Agenda Item 2: Analysis to the performance of the MEVA II/ REDDIG interconnection

FOLLOW-UP TO MEVA II / REDDIG INTERCONNECTION ACTIVITIES

(Presented by the Secretariat)

SUMMARY

This working paper presents information on the activities carried out as regards MEVA II / REDDIG interconnection, since the seventh MEVA II / REDDIG coordination meeting.

References:

- Seventh MEVA II / REDDIG coordination meeting (Mexico City, Mexico, 10-11 June 2009);
- Thirteenth REDDIG Committee Coordination Meeting (Lima, Peru, 9-10 March 2010); and
- Twenty-first meeting of the MEVA TMG (Mexico City, Mexico, 19-20 April 2010.

ICAO strategic objectives:	*D - Efficiency*

1. Background

1.1 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 Organizations involved in the MEVAII / REDDIG interconnection.

1.2 The action plan for MEVA II / REDDIG interconnection has required that changes be made to the target dates of some of its activities, due to delays in their carrying out. These delays were mainly due to the search and purchase of the Viasat Linkway 2100 modems, in view that same were out of production, and their market availability very reduced, to preparations for the migration from Intelsat satellite IS-IR to IS-14, and to delays in the signature of the agreement between ICAO and COCESNA for the interconnection of the COCESNA MEVA II node with REDDIG.

2. Analysis

2.1 Hereunder is a description on the progress made in the MEVA II / REDDIG interconnection pending activities specified in the MEVA II / REDDIG interconnection plan in **Appendix A** to this working paper:

a) Purchasing and delivery of MEVA II / REDDIG interconnection equipment and cards;
b) Review, approval and signature of the agreement between ICAO and COCESNA for the MEVA II / REDDIG interconnection;

c) Results of the MEVA II / REDDIG interconnection works;
d) MEVA II / REDDIG interconnection pending activities; and
e) Focal points for the MEVA II / REDDIG interconnection.

Purchasing and delivery of MEVA II / REDDIG interconnection equipment and cards

2.2 The equipment and cards required for MEVA II / REDDIG interconnection are shown in **Appendix B** to this working paper. The equipment and cards to be installed at the REDDIG nodes involved in the interconnection were purchased by ICAO, through the Procurement Section of its Technical Cooperation Bureau (TCB). The purchasing of the cards to be installed at the MEVA II nodes involved in the interconnection was made in coordination with the MEVA TMG and through the MEVA II Service Provider, with the exception of those required for the COCESNA MEVA II node.

2.3 As regards the equipment to be installed at the COCESNA node, same will be purchased by ICAO once ICAO and COCESNA sign the agreement to interconnect the COCESNA MEVA II node with REDDIG (RLA/09/901 project).

2.4 ICAO, once having purchased the equipment and cards corresponding to the Bogota and Caracas nodes, sent them to the MEVA II Service Provider for it to carry out the corresponding pre-test and later remittance to the sites where they would be installed. This pre-test procedure was required by the MEVA II Service Provider during the fifth MEVA II / REDDIG coordination meeting (MR/5) (Lima, Perú, 7-8 May 2008), in the event that REDDIG purchased the equipment and card on its account.

2.5 The interconnection equipment for the Bogota and Caracas nodes, once tested by the MEVA II Service Provider, were sent to the mentioned sites at the end of November 2009.

Review, approval and signature of the 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.

2.8 ICAO, through its Secretary General, signed the agreement on 21 April 2010; same was sent to COCESNA for its signature, and thus obtain formal approval of the agreement. It is expected that at this MEVA II / REDDIG coordination meeting, COCESNA inform as to the status of the agreement.

2.9 The REDDIG Administration has prepared a preliminary implementation programme to carry out the COCESNA MEVA II node interconnection works, which is shown in **Appendix C** to this working paper. The dates indicated in the plan will be adjusted, depending on the approval date and signature of the agreement by COCESNA.

2.10 In addition, the equipment to be installed at the COCESNA MEVA II node will be purchased once COCESNA signs the agreement with ICAO for MEVA II / REDDIG interconnection.

Results of the MEVA II / REDDIG interconnection works

2.11 The MEVA II Service Provider started MEVA II / REDDIG interconnection works at the Bogota REDDIG node on 8 February 2010; the work was interrupted due to the software release version at the Linkway 2100 modem versus the software release version used in the MEVA II network. Therefore, the modem had to be again taken to the MEVA II Service Provider laboratories for its re-configuration.

2.12 On 1 March 2010, installation works at Bogota and Caracas were started, which were completed on 17 March 2010.

2.13 As programmed in the agreement between ICAO and the MEVA II Service Provider (N° 22500187), a Viasat Linkway 2100 modem, two DVP2 E-1 cards for the FRAD MEMOTEC CX 950 equipment (1 for the MPS A and 1 for the MPS B), three two-port L-band dividers, and three L-band combiners, were installed in Bogota.

2.14 At the Caracas (Maiquetia) REDDIG node, a Viasat Linkway 2100 modem, 4 DAV cards for the FRAD MEMOTEC CX 950 equipment (2 for the MUX A and 2 for the MUX B), three two-port L-band dividers, thee two-port L-band combiners and two Datacom Standard 75 Watt C-band amplifiers, were installed.

2.15 The MEVA II Service Provider, installing the equipment at the Bogota and Caracas REDIG node, had previously installed the cards required in the FRAD Memotec equipment at each of the MEVA II nodes involved in the MEVA II / REDDIG interconnection (Aruba, Curacao, Jamaica, Miami, Panamá and San Juan). Also, REDDIG Administration had installed the respective cards in the FRAD MEMOTEC equipment at the Guayaquil REDDIG node.

2.16 The MEVA II Service Provider and the REDDIG Administration, uploaded the new software archives pertaining to the interconnection with the MEVA II network, at the FRAD Memotec CX 950 equipment and Viasat Linkway 2100 modem in the Bogota and Caracas nodes. In addition, it successfully carried out all satellite link trials with Intelsat IS-14.

2.17 **Appendix D** to this working paper presents a detailed installation plan prepared by the MEVA II Service Provider for the Bogota and Caracas REDDIG nodes.

2.18 At the time the interconnection works started at the Bogota and Caracas REDDIG nodes, some States involved in the interconnection could not complete the local work required for the interconnection. In this respect, in view of the AFTN systems modernization process at United States and Curacao, the local connections between the AFTN switching centres and the satellite node’s Memotec FRAD equipment, could not be completed.

2.19 The MEVA II Service Provider, in coordination with REDDIG Administration, once it had completed the installation of the equipment at the Bogota and Caracas REDDIG nodes, carried out the satellite link trials and uploaded the software necessary for MEVA II / REDDIG interconnection at the Bogota and Caracas REDDIG nodes, and started to try the voice and data circuits (AFTN) planned in the MEVA II / REDDIG interconnection (**Appendix E** to this working paper).

2.20 From the trials carried out after the installation work, the operation of all ATS speech circuits programmed in the MEVA II / REDDIG interconnection was verified.

2.21 With regard to the AFTN circuits foreseen in the MEVA II / REDDIG interconnection, same were initially programmed in the Memotec equipment, but were unable to be tested due to compatibility problems between the protocol used by the instrument equipment (fire bird 6000 test set) and the protocol configured in the Memotec equipment, in accordance to information contained in the on-site acceptance document prepared by the AGS installer.

2.22 In addition to the installation works for the interconnection of the Bogota and Caracas REDDIG nodes to MEVA II, the MEVA II Service Provider, as per the contract signed between ICAO and AGS, delivered a basic on-the-job training to the technical personnel in charge of REDDIG maintenance at the indicated sites.

MEVA II / REDDIG interconnection pending activities

2.23 To complete the MEVA II / REDDIG interconnection works, pending is the implementation of the REDDIG modem at the COCESNA MEVA II node, as well as of the respective combiners and dividers from the REDDIG Administration. The implementation work will be completed once COCESNA signs the agreement with ICAO. As a result of this implementation, the Guayaquil-CENAMER and CENAMER-Bogota ATS speech circuits will become operational.

2.24 Also, the MEVA II Service Provider must complete the pending AFTN circuit tests. In order that these AFTN service trials can be carried out from end-to-end, States who have yet to complete local connections (United States, Curacao, Panama and Venezuela), should do so as soon as practicable.

2.25 The MEVA II Service Provider, as indicated in the contract with ICAO, should deliver plans, diagrammes, dialling plans for the ATS speech circuits, and changes made in the configuration of the Memotec FRAD and Linkway modem equipment.

Focal points for the MEVA II / REDDIG interconnection

2.26 **Appendix F** to this working paper presents a list of focal points updated during the thirteenth REDDIG committee coordination meeting (RCC/13), held in Lima from 9 to 10 March 2010, as well as the twenty-first meeting of the MEVA II Technical Management Group (MEVA TMG/21) carried out from 19 to 20 May 2010. The Meeting should take note of this information to coordinate the pending interconnection works and, if the case, update the names of the people designated as focal points

3. **Action suggested**

3.1 The Meeting is invited to:

a) Take note of the information provided in this paper and its appendices;

b) Examine the updated action plan shown in Appendix A**;**

c) Urge COCESNA to review and sign the MEVA II / REDDIG interconnection agreement - RLA/09/901 project;

d) Urge states involved in MEVA III / REDDIG interconnection who have yet to implement local connections between their terminal equipment and the satellite station’s Memotec FRAD equipment, to do so soonest;

e) Urge the MEVA II Service Provider to complete the operational trials to the pending ATS speech circuits and AFTN;

f) That MEVA II and REDDIG member States involved in the MEVA II / REDDIG interconnection update the list of focal points in Appendix F; and

g) Suggest any other aspect related with MEVA II / REDDIG interconnection that might be considered necessary.

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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 / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
1	RFP Completion/Finalización del RFP	COCESNA	30 April 2007/ 30 Abril 2007	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 April 2007/ 30 Abril 2007	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 September 2007/ 28 Septiembre 2007	Completed / Finalizado
4	Completion of SLA / Finalización de SLA	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administración REDDIG	25 March 2009/ 25 Marzo 2009	Completed/Finalizado The contract between ICAO and MEVA II communications service provider for the implementation of MEVA II / REDDIG was signed on 25 March 2009. El 25 de marzo de 2009 se firma el contrato entre la OACI y el Proveedor de servicio de la MEVA II para la implantación de la interconexión MEVA II / REDDIG.

Legend / Leyenda:
MoU: Memorandum of Understanding / Memorando de Entendimiento
RFP: Request for Tecnical and Econmic Proposal / Solicitud de Propuestas Técnicas y Económicas
SLA: Service Level Agreement / Acuerdo de Nivel de Servicio

Item No.	Action / Acción		Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2		3	4	5
5	Review of RFP / Revisión de RFP		MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	29 June 2007/ 29 Junio 2007	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 September 2007/ 26 Septiembre 2007	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 October 2007/ 5 Octubre 2007	Completed / Finalizado The proposal was reviewed in the MR/5 meeting. La propuesta se revisó en la reunión MR/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 October 2007/ 15 Octubre 2007	Completed / Finalizado The ICAO Regional Offices sent to the States/Organization involved in the MEVA II 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 October 2007/ 30 Octubre 2007	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.

Item No.	Action / Acción	Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
9	Application of MoU reviewed / Aplicación del MoU revisado	MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	30 October 2007/ 30 Octubre 2007	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.
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 October 2007/ 30 Octubre 2007	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 October 2007/ 30 Octubre 2007	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 October 2007/ 30 Octubre 2007	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 November 2007/ 30 Noviembre 2007	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.

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Item No.	Action / Acción	Responsible / Responsible	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 March 2009/ 25 Marzo 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 firmó 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	November/Noviembre 2008	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.

Item No.	Action / Acción	Responsible / Responsible	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	March/Marzo 2009	Completed/Completado 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. 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.
17	Site survey for Bogota and Caracas / Inspección sitio para Bogotá y Caracas	MEVA II Service Provider / Proveedor MEVA II y	May/Mayo 2009	Completed/Completada 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.
18	Site Survey for Tegucigalpa Honduras	REDDIG Administration/ Administración REDDIG	June/Junio 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).

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Item No.	Action / Acción	Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
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 & COCESNA	July/Julio 2009	Completed / Completado
20	Delivery of purchased equipment at the required sites. / Entrega de equipamiento adquirido en los sitios requeridos	MEVA II Service Provider / Proveedor de Servicio MEVA II	July/Julio 2009	Completed/ Completado The equipment necessary for the MEVA II REDDIG interconnection in REDDIG nodes were acquired by ICAO, reviewed by MEVA II service provider and delivered to the REDDIG nodes involved in the MEVA II REDDIG interconnection. The equipment for MEVA II nodes involved in the interconnection except COCESNA were acquired and delivered by MEVA II service provider to the respective nodes. Los equipos para la interconexión MEVA II REDDIG en los nodos REDDIG fueron adquiridos por OACI, revisados por el proveedor de servicio de MEVA II y enviados a los nodos REDDIG involucrados en la interconexión MEVAII / REDDIG. Los equipos para los nodos MEVA II involucrados en la interconexión excepto COCESNA fueron adquiridos y entregados por el proveedor de servicio MEVA II a los respectivos nodos.
		REDDIG Administration / Administración REDDIG	May/Mayo 2010	The equipment for COCESNA MEVAII node was acquired and reviewed by REDDIG Administration. The equipments will be delivered to COCESNA MEVAII node once the ICAO and COCESNA signs the project for the interconnection of COCESNA MEVA II node with REDDIG. Los equipos para el nodo MEVAII de COCESNA fueron adquiridos y revisados por la administración de la REDDIG. Los equipos serán enviados al nodo MEVA II de COCESNA una vez que la OACI y COCESNA firmen el proyecto para la interconexión del nodo MEVAII de COCESNA con la REDDIG.

Item No.	Action / Acción	Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
21	Equipment installation / Instalación equipamiento	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	March/Marzo 2010	Partially completed/Parcialmente completada MEVAII service provider completed the equipments installation for MEVA II / REDDIG interconnection in the REDDIG nodes of Bogota and Caracas the 15 March 2010. El proveedor de servicio MEVA II completó la instalación de los equipos para la interconexión MEVA II / REDDIG en los nodos REDDIG de Bogotá y Caracas el 15 de marzo del 2010.
			June/Junio 2010	The equipments installation in COCESNA MEVA II network will be implemented once the ICAO COCESNA project for MEVA II REDDIG interconnection will be signed. La instalación de los equipos en el nodo MEVA II de COCESNA se hará una vez que se firme el proyecto entre la OACI y COCENA para la interconexión.
22	Satellite line-up, configuration of site equipment and NCC for the interconnection/ Line-up satelital, configuración equipamiento en sitio y NCC para inertconexión	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	March/Marzo 2010	Partially completed/Parcialmente cumplida MEVAII Service Provider complete the satellite line-up,, the configuration of site equipment and of the NCC for MEVA II REDDIG interconnection in Bogotá and Caracas REDDIG nodes El proveedor de servicio MEVA II completó la alineación del enlace satelital, la configuración del equipamiento en el sitio y del NCC para la interconexión MEVA II REDDIG en los nodos de Bogotá y Caracas.

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Item No.	Action / Acción	Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
			June/Junio 2010	The REDDIG Administration will complete the satellite line-up, the configuration of site equipment and of the NCC for MEVA II REDDIG interconnection in the MEVA II node of COCESNA once ICAO and COCESNA sign the established project at this respect. La Administración de la REDDIG completará la alineación del enlace satelital, la configuración del equipamiento en el sitio y del NCC para la interconexión MEVA II REDDIG en el nodo MEVA II de COCESNA una vez que la OACI y COCESNA firmen el proyecto establecido a este respecto.
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	May/Mayo 2010	Partially implemented/Parcialmente implantado The MEVA II Service provider implemented the end to end trials for voice circuit, but are pending all the trials for end to end AFTN circuits. El proveedor de servicio MEVA II implantó las pruebas extremo a extremo de los circuitos de voz pero están pendientes todas las pruebas extremo-extremo de los circuitos AFTN.
			June /Junio 2010	The REDDIG Administration will implement the end to end voice circuits once the ICAO and COCESNA sign the project for the interconnection of MEVA II REDDIG in the COCESNA MEVA II node. La Administración de la REDDIG implantará las pruebas de los circuitos de voz extremo a extremo una vez que la OACI y COCESNA firmen el proyecto para la interconexión MEVA II REDDIG en el nodo MEVAII de COCESNA**.**

Item No.	Action / Acción	Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
24	System Performance Evaluation / Evaluación de la performance del sistema	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	May/Mayo 2010	Not completed /No completado The MEVA II Service provider will evaluate the system performance according to the MEVA II REDDIG aspects included in the contract between ICAO and MEVA Service Provider. (Project N° 22500187). El proveedor de servicio MEVA II evaluará la performance del sistema de acuerdo a lo indicado en el contrato firmado entre la OACI y el Proveedor de Servicio MEVA II (Proyecto N° 22500187).
			June/Junio 2010	The REDDIG Administration will evaluate the system performance once ICAO and COCESNA sign the Project for MEVA II/ REDDIG interconnection and implement the interconnection in COCESNA MEVA II node. (RLA/09/901). La Administración de la REDDIG evaluará la performance del sistema una vez que la OACI y COCESNA firmen el Proyecto para la interconexión MEVA II / REDDIG e implementen la interconexión en el nodo MEVA II de COCESNA (Proyecto RLA/09/901).
25	Service acceptance / Aceptación de los servicios /	MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	June /Junio 2010	No completado/No completed Acceptance of new services specified in the Project N° 22500187. Aceptación de los nuevos servicios especificados en el Proyecto N° 22500187.
			July/Julio 2010	Acceptance of new services specified in the Project RLA/09/901. Aceptación de nuevos servicios especificados en el proyecto RLA/0/901.

Legend / Leyenda:
MoU: Memorandum of Understanding / Memorando de Entendimiento
RFP: Request for Tecnical and Econmic Proposal / Solicitud de Propuestas Técnicas y Económicas
SLA: Service Level Agreement / Acuerdo de Nivel de Servicio

Item No.	Action / Acción	Responsible / Responsible	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
26	MEVA II / REDDIG Interconnection Implementation / Implantación de la interconexión MEVA II / REDDIG	MEVA II / REDDIG Member Administrations, MEVA II Service Provider and REDDIG Administrator / Administraciones miembros de las redes MEVA II y REDDIG, Proveedor Servicio MEVA II y Administración REDDIG	July Julio 2010	Not completed /No completado It is foreseen that the entire implementation of MEVA II REDDIG interconnection will be in July 2010. Se tiene prevista la completa implantación de la interconexión MEVA II REDDIG en Julio del 2010.

- - - - - - -

APENDICE B / APPENDIX B

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

LOCALIDAD / LOCATION	EQUIPO ADICIONAL/PARTES REQUERIDAS / ADDITIONAL EQUIPMENT/PARTS NEEDED	CANTIDAD / QUANTITY
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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APPENDIX C

INTERNATIONAL CIVIL AVIATION ORGANIZATION

INTERCONNECTION OF THE COCESNA MEVA II NODE TO REDDIG

IMPLEMENTATION PROGRAMME

REV. 2

April 2010

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Page

INTERCONNECTION OF THE COCESNA MEVA II NODE TO REDDIG

IMPLEMENTATION PROGRAMME

1. Executive summary

1.1 On the basis of communications requirements of the COCESNA node for the interconnection of the MEVA II / REDDIG nodes and on the technical specifications indicated in the proposal, the integral solution consists in the provision, installation and test of the equipment described in 2.3.1, as well as the operation of the COCESNA node in REDDIG, hereon COCESNA/REDDIG node, with the highest service availability, reliability and quality standards to pass through the network.

1.2 The solution presented takes into consideration the maximum use of the equipment currently available at the COCESNA/MEVA II node to optimize investment costs. An additional Linkway 2110 modem will be used with the current RF chain, decision which is backed by the link budget analyses carried out to this effect. In addition, the slots available in the current FRAD equipment to install additional carts to support the COCESNA/REDDIG node communications channels.

1.3 In addition to the two ATS exclusive voice channels, an on-net administrative voice channel will be configured for the carrying out of tasks and maintenance coordinations, with the consequent savings in international long distance calls.

1.4 The installation of the equipment in the node will be carried out in coordination with COCESNA and AGS, with the aim of reducing to a minimum the communications services interruption lapse in the node. The satellite line up tests and the start up of the COCESNA/REDDIG node will be carried out under the coordination and supervision of the REDDIG Centre of Operations.

1.5 The COCESNA/REDDIG node will have the technical facilities as REDDIG has, such as 24X365 technical support from the Manaus, Brazil, Centre of Operations, the network's master reference terminal geographical redundancy, the local redundancy of both Manaus, Brazil, and Ezeiza, Argentina, NCCs and, in the event required, the activation of the alternate Centre of Operations in Ezeiza.

2. References for the implementation

2.1 RLA/09/901 project

2.1.1 Services Management Agreement subscribed between the Corporación Centroamericana de Servicios de Navegación Aérea (COCESNA) and ICAO.

2.2 Technical specifications

2.2.1 On the basis of the communications requirements of the COCESNA node for the interconnection of the MEVA II / REDDIG Networks, the solution consists in the equipment provision, installation and tests, as well as the operation of the COCESNA MEVA II node in REDDIG, with the highest service availability, reliability and quality standards to pass through the network.

2.2.2 The technical solution is to maximize the use of the equipment currently installed in the COCESNA node, with the additional equipment necessary for the node to operate in REDDIG. The Memotec cards, one V.35H and two DAV with three FXS interfaces will be provided and installed in the COCESNA CX960e equipment, upon request.

2.2.3 In addition to the configuration of the two exclusive ATS voice channels, an on-net administrative voice channel will also be configured, for the carrying out of tasks and maintenance coordination.

2.2.4 The installation of the equipment in the node will be made in coordination with COCESNA and the MEVA II Service Provider, with the aim of reducing to a minimum the communications services interruption time in the node. The satellite line-up tests and the start-up of the COCESNA/REDDIG node will be carried out under the coordination and supervision of the REDDIG Centre of Operations.

2.2.5 The COCESNA/REDDIG node will have available the technical facilities that the REDDIG counts with, such as 24x365 technical support from the Manaus, Brazil, Centre of Operations, the network's master reference terminal geographical redundancy, the local redundancy of the NCCS in both Manaus, Brazil, and Ezeiza, Argentina, and in the event required, the activation of the alternate Centre of Operations in Ezeiza.

2.2.6 The Communications requirements of the COCESNA node are:

ATS speech channel at the Bogota, Colombia, control centre; and
ATS speech channel at the Guayaquil, Ecuador control centre.

2.2.7 The performance expected is to count with all-round free and available channels with a 0.05 (5%) call loss probability at the COCENSA/REDDIG node speech channel traffic flow.

2.3 **Services to be provided**

2.3.1 The COCESNA/REDDIG node implementation programme will comprise the carrying out of related services until the activation of the COCESNA/REDDIG node, then automatically and transparently passing over to the Operation Service.

Equipment to be provided:

One Linkway 2100 modem with AC feeding source
One serial ground interface with frame relay protocol
One V.35 cable
Two band L combiners/dividers
One coaxial cable lot, connectors and adaptors

2.3.2 The installation of the equipment will be carried out under the implementation programme, in coordination with COCESNA and the MEVA II service provider, with the aim of reducing to a maximum the interruption of services.

2.3.3 Satellite access and line up tests will be made to the Linkway 2100 modem, together with the current RF chain, with the aim of obtaining the nominal potential of the satellite downlink that REDDIG has contracted.

2.3.4 The administration of REDDIG will provide the COCESNA/REDDIG node, under the 24H x 365D modality, the following services and facilities during the whole period of the contract. It is important to mention that the services and facilities which the COCESNA/REDDIG will count with are the same that all States member of REDDIG receive.

2.3.5 **Configuration**

a) Configuration of the COCESNA/REDDIG node on the basis of the REDDIG NCC data base.
b) Configuration of the CX-960e Memotec equipment with the functions required for the interconnection.
c) Configuration of the CX-950 Memotec equipment with the Guayaquil, Bogotá, Manaus and Ezeiza nodes with the functions required for the interconnection, as well as administrative/maintenance purposes.
d) End to end tests and activation of the COCESNA/REDDIG node.

2.3.6 Operational support: The REDDIG administration has a Centre of Operations in Manaus, Brazil, that provides operational maintenance support to the REDDIG nodes, under a 24H x 365D modality. This support includes, among other main activities, to preventively report the nodes of any anomaly detected by the NCC, to receive calls from the nodes, to carry out troubleshooting procedures, to carry out operational tests, to make necessary coordinations and tests with the counterpart nodes with the objective of keeping operational the node requiring support.

3. **Coordination**

3.1 The REDDIG administration will coordinate all aspects necessary with the COCESNA and AGS Service Provider representatives for the carrying out of the present implementation programme.

3.2 To obtain this objective, the focal points will be the following:

a) **ICAO –SAM Regional Office**

Focal Point:	Onofrio Smarrelli
	CNS Regional Officer – SAM
Place:	Lima, Peru
Telephone:	51 1 611-8686
E-mail:	osmarreli@lima.icao.int

REDDIG Administration – ADM

Focal Point:	Luis Alejos
	REDDIG Administrator – SAM
Place:	Manaus, Brazil
Telephone:	+55 92 3652-5714
E-mail:	lat@lima.icao.int

b) **COCESNA**

Focal Point:
Place:
Telephone:
E-mail:

c) **AGS**

Focal Point:
Place:
Telephone:
E-mail:

4. **Activities for the activation of the COCESNA node for REDDIG**

1. Purchasing of equipment and parts
   Responsible: ICAO
   Status of activity: Completed

2. On site inspection
   Start: 29 April 2010
   Duration: 2 days
   Responsible: ADM

3. Remittance of equipment and parts to COCESNA node
   Start: 26 April 2010
   Duration: 20 days
   Responsible: ICAO

4. Satellite configuration of COCENSA node at REDDIG NCC
   Start: 20 May 2010
   Duration: 5 days
   Responsible: ADM

5. Configuration of COCESNA CX960e Memotec equipment
   Previous action:
   a) Deliver ICAO ADM the archive (.cxt) with the latest configuration of the CX-960e equipment
   b) Install 2 DAV+1V.35H with CX960e equipment
   Target date: 14 May 2010
   Responsible: AGS, COCESNA
   Start: 20 May 2010
   Duration: 5 days
   Responsible: ADM

6. Configuration of Memotec equipment at SEGU, Guayaquil-Ecuador
   Previous action: Install 1 DVP2 in each equipment
   Target date: 14 May 2010
   Responsible: ADM
   Start: 20 May 2010
   Duration: 5 days
   Responsible: ADM

7. Configuration of Memotec equipment at SKED, Bogotá-Colombia
   Previous action: Deliver ICAO ADM the archive (.cxt) with the latest SKED configuration, including the circuits with MEVA II
   Target date: 14 May 2010
   Responsible: AGS
   Start: 20 May 2010
   Duration: 5 days
   Responsible: ADM

8. Configuration of Memotec equipment at SAEZ and SBMN
   Start: 20 May 2010
   Duration: 5 days
   Responsible: ADM

9. Installation of the Linkway2100 at COCESNA node
   Previous action: Linkway2100 equipment available at site of installation
   Target date: 21 May 2010
   Responsible: COCESNA
   Start: 28 May 2010
   Duration: 1 day
   Responsible: ADM, AGS, COCESNA

10. Satellite line up of Linkway 2100 at COCESNA node
    Start: 28 May 2010
    Duration: 1 day
    Responsible: ADM, AGS

11. End to end tests and activation of COCESNA node with REDDIG
    Start: 28 May 2010
    Duration: 2 days
    Responsible: ADM

12. Communications evaluation
    Start: 28 May 2010
    Duration: 2 days
    Responsible: ADM, COCESNA

13. Service acceptance
    Start: 31 May 2010
    Duration: 1 day
    Responsible: COCESNA

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AMERICOM GOVERNMENT SERVICES

MEVA II/REDDIG INTERCONNECTION
Installation Plan

DOCUMENT # MVR-PLN-INT-001-U

AGS

Document Administration

ORIGINATOR	QUALITY ASSURANCE
Matthew Toney	David Benning
PROGRAM MANAGER	DATE RELEASED
Matthew Toney	3/01/10
ADDRESS	DOCUMENT #
1101 Opal Court Suite 215 Hagerstown MD 21740	MVR-PLN-INT-001-U
CAGE	REVISION #
IWYJ6	0

Document Revision History

REVISION NUMBER	DATE	REVISION DESCRIPTION
0	3/01/10	Final

Table of Contents

1.0 Purpose

The Site Installation Procedures outline the action plan regarding the installation activities for the interconnection between both REDDIG and MEVA II at Bogotá and Caracas sites.

2.0 Plan Structure

The Installation Plan is organized in the following format:

- Installation Procedures
- Network Diagrams
- Memotec Software
- Linkway 2100 Software
- Linkway 2100 Basic Commands

3.0 Installation Procedures

The following procedures are designed to prove that the delivery of the Interconnection content meets or exceeds performance criteria and is acceptable to the customer.

3.1 Bogotá and Caracas Installation Plan

Installation Description

Test Name	Purpose
Bogotá and Caracas Installation Plan	Installation Outline for both sites
Success Criteria	Date Performed
Successful installation	
Program Name	Location
MEVA II/REDDIG INTERCONNECTION	Bogotá Colombia and Caracas, Venezuela

Installation Coordination

Name	Role	Phone #	Notes

Installation Tools / Equipment

Item Description	QTY	Model #	Notes
Spectrum Analyzer	1		
Laptop Computer	1		
Fireberd 6000	1		
Miscellaneous hand tools			

Installation Prerequisites

Description
Coordination between AGS, Bogotá and Caracas

Installation Site Equipment

Location	Additional Equipment/parts Needed	Quantity
Caracas/Venezuela	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
Bogotá/Colombia	ViaSat, Linkway 2100 with 1 frame-relay card and V.35 cable	1
	Memotec DVP2 E-1 Daughter Card (1 for MPS A, 1 for MPS B)	2
	2-port L-band Splitter (1 port with DC block)	3
	2-port L-band Combiner	3

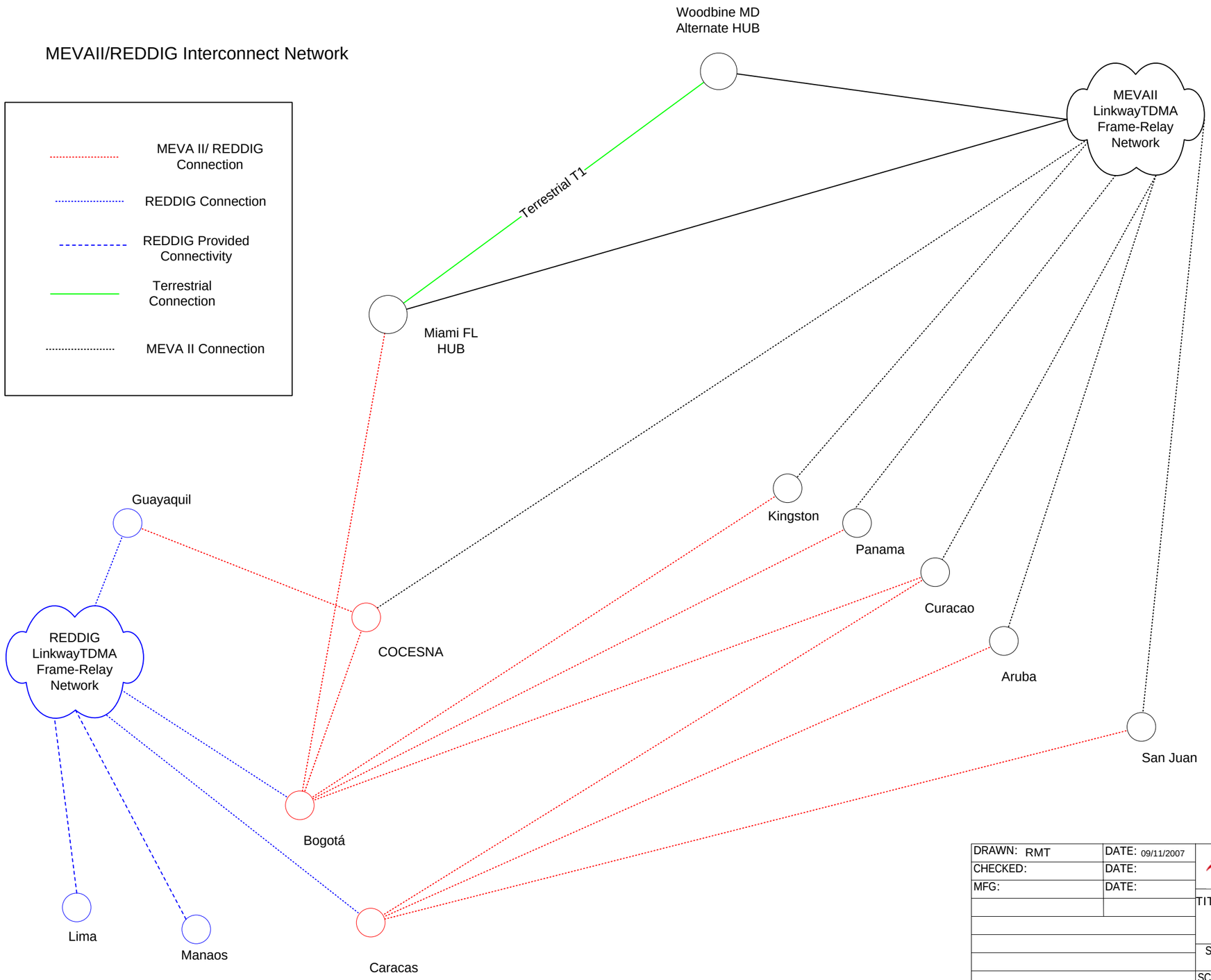
Installation Procedure

	Procedure
1.0	2 March 2010. Bogotá. Install Linkway 2100 and establish satellite link to MEVA II network.
2.0	Coordinate and load new Memotec configuration file as per Software Download (Serial) Procedure.
3.0	Conduct circuit testing as per SAT plan, and coordination with site personnel.
4.0	3 March Conduct basic overview training with site personnel.
5.0	Travel to Caracas 4 March.
6.0	Coordinate down time 5 March to install new SSPA's, splitters, and combiners.
7.0	Install additional Memotec cards into the chassis (primary and backup).
8.0	Coordinate and load new Memotec configuration file as per Software Download (Serial) Procedure.
9.0	Load 6.2 terminal software in Caracas Linkway 2100 using LW 2100 Software Upgrade Procedure
10.0	Load new boot files in Linkway 2100 as per boot file procedure
11.0	Establish satellite link into the MEVA II network.
12.0	Conduct circuit testing as per the test and acceptance plan, and coordination with site personnel (use Saturday 6 March if needed).
13.0	8 March Conduct basic overview training with site personnel.

3.2 Installation Diagrams

3.2.1 MEVAII/REDDIG Interconnect Network

MEVAII/REDDIG Interconnect Network

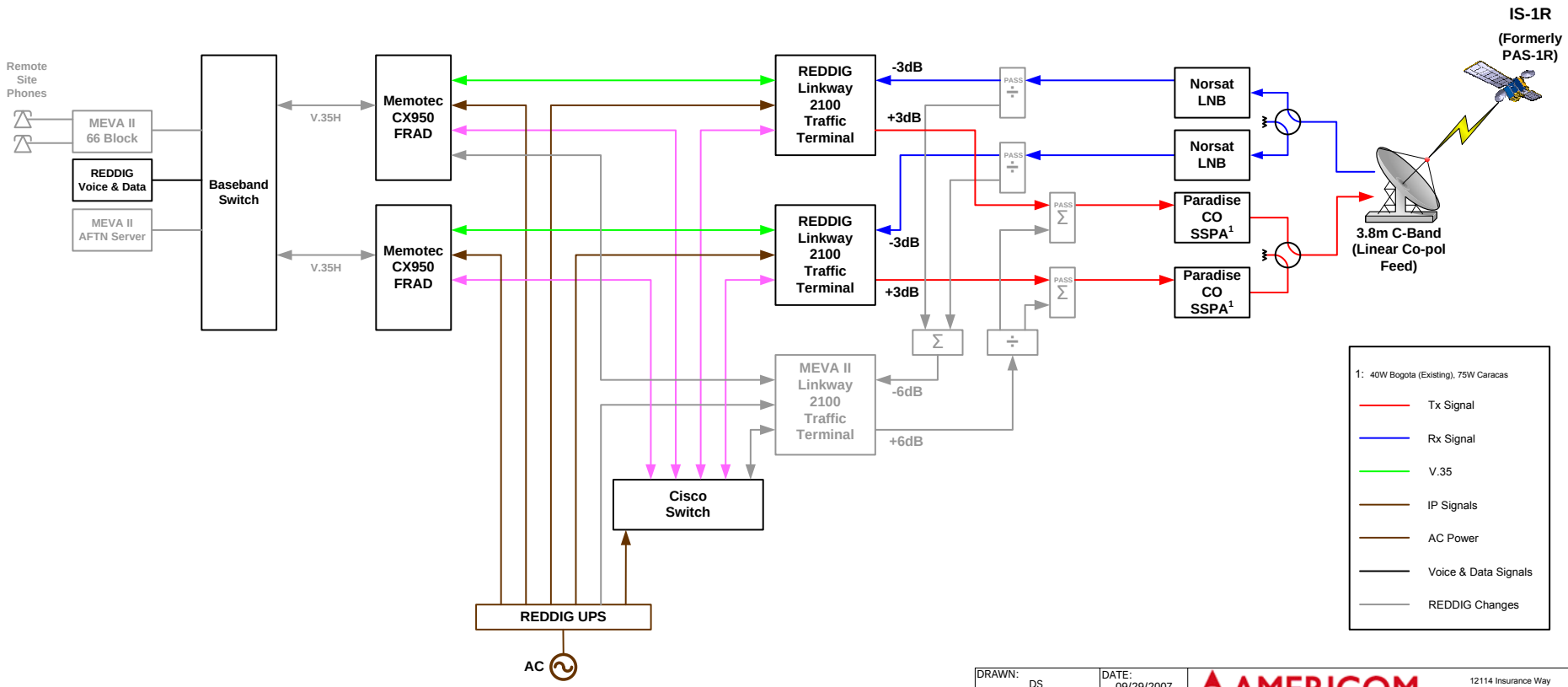


DRAWN: RMT	DATE: 09/11/2007	AMERICOM GOVERNMENT SERVICES	12114 Insurance Way Hagerstown, MD 21740 (301) 797-5001 www.americom-gs.com
CHECKED:	DATE:	TITLE	MEVAII/REDDIG INTERCONNECT NETWORK
MFG:	DATE:	SIZE B / CAGE CODE 1WJY6 / DWG NO / REV 2	
		SCALE	SHEET 1 OF 1

3.2.2 MEVA II Node at REDDIG Site

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	Revised By
1	B	Added Combiners & Dividers	09/29/07	EFM
1	C	Removed One MEVA II LinkWay	10/15/07	EFM

Block Diagram
MEVA II Node at REDDIG Site



DRAWN: DS	DATE: 09/29/2007	AMERICOM GOVERNMENT SERVICES	12114 Insurance Way, Hagerstown, MD 21740, (301) 797-5093, www.americom-gs.com
CHECKED:	DATE:		
MFG:	DATE:		
		TITLE: Block Diagram Remote MEVA II/REDDIG	
		SIZE: B / CAGE CODE: 1WJY6 / DWG NO: / REV: C	
		SCALE: / SHEET 1 OF 1	

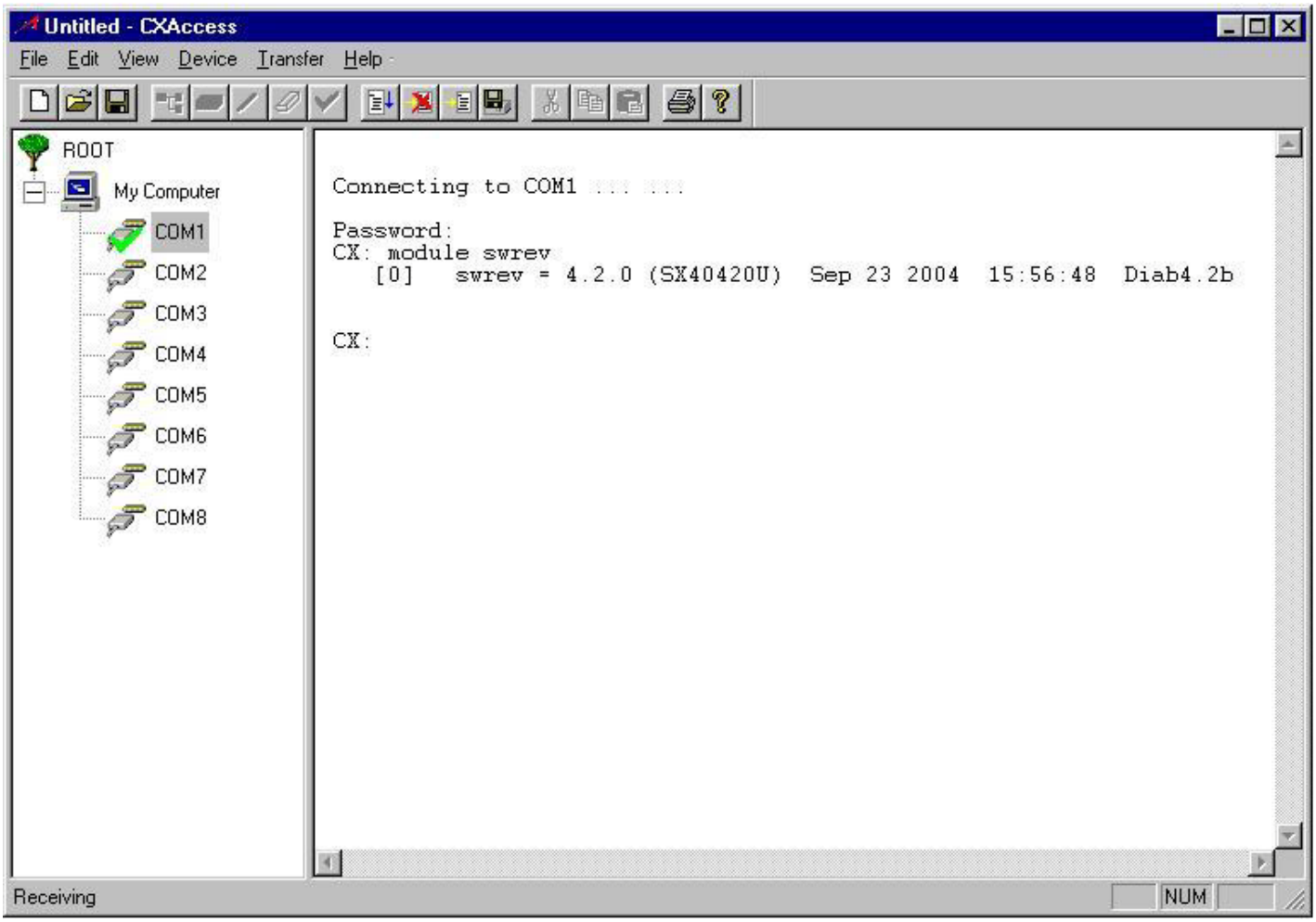
4.0 Memotec Software Download Serial

4.1 Downloading Software to CX Device via Serial Console

This procedure is used when IP access is not available. It is also necessary in cases where the unit's software is corrupted resulting in a non-functioning or rebooting unit. NOTE however, that a constantly rebooting unit may be rebooting due to a configuration that is not compatible with the software loaded. Review the boot messages to determine if the unit is not successfully booting its software OR if it boots the software, but then reboots as soon after the application starts running and the configuration implemented. If booting the SW and then failing due to configuration, then you should attempt to remove the configuration.

4.2 Connecting your PC to the CX device

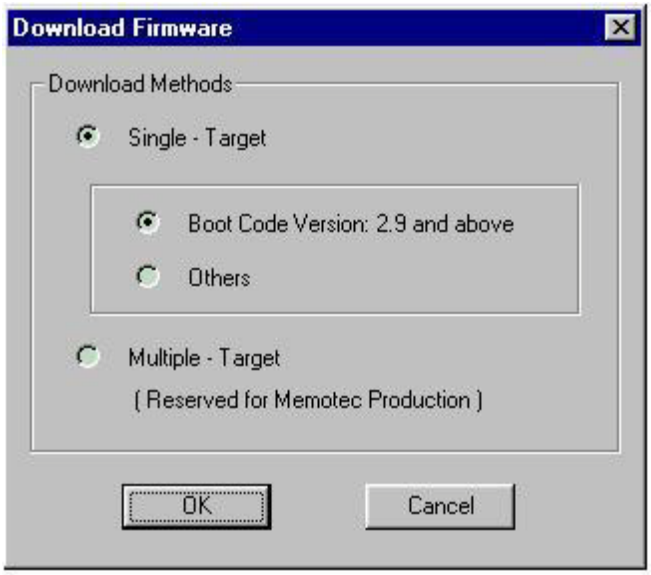
- Connect the COM port of the PC to the console port
  - using the RJ12 to DB-9 cable supplied with CX Legacy units
  - Using RJ45 to DB-9 cable supplied with CXU units (Cisco console equivalent)
- From the menu tree, double click 'My Computer' to view the COM ports.
- Double Click on the appropriate COM port to establish the connection.
- Enter the password when prompted. The default password is "supervisor".
- If the CPU has failed due to incorrect or corrupt software proceed to Downloading the Application Software.



4.3 Downloading the Application Software

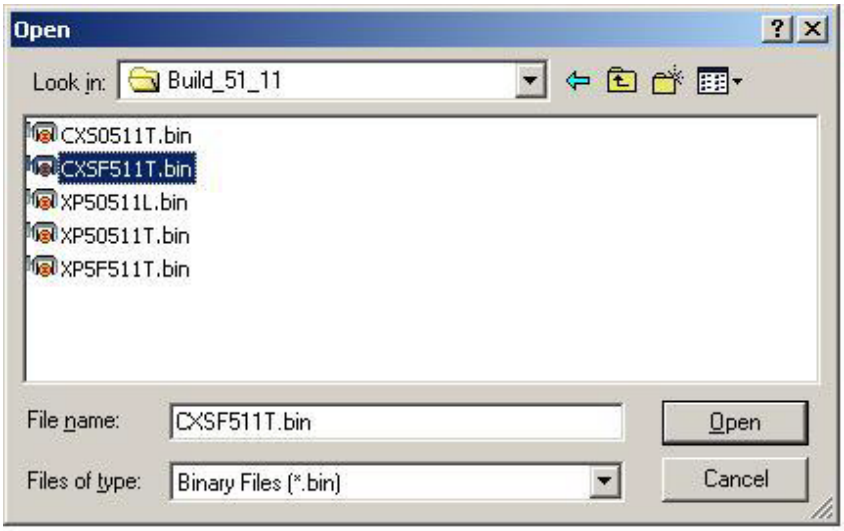
From the CXAccess Menu, select, 'Transfer' and 'Download firmware'.

The following dialog box will be displayed:



Select the 2.9 boot code version.

The following dialog box will be displayed:



Select the software file to be downloaded.

Note: In order for the software download to be successful the software file selected must match the target product.

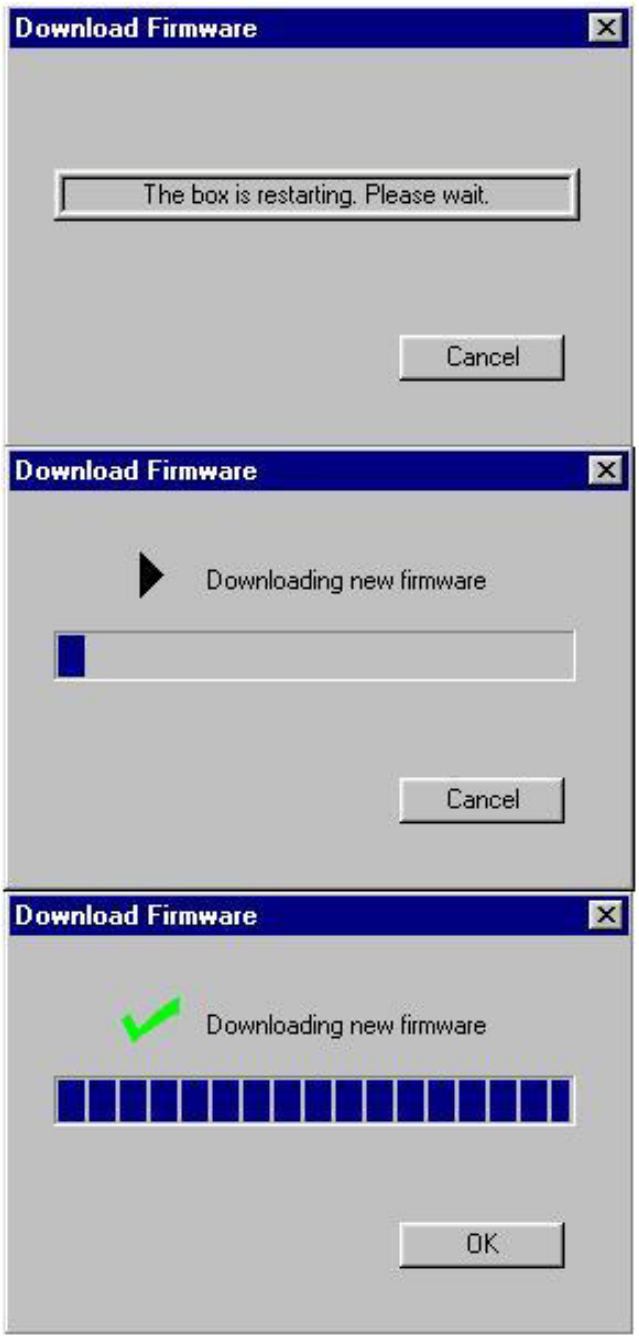
CXS…….. - For CX900s Units
XP5…….. - For CX950e, CX960e, CX2000 etc…
CXU…….. - For CXU units

Select [Open].

The following dialog box will be displayed:

Select the download speed. 115200 bps is preferred. The COM port speed setting will automatically be modified for you by the system.

If **Boot Code Version: 2.9 and above** has been selected the following three dialog boxes will appear to indicate the download progress:
Note: If the CPU has failed due to incorrect or corrupt software and the target CX is not constantly rebooting itself, then you will need to manually reset at this time. If the CPU is operating ok, it should reboot itself.



Note: **For Boot Code Version: 2.9 and above** the following messages must appear in the CXAccess terminal emulation window before clicking [OK] from the download progress dialog box.

```
File transfer successful with a valid checksum.

Please wait before clicking on OK.

                        00%    25%    50%    75%    100%

Erasing flash           ................................
Writing application     ................................
Verifying integrity     ................................

Click OK to terminate.

Baud rate will be changed to 9.6kbps
```

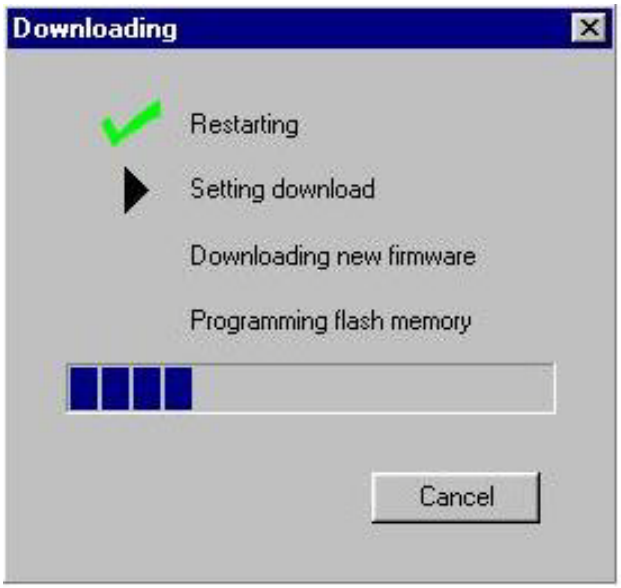
IMPORTANT !!!!!!

IF YOU CLICK OK before these messages have been displayed, you will interrupt the units processing of the new file and you will have to start over.

After viewing the above messages select [OK] and wait for the system to restart.

This may take an additional few minutes for the unit to respond.

If **Others** has been selected the following dialog box will appear:



Note: If the CPU has failed due to incorrect or corrupt software the target CX and is not constantly rebooting itself, then you will need to manually reset at this time.

4.4 Verifying the Application Software

After the system restarts, login to the CX at the password: prompt and verify the software version with the following command:

module swrev

The following message will appear if the incorrect product software has been installed.

If this happens, the software download process will need to be repeated using the correct product software.

```
Copyright (c) 1999-2007 by Memotec Inc. All Rights Reserved
This software is proprietary and confidential to Memotec.
Any reproduction, disclosure or unauthorized use of this
software is expressly prohibited, except as Memotec may
otherwise authorize in writing.
This software is not supported on this product.
Please contact your Memotec reseller.
```

5.0 Linkway 2100 Software Upgrade Procedure

5.1 Items Needed

1. Laptop and administrator password
2. LW2100 Modem
3. LW2100 console cable
4. 4-port Ethernet Hub (a switch will _not_ work)
5. Cat 5 straight through cables, QTY=2
6. “lwaywinrelease 62.zip” file

5.2 Procedure

a. Power on the 4-port Ethernet Hub
b. Connect a cat5 cable from the PC to the Hub
c. Connect a cat5 cable from the modem to the Hub
d. On the laptop, go to start|run|cmd
e. On the command prompt, type c:\ hit [Enter]
f. Type mkdir hit [Enter]
g. Type mkdir lway62
h. Type cd lway62
i. Unzip all the files in the zip file in item 6 to the directory c:\lway62\
j. Obtain the Ethernet [MAC] address of the LW2100 modem from the back (example: *MAC_Address*=00.A0.94.04.43.5C)
k. Type the command below
   (i) lway21load –L0 –a –f lway21-1.6.altera.isz *MAC_Address*
   (ii) lway21load –L0 –t –f lway21-6.2.fap.term.cmz *MAC_Address*

l. open up a hyperterm connection from the laptop.
m. Issue the command hwrest from the hyperterm console.

6.0 Linkway 2100 - Basic Commands

Log-in to Linkway:	**Start HyperTerminal (9600-N-8-1-F/C None)**
	Hit Enter a few times – returns "Logged In As Guest"
	Type: "Login" and hit Enter – returns "Password:"
	Type in password and hit Enter – returns "Logged In As Root"
cacmodeminfo:	**Shows state of ODU / LNB dc / LNB 10 mhz ref / TX-RX Spectral Inversion**
caclnb on / off:	**Turns LNB 20 vdc ON or OFF**
caclnbr on / off:	**Turns LNB 10 mhz reference ON or OFF**
hwreset / hw:	**Reboots the Linkway**
rx:	**Displays RXATTN setting, Reference Burst raw BER and Receive Statistics**
tx:	**Displays Transmit Statistics**
tc:	**Displays Terminal Configuration**
show_ber:	**Displays Bits / Bit Errors / BER of Reference Burst and Traffic Bursts**
rb:	**Displays RX High Level Burst Statistics**
rbtp:	**Displays RX Burst Time Plan**
tb:	**Displays TX Burst Statistics**
dbpr SiteConf:	**Displays site details as configured on NMS**
CW Carrier:	**type: hw**
	type: cw -freq {L-Band frequency in Hz (10 digits)} -pow {power in dB (-)}
	type: hw to clear and reboot
	(with cw carrier already on)
	(change frequency - - type: cw -freq {L-Band frequency in Hz}
	(change power - - type: cw -pow {power in dB (-)}

Load Boot Files:

Pull down *Transfer* menu and select *Send Text File*

In the *Send Text File* window select the drive/folder from the *Look-in* drop-down menu

In the *File Type* select *txt*

Select the boot file that corresponds to the terminal and click *Open* – this downloads the boot file to the terminal.

The download is complete when a checksum line appears on the screen.

Compared the "echo expected checksum" with the checksum that appears at the bottom of the boot file window. If they are exactly the same, the download was successful. If not repeat download.

When finished, issue "hw" to reboot the terminal.

APPENDIX E/APENDICE E

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. Panamá tiene dos terminales de la central de conmutación de circuitos orales ATS Harris 2020 instalada en Bogotá 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. 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.
	Bogota (Colombia) / Panama	1 ATS voice – A	
	Cali (Colombia)/ Panama	1 ATS voice – A	
	Medellin(Colombia) / Panama	1 ATS voice – A	
	San Andrés (Colombia)/ Panama	1 ATS voice – D	
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 Manaos via TELESAT (Red VSAT Brasil) Manaos Bogotá via REDDIG/ Connection Brasilia Manaos through TELESAT (Brazilian VSAT network) Manaos 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.

** 9.6 Kbps AFTN circuit / Circuito AFTN 9.6 Kbps

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

APÉNDICE F/APPENDIX F

PUNTOS FOCALES PARA COORDINAR LA IMPLANTACIÓN DEL PLAN DE ACCIÓN PARA LA INTERCONEXIÓN MEVA II/REDDIG

FOCAL POINTS FOR COORDINATING THE IMPLEMENTATION OF THE ACTION PLAN FOR MEVA II/REDDIG INTERCONNECTION

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