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PARTICIPANTS' REPORTS-12

**ICTP - URSI - ITU/BDT WORKSHOP ON THE USE OF
RADIO FOR DIGITAL COMMUNICATIONS IN
DEVELOPING COUNTRIES**

(17 - 28 February, 1997)

**"Wireless and Digital Communications Oriented to
Computer Networking in Cuba"**

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REVIEW

Presentation: My name is Clara Lourdes Rodríguez Contreras. I'm Cuban. I'm a junior research in Telematics area and I work at Research and Development Center for Telematics, that is a branch of Institute for Cybernetics Mathematics and Physics of Cuba.

In this brief review I want to explain to you not only the experiences in wireless and digital communication oriented to computer networking, in my institution, but also you will obtain a vision of the experiences in that branches in Cuba.

In my country The Radio Amateur Association had installed five machines, that basically run with FBBB 5.15c and JNOS. They are located in Havana, Santa Clara and Santiago de Cuba. The services that they offer are: e-mail, BBS and file servers.

The following table show locations, denominations, links and speed of them.

Machine (denomination)	Location	Links	Speed (bps)	Software
CO2BQQ	ISPJAE. (Havana)	Wisconsin, DF Mexico.	300 → SW 1200 → VHF	FBBB & JNOS
CO2BSS	Tinored. (Havana)	ISPJAE, Amador House.	1200 → VHF	JNOS.
CO8RCI	ISPJAM. (Santiago de Cuba)	South America.	300 → SW 1200 → VHF	FBBB & JNOS
CO6BAB	Joven Club (Santa Clara)	Tinored.	1200 → VHF	FBBB & JNOS
CO2JA	Amador's house.	Dominican Republic, Masachuset.	300 → SW 1200 → VHF.	FBBB & JNOS

JNOS permits communications between local network using TCP/IP and FBBB is very useful for the communication by radio, add z-modem protocol and offer re-initialization of the link when it is interrupt.

Like you see the speed of the links is low due to the equipment installed and physical limitations in Cuba.

The machines are running DOS, but it are migrating to Linux in a progressive way. These equipment had been donated by foreign institutions.

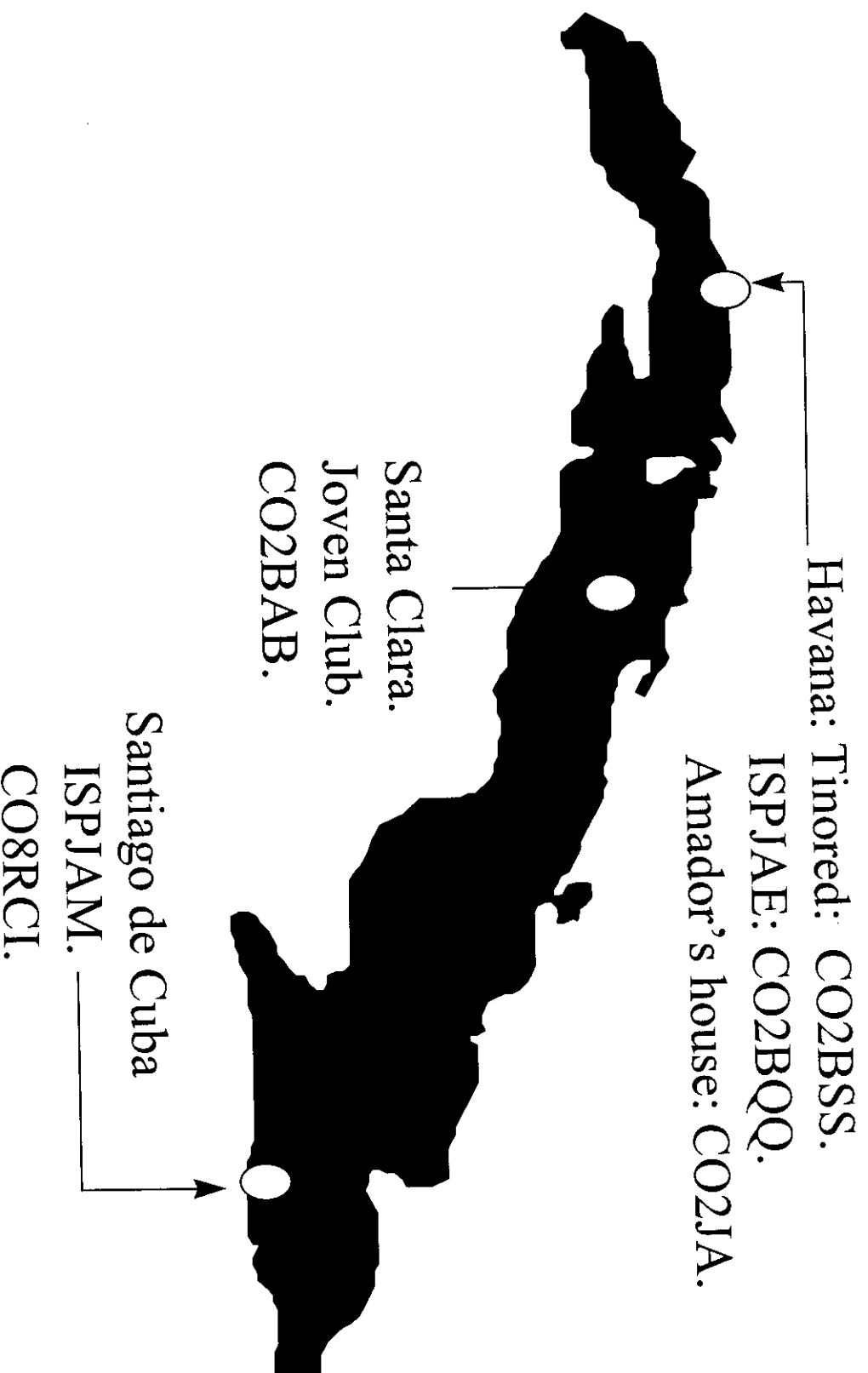
The person that mounted and made work all this machines was Ing. José Amador Fundora, and have the follows e-mail addresses:

co2ja@tinored.cu
radioaf@infomed.sld.cu
amador@te.ispjae.edu.cu
co2ja@co2bqq.ispjae.edu.cu

At present the national digital microwave channel (SDH) with ALCATEL technology is being installed and is expecting that it will be functioning by the end of the year. When it begin to work, will guarantee the interconnection of the machines mentioned above, but this digital radio channel will contribute, in general, to the improvement of the communication. Also we are installing optic fibre in Havana and Varadero, but cover the hole country is going to delay a few years. All this will contribute to the development of Telecommunications in general.

At Research and Development Center for Telematics, we do the operation, maintenance and management of an X.25 network called RENACYT. That provide services to the academic, health sectors as well as other scientific centers. Also we offer courses and training in Telematics area.

Now we are studying the possibility of provide an additional link to the national INTERNET provider, CENIAL, using wireless communication. That decision is base on the Telecommunication infrastructure, which isn't good, and wireless link going to help us to improve the quality of services that we offer. We think that wireless link play an important role to data transmission, however the experiences in Cuba isn't much.



Location of the Radio Amateur Association machines.

Machines (denomination)	Location	Links	Speed (bps)	Software
CO2BQQ	ISPJAE. (Havana)	Wisconsin, DF Mexico.	300 → SW 1200 → VHF	FBBB & JNOS
CO2BSS	Tinored. (Havana)	ISPJAE Amador's house.	1200 → VHF	JNOS.
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CO6BAB	Joven Club (Santa Clara)	Tinored.	1200 → VHF	FBBB & JNOS
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Machines of the Radio Amateur Association of Cuba.

