG interconnection.
- d) delays in the ICAO/COCESNA agreement for the interconnection of the COCESNA MEVA II node and the REDDIG. The initial project document was drafted in February 2009.

2.3 **Appendix A** to this paper contains the updated Action Plan for the MEVA II/ REDDIG interconnection.

### *Review, approval, and signing of the contract between ICAO and the MEVA II service provider, and Agreement between ICAO and COCESNA for the MEVA II/REDDIG interconnection*

#### *Contract between ICAO and the MEVA II service provider*

2.4 On 25 March 2009, ICAO and Americom Government Services, Inc. (AGS), service provider of the MEVA II, entered into contract N° 22500187 for the provision of the interconnection of the MEVA II y REDDIG satellite communication networks.

2.5 The purpose of the contract is to define the activities related to the implementation of the MEVA II / REDDIG interconnection at the REDDIG Bogota and Caracas nodes, and the recurrent voice and data services for giving Brazil, Colombia, Peru, and Venezuela access to the MEVA II network. The contract is for one year, extendible for one year or more, not to exceed nine cumulative years after the initial lease period of one year. Likewise, the prices specified in the contract for recurrent voice and data services will remain unchanged for a period of 120 months, as of the date of activation of the services in the interconnection.

*Agreement between ICAO and COCESNA for the MEVA II REDDIG interconnection*

2.6 For the implementation and operation of the interconnection between the COCESNA MEVA II node and the REDDIG, ICAO and COCESNA developed technical cooperation project RLA/09/901 (*Agreement between ICAO and COCESNA for the MEVA II/REDDIG interconnection*, February 2009).

2.7 The project defines the technical, service, and economic aspects for the implementation of the interconnection of the COCESNA MEVA II node with the REDDIG. Initial services envisaged by the project are the ATS speech circuits between the COCESNA ACC (CENAMER) and the Bogota and Guayaquil ACCs. The initial project document was prepared in February 2009 and it is expected that this agreement will be concluded by March 2010 and its implementation by April.

***On-site inspection of the REDDIG nodes in Bogota and Caracas and the MEVA II COCESNA node***

2.8 The MEVA II service provider carried out the on-site inspection of the REDDIG nodes in Bogota and Caracas on 28 April to 1 May 2009, concluding that they were ready to begin the installation.

2.9 The REDDIG Administration, in coordination with COCESNA and the MEVA II service provider, will carry out the on-site inspection of the COCESNA MEVA II node. The inspection will take place once the agreement between ICAO and COCESNA for the MEVA II/REDDIG interconnection has been approved and signed.

2.10 The REDDIG Administration sent the timetable of activities for the interconnection of the COCESNA MEVA II node with the REDDIG, including on-site inspection, to COCESNA for review.

***Implementation of MEVA II/REDDIG Interconnection Circuits***

2.11 As a result of the study carried out by the MEVA II/REDDIG Task Force, and the review made by the MEVA II/REDDIG coordination meetings, the circuits to be implemented are shown in the tables of **Appendix B** to this working paper. Circuit requirements are grouped by MEVA II / REDDIG node.

2.12 In order to complete the installation of the circuits listed in Appendix B, together with terminal equipment/systems, the States involved in the interconnection must proceed with the local installations from the terminal equipment to the satellite network node. To this end, the States that have not yet done this local installation are urged to do so as soon as possible. To date, local works have been completed in the REDDIG nodes of Bogota, Caracas, Manaus and Lima and in the MEVA II nodes of COCESNA and Jamaica. United States informed that local works at the MEVA II node in Miami and San Juan would be completed in late February 2010.

***Purchase and delivery of equipment and cards for the MEVA II/ REDDIG interconnection***

2.13 The equipment and cards necessary for the MEVA II/REDDIG interconnection are listed in **Appendix C** to this working paper. ICAO procured the equipment and cards for the REDDIG nodes involved, as well as the equipment for the COCESNA MEVA II node. The MEVA II service provider purchased the equipment and cards necessary for the interconnection in the MEVA II nodes, except for those required in the COCESNA node.

2.14 Once the equipment and cards for the Bogota and Caracas nodes were procured, ICAO sent them to the MEVA II service provider for the corresponding pre-testing and subsequent delivery to the sites where they would be installed. This pre-testing procedure was required at the Fifth MEVA II/REDDIG Coordination Meeting (Lima, Peru, 7-8 May 2008) by the MEVA II service provider in case the REDDIG were to purchase the equipment and cards on its own.

2.15 The equipment for the interconnection at the Bogota and Caracas nodes, once tested at the factory by the MEVA II service provider, was sent to the aforementioned sites in late November 2009.

***Installation of equipment at the MEVA II and REDDIG nodes involved in the interconnection***

2.16 The MEVA II service provider started working on the MEVA II/REDDIG interconnection at the REDDIG node in Bogota on 8 February 2010; work had to be interrupted due to software configuration problems in the MEVA II Linkway 2100 MODEM. The modem had to be taken back to the laboratories of the MEVA II service provider for reconfiguration. In this regard, the MEVA II service provider rescheduled the installation and commissioning dates for the MEVA II/REDDIG interconnection, as reflected in the updated Action Plan contained in Appendix A to this working paper.

2.17 Taking into account the updating of installation dates by the MEVA II service provider, it is expected that works at the REDDIG nodes of Caracas and Bogota will be completed by late March 2010. Likewise, if the COCESNA – REDDIG agreement is signed in March 2010, it is estimated that work at the COCESNA MEVA II node will be completed by April 2010.

***Focal points for the MEVA II/REDDIG interconnection***

2.18 **Appendix D** to this working paper contains the list of focal points for coordinating the implementation of the action plan for the MEVA II/REDDIG interconnection, for its possible update at the Meeting.

**3. Suggested Action**

3.1 The Meeting is invited to:

- a) take note of the information provided in this paper and its appendices;
- b) review the updated action plan shown in Appendix A;
- c) urge ICAO and COCESNA to review and sign the agreement for the MEVA II/REDDIG interconnection - Project RLA/09/901, as soon as possible and as described in paragraphs 2.6 and 2.7;

- d) urge the States involved in the MEVA II/REDDIG interconnection that have not yet implemented the local connections between the terminal equipment and the REDDIG node (see paragraph 2.12) to do so as soon as possible, according to the requirements contained in Appendix B;
- e) urge the member States of the MEVAII and REDDIG networks involved in the MEVA II/REDDIG interconnection to update the list of focal points shown in Appendix D; and
- f) suggest any other aspect related to the MEVA II/ REDDIG interconnection that it may deem necessary.

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## APPENDIX A / APENDICE A

**UPDATED ACTION PLAN FOR IMPLEMENTATION OF MEVA II AND REDDIG INTERCONNECTIONS**  
**PLAN DE ACCIÓN ACTUALIZADO PARA LA IMPLANTACIÓN DE LAS INTERCONEXIONES MEVA II Y REDDIG**

Date/Fecha: February/Febrero 2010

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
1	RFP Completion/Finalización del RFP	COCESNA	30-Apr-07	Completed / Finalizado
2	Required connections: / Conexiones requeridas: Aruba COCESNA Ecuador Colombia Peru Venezuela Brazil / Brasil Panama United States / Estados Unidos Jamaica Curacao / Curazao	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	30-Apr-07 / 30-Abr-07	Completed / Finalizado
3	Identification of Current Equipment / Identificación de Equipo Actual	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	28 Sep-07	Completed / Finalizado

**Legend / Leyenda:**

MoU: Memorandum of Understanding / Memorando de Entendimiento

RFP: Request for Technical and Economic Proposal / Solicitud de Propuestas Técnicas y Económicas

SLA: Service Level Agreement / Acuerdo de Nivel de Servicio

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
4	Completion of SLA / Finalización de SLA	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administración REDDIG	25Mar-09	Completed/Finalizado El 25 de marzo de 2009 entre la OACI y el Proveedor de servicio de la MEVA II se firma del contrato para la implantación de la interconexión MEVA II / REDDIG/ The 25 March 2009 between ICAO and MEVA II Communications service provider is signed the contract for the implementation of MEVA II / REDDIG.
5	Review of RFP / Revisión de RFP	MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	29 June -07/ 29 Junio 07	Completed / Finalizado The RFP was reviewed and approved by all MEVA II / REDDIG Member Administrations. El RFP fue revisado y aprobado por todas las Administraciones miembros de las redes MEVA II y REDDIG.
6	Proposals response / Respuesta de propuestas	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	26 Sep.-07	Completed / Finalizado The response for the RFP from the MEVA II Service Provider and REDDIG Administration was presented at the MR/5 Meeting. Las respuestas al RFP por parte del Proveedor de Servicio MEVA II y la Administración de la REDDIG se presentaron en la reunión MR/5.
7	Proposals review / Revisión de propuestas	Coordination meeting / Reunión de coordinación	5 Oct.-07	Completed / Finalizado The proposal was reviewed in the MR/5 Meeting. La propuesta se revisó en la reunión MR/5.

Item No.	Action / Acción		Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2		3	4	5
8	Focal Point nomination / Nombramiento Punto Focal	Send a letter to MEVA II / REDDIG Member Administrations / Envío carta a las Administraciones miembros de las redes MEVA II y REDDIG.	ICAO Regional Offices / Oficinas Regionales OACI	15 Oct. 07	Completed / Finalizado The ICAO Regional Offices sent to the States/Organization involved in the MEVAII REDDIG interconnection a letter in order to nominate focal points. Las oficinas regionales de la OACI enviaron una carta invitando los Estados/Organización involucrados en la interconexión la nominación de puntos focales.
		Focal point designation/ Designación punto focal	MEVA II and REDDIG Members involved / Miembros de MEVA II y REDDIG involucrados	30-Oct-07	Completed / Finalizado All the States/Organization members of MEVA II and REDDIG network involved in the interconnection nominated focal points. Todos los Estados/Organización miembros de la REDDIG y MEVA II involucrados en la interconexión nominaron puntos focales.
9	Application of MoU reviewed / Aplicación del MoU revisado		MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	30-Oct-07	Completed / Finalizado States/Organization members of MEVA II REDDIG reviewed the MoU application. Los Estados/Organizaciones miembros de la MEVA II y REDDIG revisaron la aplicación del MoU.

**Legend / Leyenda:**

MoU: Memorandum of Understanding / Memorando de Entendimiento

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
10	Review and acceptance of equipment costs for the MEVA II / REDDIG interconnection by the REDDIG Member Administrations / Revisión y aceptación por parte de las Administraciones Miembros de la REDDIG sobre costo de equipamiento para la interconexión MEVA II / REDDIG	All the REDDIG Member States / Todos Estados miembros de REDDIG	30 Oct-07	Completed / Finalizado No comments were received. No se recibieron comentarios al respecto.
11	Review and acceptance of equipment costs for the MEVA II / REDDIG interconnection by the MEVA II Member Administrations involved / Revisión y aceptación por parte de las Administraciones Miembros de la MEVA II involucradas sobre costo de equipamiento para la interconexión MEVA II / REDDIG	Aruba, Curaçao, Jamaica, Panama, USA (Miami and Puerto Rico) and COCESNA / Aruba, Curaçao, Jamaica Panamá, USA (Miami y Puerto Rico) y COCESNA	30 Oct -07	Completed / Finalizado No comments were received. No se recibieron comentarios al respecto.
12	Review and acceptance of proposed recurrent costs for the MEVA II / REDDIG interconnection/ Revisión y aprobación costos recurrentes propuestos para la interconexión MEVA II REDDIG	MEVA II/ REDDIG Member Administrations involved / Administraciones Miembros de la MEVA II y REDDIG involucradas	30 Oct- 07	Completed / Finalizado No comments were received. No se recibieron comentarios al respecto.
13	Revised MoU Signature / Firma del MoU Revisado	MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	30 Nov 07	Completed / Finalizado All the States REDDIG members signed the MoU reviewed. For MEVA II only Cuba, COCESNA and United States signed the MoU the rest of MEVA II States informed that they have reviewed and accepted the MoU Todos los Estados miembros de la REDDIG firmaron el MoU revisado. Para la MEVAII solamente Cuba, COCESNA y Estados Unidos firmaron el MoU el resto de los Estados miembros de la MEVA II informaron que habían revisado y aceptado el MoU revisado.

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
14	Review, approval and signing of contracts or contract amendments to carry out the MEVA II / REDDIG interconnection presented by the MEVA II Service Provider / Revisión, aprobación y firma de los contratos o enmienda de los mismos para llevar a cabo la interconexión MEVA II/REDDIG presentada a través del Proveedor de Servicio de la MEVA II	MEVA II Member Administrations involved and REDDIG Administration / Administraciones Miembros de la MEVA II involucradas y Administración REDDIG	25 Mar 2009	Completed/Finalizado The 25 March 2009 between ICAO and MEVA II communication service provider is signed the contract to carry out the MEVA II/ REDDIG interconnection. El 25 de marzo de 2009 se firma el contrato entre la OACI y el proveedor de servicios de comunicaciones de la MEVA II para llevar a cabo la interconexión MEVAII/REDDIG.
15	To ensure that all MEVA II and REDDIG nodes work with IS-IR Satellite, using Band C transponder with US/Latin America hemispheric beam and Co-Linear Vertical polarization / Asegurar que todos los nodos de la MEVA II y REDDIG operen en el satélite IS-1R, empleando transpondedores de banda C con haz hemisférico US/Latin America y polarización co-lineal vertical.	MEVA II Service Provider and REDDIG Administration/ Proveedor Servicio MEVA II/ Administración REDDIG	Nov -08	Completed / Finalizado In the month of November 2008 AGS proceeded to change the polarity from horizontal to vertical of the MEVA II nodes. With this implementation all the preliminary requirements for the interconnection were satisfied. En el mes de noviembre de 2008 AGS procedió a la implantación del cambio de polaridad de horizontal a vertical de los nodos de la MEVA II. Con esta implantación todos los requerimientos preliminares para la interconexión MEVAII / REDDIG están satisfechos.

**Legend / Leyenda:**

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
16	Equipment and spare parts acquisition for MEVA II/REDDIG interconnection/ Adquisición de equipamiento y repuestos para la interconexión MEVA II / REDDIG.	REDDIG Administration and MEVA II involved Member Administrations / Administración de la REDDIG y Administraciones Miembros de la MEVA II involucradas	Mar- 09	<p>Completed/ Finalizado</p> <p>ICAO acquired the equipments and cards required for REDDIG nodes involved in the MEVA REDDIG interconnection. Also acquired the equipments for the COCESNA MEVA II node. The rest of the States of MEVA II involved in the interconnection acquired the equipments and cards trough MEVA II service provider.</p> <p>OACI adquirió los equipos y tarjetas requeridas para la interconexión MEVA II REDDIG en los nodos REDDIG involucrados. También adquirió los equipos para el nodo MEVA II de COCESNA. El resto de los Estados MEVA II involucrados en la interconexión adquirió los equipos y tarjetas a través del proveedor de servicio de MEVA II.</p>
17	Site survey for Bogota, Caracas , / Inspección sitio para Bogotá, Caracas	MEVA II Service Provider / Proveedor MEVA II y	Mayo - 09	<p>Completed/Finalizado</p> <p>From 27 to 1 May 2009 AGS completed the Site Survey in the REDDIG nodes of Bogotá and Caracas. Desde el 27 al 1 de mayo de 2009 AGS completo la inspección en sitio en los nodos REDDIG de Bogotá y Caracas.</p>

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
18	Site Survey for Tegucigalpa Honduras	REDDIG Administration/ Administración REDDIG	April - 2010	The site survey in COCESNA MEVAII node will be made once the ICAO COCESNA project for MEVA II REDDIG interconnection will be signed (end of March 2010)  La inspección en sitio en el nodo MEVAII de COCESNA se realizara una vez que se firme el proyecto entre la OACI y COCESNA para la interconexión MEVAII REDDIG (Finales de marzo de 2010)
19	Site preparation for equipment installation for MEVA II / REDDIG interconnection / Preparación de los sitios para albergar equipamiento para la interconexión MEVA II / REDDIG	Colombia, Venezuela and/y COCESNA	Jun-09	Completed/Finalizado

**Legend / Leyenda:**

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
22	Satellite line-up, configuration of site equipment and NCC for the interconnection/ Line-up satelital, configuración equipamiento en sitio y NCC para interconexión	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	Mar - 2010  Apr/Abril-2010	For the installation of the interconnection in Bogota and Caracas Para la instalación de la interconexión en Bogotá y Caracas  For the installation of the interconnection in the COCESNA MEVAII node. Para la instalación de la interconexión en en el nodo MEVA II de COCESNA
23	End-to-end trials for voice and data circuits / Pruebas de extremos a extremos para los circuitos de voz y datos	MEVAII Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	Apr/Abr-2010  Apr/Abr-2010	For the voice and data circuit specified in the interconnection of REDDIG nodes of Bogota and Caracas with MEVA II network, contract between ICAO and MEVA II service provider (N° 22500187). Para los circuitos de voz y datos especificados en la interconexión de los nodos REDDIG de Bogotá y Caracas con la red MEVA II , contrato entre la OACI y el proveedor de servicio MEVA II (N° 22500187).  For the voice circuit specified in the interconnection of COCESNA MEVA II node with REDDIG network, project between ICAO and COCESNA (RLA/09/901). Para los circuitos de voz especificados en la interconexión del nodo MEVA II de COCESNA con la red REDDIG, proyecto entre la OACI y COCESNA (RLA/09/901).





## APPENDIX B/APENDICE B

**COMMUNICATIONS SERVICES REQUIREMENTS FOR MEVA II / REDDIG  
INTERCONNECTION/ REQUERIMIENTOS DE SERVICIOS DE COMUNICACIONES PARA  
LA INTERCONEXION MEVAII / REDDIG**

**Table 1 – CAR/SAM AFS interconnection requirements in the Caracas, Venezuela REDDIG node/  
Requerimientos SFA en la interconexión CAR/SAM en el nodo REDDIG de Caracas, Venezuela**

No.	Requirement CAR/SAM	Required AFS Circuits/Circuito SFA requerido	Remarks/ observaciones
1	2	3	4
1	Curaçao / Caracas (Venezuela)	1 ATS voice– A 1 AFTN data, 2400 bps, X25, IA-5*	
2	Aruba / Josefa Camejo (Venezuela)	1 ATS voice – A	Conexión Caracas-Josefa Camejo via circuito terrestre dedicado/Connection between Caracas Josefa Camejo via ground terrestrial network
3	Puerto Rico (USA) / Caracas (Venezuela)	1 ATS voice – A 1 AFTN data, 2400 bps, X25, IA-5	

A: Indicates ATS requirements for voice communications which should be established in 15 seconds. A: Indica requerimientos ATS para comunicaciones de voz que deberían establecerse en 15 segundos .

**Table 2 - CAR/SAM AFS interconnection requirements in the Bogota, Colombia REDDIG node/  
Requerimientos SFA en la interconexión CAR/SAM en el nodo REDDIG de Bogotá , Colombia**

No.	Requirement CAR/SAM	Required AFS Circuits/ Circuito SFA requerido	Remarks/ observaciones
1	2	3	4
1	Barranquilla (Colombia)/Curaçao	1 ATS voice – A	Conexión Bogotá-Barranquilla a través de red Colombiana/Connection Bogota Barranquilla through Colombian VSAT network
2	Barranquilla (Colombia)/Jamaica	1 ATS voice – A	Conexión Bogotá-Barranquilla a través de red Colombiana/ Connection Bogota Barranquilla through Colombian VSAT network
3	Bogota (Colombia)/Panama	1 AFTN data, 2400 bps, X25, IA-5	Panama has two terminals of the Harris 2020 ATS speech circuit switching centre
	Barranquilla (Colombia) /	1 ATS voice – A	

\* New AFTN data requirement unreflected in CAR/SAM ANP Table CNS 1A / Nuevo requerimiento de datos AFTN no reflejada en Tabla CNS 1A del ANP CAR/SAM.

No.	Requirement CAR/SAM	Required AFS Circuits/ Circuito SFA requerido	Remarks/ observaciones
1	2	3	4
	Panama		installed in Bogota.
	Bogota (Colombia) / Panama	1 ATS voice – A	Panamá tiene dos terminales de la central de conmutación de circuitos orales ATS Harris 2020 instalada en Bogotá
	Cali (Colombia)/ Panama	1 ATS voice – A	
	Medellin(Colombia) / Panama	1 ATS voice – A	
	San Andrés (Colombia)/ Panama	1 ATS voice – D	
			<p>A través de la conexión MEVA II REDDIG entre Colombia y Panamá se instalaran 3 circuitos orales ATS y un circuito AFTN / Through the MEVAII REDDIG connection between Colombia and Panama three ATS oral circuits and one AFTN will be implemented.</p> <p>Las conexiones entre Cali, Medellín y San Andrés con Bogota son a través de la red VSAT colombiana/ The connections between Cali,Medellin and San Andres are through VSAT Colombian network.</p>
4	Lima (Peru) / Miami (United States)	1 AFTN data, 2400 bps, X25, IA-5**	Conexion Lima a Bogota a traves de la REDDIG
5	Miami (United States) / Brasilia (Brazil)	1 AFTN data, 2400 bps, X25, IA-5**	Conexion Brasilia a Manaus via TELESAT (Red VSAT Brasil) Manaus Bogotá via REDDIG/ Connection Brasilia Manaus through TELESAT (Brazilian VSAT network) Manaus Bogota through REDDIG network

D: Indicates requirements for instantaneous communications/Indica requerimientos para comunicaciones instantáneas

A: Indicates ATS requirements for voice communications which should be established in 15 seconds. / A: Indica requerimientos ATS para comunicaciones de voz que deberían establecerse en 15 segundos

**Table 3 – CAR/SAM AFS interconnection requirements in the Tegucigalpa, COCESNA MEVA II node/ Requerimientos SFA en la interconexión CAR/SAM en el nodo MEVA II de Tegucigalpa, COCESNA**

No.	Requirement CAR/SAM	Required AFS Circuits/ Circuito SFA requerido	Remarks/Observaciones
1	2	3	4
1	Cenamer (COCESNA)/ Bogota (Colombia)	Appendix A 1 ATS voice– A	
2	Cenamer (COCESNA)/ Guayaquil (Ecuador)	1 ATS voice – A	

A: Indicates ATS requirements for voice communications which should be established in 15 seconds. / A: Indica requerimientos ATS para comunicaciones de voz que deberían establecerse en 15 segundos

**Table 4 – Corresponding Implementations due to Interconnection in the MEVA II nodes of Curacao, Kingston, Miami, San Juan and Panama and REDDIG nodes of Guayaquil, Lima and Brasilia/ Implantaciones correspondientes por la interconexión en los nodos MEVA II de Curazao, Kingston, Miami, San Juan y Panamá y en los nodos REDDIG de Guayaquil, Lima y Brasilia**

No.	MEVA II/ REDDIG Nodes	Required AFS Circuits/ Circuito SFA requerido	Remarks/Observaciones
1	2	3	4
1	Aruba, Aruba	1 ATS voice– A	Circuits with Josefa Camejo, Venezuela
2	Curacao, Netherlands Antilles	1 ATS voice – A 1 AFTN data	Circuits with Venezuela
		1 ATS voice – A	Circuit with Colombia
3	Kingston, Jamaica	1 ATS voice – A	Circuits with Colombia
4	Miami, United States	2 AFTN data **	Circuits with Brazil and Peru through Colombia
5	Panama, Panama	2 ATS voice – A 1 AFTN data	Circuits with Colombia
6	San Juan, Puerto Rico	1 ATS voice – A 1 AFTN data	Circuits with Venezuela
7	Guayaquil, Ecuador	1 ATS voice – A	Circuit with COCESNA
8	Brasilia, Brazil	1 AFTN data **	Circuit with United States through Colombia
9	Lima, Peru	1 AFTN data **	Circuit with United States through Colombia

A: Indicates ATS requirements for voice communications which should be established in 15 seconds. / A: Indica requerimientos ATS para comunicaciones de voz que deberían establecerse en 15 segundos

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\*\* 9.6 Kbps AFTN circuit / Circuito AFTN 9.6 Kbps

**APENDICE C / APPENDIX C**

**LISTA DE EQUIPAMIENTO PARA LA INTERCONEXION /  
LIST OF EQUIPMENT REQUIRED FOR THE INTERCONNECTION**

<b>LOCALIDAD / LOCATION</b>	<b>EQUIPO ADICIONAL/PARTES REQUERIDAS / ADDITIONAL EQUIPMENT/PARTS NEEDED</b>	<b>CANTIDAD / QUANTITY</b>
COCESNA/Tegucigalpa Honduras	ViaSAT Linkway 2100 with frame-relay card and V.35 cable	1
	2-port L-band Splitter (1 port with DC block)	2
	2-port L-band Combiner (1 port with DC block)	2
Curacao	Memotec V.24 Card	1
Caracas	ViaSat Linkway 2100 with frame-relay card and V.35 cable	1
	Memotec DAV Card (2 for MUX A, 2 for MUX B)	4
	Memotec FXS SLIM LID (3 for MUX A, 3 for MUX B)	6
	2-port L-band Splitter (1 port with DC block)	3
	2-port L-band Combiner (1 port with DC block)	3
	Paradise Datacom , Standard C-Band 75W SSPA , Internal BUC with 10 MHz External Reference with M&C Software fully compatible with 38400 BAUD with binary protocol	2
Bogota	ViaSat , Linkway 2100 with frame-relay card and V.35 cable	1
	Memotec DVP2 E1 Daughter Card (1 for MPS A, and 1 for MPS B)	2
	2-port L-band Splitter (1 port with DC block)	3
	2-port L-band Combiner (1 port with DC block)	3
Jamaica and Aruba	No Additional HW required.	1
Miami	Memotec 960e Chassis	1
	Memotec 960e CPU	1
	Memotec 960e Power Supply	1
	Universal I/O	1
Panama	Memotec DAV Card	1
	Memotec V.24 Card	2
San Juan	Memotec Multi I/O card	1
Ecuador	Memotec DVP2 E-1 Daughter Card (1 for MPS A, 1 for MPS B)	2

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## APÉNDICE D/APPENDIX D

PUNTOS FOCALES PARA COORDINAR LA IMPLANTACIÓN DEL PLAN DE ACCIÓN  
PARA LA INTERCONEXIÓN MEVA II/REDDIGFOCAL POINTS FOR COORDINATING THE IMPLEMENTATION OF THE ACTION PLAN  
FOR MEVA II/REDDIG INTERCONNECTION

ESTADO ORG./ STATE ORG.	NOMBRE-TITULO/ NAME-TITLE	DATOS DE CONTACTO/ CONTACT INFORMATION
ARUBA	<b>Joselito Correia de Andrade</b> Actg Chief CNS/ATM Systems	Department of Civil Aviation of Aruba Sabana Berde 73B Tel +297 583 2665 / +297)582-4330, Ext 223 Fax +297 582 3038 Email Joselito.CorreiaAndrade@aruba.gov.aw
BRASIL/ BRAZIL	<b>Athayde Licerio Viera Frauche</b> Coordinador de la REDDIG/REDDIG Coordinator  <b>Jorge Mauricio Motta</b> Coordinador Técnico REDDIG/REDDIG Technical Coordinator  <b>Alessandro Stefson Mamede Alves</b> Coordinador Técnico REDDIG/REDDIG Technical Coordinator	DECEA Av. General Justo 160 Castelo, Rio de Janeiro, Brasil Tel +55 21 21016584 Fax +55 21 21016219 Email dcte5@decea.gov.br  CINDACTA IV Av. Do Turismo sin Taruma Manaus – AM, Brasil Tel +55 92 36525536 Fax +55 92 36525501 Email mauriciojmm@cindacta4.decea.gov.br  CINDACTA IV Av. Do Turismo sin Taruma Manaus – AM, Brasil Tel +55 92 36525470 Fax +55 92 36525501 Email ttaa@cindacta4.decea.gov.br
COLOMBIA	<b>Sergio Paris</b> Asesor del Director de la UAEAC/ UAEAC Director Adviser	Unidad Administrativa Especial de Aeronáutica Civil - UAEAC Dirección Telecomunicaciones Aeropuerto Internacional El Dorado Tel +57 1 2663672 Fax +57 1 2223486
CURAZAO	<b>Micilia Albertus-Verboom</b> Director General	Netherlands Antilles Air Traffic Control (NAATC) Seru Mahuma z/n Curaçao Netherlands Antilles Tel. + 599 9 839 3506 Fax + 599 9 868 3012 E-mail m.albertus-verboom@naatc.an
	<b>Cedric D. Balentien</b> CNS Manager	Netherlands Antilles Air Traffic Control (NAATC) Curaçao Netherlands Antilles Tel. + 5999-839-3512 Fax + 599 9 868 3012 E-mail c.balentien@naatc.an

ESTADO ORG./ STATE ORG.	NOMBRE-TITULO/ NAME-TITLE	DATOS DE CONTACTO/ CONTACT INFORMATION
ECUADOR	<p><b>Raúl Avellán Oña</b> Asuntos técnicos:/Technical matter</p> <p><b>Aida Justina Moreno Gómez</b> Jefe Comunicaciones Satelitales RI – Asuntos Administrativos/Chief RI satellite communications</p>	<p>Aeropuerto José Joaquín Olmedo Guayaquil, Ecuador Tel +593 42 692829 Cel +593 84 362441 REDDIG 2308 / 2309 Email ravellan1@yahoo.com</p> <p>Dirección General de Aviación Civil Cerro Mojas, Edificio Servicio para la Navegación Aérea Quito, Ecuador Tel. + 593 260 1434 Fax + 593 260 1434 E-mail aida_moreno@dgac.gov.ec; aidamg@hotmail.com</p>
Estados Unidos/United States	<p><b>Dulce Roses</b> Program Manager, International Telecommunications</p>	<p>Traffic Organization – Technical Support Center 7500 NW 58th St. Miami, FL 33166 United States Tel.: + 305 716 1830 Fax: + 305 716 1831 E-mail dulce.roses@faa.gov</p>
JAMAICA	<p><b>Derrick Grant</b> CNS Engineer</p>	<p>Jamaica Civil Aviation Authority 4 Winchester Road Kingston 10, Jamaica Tel. + 876 960 3965 Fax + 876 960 8209 E-mail dgrant@jcaa.gov.jm</p>
PANAMA	<p><b>Daniel De Ávila H.</b> Técnico Comunicaciones Aeronáuticas</p>	<p>Autoridad Aeronáutica Civil – AAC Av. Ascanio Villalaz, Edificio 611, Centro de Control de Tránsito Aéreo, Apartado 5006, 8-72493 Panamá Panamá Tel: +507 501 9865 Fax: +507 501 9879 E-mail: deavila@aeronautica.gob.pa</p>
PERÚ/PERU	<p><b>José Luis Paredes Dávila</b></p>	<p>CORPAC S.A. Tel +51 1 708 1196 Cel +51 1 99582 5997 Email jlparedes@corpac.gob.pe</p>
VENEZUELA	<p><b>Luis E. Escobar</b> Jefe Telecomunicaciones Aeropuerto Maiquetía/Chief Telecommunications, Maiquetia Airport</p> <p><b>Wilton R. Linarez</b> Gerente General de la Oficina de Tecnología de la Información “OTI”/ General Manager Information Technology Office</p>	<p>Aeropuerto Simón Bolívar, Edif. ATC, Piso 2 Maiquetía, Venezuela Tel +58 212 3552143 Fax +58 212 3551412 Mail scoguil5@cantv.net l.escobar@inac.gob.ve</p> <p>Instituto Nacional de Aeronáutica Civil (INAC) Altamira Sur, Torre Británica, Piso 2 Caracas, Venezuela Tel +58 212 2774403 Fax +58 212 2774403 E-mail w.linarez@inac.gob.ve</p>

<b>ESTADO ORG./ STATE ORG.</b>	<b>NOMBRE-TITULO/ NAME-TITLE</b>	<b>DATOS DE CONTACTO/ CONTACT INFORMATION</b>
COCESNA	<b>Roger Perez</b> Gerente Estación Honduras /Honduras General Manager	COCESNA Apartado Postal No. 660 Tegucigalpa, D. C., Honduras, C. A. Tel + 504 234 3360 ext. 1461 Fax + 504 234 3682 E-mail rperez@cocesna.org

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