

Guía Visual de Iniciación Rápida



SIMON BROWN - HB9DRV
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EA4EWH





• Simon Brown
HB9DRV, GD4ELI

HB9DRV



JN46pt

フリーソフトを
使いこなそう
[CD-ROM付]



トランシーバ&レシーバをPCで制御

無線機コントロール・ソフト Ham Radio Deluxe

大庭 信之 ● 著



CQ出版社

VENTAJAS DE HRD

- ¡Instalarlo es fácil, simplemente descárgalo, lo instalas y lo arrancas!
- Las especificaciones mínimas requeridas (en cuanto a ordenador se refiere) son:
 - HRD: 500MHz CPU, 512MB RAM y 20MB de espacio en el disco.
 - DM780: 1GHz CPU, 1024MB RAM y 50MB de espacio (o mas si se trabaja en SSTV). DM780 usa mas recursos cuando HRD descodifica varias señales simultáneamente.
- HRD es gratuito para radioaficionados, escuchas (SWLs) y organizaciones sin lucro. El uso comercial por empresas o instituciones gubernamentales requiere una licencia por parte de Simon Brown, HB9DRV.

GNU & GPL LA BASE PARA FUNCIONAR

GPL / Open Source Code

Digital Master 780 decoding DLLs use open source code under the terms of the GNU General Public License. Sources from which code is used include:

Program	Authour	Callsign
PSKCore	Moe Wheatley	AE4JY
Fldigi	Dave Freese	W1HKJ
gMFSK	Tomi Manninen	OH2BNS
Olivia, MT63	Pavel Jalocha	SP9VRC

The complete source for these DLLs is shipped in the kits, look at the Source folder in the installation tree, typically this is

`C:\Program Files\Amateur Radio\Ham Radio Deluxe\Source`

You will see `DM780SourceCode.zip` which is a master archive contain more archives.

- Decoder which uses code from fldigi, Olivia, PSKCore and other sources.
- Filter design algorithms such as Parks-McClellan (Remez).

If you find that some files are missing just let me know - the aim is not to stop other developers recompiling this code! Also if I have used some open source code and have forgotten to publish this just let me know.

Sample (January 8th, 2008)

Version 4.0 (May 6th, 2008)

Radios soportadas por Ham Radio Deluxe

Elecraft

K2, K3

FlexRadio

SDR-1000, SDR-5000

ICOM

IC-7000, IC-703, IC-706, IC-706MkII, IC-706MkIIG, IC-707, IC-718, IC-725, IC-726, IC-728, IC-729, IC-735, IC-736, IC-737, IC-738, IC-7400, IC-746, IC-746Pro, IC-751A, IC-751A (Piexx), IC-756, IC-756Pro, IC-756ProII, IC-756ProIII, IC-761, IC-765, IC-7700, IC-775DSP, IC-7800, IC-781, IC-821H, IC-910H, IC-R10, IC-R20, IC-R7000, IC-R75, IC-R8500, IC-R9000, PCR-1000

Kenwood

R-5000, TS-140S, TS-2000, TS-440S, TS-450S, TS-480, TS-50S, TS-570, TS-60S, TS-680S, TS-690S, TS-790, TS-850, TS-870, TS-940S, TS-950, TS-B2000

Ten-Tec

Argonaut, Jupiter, OMNI VII (Radio), OMNI VII (Remote), Orion, RX-350

Yaesu

FT-100, FT-1000D, FT-1000MP MkV, FT-600, FT-817, FT-840, FT-847, FT-857, FT-890, FT-897, FT-900, FT-920, FT-990, FT-2000, FT-450, FT-950, FTDX-9000

HOTKEYS

F11 - Toggle Full Screen
CTRL-O - Open Logbook
CTRL-P - Print

- **Ham Radio Deluxe**

Tips and Tricks

This page was last updated Thursday, September 30, 2004

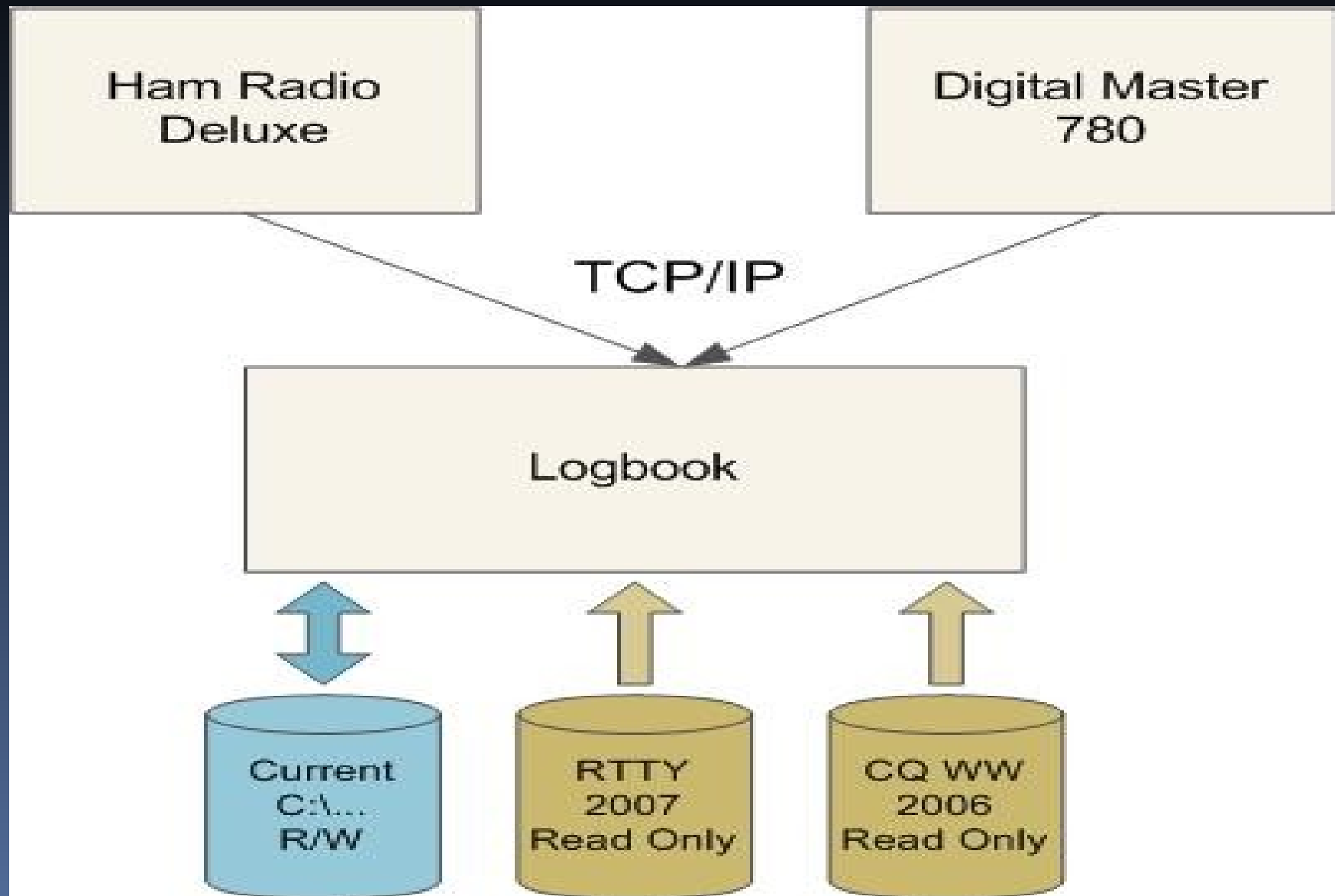
A collection of Tips and Tricks and other bits and pieces collected along the way.

Reset to Defaults - If you really make a mess of changing and setting up things and wish you could start from scratch, **hold the Shift key down** while you **start the program**. All settings will then be returned to what Simon wants.

Audio - An easy way of ensuring that you have audio properly enabled for alarms, etc., is to open the Ham Radio Deluxe program and then your sound card controls, make a selection and then **click on the HRD Voice menu and select one of the immediate voice announcements such as Frequency**.

Noise - If you are experiencing radio noise created by the computer, here is a tip from the forum pages. Just wind the control cable through a **FERRITE** ring several times. Do NOT use a powdered iron core.

DIAGRAMA DE HRD



HAM RADIO DELUXE

HamRadioDeluxe - [FT-847]

File Edit View Bands Favourites Quick Save Macros Logbook Scanning Tuning Tools Voice Window Help

Connect Selection Favourite Quick Save Full Screen DX Cluster Logbook Satellites SW Data Sliders Customise Options Forums Undo Redo Add Backup

Mapper DM780 PSK31 Synch Remote Serial Programs Browser #1 Browser #2 Lookup WinKey Bandscope Audio Grabber Audio Browser Main Tabs

(7) QRZ.COM Callsign HZ

Selection

Bands

- Manager
- 160m - 10m (Region 1)
- 160m - 10m (Region 2)
- 160m - 10m (Region 3)

FT-847

PWR

CTCSS/DCS Match

14.055.500

FM

CTCSS

Mode: FM

SAT

Sat Rx: LSB

TX

Sat Tx: LSB

Tone

Repeater

Bandscope

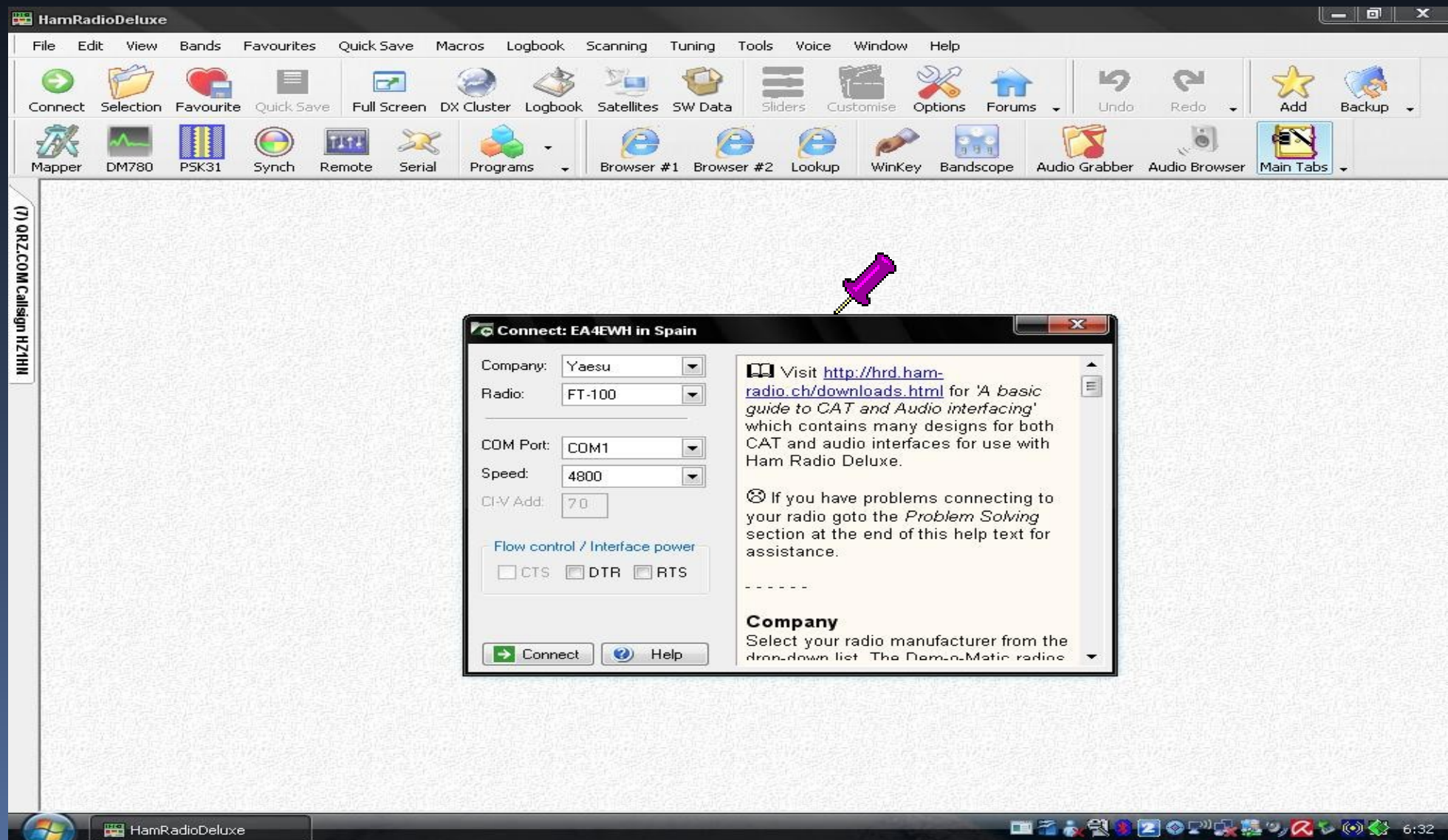
HRD: Top 50 DX spots on ALL

ALL	DX	Freq	UTC	Spotter	Comment
HF	S21RC	28495.0	06 Feb 05:20	S21RC	Bangladesh: 10m cq
VHF	UX1UA	1826.6	06 Feb 05:19	K4EDI	Ukraine:
1.8 MHz	FS/WW5L	3790.2	06 Feb 05:19	RA1AG	Saint Martin: sim 59,tnx
3.5 MHz	EL2DX	1819.0	06 Feb 05:19	K9OT	Liberia: CQ
7 MHz	UX1UA	1826.6	06 Feb 05:17	UT5EO	Ukraine: cq,cq
10 MHz	SP3BQ	1825.5	06 Feb 05:16	EA4SV	Poland: with np4a, both big signs
14 MHz	ZC4VJ	7007.0	06 Feb 05:14	EB5RR	UK Sov. Base Areas on Cyprus: 599 en Murcia
18 MHz	FW5RE	21010.0	06 Feb 05:15	JA1BNL	Wallis & Futuna Is.: request ok tks
21 MHz	LA5FHA	1824.0	06 Feb 05:21	OE6BMG	Norway: calling CQDX
24 MHz	UT7UJ	1835.0	06 Feb 05:14	K9PPY	Ukraine: GM TNX QSO
28 MHz					

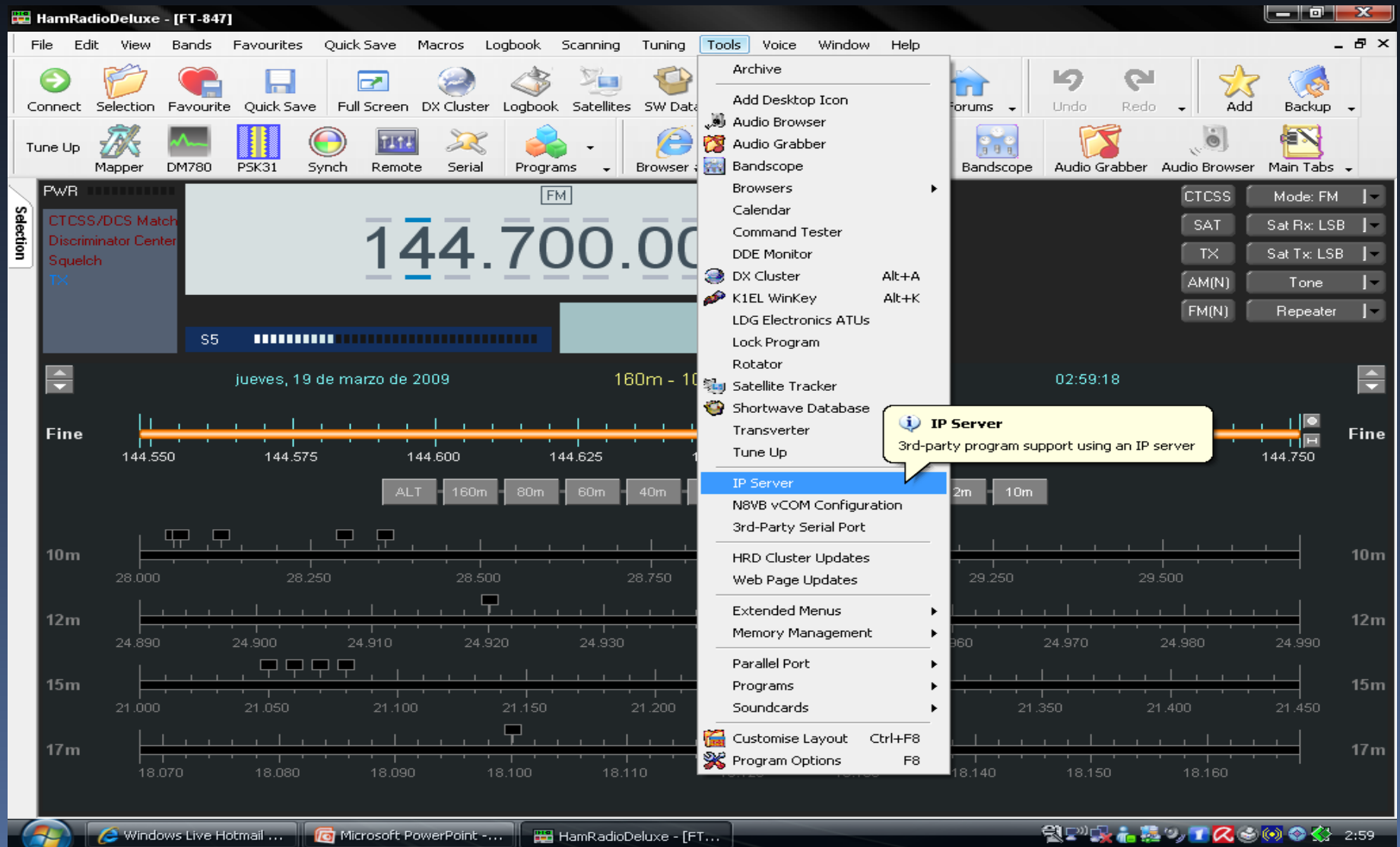
HamRadioDeluxe - [FT...

6:21

CONFIGURACION DEL TRANSCEPTOR



Activar en Tools IP server



HRD REMOTE SERVER

The screenshot shows the HamRadioDeluxe software interface with the 'Remote Server Configuration' window open. The background window has a menu bar (File, Edit, View, Bands, Favourites, Quick Save, Macro, Lockbook, Generation, Tuning, Tools, Utilities, Windows, Help) and a toolbar with icons for Connect, Selection, Favourite, Quick Save, Full Screen, Tune Up, Mapper, DM780, PSK31, Synch, and Remote. The main display area shows a frequency of 14.4 MHz, a date of 'jueves, 19 de marzo de 2009', and various signal level meters. The 'Remote Server Configuration' window has a title bar and a close button. It contains two tabs: 'HRD Remote Server (Radio Support)' and 'HRD Serial Port Server (Keyer & Rotator Support)'. The 'HRD Remote Server' tab is active, showing the following information:

- Service name: HRD RemoteSvr
- Display name: Ham Radio Deluxe Remote Server
- Configuration: C:\Archivos de programa\Amateur Radio\Ham Radio Deluxe\HRDRemoteSvr.cfg
- Logfile:
- Last started:
- Status: El servicio especificado no existe como servicio instalado.

Below this information are buttons for 'Install', 'Remove', 'Start', 'Stop', 'Configure', 'View Log', and 'Help'. The 'Configure' button is highlighted. The window also contains a scrollable text area with the following content:

1.0 Introduction

The HRD Remote Server enables a connection between Ham Radio Deluxe and a radio connected to a remote computer which can be contacted via TCP/IP.

1.1 Requirements

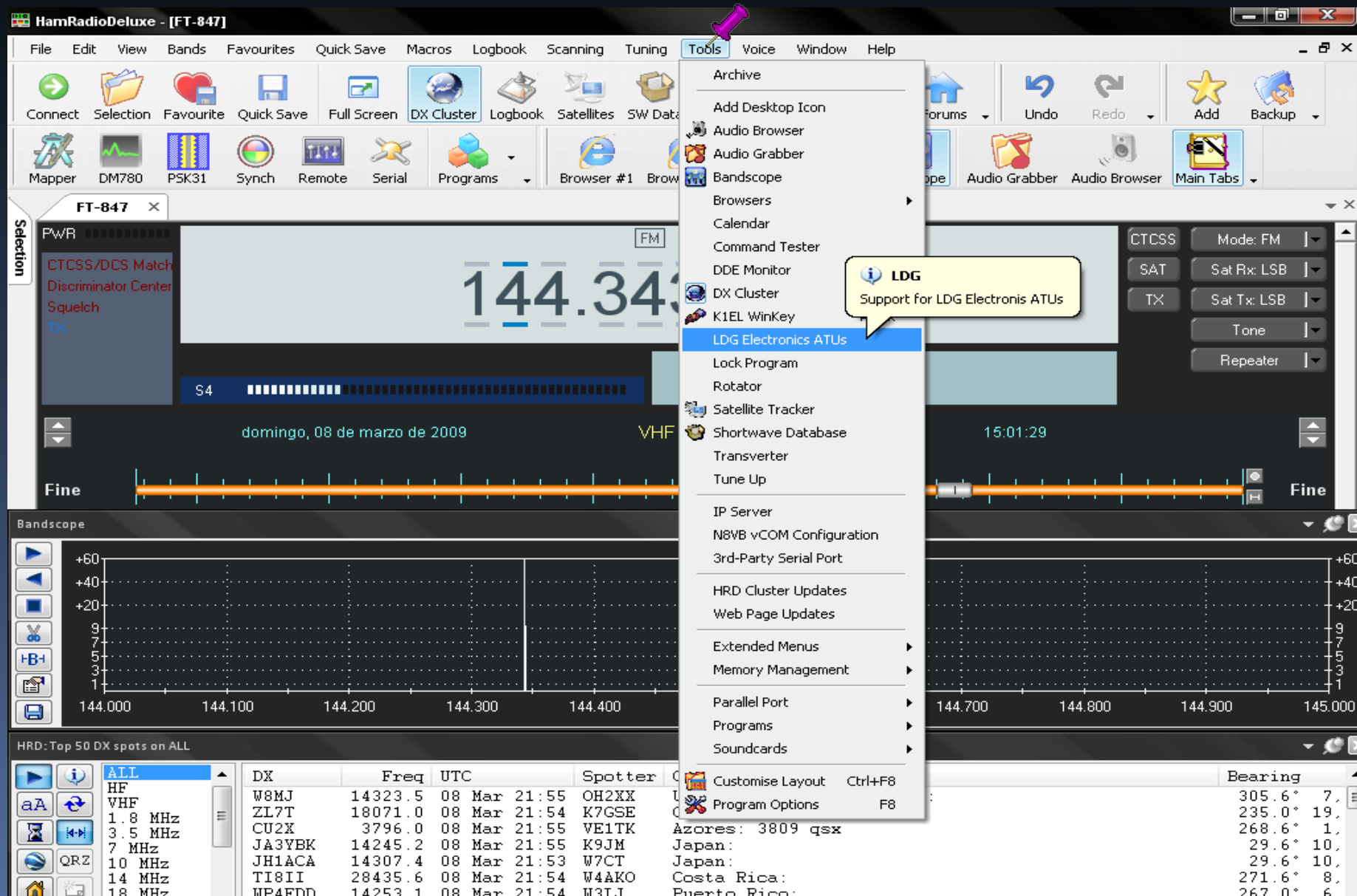
The remote computer must be running Windows NT - that is NT 4.0, 2000, 2003 or XP. Windows 95, 98 and various flavours thereof *are not supported*.

1.2 Technology

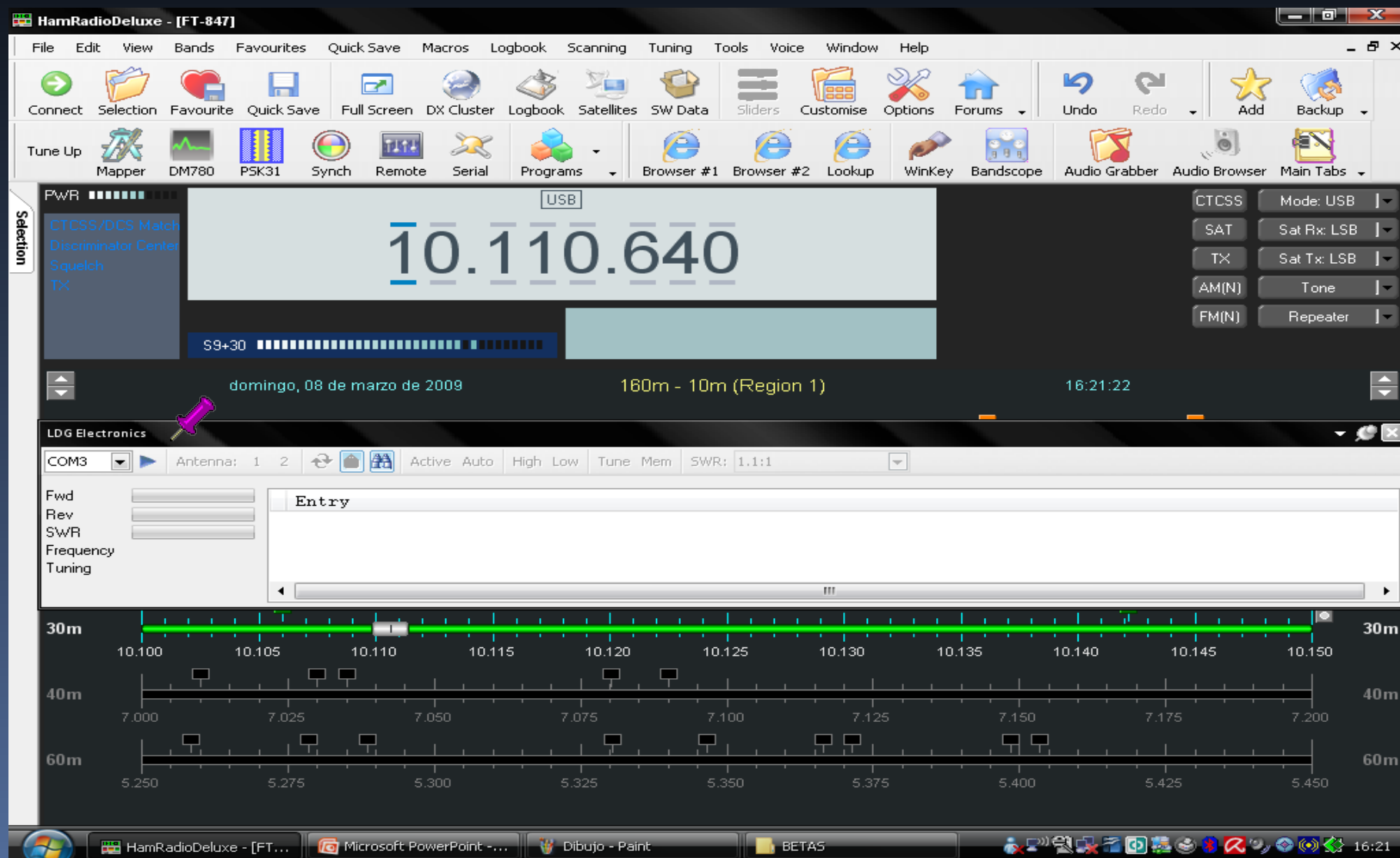
A Windows service is installed on the remote computer which has a direct connection to the radio. The service listens on a port (usually 7805) for incoming connections from Ham Radio Deluxe. **Firewall:** If you are using a firewall (for example the Windows Firewall shipped with XP SP2) you must allow access to the remote server port (7805).

2.0 Installing

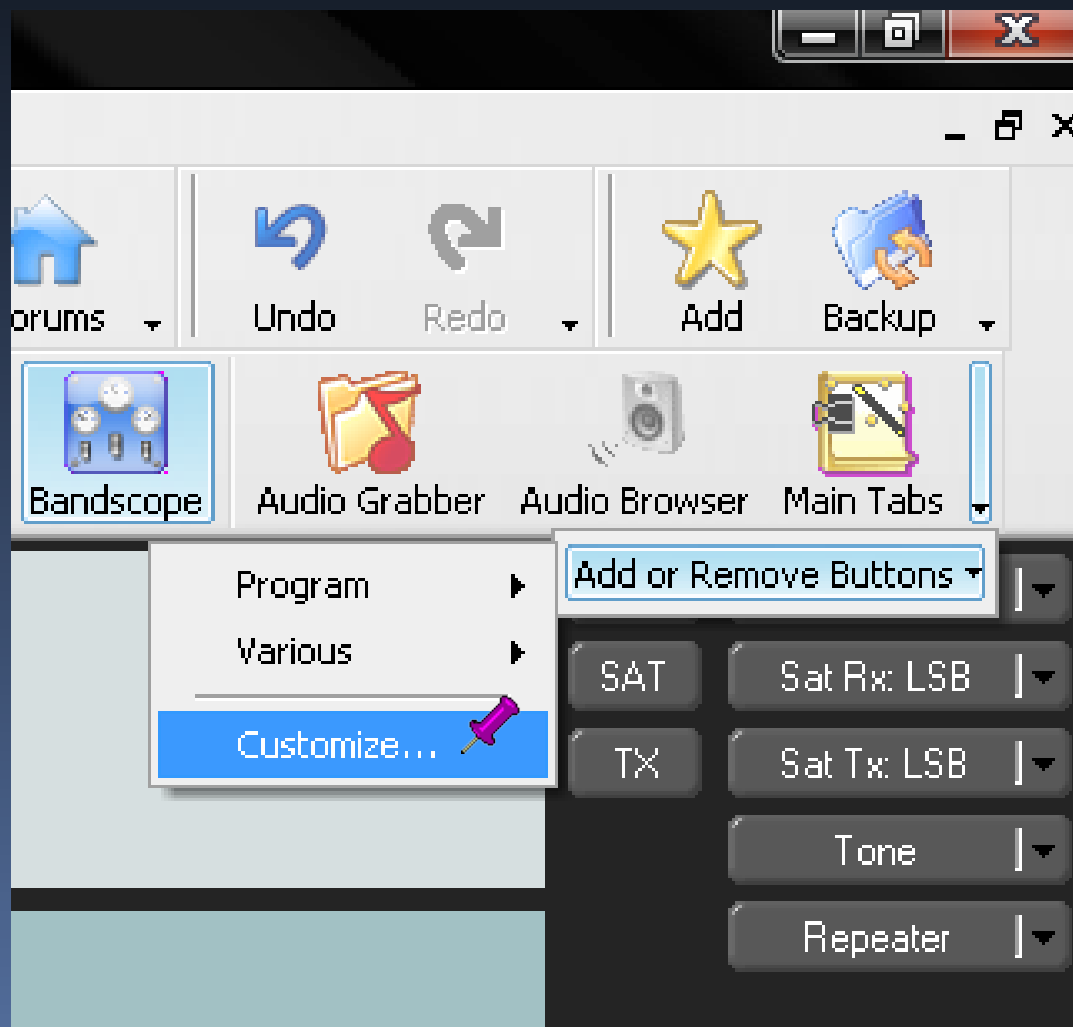
CONFIGURA TU ATU



CONFIGURAR LDG ATU COM X



CONFIGURA LAS BARRAS



SELECCIONA TUNE UP Y ARRASTRALO A UNA BARRA

The screenshot shows the HamRadioDeluxe software interface. A 'Customize' dialog box is open, displaying a list of commands. The 'Tools' category is selected in the left pane, and 'Tune Up' is highlighted in the right pane. The background interface shows a frequency display at 14.050 MHz, a 'Bandscope' window, and a 'HRD: Top 50 DX spots on ALL' table.

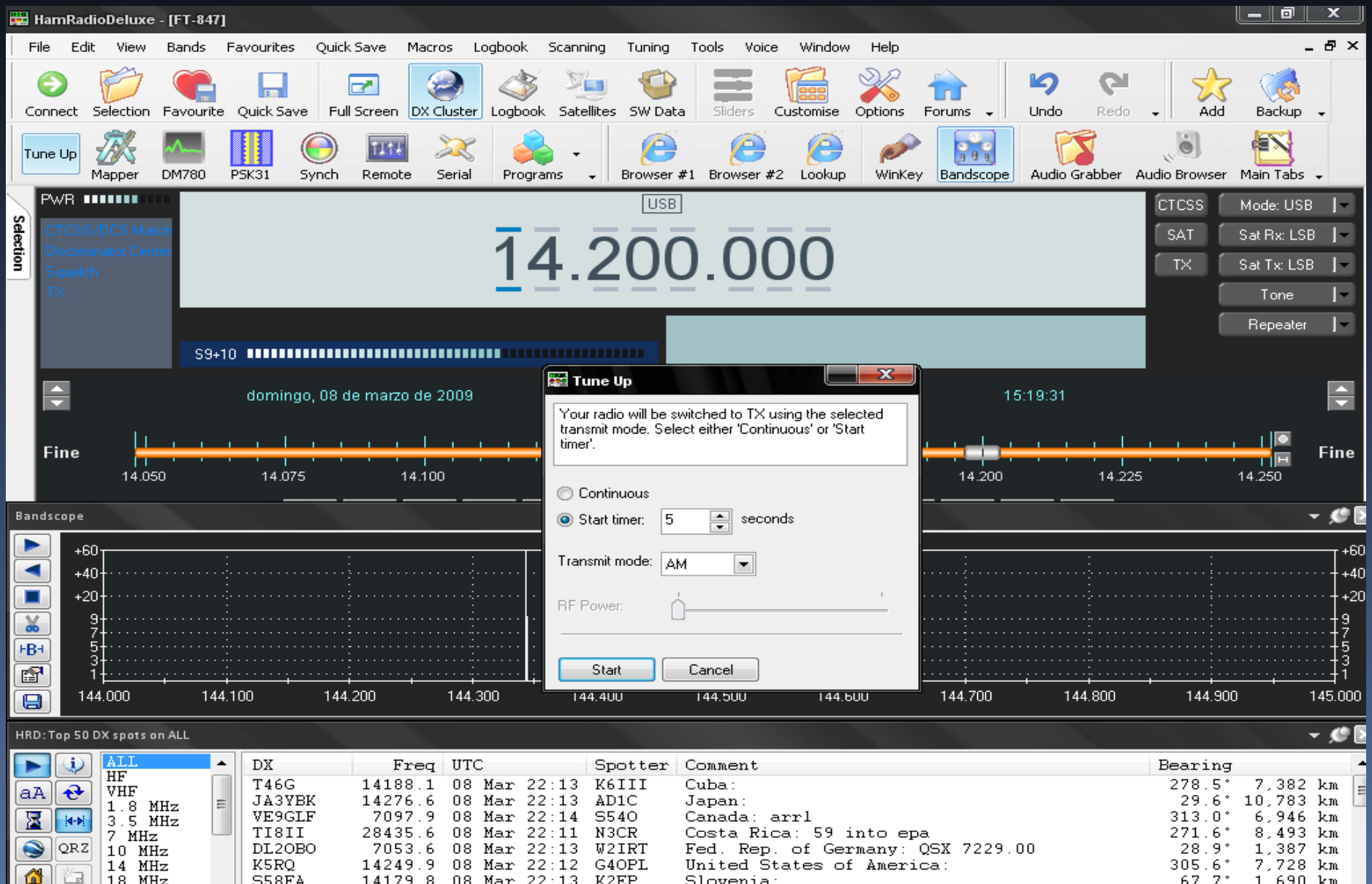
Customize Dialog Box:

- Categories:** File, Edit, View, Bands, Favourites, Quick Save, Macros, Logbook, Scanning, Tuning, Tools, Voice, Window, Help.
- Commands:** LDG Electronics ATUs, Lock Program, Rotator, Satellite Tracker, Shortwave Database, Transverter, **Tune Up**, IP Server, N8VB vCOM Configuration.

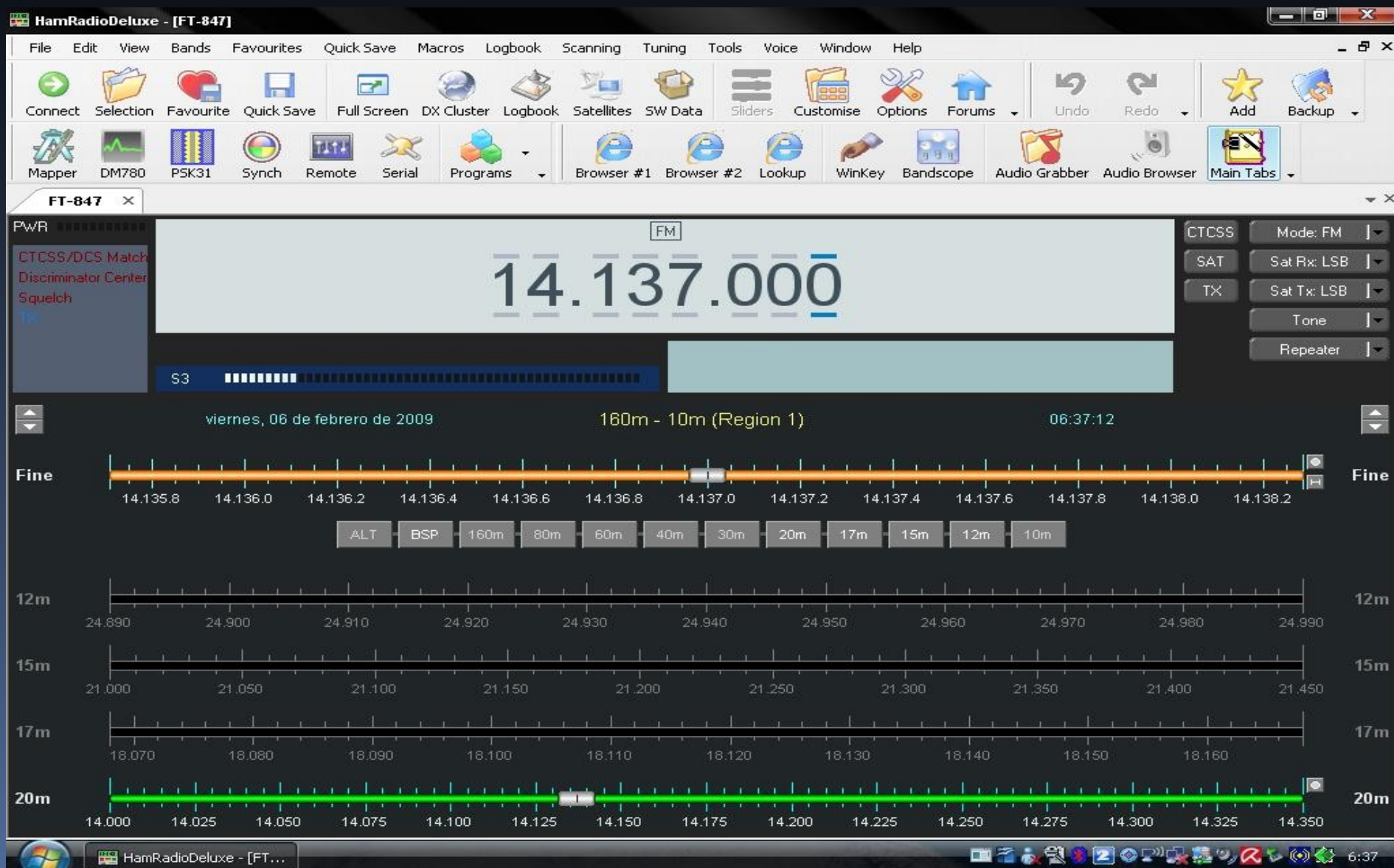
HRD: Top 50 DX spots on ALL

	DX	Freq	UTC	Spotter	Comment	Bearing
ALL	VP8KF	14267.3	08 Mar 22:09	K3IE	Falkland Is.:	211.7° 11,578 km
HF	KG9N	14252.0	08 Mar 22:11	UA0CA	United States of America:	305.6° 7,728 km
VHF	V85NL	7001.0	08 Mar 22:10	JA1SFL	Brunei Darussalam: cq cq	66.8° 12,000 km
1.8 MHz	CE4CT	28488.1	08 Mar 22:09	KU5B	Chile:	230.7° 10,701 km
3.5 MHz	LU7FSM	28460.0	08 Mar 22:09	KI4TZU	Argentina:	222.4° 10,037 km
7 MHz	KH6RC	28426.0	08 Mar 22:09	KH6DXC	Hawaii: HAWAII Loud	330.4° 12,749 km
10 MHz	QA4SS	28464.5	08 Mar 22:09	KD4JRX	Peru:	250.1° 9,526 km
14 MHz						
18 MHz						

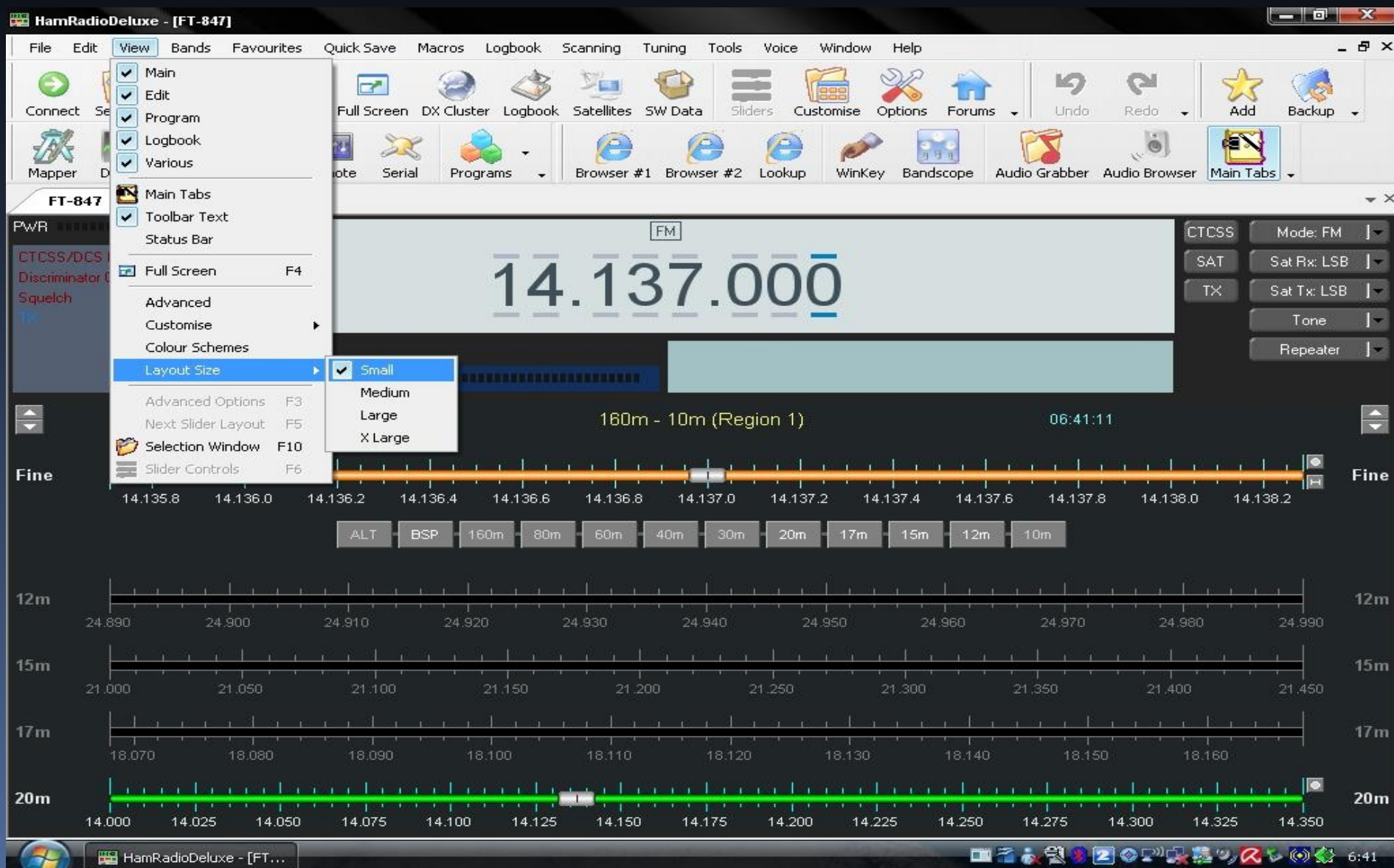
HAY MUCHOS TRANSCÉPTORES SIN SOPORTE PARA ATU SI TIENES UNO FULL AUTOMÁTICO ESTA ES LA FORMA DE CONFIGURAR O USARLO VIA CAT



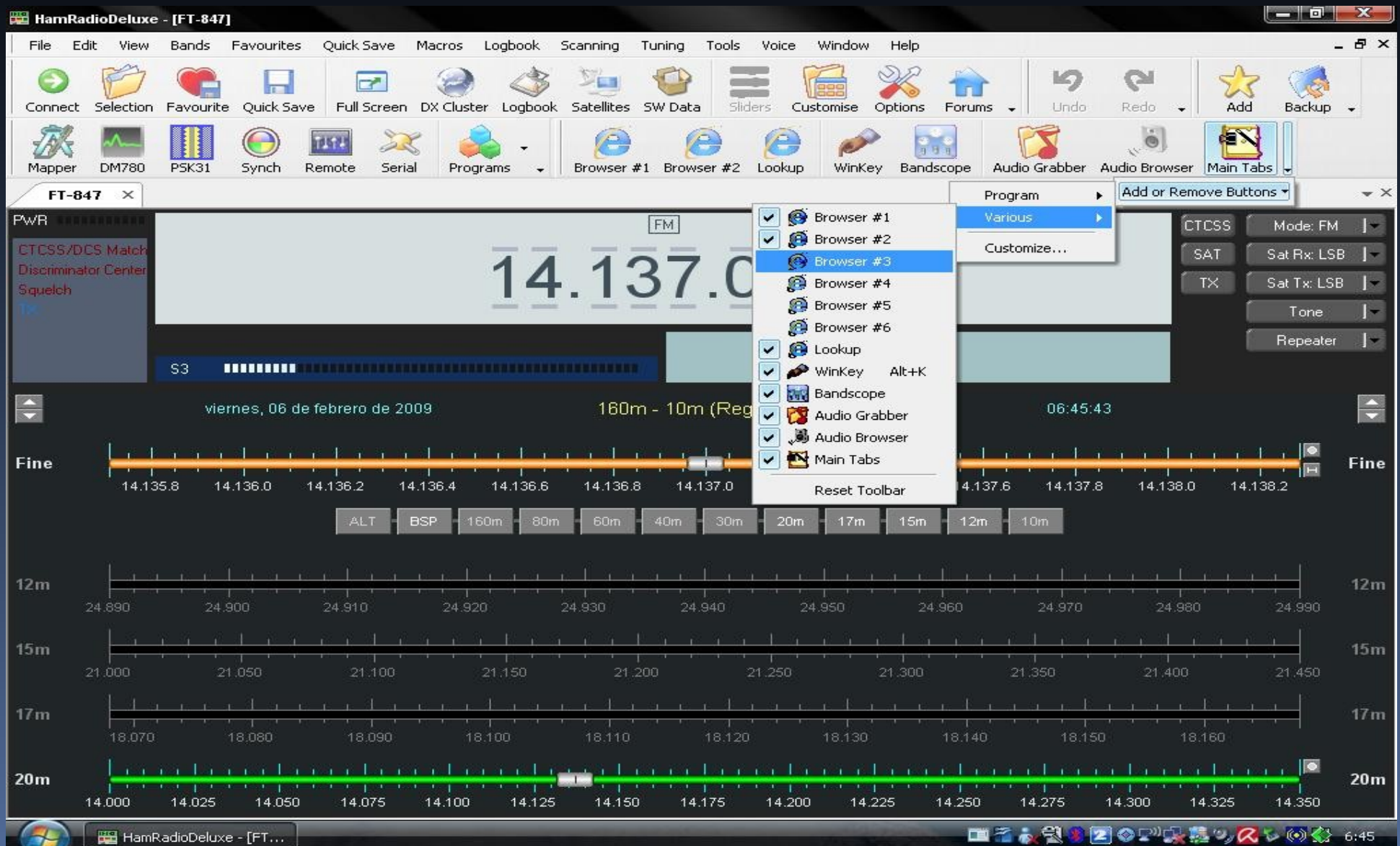
PANTALLA DE INICIO DE HRD



AJUSTAMOS VIEW PARA VER LO QUE DESEAMOS



AÑADIR O QUITAR BOTONES



ACTIVACION DE DX CLUSTER

HamRadioDeluxe - [FT-847]

File Edit View Bands Favourites Quick Save Macros Logbook Scanning Tuning Tools Voice Window Help

Connect Selection Favourite Quick Save Full Screen DX Cluster Logbook Satellites SW Data Sliders Customise Options Forums Undo Redo Add Backup

Mapper DM780 PSK31 Synch Remote Serial Programs Browser #1 Browser #2 Lookup WinKey Bandscope Audio Grabber Audio Browser Main Tabs

FT-847

PWR

CTCSS/DCS Match
Discriminator Center
Squelch
TX

FM

14.137.000

CTCSS Mode: FM
SAT Sat Rx: LSB
TX Sat Tx: LSB
Tone
Repeater

S3

viernes, 06 de febrero de 2009 160m - 10m (Region 1) 06:49:54

Fine

14.135.8 14.136.0 14.136.2 14.136.4 14.136.6 14.136.8 14.137.0 14.137.2 14.137.4 14.137.6 14.137.8 14.138.0 14.138.2

ALT BSP 160m 80m 60m 40m 30m 20m 17m 15m 12m 10m

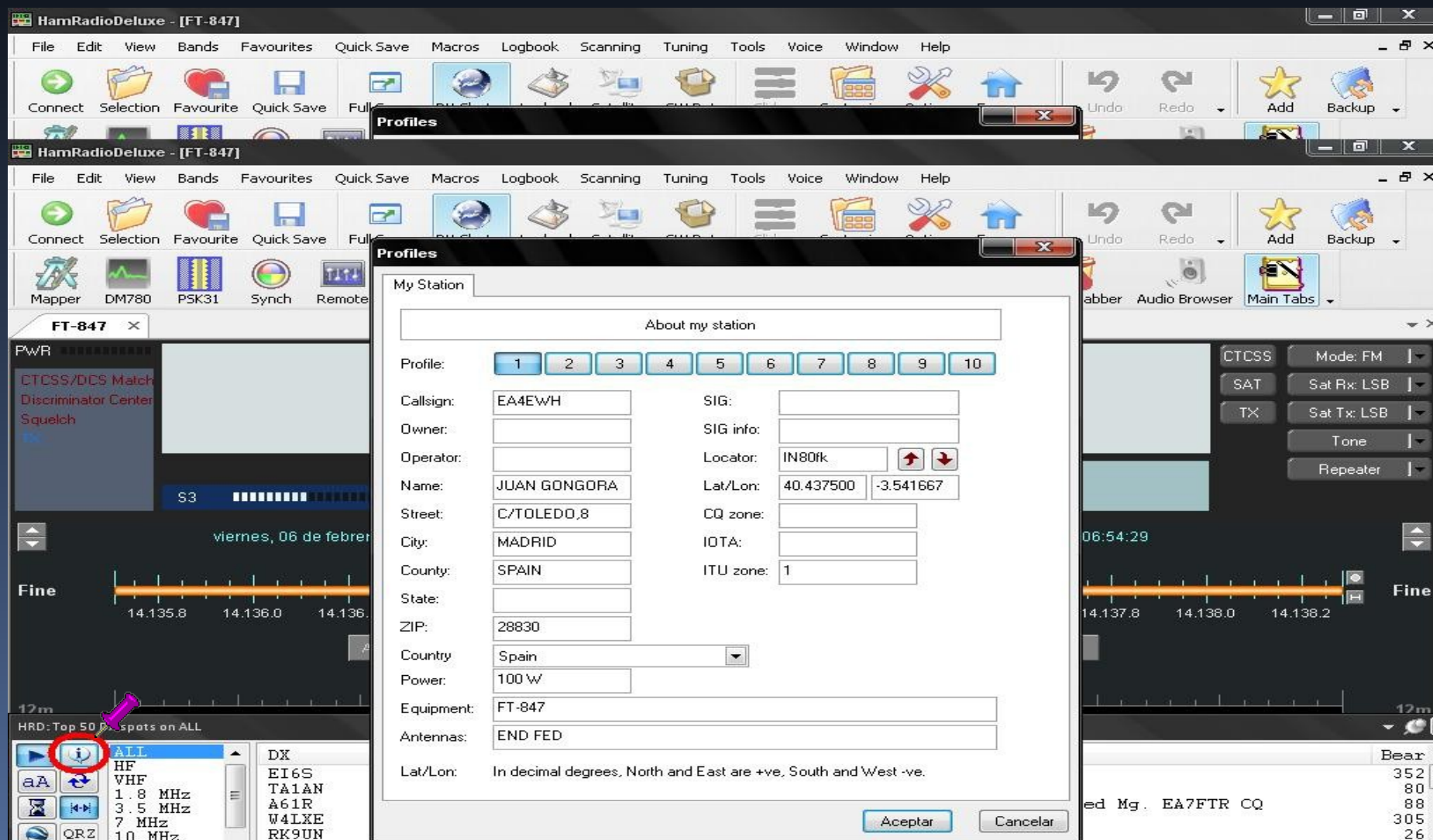
12m

HRD: Top 50 DX spots on ALL

ALL
HF
Start display updates
3.5 MHz
7 MHz
10 MHz
14 MHz
18 MHz
21 MHz
24 MHz
28 MHz

DX	Freq	UTC	Spotter	Comment
S21RC	28495.0	06 Feb 05:20	S21RC	Bangladesh: 10m cq
UX1UA	1826.6	06 Feb 05:19	K4EDI	Ukraine:
FS/WW5L	3790.2	06 Feb 05:19	RA1AG	Saint Martin: sim 59,tnx
EL2DX	1819.0	06 Feb 05:19	K9OT	Liberia: CQ
UX1UA	1826.6	06 Feb 05:17	UT5EO	Ukraine: cq.cq
SP3BQ	1825.5	06 Feb 05:16	EA4SV	Poland: with np4a, both big signs
ZC4VJ	7007.0	06 Feb 05:14	EB5RR	UK Sov. Base Areas on Cyprus: 599 en Murcia
FW5RE	21010.0	06 Feb 05:15	JA1BNL	Wallis & Futuna Is.: request ok tks
LA5FHA	1824.0	06 Feb 05:21	OE6BMG	Norway: callling CQDX
UT7UJ	1835.0	06 Feb 05:14	K9PPY	Ukraine: GM TNX QSO

LA TECLA NOS PERMITE INTRODUCIR NUESTROS DATOS Y CONFIGURAR NUESTROS CLUSTER FAVORITOS





ea5elx.sytes.net:8000

DX Cluster Configuration

General / Source DX Cluster Client DX Cluster Configuration Google Earth

Address:

Connecting to ea5elx.sytes.net port 8000...
Connected

Welcome to SC URE Elche EA5ELX-5 DXSpider Cluster running under GNU/Linux.
Please, login with your callsign.
login: EA4EWH
Hello EA4EWH, this is EA5ELX-5 in Elche
running DXSpider V1.55 build 0.33
* DX-Cluster of URE Elche EA5ELX
* ? all : Cluster command list Use HELP FILTER to use DX filters
*
* Telnet: ea5elx.sytes.net:8000
*
* Webcluster: ea5elx.sytes.net
*
* Ayuda comandos habituales con TYPE AYUDA
* Ayuda configuracion filtro DX con TYPE FILTRO
*
* If you are looking for Qsl Info try one of these commands :
* Si necesitas informacion de rutas de QSL usa uno de estos comandos:
* SH/425 call SH/QSL call SH/DX QSL call
*
* Our gratefulness to EA5CEE for the hosting
*

No messages found

Cluster: 435 nodes, 27 local / 3283 total users Max users 3983 Uptime 1 07:15
Please enter your name, set/name <your name>
Please enter your QTH, set/qth <your qth>
Please enter your location with set/location or set/qra
Please enter your Home Node, set/homenode <your home DX Cluster>
EA4EWH de EA5ELX-5 28-Mar-2009 2140Z dxspider >

DX de W5IF:	21300.6	KH7XS	strong in midwest	2140Z
DX de AI4ME:	7155.3	KI1G		2140Z
DX de ON3JMG:	1423890.0	K4ZW	5/6 in contest	2140Z
DX de SP7KKX:	1862.0	SO8R	CQ WPX	2140Z KO10
DX de E71DX:	7108.0	E79D		2140Z
DX de K2YR:	14220.0	VK7ZE	59 plus LONG PATH	2140Z
DX de ON7ZM:	7077.2	WP2Z	STRONG	2140Z
DX de 9A7W:	7064.2	TC7KA	wpx	2140Z JN85
DX de N6WK:	14312.0	HI3CCP	Correct Call is HI3CCP	2140Z

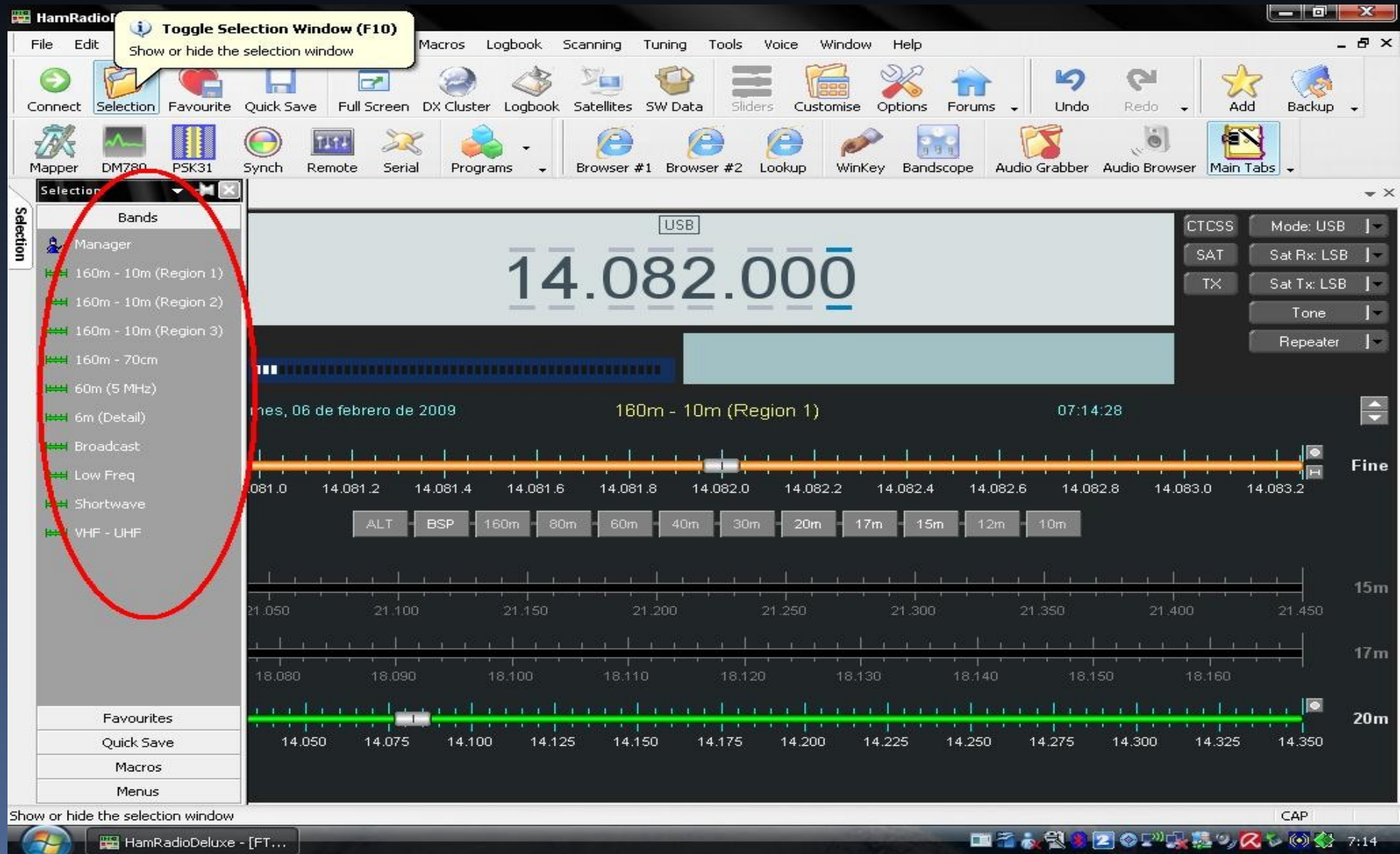
Input: Idle: 0:00:05

ACTIVACION DE BAND-SCOPE ESCANER DE BANDA

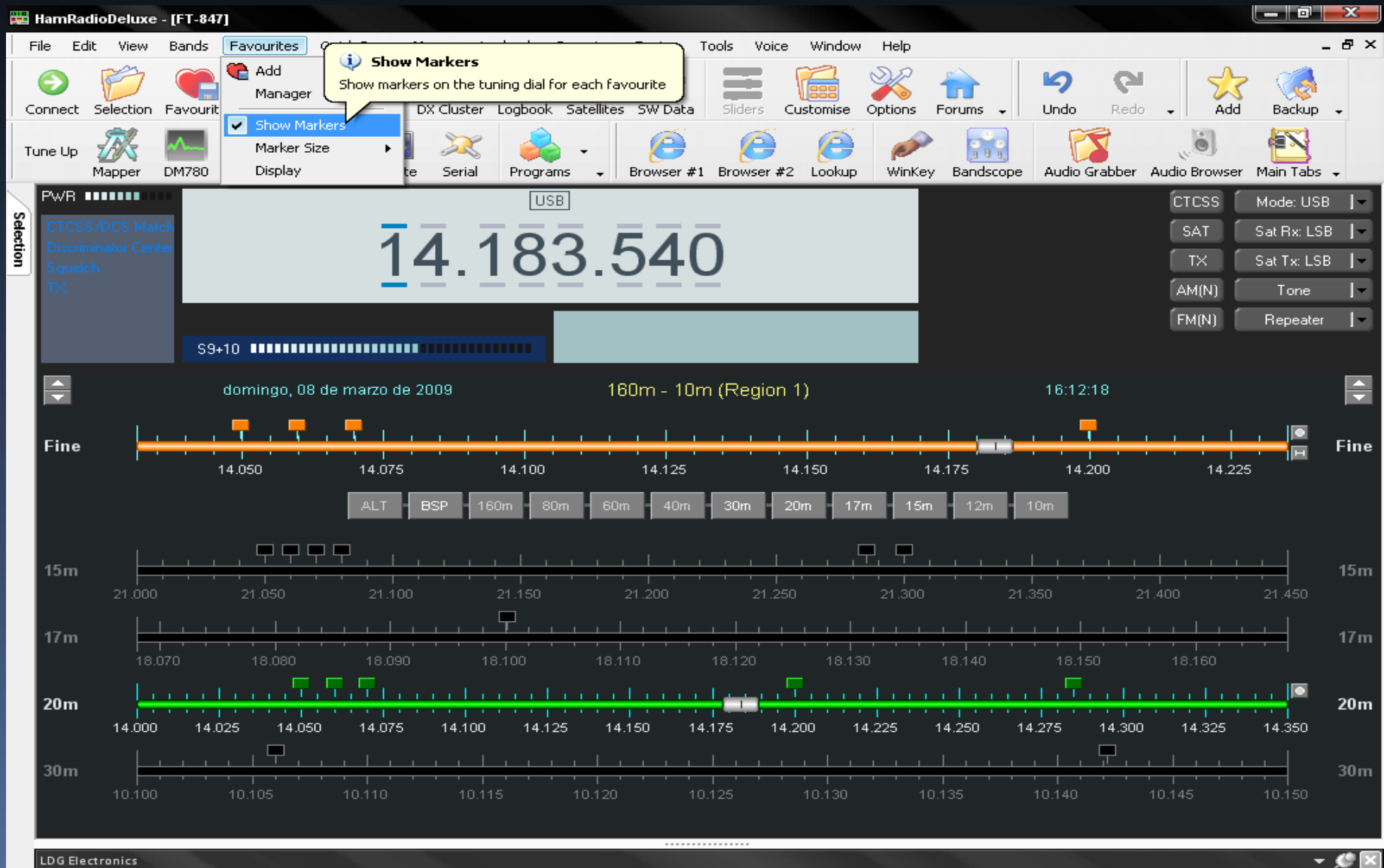
The screenshot displays the HamRadioDeluxe software interface for an FT-847 radio. The main window shows the frequency 14.170.000 on the USB mode. A tooltip labeled "Bandscope" points to the "Bandscope" button in the bottom toolbar. Below the frequency display, the BandScope window is visible, showing a frequency spectrum plot with a green background and a blue line representing the signal. The plot has a vertical axis from 1 to 9 and a horizontal axis from 14.000 to 14.300. The BandScope window also includes a "PWR" section on the left and a "CTCSS" section on the right. At the bottom, there is a table titled "HRD: Top 50 DX spots on ALL" showing a list of DX spots.

DX	Freq	UTC	Spotter	Comment	Bearing
NP4A	1845.0	06 Feb 05:59	ON8DM	Puerto Rico: worked strong calling EU	267.0° 6.40
NP4A	1845.0	06 Feb 05:59	ON8DM	Puerto Rico: worked strong calling EU	267.0° 6.40

BARRA DE SELECCION DE ZONA Y BANDA



VER MARCAS DE FRECUENCIAS FAVORITAS



OPCIONES ESPECIALES DE HRD

- * TRANSVETERS
- * SDR (Radio Definida por Software)

SOPORTE PARA TRANSVERSORES

HamRadioDeluxe - [FT-847]

File Edit View Bands Favourites Quick Save Macros Logbook Scanning Tuning Tools Voice Window Help

Connect Selection Favourite Quick Save Full Screen DX Cluster Logbook Satellites SW Data

Tune Up Mapper DM780 PSK31 Synch Remote Serial Programs Browser

PWR ■■■■■■

Selection

CTCSS/DCS Match
Discriminator Center
Squelch
TX

28.000

S1

domingo, 08 de marzo de 2009

Fine

27.850 27.875 27.900 27.925

Bandscope

+60
+40
+20
9
7
5
3
1

144.000 144.100 144.200 144.300 144.400

HRD: Top 50 DX spots on ALL

	DX	Freq	UTC	Spotter	Bearing
HF	EA1ABT	14284.8	08 Mar 22:27	AD1C	154.8° 24 km
VHF	CT3DL	14199.2	08 Mar 22:27	N7TR	239.6° 1,455 km
1.8 MHz	ZL7T	21020.0	08 Mar 22:27	JA1WLO	235.0° 19,300 km
3.5 MHz	PJ2T	28409.0	08 Mar 22:27	W4ZSB	263.3° 7,083 km
7 MHz	HK4CZE	18162.5	08 Mar 22:27	KP4E	260.9° 8,007 km
10 MHz	7Z1SJ	14244.0	08 Mar 22:27	WB9AZA	90.8° 5,143 km
14 MHz	I2VRN	2178.0	08 Mar 22:27	N3MX	79.6° 1,334 km
18 MHz					

Tools

- Archive
- Add Desktop Icon
- Audio Browser
- Audio Grabber
- Bandscope
- Browsers
- Calendar
- Command Tester
- DDE Monitor
- DX Cluster Alt+A
- K1EL WinKey Alt+K
- LDG Electronics ATUs
- Lock Program
- Rotator
- Satellite Track
- Shortwave Database
- Transverter**
- Tune Up
- IP Server
- N8VB vCOM Configuration
- 3rd-Party Serial Port
- HRD Cluster Updates
- Web Page Updates
- Extended Menus
- Memory Management
- Parallel Port
- Programs
- Soundcards
- Customise Layout Ctrl+F8
- Program Options F8

Transverter Support
Transverter support

CTCSS Mode: USB
SAT Sat Rx: LSB
TX Sat Tx: LSB
Tone
Repeater

34:11

28.000 28.025 28.050

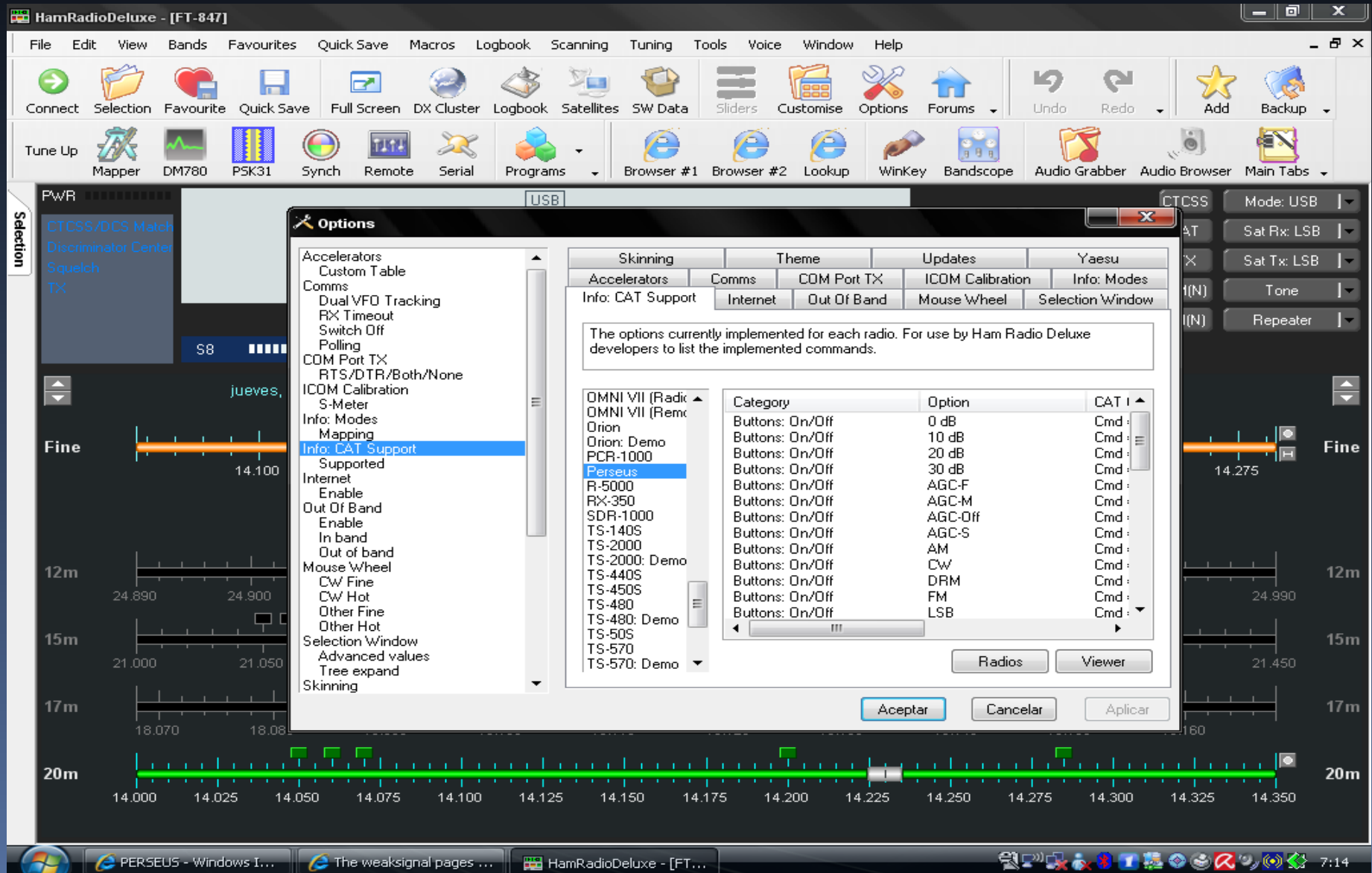
Fine

CONFIGURACION DE UN TRANSVERTER

The screenshot displays the HamRadioDeluxe software interface. The main window shows a frequency of 28.000.000 MHz in the center, with a mode of USB. On the left, there's a 'Selection' panel with options like CTCSS/DCS Match, Discriminator Center, Squelch, and TX. Below this is a 'Fine' frequency display showing 144.000.000 MHz. A 'Transverter: 116.000 MHz ...' window is open, showing a frequency of 144.000.000 MHz. A 'Transverter Offsets' dialog box is also open, showing a list of offsets with 'Transverter + Radio' at 116.000 MHz. The 'Add' button in this dialog is highlighted with a pink pushpin. At the bottom, there's a table titled 'HRD: Top 50 DX spots on ALL' showing various radio spots.

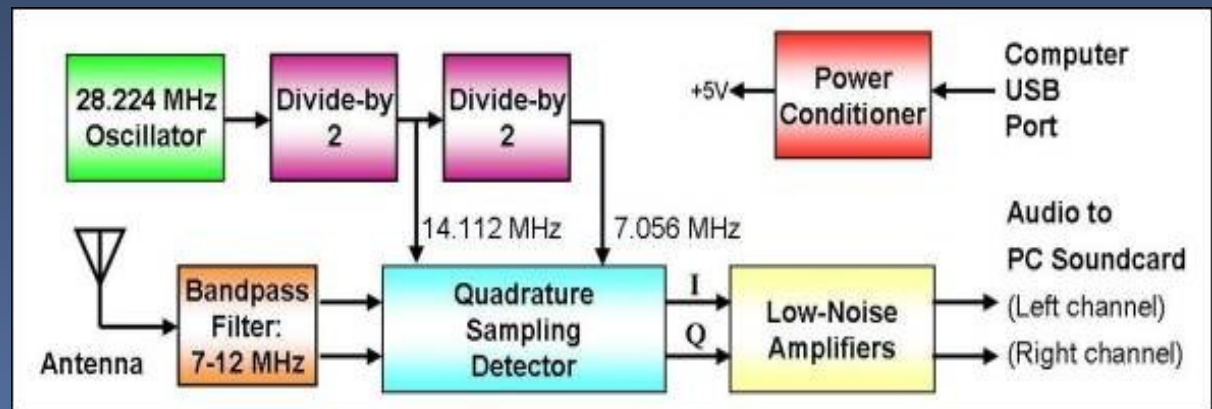
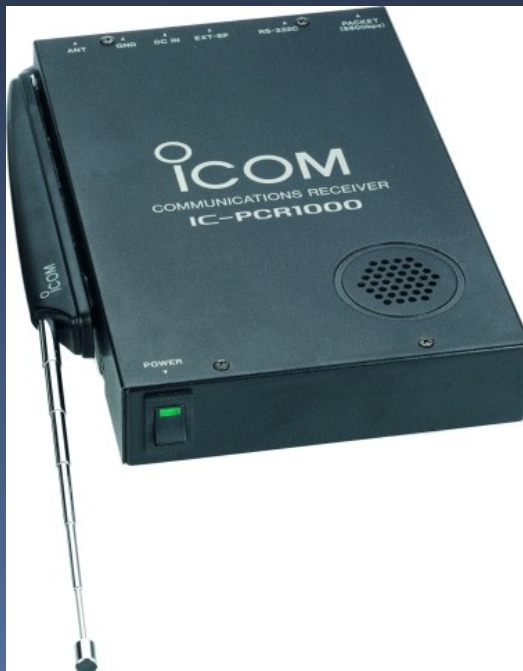
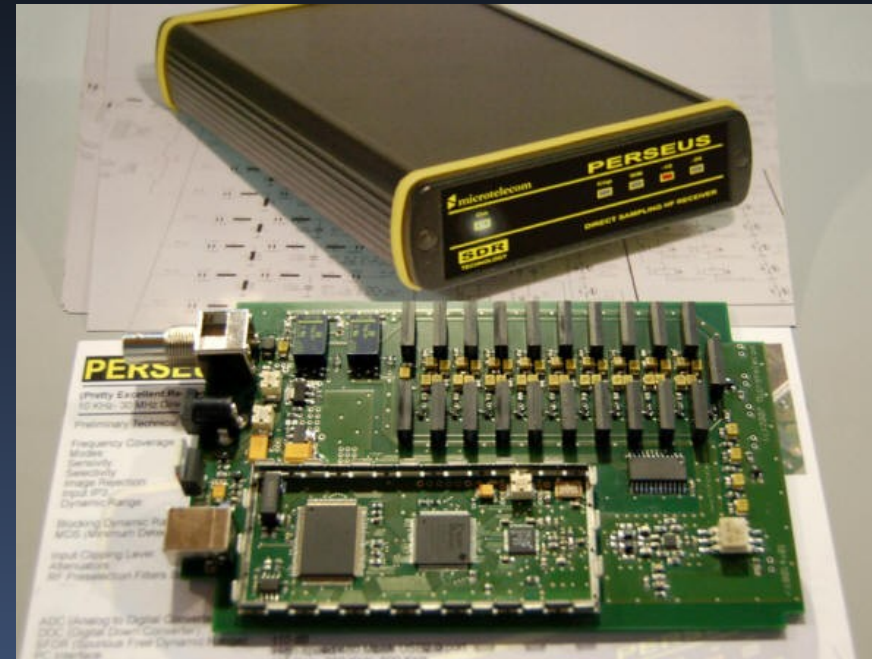
DX	Freq	UTC	Spotter	Comment	Bearing
ZL7T	21020.4	08 Mar 22:23	WA5FWC	Chatham Is.: up 1	235.0° 19.300 km
CW7T	14325.0	08 Mar 22:23	N8AVR	Uruguay:	220.9° 9.934 km
K5DDJ/B	28248.7	08 Mar 22:23	PY2XC	United States of America: 569 in GG66	305.6° 7.728 km
ZV2C	28389.9	08 Mar 22:23	K5NA	Brazil:	217.7° 8.164 km
NP4Z	14255.4	08 Mar 22:23	KA9FOX	Puerto Rico: Fresh Cornholio Meat	267.0° 6.407 km
AY5F	21212.9	08 Mar 22:23	KU5B	Argentina:	222.4° 10.037 km
JA3VAA	14340.4	08 Mar 22:23	W8JY	Japan:	29.6° 10.783 km

SOPORTE DE RADIO DEFINIDA POR SOFTWARE SDR



SDR RADIOS

SoftRock-40 PERSEUS IC PCR1000



OPCION DUAL VFO TRACKING

Ham Radio Deluxe v5.0 Beta, Registered to EA4EWH in Spain - [FT-847]

File Edit View Bands Favourites Quick Save Macros Logbook Scanning Tuning Tools Voice Window Help Donate

Connect Selection Favourite Quick Save Tune Up Full Screen Logbook Satellites SW Data Sliders Customise Options Forums Add

Undo Redo Browse

PWR

CTCSS/DCS Match
Discriminator Center
Squelch
TX

S8

Fine 144.698.8

HRD: Top 50 DX spots on VHF

ALL
HF
VHF
1.8 MHz
3.5 MHz
7 MHz
10 MHz
14 MHz
18 MHz
21 MHz

ES6RQ 144124.0 30 Apr 20:21 DK0KK cq JT65 -7
G4IGO 50230.0 30 Apr 20:18 OZ1BNN TU JT6M QSO quick one
F1UJS 50230.0 30 Apr 20:12 S57TW QRV Today??
OH7PI 144130.0 30 Apr 20:12 PA1VW EME -23
C1USTER 144300.0 30 Apr 20:08 DJ8RZ for VHF: <http://dj8rz.de.vu>
UA4API 144143.0 30 Apr 20:07 DC2MW TNX Victor -18
DN3KYF 50095.0 30 Apr 20:06 DK3CU beam north
JT6M 50230.0 30 Apr 20:01 LA7AJ All on 230 spread out pse
RK3FG 144154.0 30 Apr 19:57 PA1VW CQ EME -20

Options

Accelerators
Custom Table
Comms
Dual VFO Tracking
RX Timeout
Switch Off
Polling
COM Port TX
RTS/DTR/Both/None
ICOM Calibration
S-Meter
Info: Modes
Mapping
Info: CAT Support
Supported
Internet
Enable
Out Of Band
Enable
In band
Out of band
Mouse Wheel
Cw Fine
Cw Hot
Other Fine
Other Hot
Selection Window
Advanced values
Tree expand
Skinning

Info: CAT Support Internet Out Of Band Mouse Wheel Selection Window
Skinning Theme Updates Yaesu
Accelerators Comms COM Port TX ICOM Calibration Info: Modes

Communications options, restart to apply new values.

Read Timeout
☒ Use default (500 ms)
500 ms
Specifies the maximum time, in milliseconds, allowed to elapse between the arrival of two characters on the communications line.
☒ Display timeout warnings

Switch Off
☒ Prompt to switch off the radio when closing (if supported by the radio)

Dual VFO Tracking
☒ Track dual VFOs every refresh (not suitable for slow comms connection). Recommended for satellite tracking.

Polling
☐ Only poll radio if HRD is the active program.

Refresh Interval (milliseconds)
☐ 100 ☒ 300 ☐ 500
☐ 200 ☐ 400 ☐ 1,000

Aceptar Cancelar Aplicar

CTCSS Mode: FM
SAT Sat Rx: LSB
TX Sat Tx: LSB
Tone
Repeater

Fine 144.701.2

Windows taskbar: Maps - Windows Inter... RADIO Ham Radio Deluxe v5... 20:28

ACTIVAR SATELLITE TRACKER

HamRadioDeluxe - [FT-847]

File Edit View Bands Favourites Quick Save Macros Logbook Scanning Tuning Tools Voice Window Help

Connect Selection Favourite Quick Save Full Screen DX Cluster Logbook Sat Nites SW Data Sliders Customise Options Forums Undo Redo Add Backup

Mapper DM780 PSK31 Synch Remote Serial Programs Satellite Tracker Satellite tracker Lookup WinKey Bandscope Audio Grabber Audio Browser Main Tabs

FT-847 x

Selection

PWR

CTCSS Mode: USB

SAT Sat Rx: USB

TX Sat Tx: LSB

Tone

Repeater

145.799.240

145.200.750

domingo, 08 de marzo de 2009 VHF - UHF 11:17:44

Fine

Bandscope

HRD: Top 50 DX spots on ALL

DX	Freq	UTC	Spotter	Comment	Bearing
CU2AO	14070.0	08 Mar 18:11	W0EJ	Azores: Gud sig to PA freq .984	268.6°
LZ4RR	14188.5	08 Mar 18:09	OR2F	Bulgaria:	75.5°
EA1YO	14310.8	08 Mar 18:11	K0EA	Spain:	154.8°
K1JB	14291.0	08 Mar 18:11	OE3JTB	United States of America:	305.6°
WA6APQ/B	28244.0	08 Mar 18:11	PY2XC	United States of America: 559 in GG66	305.6°
EI2CN	14293.7	08 Mar 18:11	N6RO	Ireland:	352.9°
PI2T	21319.5	08 Mar 18:10	WI9WI	Bonaire Curacao (Neth Antilles):	263.3°

ACTIVAR PANEL DE RADIO Y CONECTAR T/R

The screenshot displays the HRD Satellite Tracking software interface. The main window is titled "HRD Satellite Tracking - [AO-51]". The interface is divided into several sections:

- Radio Panel (Left):** Labeled "Radio: localhost". It includes a "Connect" button and "Options". Under "FT-847", there are input fields for "VFO-A" (435.900.00) and "VFO-B" (145.900.00). Below these are dropdown menus for "Mode: USB", "Sat Rx: USB", "Sat Tx: LSB", and "Tone". A "Repeater" section has a "TX" button and a "SAT" button.
- Satellite Definitions (Top Right):** A tab labeled "AO-51" is active. It shows "Satellite: AO-51", "Track: 30 mins", and "Azim: +0.00°".
- Manual Tuning (Middle):** A section with "Enable" and "Manual Tuning" checkboxes. It displays "RX VFO-A 435.151.004", "DOWNLINK 435.150.000", "TX VFO-B 145.879.664", and "UPLINK 145.880.000".
- Map (Bottom):** A world map showing the satellite's path. A circular inset shows the satellite's position with "AZ: 143.5°" and "EL: -65.2°". A data box in the bottom right of the map shows: "AO-51 AOS: 07:43:54", "Elv: -65.2°", "Rng: 12,429.6 km", and "Alt: 815.2 km".
- Next Passes (Bottom Left):** A button labeled "Next Passes".
- System Tray (Bottom):** Shows the taskbar with "HamRadioDeluxe - [FT...", "Mis documentos", and "HRD Satellite Tracking ...". The system clock shows "23:20".

ACTIVAR TUNING DIAL TX Y RX

HRD Satellite Tracking - [AO-51]

File Edit View Browser Rotator Satellite Tools Window Help Donate

Radio Passes Satellite Defns Announce Help Google Earth Tilt: 0.00° Azim: +0.00°

Radio: localhost

Tuning Dial Show all tuning windows

Satellite: AO-51 Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

Manual Tuning

Enable

RX VFO-A 435.152.010 DOWNLINK 435.150.000

TX VFO-B 145.879.326 UPLINK 145.880.000

Repeater/Split Undo Freq

RX TX

AO-51
AZ:165.4° EL:-62.1°

W E S N

AO-51 AOS: 07:39:02
Elv: -62.1°
Rng: 12,126.0 km
Alt: 802.3 km

Next Passes

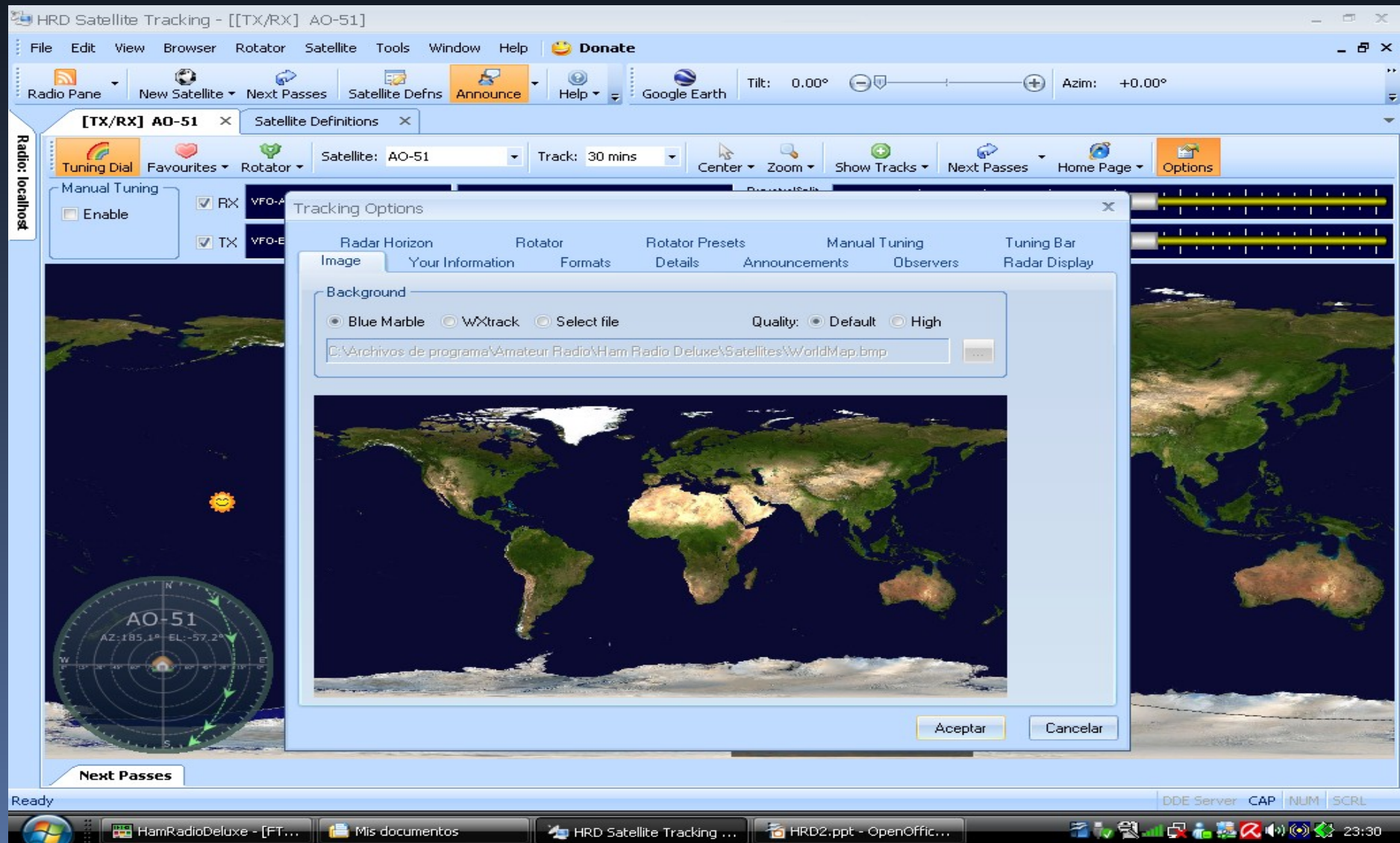
Show all tuning windows

DDE Server CAP NUM SCRL

HamRadioDeluxe - [FT... Mis documentos HRD Satellite Tracking ... HRD2.ppt - OpenOffic...

23:25

OPCIONES



ACTUALIZAR LOS KEPLERIANOS

The screenshot shows the HRD Satellite Tracking software interface. A tooltip for the 'Kepler Data' menu item reads: 'Show the Kepler data window'. The 'Kepler Data' menu is open, showing options: 'Kepler Data', 'Next Passes', 'Footprints', 'Observers', 'Radar Plot', 'Sunlight', 'Tracks', 'Tuning', 'Screen Capture', and 'Options'. The 'Kepler Data' option is highlighted. The main window displays 'Kepler Data - loaded from' and a table with columns 'Enable', 'Type', and 'Source'. The table contains five rows of data from 'http://www.amsat.org/amsat' and 'http://www.celestrak.com'. The right panel shows 'Kepler Data' information, including a description of the data and links to the AMSAT website and email list. The bottom status bar includes 'Show the Kepler data window' and 'DDE Server CAP NUM SCRL'.

HRD Satellite Tracking - [Kepler Data]

File Edit View Browser Rotator Help Donate

Radio Pane New Satellite Next Passes Kepler Data

Kepler Data - loaded from

Enable Type

Enable	Type	Source
<input checked="" type="checkbox"/>	http://www.amsat.org/amsat	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/M	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/M	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/M	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/M	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/M	URL

Time Source Text

Show the Kepler data window

DDE Server CAP NUM SCRL

DOWNLOADS NOW PARA ACTUALIZAR

HRD Satellite Tracking - [Kepler Data]

File Edit View Browser Rotator Satellite Tools Window Help

Radio Pane New Satellite Next Passes Satellite Defns :46:34 Google Earth Tilt: 0.00° Azim: +0.00°

[TX/RX] ISS **Kepler Data**

Add URL Add File Edit Delete Up Down View Update every: 1 hour

Kepler Data - loaded from the web and files on your computer, last update 08/03/2009 11:46:29

Enable	Type	Source
<input checked="" type="checkbox"/>	http://www.amsat.org/amsat/ftp/keps/current/nasabare.txt	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/NORAD/elements/amateur.txt	URL
<input type="checkbox"/>	http://www.celestrak.com/NORAD/elements/goes.txt	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/NORAD/elements/stations.txt	URL
<input type="checkbox"/>	http://www.celestrak.com/NORAD/elements/visual.txt	URL
<input checked="" type="checkbox"/>	http://www.celestrak.com/NORAD/elements/weather.txt	URL

Kepler Data
The Kepler files provide the data needed to determine the position of the satellites. Typically you access Kepler data from the web (a URL) or from a file received by email, examples are:

- Web: <http://www.amsat.org>, <http://www.celestrak.com>
- E-Mail: <http://www.amsat.org/amsat-new/tools/maillist/maillist.php>

For more information about Kepler data see <http://www.amsat.org/amsat-new/tools/keps.php>.

Note: the position of the Moon and Sun are not determined with Kepler data; special algorithms are used.

You must select at least one source, is you are not sure then use the data from AMSAT

Time	Source	Text
11:46:22	nasabare.txt	http://www.amsat.org/amsat/ftp/keps/current/nasabare.txt -
11:46:24	nasabare.txt	Opening URL http://www.amsat.org/amsat/ftp/keps/current/nasabare.txt
11:46:24	nasabare.txt	154 lines returned
11:46:24	nasabare.txt	51 definitions added
11:46:24	amateur.txt	http://www.celestrak.com/NORAD/elements/amateur.txt -
11:46:25	amateur.txt	Opening URL http://www.celestrak.com/NORAD/elements/amateur.txt
11:46:25	amateur.txt	178 lines returned
11:46:25	amateur.txt	Catalog number 07530 (AO-07) already in database
11:46:25	amateur.txt	Catalog number 14129 (AO-10) already in database
11:46:25	amateur.txt	Catalog number 14781 (UO-11) already in database
11:46:25	amateur.txt	Catalog number 20439 (AO-16) already in database
11:46:25	amateur.txt	Catalog number 20442 (IO-19) already in database
11:46:25	amateur.txt	Catalog number 22825 (AO-27) already in database
11:46:25	amateur.txt	Catalog number 22826 (IO-26) already in database
11:46:25	amateur.txt	Catalog number 23439 (RS-15) already in database
11:46:25	amateur.txt	Catalog number 24278 (FO-29) already in database
11:46:25	amateur.txt	Catalog number 25397 (GO-32) already in database
11:46:25	amateur.txt	Catalog number 25509 (SO-33) already in database
11:46:25	amateur.txt	Catalog number 25520 (PO-34) already in database
11:46:25	amateur.txt	Catalog number 25544 (ISS) already in database
11:46:25	amateur.txt	Catalog number 26609 (AO-40) already in database

Download data now DDE Server CAP NUM SCRL

SINCRONIZAR LA HORA POR INTERNET

The screenshot shows the HRD Satellite Tracking software interface. The 'Tools' menu is open, and the 'NTP Synchronisation' option is highlighted. A tooltip for 'NTP Synchronisation' is displayed, stating: 'Synchronise the computer time with network time source'. The interface includes a menu bar (File, Edit, View, Browser, Rotator, Satellite, Tools, Window, Help), a toolbar with icons for Radio Pane, New Satellite, Next Passes, and others, and a main window displaying a world map with satellite tracks. A circular gauge in the bottom left corner shows the satellite's position (AO-51) with Azimuth (AZ: 223.0°) and Elevation (EL: -61.0°). A data box in the bottom right corner provides satellite details: AO-51, AOS: 04:03:29, Elv: -61.0°, Azm: 223.0°, Rng: 12,058.3 km, Alt: 837.2 km, Loc: ED03LQ. The status bar at the bottom indicates 'Synchronise the computer time with network time source' and shows the current slide (Diapositiva 25 de 26) and language (Español (España - alfab. tradicional)).

HRD Satellite Tracking - [AO-51]

File Edit View Browser Rotator Satellite Tools Window Help

Radio Pane New Satellite Next Passes Satellite

AO-51 x Radio Support x Kepler

Tuning Dial Favourites Rotator Satellite

Manual Tuning

Enable RX VFO-A 435 TX VFO-B 145.880.971 UPLINK 145.880.000

Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

Repeater/Split Undo Freq

RX TX

AO-51

AZ: 223.0° EL: -61.0°

AO-51 AOS: 04:03:29 Elv: -61.0° Azm: 223.0° Rng: 12,058.3 km Alt: 837.2 km Loc: ED03LQ

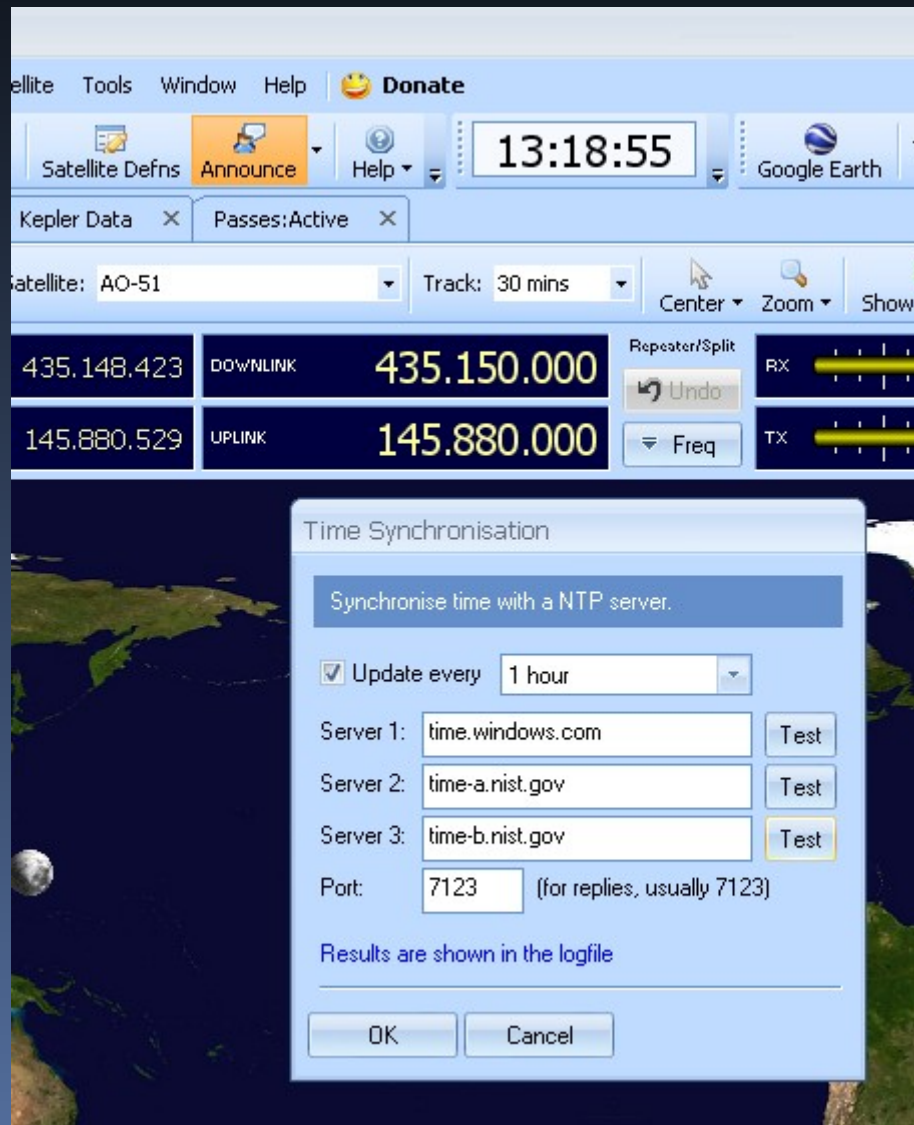
Synchronise the computer time with network time source

DDE Server CAP NUM SCRL

Diapositiva 25 de 26 Tema de Office Español (España - alfab. tradicional)

66%

NTP TIME SYNCHRONISATION



ACTIVAMOS NUESTRO LOCATOR

HRD Satellite Tracking - [[TX/RX] ISS]

File Edit View Browser Rotator Satellite Tools Window Help Donate

Radio Pane New Satellite Next Passes Satellite Defns **Announce** Help 11:39:21 Google Earth Tilt: 0.00° Azim: +0.00°

[TX/RX] ISS Kepler Data

Tuning Dial Favourites Rotator Satellite: ISS Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

Manual Tuning
☐ Enable

☒ RX VFO-A 145.801.020 DOWNLINK **145.800.000**

☒ TX VFO-B 437.796.937 UPLINK **437.800.000**

Repeater/Split
Undo

Freq

Options

Manual Tuning Radar Display Radar Horizon Rotator Rotator Presets Storage Folder Tuning Bar
Image Your Information Formats Details Announcements DDE Local Server DDE Remote Server

Location

Locator: **IN80FK**

or enter direct

Latitude: 40 ° 26 m 15 s N

Longitude: 3 ° 32 m 29 s W

Height

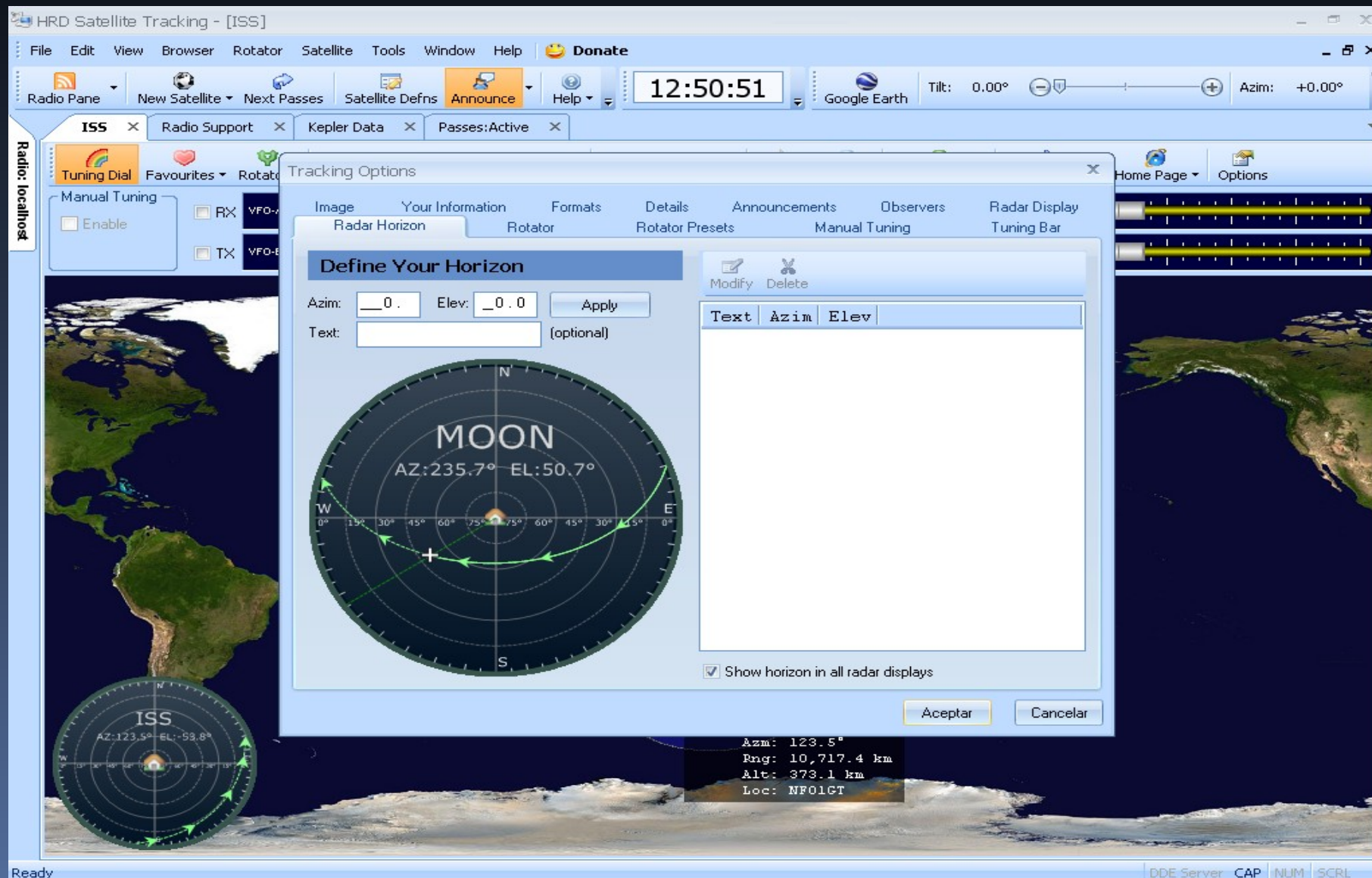
Metres: 700 Feet: 2297

Acceptar Cancelar

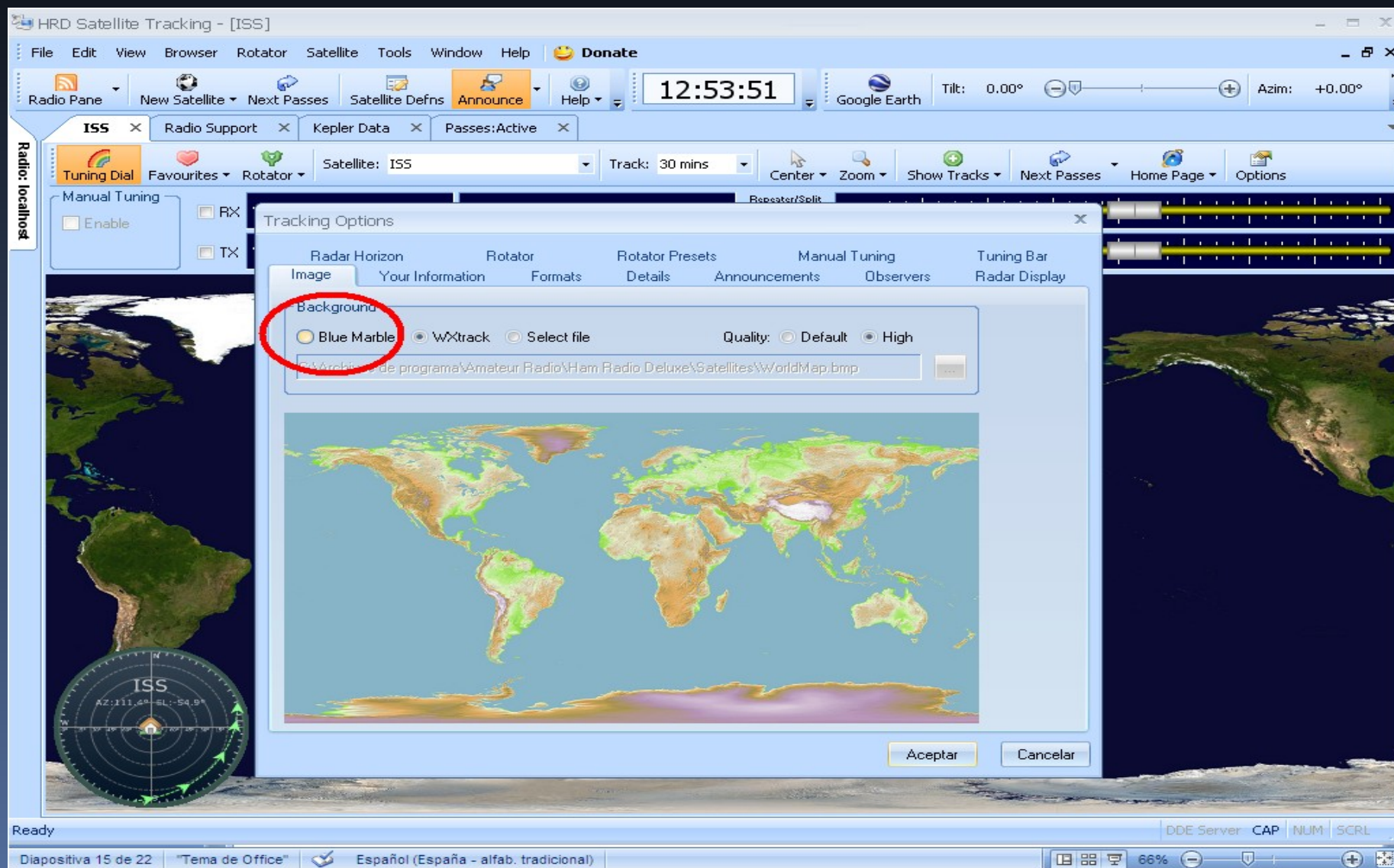
Ready

DDE Server CAP NUM SCRL

OPCION RADAR



CAMBIAR MAPA POR DEFECTO



ACTIVAR CONEXIÓN AL EQUIPO

HRD Satellite Tracking - [[TX/RX] ISS]

File Edit View Browser Rotator Satellite Tools Window Help Donate

Radio Passes Satellite Defns Announce Help 11:23:40 Google Earth Tilt: 0.00° Azim: +0.00°

Connect Connect to the radios

Radio: localhost

Connect Options

FT-847

VF0-A 145.799.760

VF0-B 145.200.230

Mode: USB Sat Rx: USB

Sat Tx: LSB Tone

Repeater

TX SAT

Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

4 DOWNLINK 145.800.000 Repeater/Split RX

5 UPLINK 145.200.000 Undo Freq TX

ISS AOS: 10:57:05
Elv: -64.2°
Azim: 92.5°
Rng: 11,882.2 km
Alt: 367.5 km
Loc: 0G83VL

Ready DDE Server CAP NUM SCRL

VER MIS FAVORITOS

HRD Satellite Tracking - [ISS]

File Edit View Browser Rotator Satellite Tools Window Help Donate

Radio Pane New Satellite Next Passes Satellite Defns Announce Help 13:01:11 Google Earth Tilt: 0.00° Azim: +0.00°

AO-51 x Radio Support x Kepler Data x Passes:Active x

Radio: localhost

Tuning Dial Favourites Rotator

Manual Tun Enable

Satellite: AO-51 Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

435.144.184	DOWNLINK	435.150.000
145.881.950	UPLINK	145.880.000

Repeater/Split RX TX

Repeater / Split: 435.150.000:145.880.000 (QRP FM voice re...)

Repeater / Split: 435.300.000:145.920.000 (Normal FM voice ...)

Repeater / Split: 435.150.000:145.860.000 (PacSat BBS)

Repeater / Split: 2.401.200.000:145.920.000 (FM voice repe...)

Repeater / Split: 435.300.000:28.140.000 (Digital)

Repeater / Split: 435.300.000:1.268.700.000 (FM voice repe...)

Repeater / Split: 435.150.000:1.268.700.000 (PacSat BBS)

Repeater / Split: 2.401.200.000:1.268.700.000 (FM voice rep...)

AMSAT

AO-51

AO-07

AO-10

AO-16

AO-27

CAPE1

CO-55

CO-56

CO-57

CO-58

COMPASS

DO-64

FO-29

GO-32

IO-26

ISS

LO-19

MOON

NO-44

PO-28

RS-22

SO-33

SO-50

UO-11

UO-15

VO-52

AO-51 AOS: 04:16:25
Elv: -42.1°
Azim: 256.4°
Rng: 9,661.6 km
Alt: 791.9 km
Loc: EH78JW

Ready DDE Server CAP NUM SCRL

Diapositiva 16 de 23 "Tema de Office" Español (España - alfab. tradicional)

66%

ELEGIMOS EL SATELITE

HRD Satellite Tracking - [[TX/RX] ISS]

File Edit View Browser Rotator Satellite Tools Window Help Donate

Radio Pane New Satellite Next Passes Satellite Defns Announce Help 11:27:15 Google Earth Tilt: 0.00° Azim: +0.00°

[TX/RX] ISS x Radio Support x Kepler Data x

Tuning Dial Favourites Rotator Satellite: ISS Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

Manual Tuning
☐ Enable
☒ RX VFO-A 145.8
☒ TX VFO-B 437.7

IO-26
ISS
 ISS DEB
 KALPANA-1 (METSAT 1)
 KO-23
 KO-25
 LO-19
 MAST
 MET-2/21
 MET-3/5
 METEOSAT-5 (MOP-2)
 METEOSAT-6 (MOP-3)
 METEOSAT-7
 METEOSAT-8 (MSG-1)
 METEOSAT-9 (MSG-2)
 METOP-A
 MO-30
 MO-46
 MOON
 MTSAT-2
 NCUBE-2
 NO-44
 NO-45
 NOAA-10
 NOAA-11
 NOAA-12
 NOAA-14
 NOAA-15
 NOAA-16
 NOAA-17

45.800.000
 37.800.000
 Repeater/Split
 Undo
 Freq

RX
 TX

ISS AOS: 10:53:26
 Elv: -64.6°
 Azm: 74.4°
 Rng: 11,920.5 km
 Alt: 362.7 km
 Loc: PH34ME

ISS
 AZ: 74.4° EL: -64.6°

The satellite being plotted in this window

DDE Server CAP NUM SCRL

FREQ MUESTRA LOS MODOS DEL SATELITE ELEGIDO

HRD Satellite Tracking - [[TX/RX] ISS]

File Edit View Browser Rotator Satellite Tools Window Help Donate

Radio Pane New Satellite Next Passes Satellite Defns Announce Help 11:50:42 Google Earth Tilt: 0.00° Azim: +0.00°

[TX/RX] ISS x Kepler Data x

Tuning Dial Favourites Rotator Satellite: ISS Track: 30 mins Center Zoom Show Tracks Next Passes Home Page Options

Manual Tuning
Enable
RX VFO-A 145.801.508 DOWNLINK 145.800.000
TX VFO-B 437.795.473 UPLINK 437.800.000 Freq TX

ISS

Frequency Tuning Bar

Mode
☐ Beacon
☒ Repeater / Split
☐ Linear inv. transponder

Frequency
Uplink: 437.800.000 MHz
Downlink: 145.800.000 MHz

Comment:

Add Update Delete Up Down Load Selection

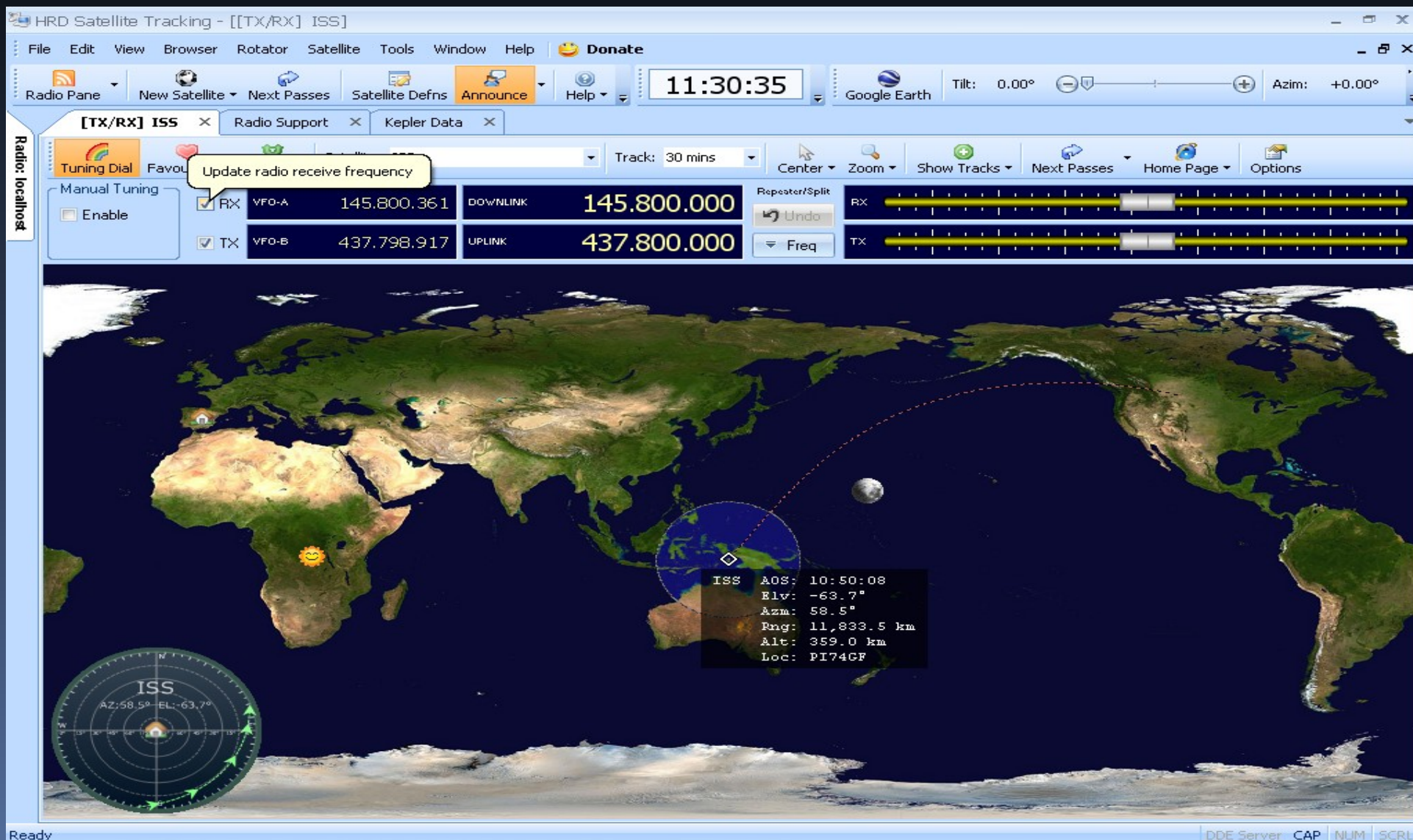
Type	RX Frequency	TX Frequency	Comment
Repeater / Split	145.800.000	144.490.000	Crew Contact for Regions 2
Repeater / Split	145.800.000	145.200.000	Crew Contact for Region 1
Repeater / Split	145.800.000	437.800.000	FM voice repeater
Beacon / RX only	144.490.000	---	SSTV

Double-click to auto-select an entry

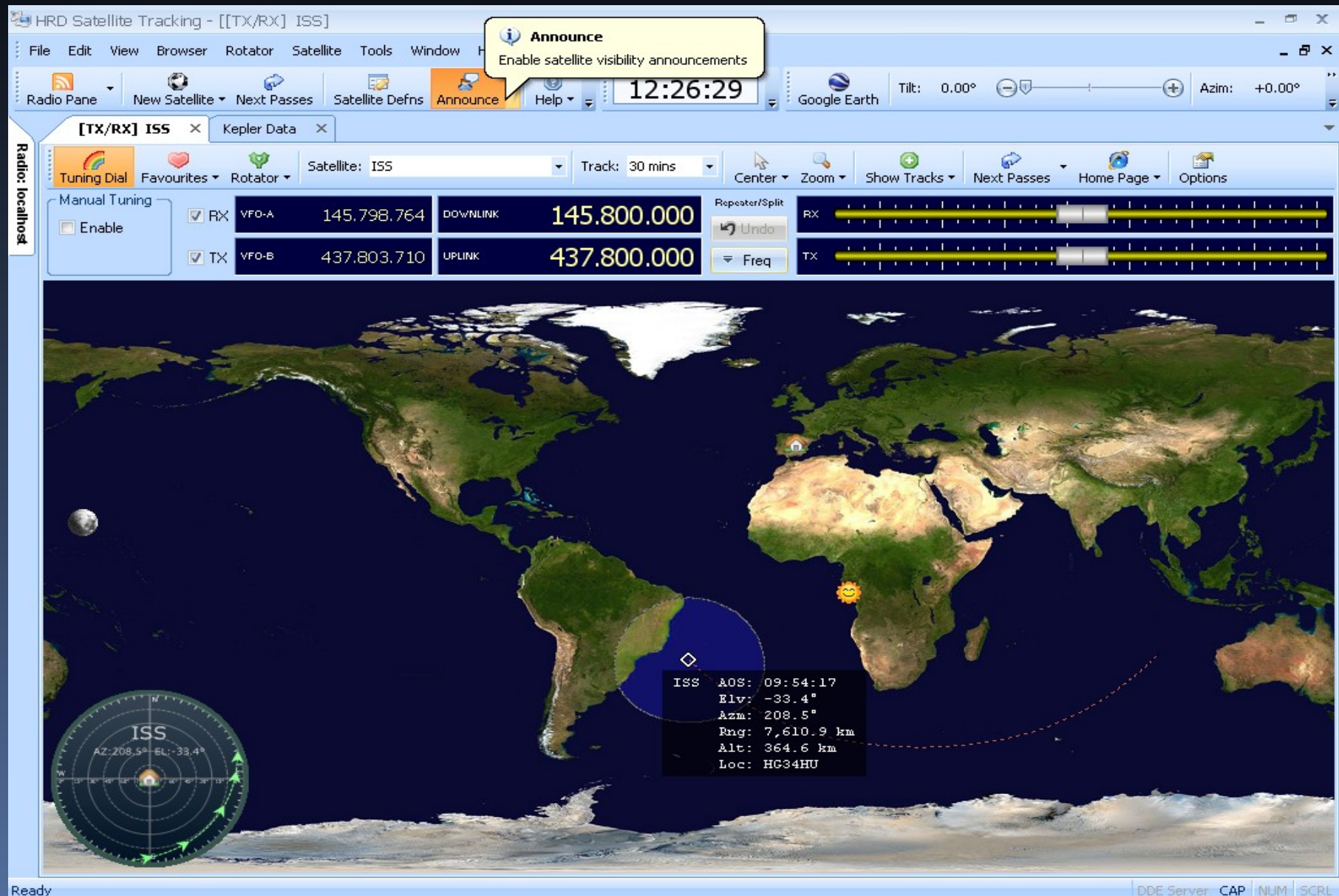
Accept Cancel

Ready DDE Server CAP NUM SCRL

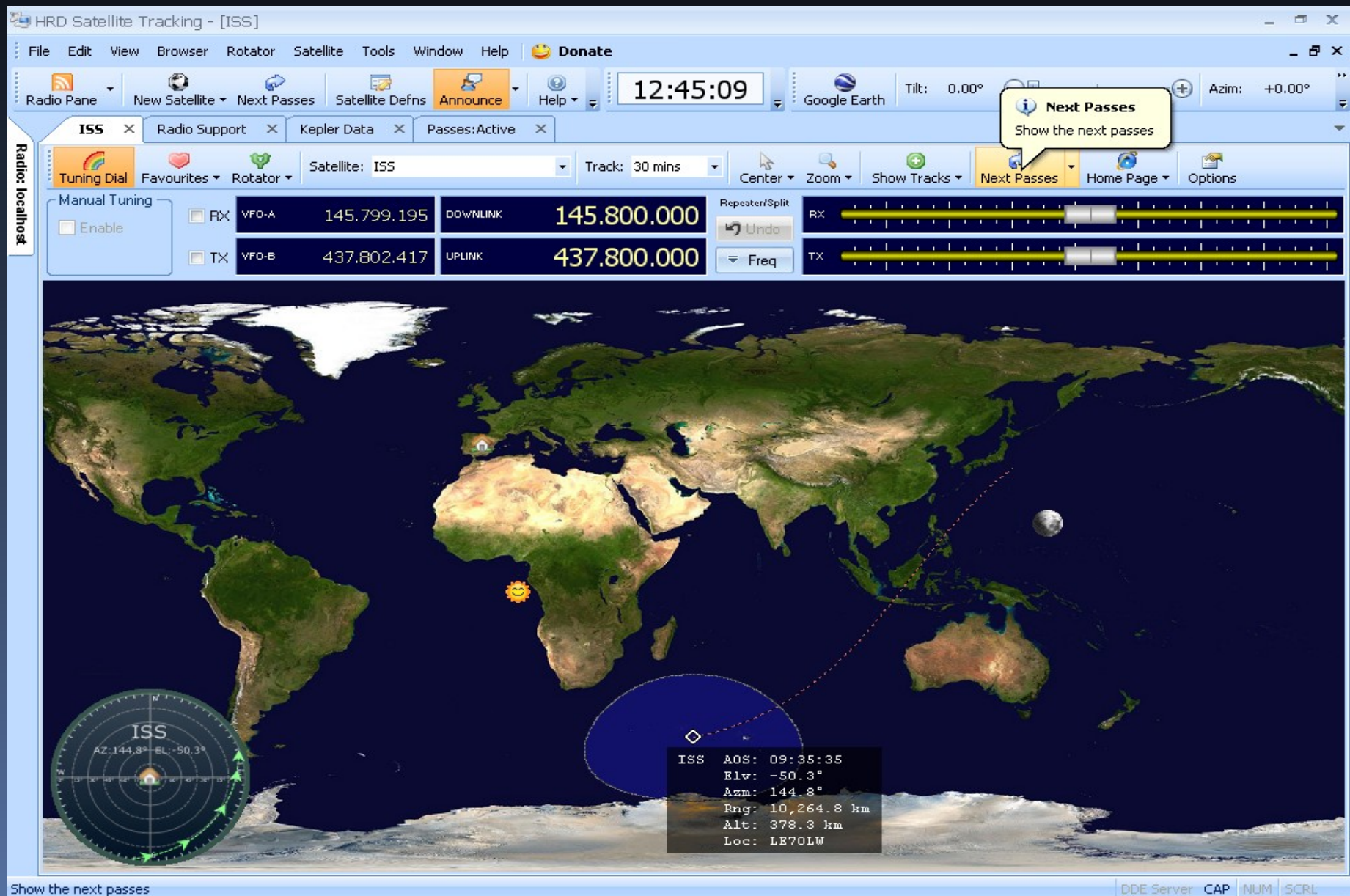
ACTUALIZAMOS VFOS TX & RX CORRECCION AUTOMATICA DEL DOPPLER



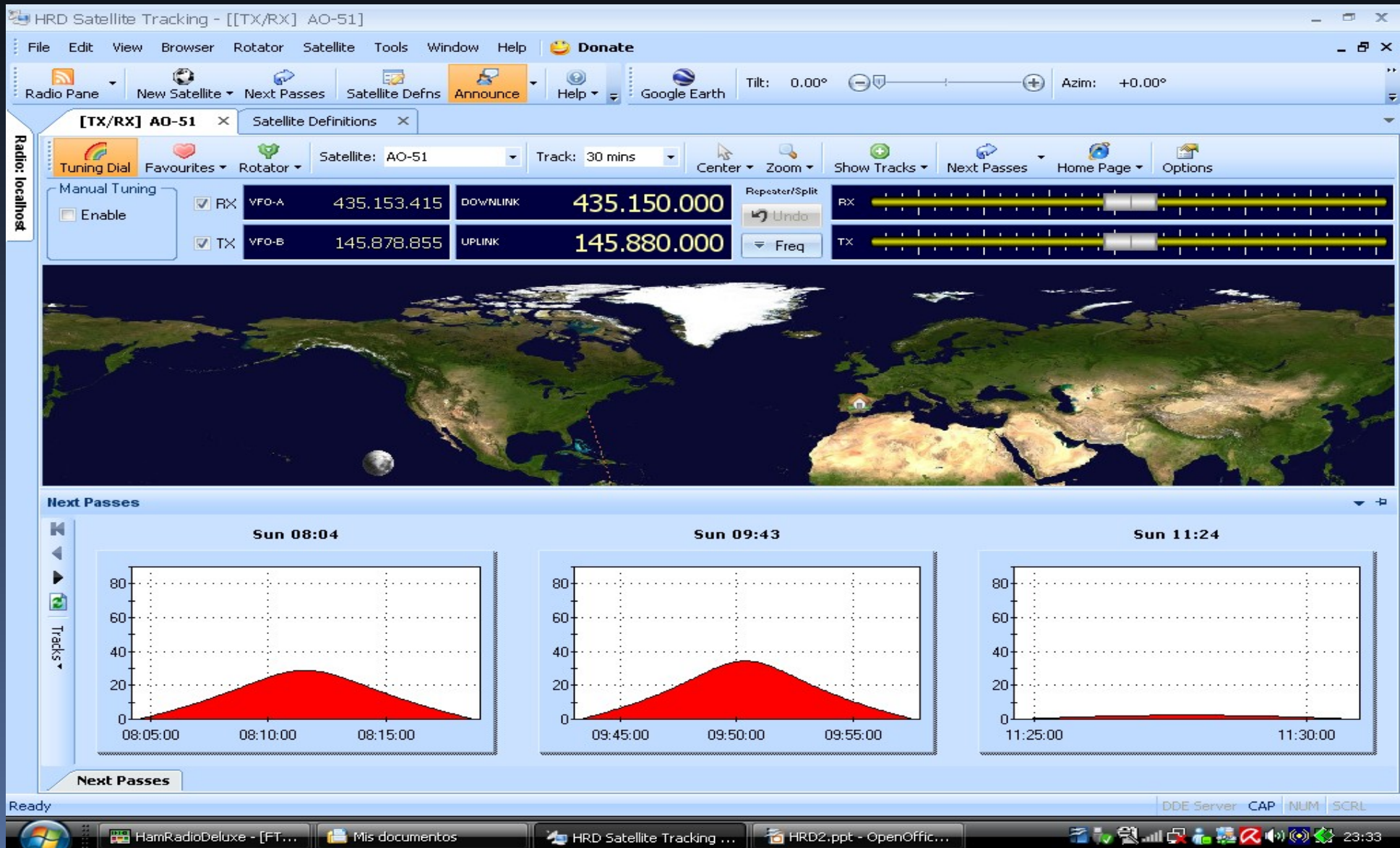
ACTIVAMOS ANUNCIOS DE VOZ



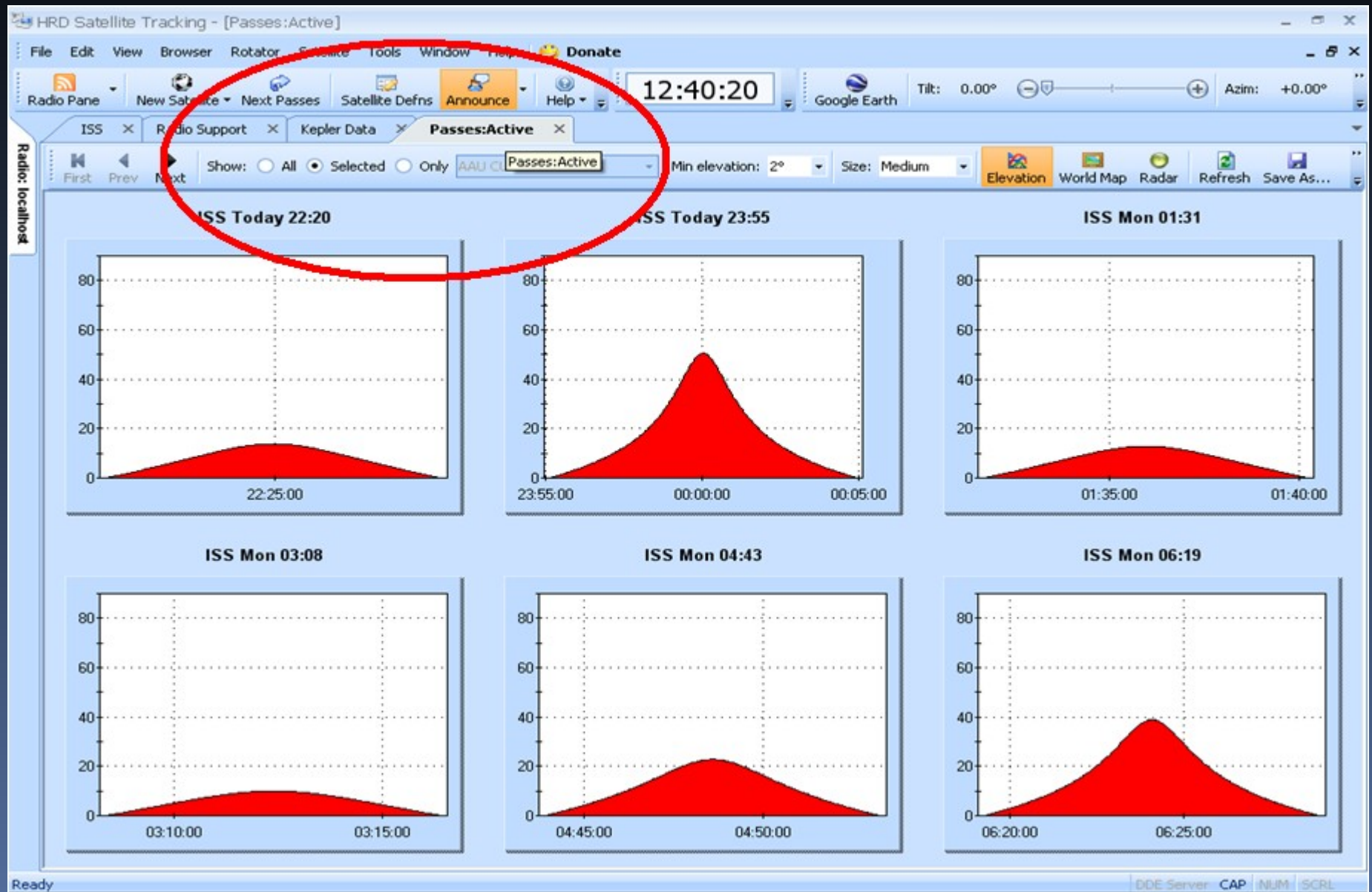
VER PASES DE SATELITES



PROXIMOS PASES DEL SATELITE



SELECCION PARA VER LOS PASES



EL ZOOM CON SU HUELLA

The screenshot displays the HRD Satellite Tracking software interface for satellite AO-51. The main window shows a map of South America with a zoomed-in view of the satellite's position. A context menu is open over the map, showing zoom levels from 100% to 1,000%, with 400% selected. The interface includes a top menu bar (File, Edit, View, Browser, Rotator, Satellite, Tools, Window, Help, Donate), a toolbar with various icons, and a status bar at the bottom. The left sidebar contains a 'Radio: localhost' section with a 'Manual Tuning' button and a 'Tuning Dial'. The main panel displays the satellite's name 'AO-51' and its current position over the map. A data box for AO-51 provides the following information:

Parameter	Value
AOS	04:11:29
Elv	-49.9°
Azm	245.4°
Rng	10,757.6 km
Alt	812.0 km
Loc	EG51IL

The status bar at the bottom indicates 'Ready' and 'DDE Server CAP NUM SCRL'. The version information at the bottom right is 'Versión de compilación 2600.xpsp_sp3_gdr.080814-1236 (Service Pack 3)'.

MODOS DIGITALES CON DM180

Digital Master 780 -----



Version 4.1 Beta build 1989

Copyright © 2005 - 2008 by Simon Brown, HB9DRV

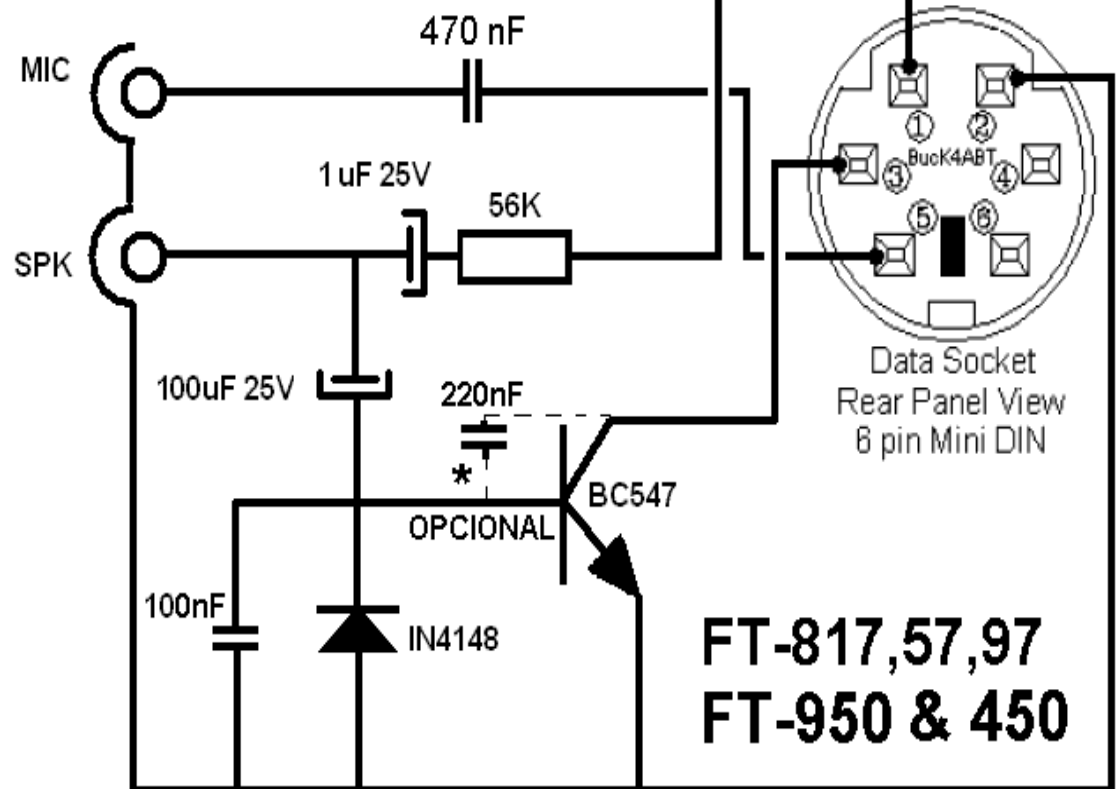
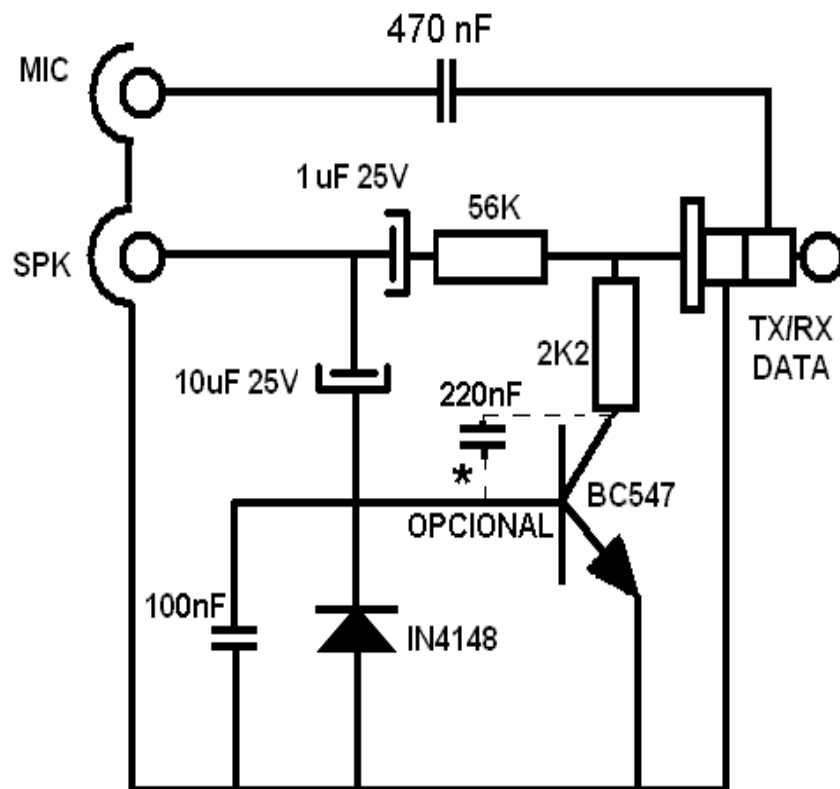
Credits

Dave Freese	Fldigi	W1HKJ
Hamish Moffatt	DominoEx	VK3SB
Johan Maes	QSSTV	ON4QZ
Moe Wheatley	PSKCore	AE4JY
Pavel Jalocha	Olivia,MT63	SP9VRC
Takuya Ooura	FFT Source	
Tomi Manninen	gMFSK	OH2BNS

Interface SB diseñado Para el curso de HRD B+B+B

INTERFACES PARA MODOS DIGITALES
JUAN GONGORA >>> EA4EWH

FT-847

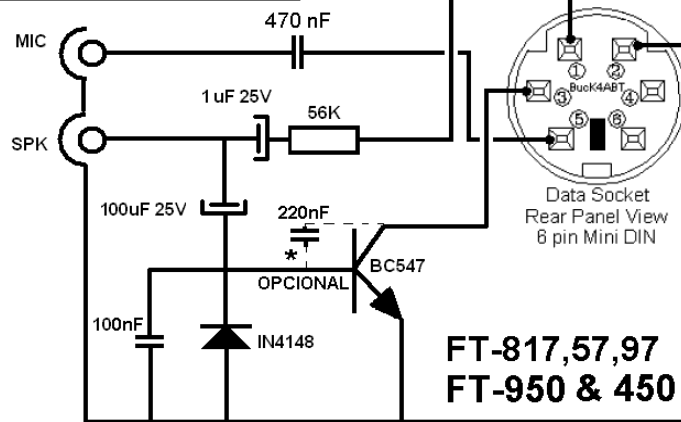
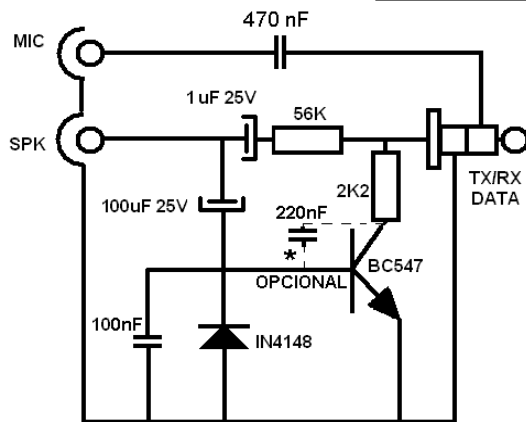


PROTOTIPO MONTADO EN PCB UNIVERSAL

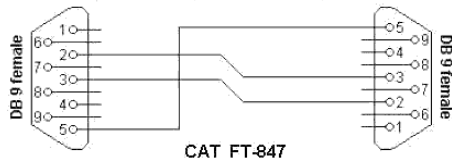


INTERFACES PARA MODOS DIGITALES
JUAN GONGORA >>> EA4EWH

FT-847



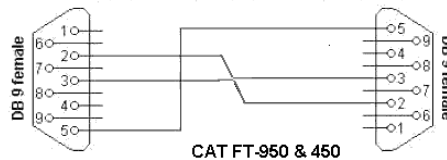
Simple null modem without handshaking



CAT FT-847

Connector 1	Connector 2	Function
2	3	Rx ← Tx
3	2	Tx → Rx
5	5	Signal ground

Simple null modem without handshaking



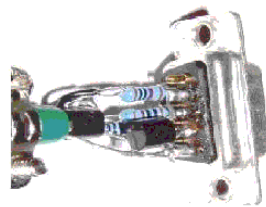
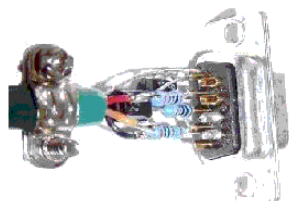
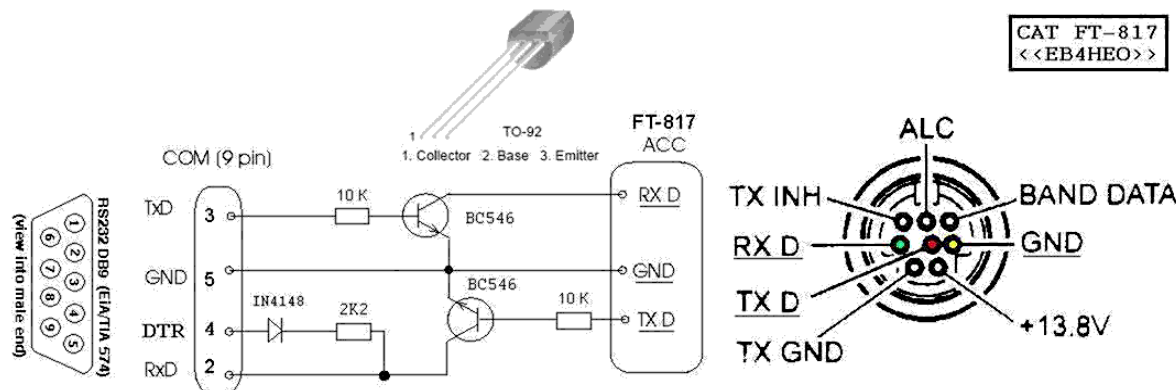
CAT FT-950 & 450

Connector 1	Connector 2	Function
3	3	Rx ← Rx
2	2	Tx → Tx
5	5	Signal ground

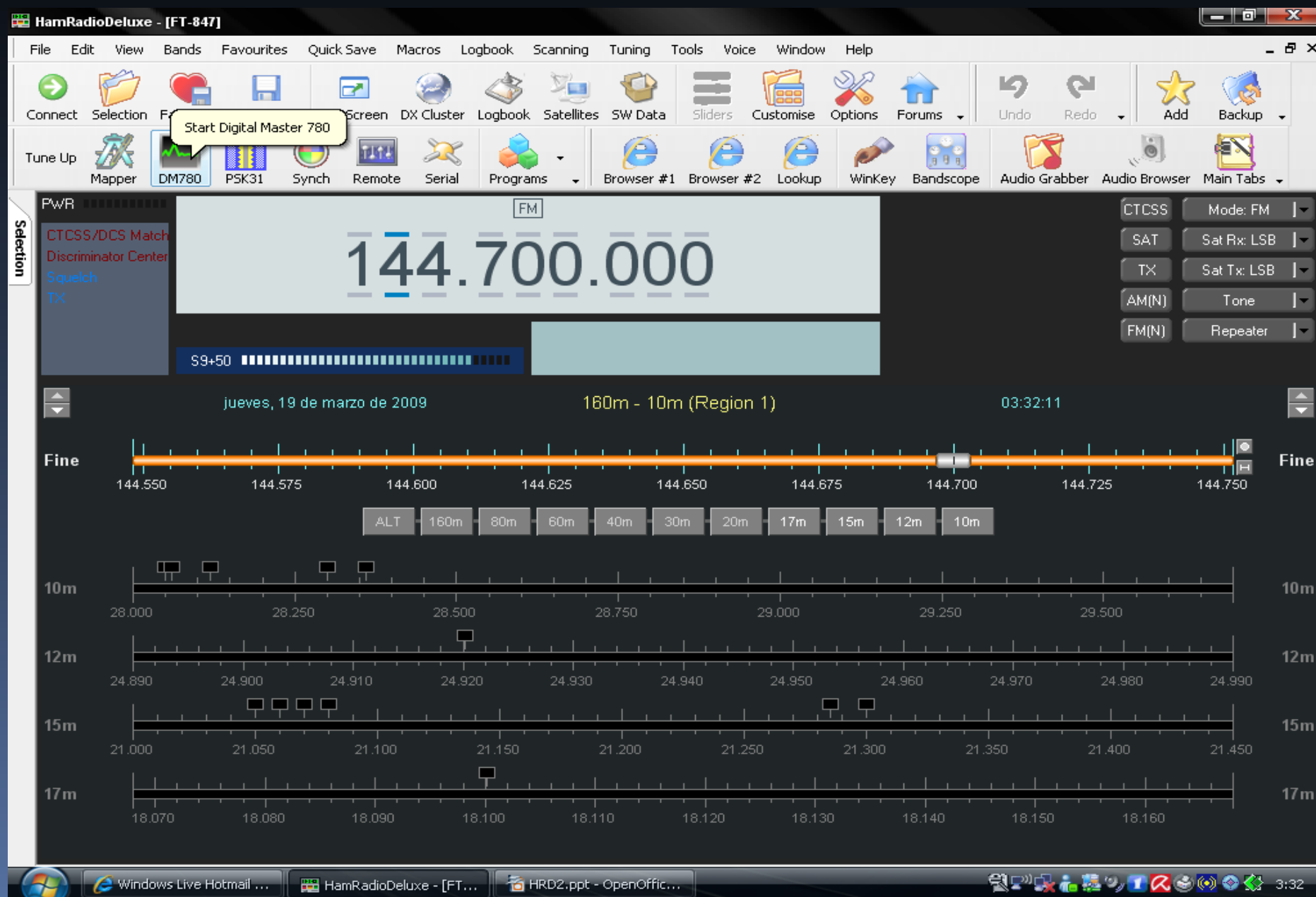
EA4EWH

INTERFACES DE RADIOS

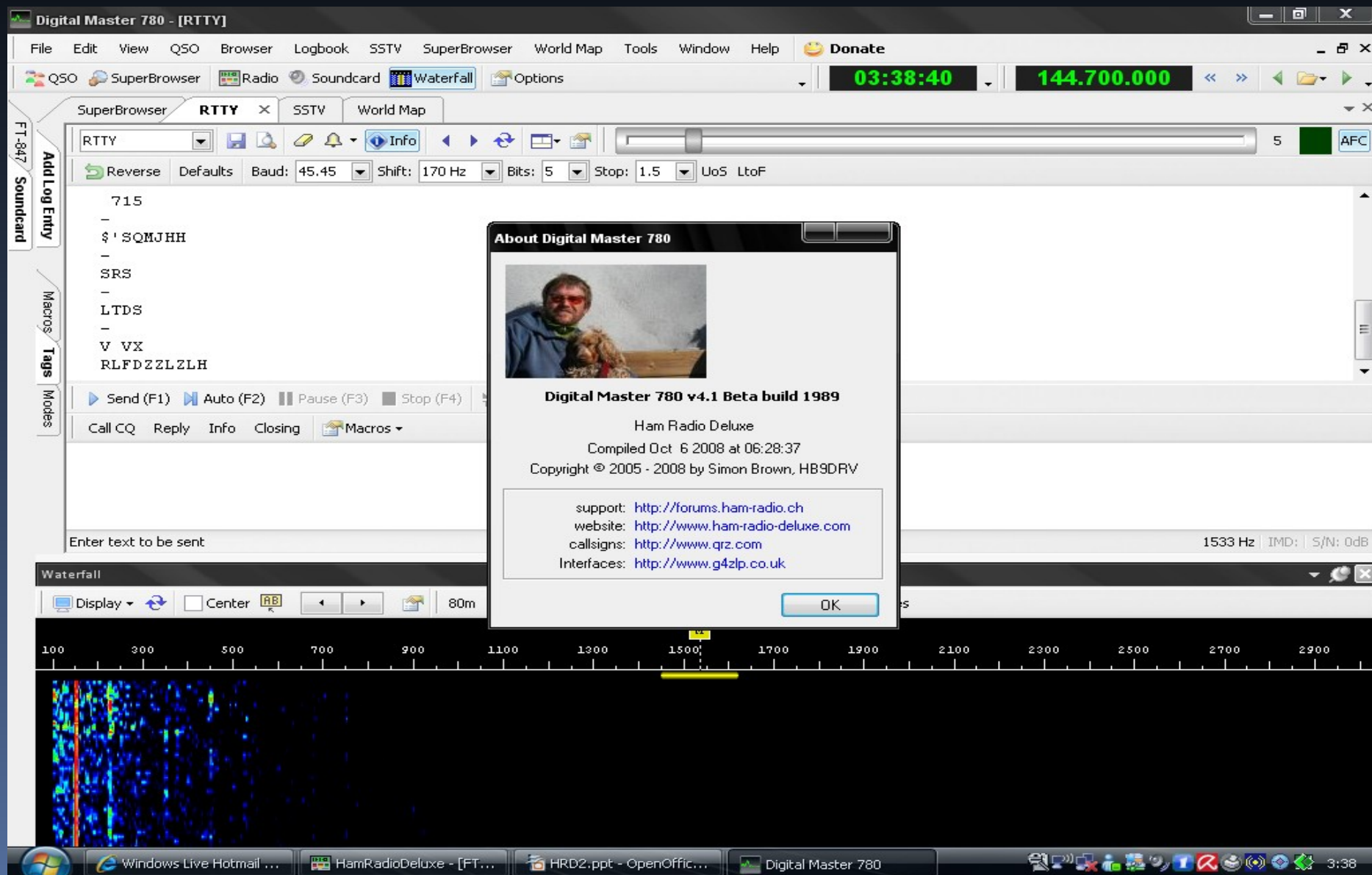
CAT FT-817
 <<EB4HEO>>



ACTIVACION DE DM180



PANTALLA DE INICIO DM780



HELP GETTING STARTER

Digital Master 780 - [Getting Started]

File Edit View QSO Browser Logbook SSTV SuperBrowser World Map Tools Window Help Donate

QSO SuperBrowser Radio Soundcard Waterfall Options 03:40:39 144.700.000

SuperBrowser RTTY SSTV World Map Getting Started x

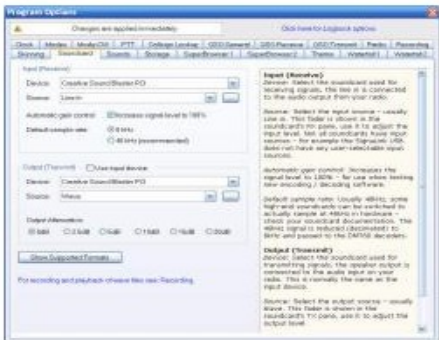
res://C:\Archivos de programa\Amateur Radio\Ham Radio Deluxe\Digital Master.exe/361

Getting Started

1-2-3-4-GO

This help text is displayed because you do not have a callsign defined in your tags window - see step (4) below.

(1) Soundcard



[Click here](#) to select your soundcard or press F8 to display the *Program Options* (or select *Program Options* from the *Tools* menu) and select the *Soundcard* page.

(2) Radio Interface

res://C:\Archivos de programa\Amateur Radio\Ham Radio Deluxe\Digital Master.exe/361#Your Tags

Windows Live Ho... HamRadioDeluxe ... HRD2.ppt - Open... Digital Master 78... ANGEL <eb4aeu...

3:40

CONFIGURACION BASICA TAGS

The screenshot displays the Digital Master 780 software interface, specifically the 'Tags' configuration window. The main window is titled 'Digital Master 780 - [BPSK-31]'. The menu bar includes File, Edit, View, QSO, Browser, Logbook, SSTV, SuperBrowser, World Map, Tools, Window, Help, and a Donate button. The status bar shows the time 03:53:53 and frequency 14.071.000.

The 'Tags' window is open, showing a list of tags on the left and a text area on the right. The tags are organized into sections: 'About Me', 'My Equipment', and 'Other'. The 'About Me' section includes fields for Callsign (EA4EWH), Name (JUAN GONGORA), Age (48), Locator (IN80FK), QTH (MAD <<SPAIN>), E-Mail, HomePage, and Clubs (URE & RCH). The 'My Equipment' section includes fields for Radio (FT-847), Antenna (END-FED), Power (100 W), Computer (PUNDIT), Interface (SB), and Accessories. The 'Other' section includes fields for Temperature, Weather, and Other1.

The text area on the right contains the following text:

you very much for the QSO.pFd -A
em SL only e belt and hope to peet you another time.
K DR FRIEND Werner
AND BYEe
IO.Tnx again for nice kontakt.73 good DXs.. bye bye CU7AJ de DG1BVK SK

The bottom of the interface shows a 'Waterfall' display with a frequency scale from 100 to 2900 kHz. The display shows a colorful spectrum with a prominent signal at 700 kHz. The status bar at the bottom indicates 678 Hz, IMD: -2dB, and S/N: 2dB.

CONFIGURAR MACROS

The screenshot displays the Digital Master 780 software interface, specifically the BPSK-31 mode. The main window shows a text area with the following content:

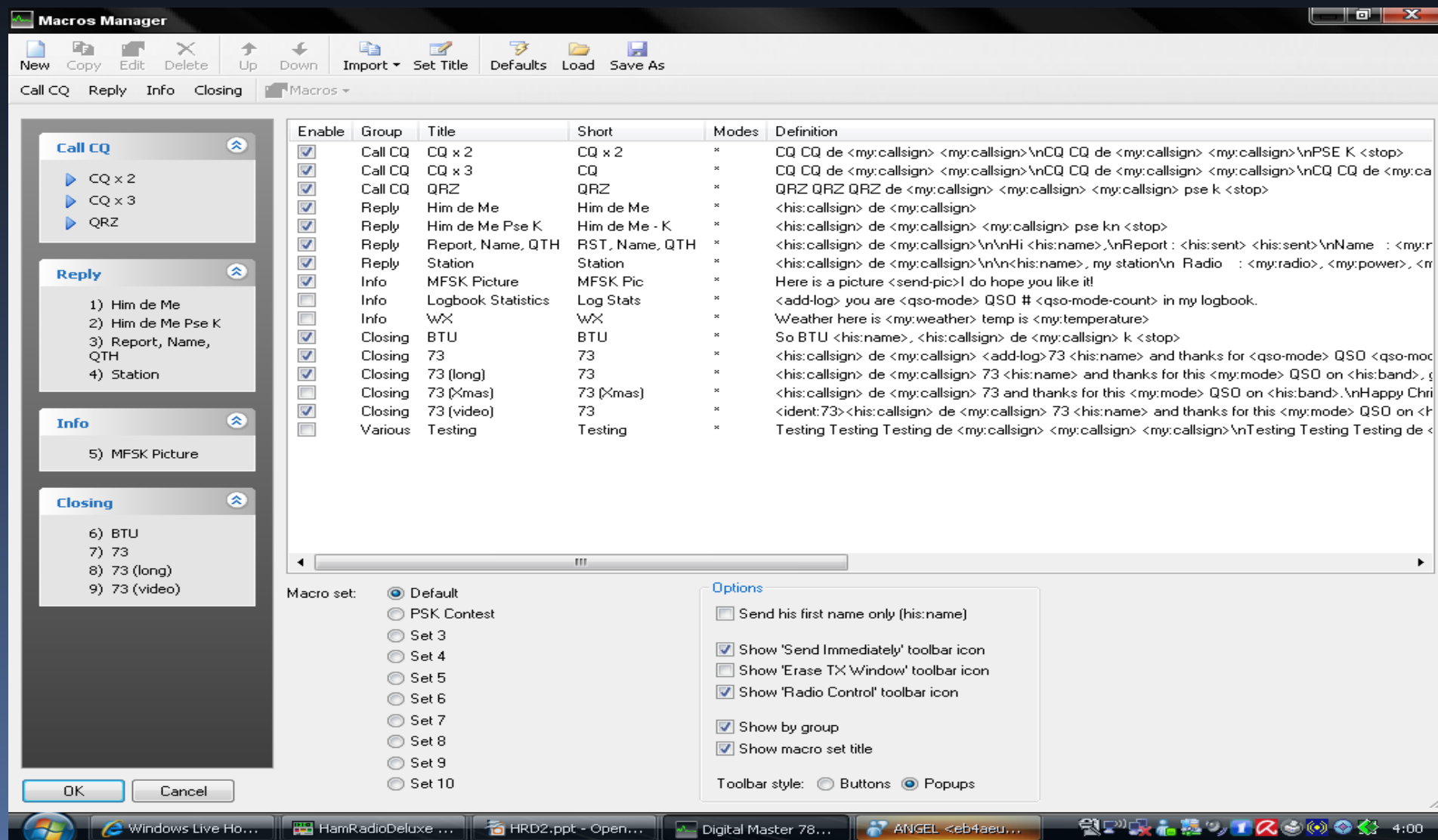
```
= RST: 599 599 =  
= QTH: HORTA HORTA AZORES AZORES PORTUGAL =  
= NAME: MARIw MAR nr , eU mZaneay  
-  
18QN >>>BTU YU1FW DE CU7AJ Keltn Q  
-  
t  
-  
i At e@ta h  
-  
t  
-  
.eaitet  
s =h i s
```

Below the text area, there is a toolbar with buttons for Send (F1), Auto (F2), Pause (F3), Stop (F4), Repeat, and a Macros dropdown menu. The Macros dropdown menu is open, showing a list of macro sets:

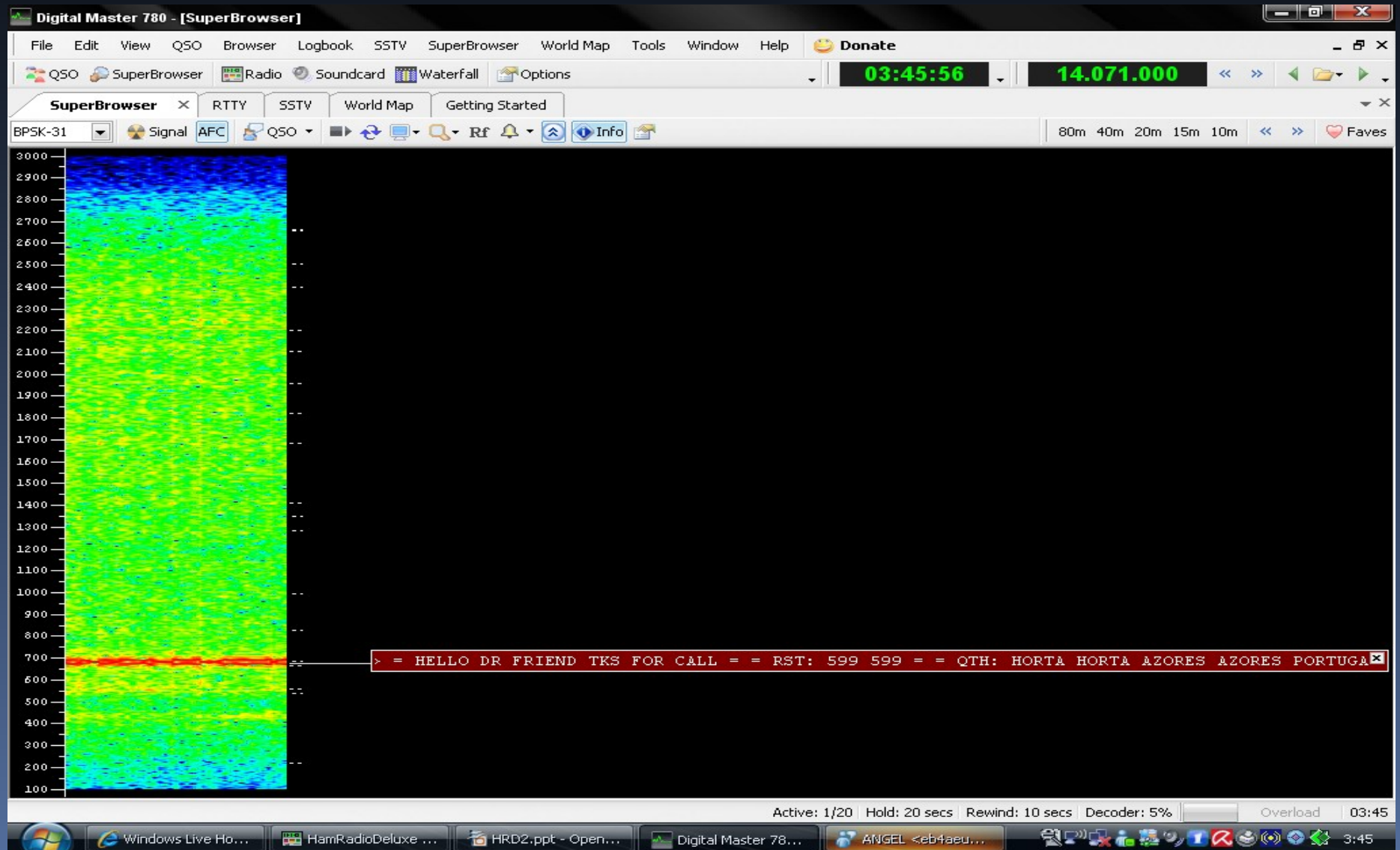
- ☒ Default
- PSK Contest
- Set 3
- Set 4
- Set 5
- Set 6
- Set 7
- Set 8
- Set 9
- Set 10
- Buttons
- ☒ Popups
- Manager

The Manager option is highlighted, and a tooltip labeled "Macros Manager" is visible. The bottom of the interface shows a Waterfall display with a frequency scale from 1100 to 2900 Hz. The Windows taskbar at the bottom indicates the system time is 4:02.

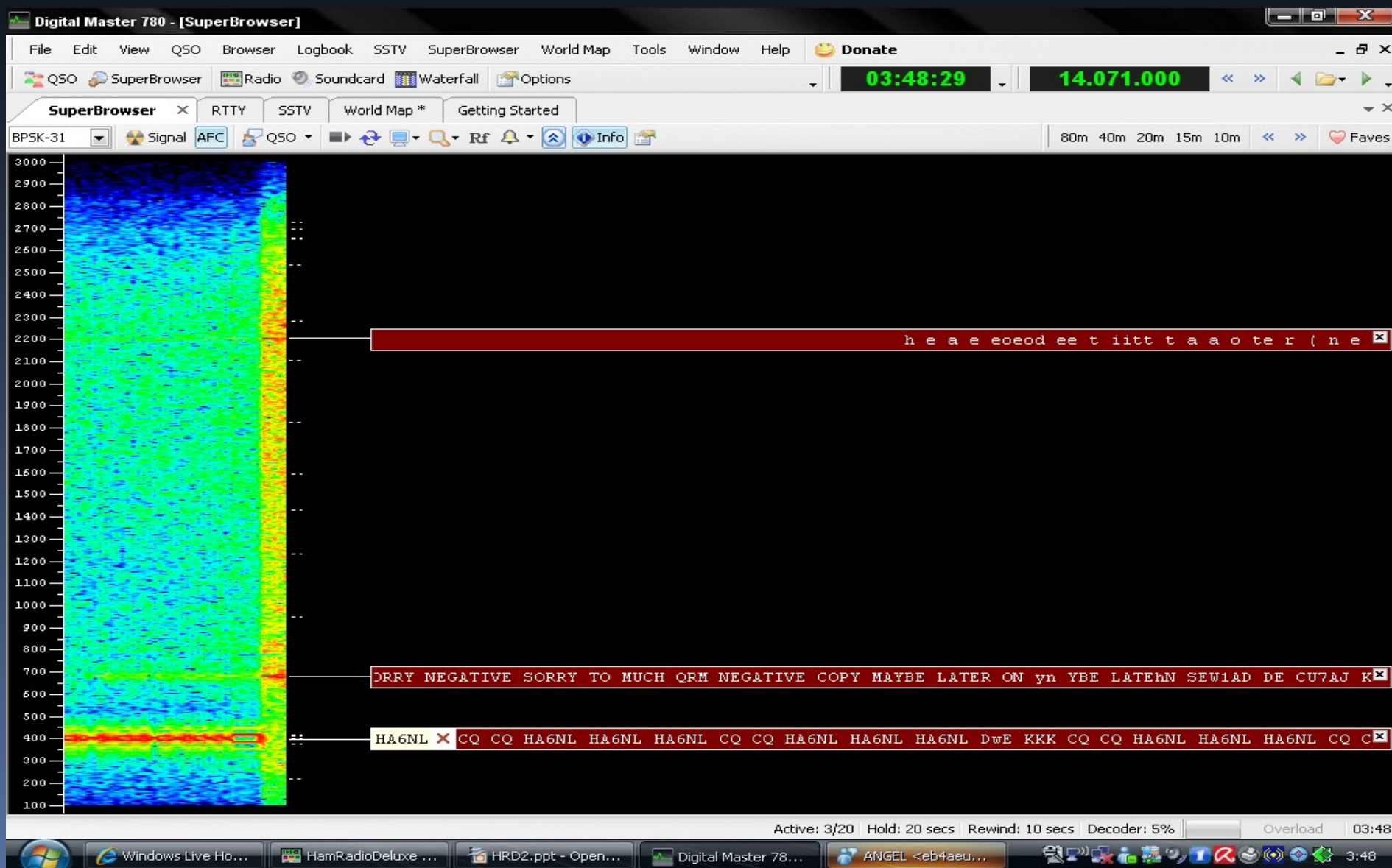
PANTALLA DE MACROS



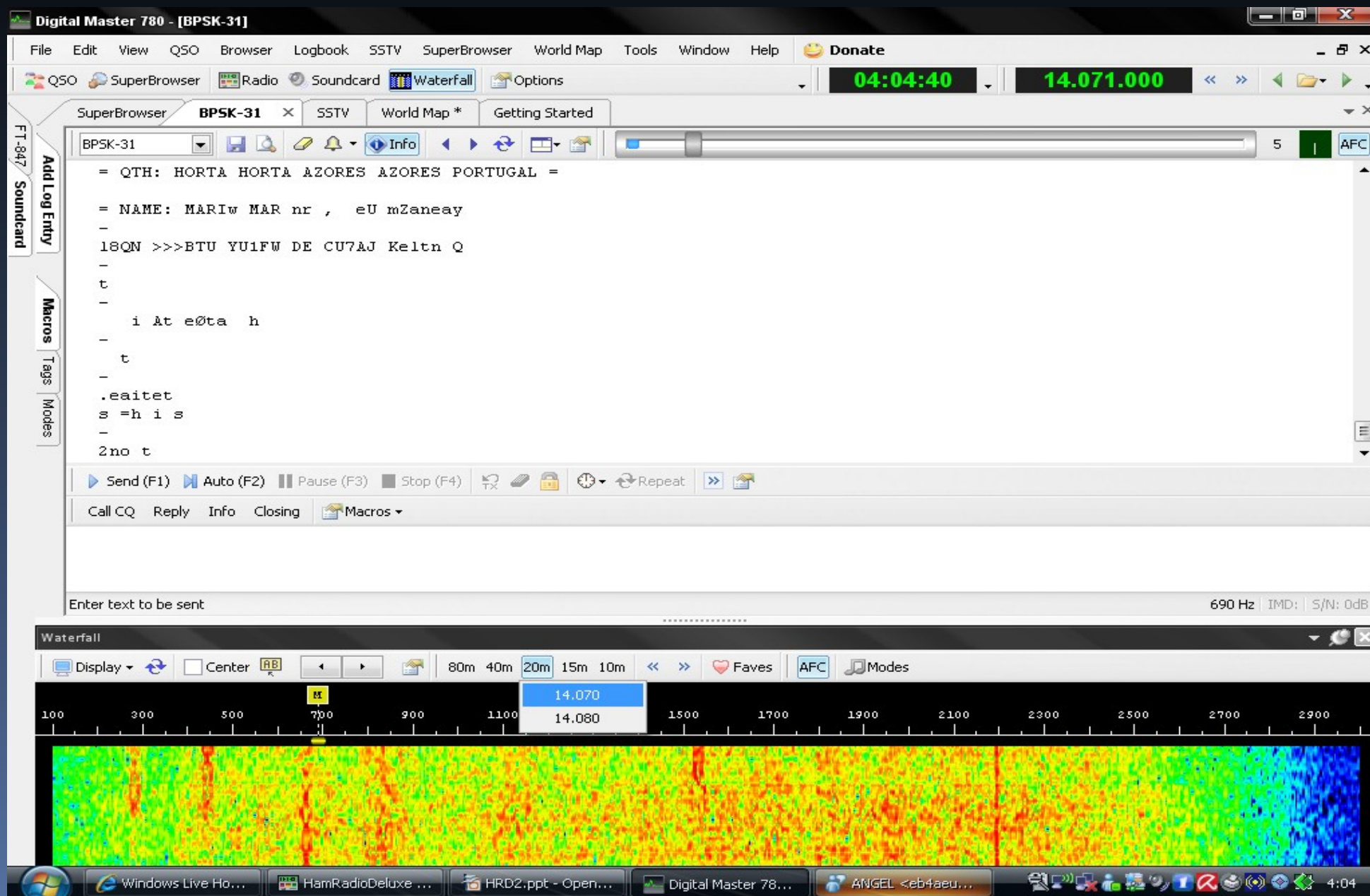
ACTIVACION DE SUPER BROWSER



VARIOS QSOS EN BPSK



SELECCION AUTOMATICA DE FRECUENCIA según BANDA Y MODO



FUNCIONES ESPECIALES DISPLAY FRECUENCIA Y TUNE EN BOTON DE OPCIONES DEL WATERFALL

The screenshot shows the Digital Master 780 software interface. The main window displays a waterfall plot with a frequency range from 100 to 300 kHz. A 'Program Options' dialog box is open, showing the 'Waterfall' tab. The dialog box has a left sidebar with a tree view containing categories like Appearance, Alarms..., Audio Recorder..., and Waterfall. The 'Waterfall' category is selected, and its options are shown on the right. The 'Center Frequency Marker' section has a checkbox 'Enable center frequency marker' and three frequency input fields (1000, 1500, 2000). The 'Radio Macros' section has a checkbox 'Show radio control macros' and two radio button options (Buttons, Popups). The 'Various' section has checkboxes for 'Erase when changing frequency', 'Only update if visible (less CPU)', 'Show radio frequency toolbar', and 'Show soundcard in window title'. The 'Tuning' section has checkboxes for 'Guides: Channels (M, A, B)', 'Mouse', and 'Tuning indicator'. The 'Getting Started' button is at the bottom left of the dialog box. The background shows the main software interface with a menu bar, toolbar, and a status bar at the bottom displaying system information like CPU usage and audio levels.

Program Options

Appearance
Callsign (My Info)
Clock
Logbook
Modes
PTT
Radio
QSO
Soundcard
Sounds
Storage
SuperBrowser
Waterfall

Alarms...
Favourites...
Macros...
Modes...
Navigator...

Audio Recorder...
PSK Reporter...
Soundcard Calibration...
Time Synchronisation...

Getting Started

Center Frequency Marker

☐ Enable center frequency marker (radio connection required)

1000 1500 2000

Radio Macros

☒ Show radio control macros: ☒ Buttons ☐ Popups

Various

☐ Erase when changing frequency
☒ Only update if visible (less CPU)
☒ Show radio frequency toolbar
☐ Show soundcard in window title

Tuning

Guides: ☐ Channels (M, A, B)
☒ Mouse
☒ Tuning indicator

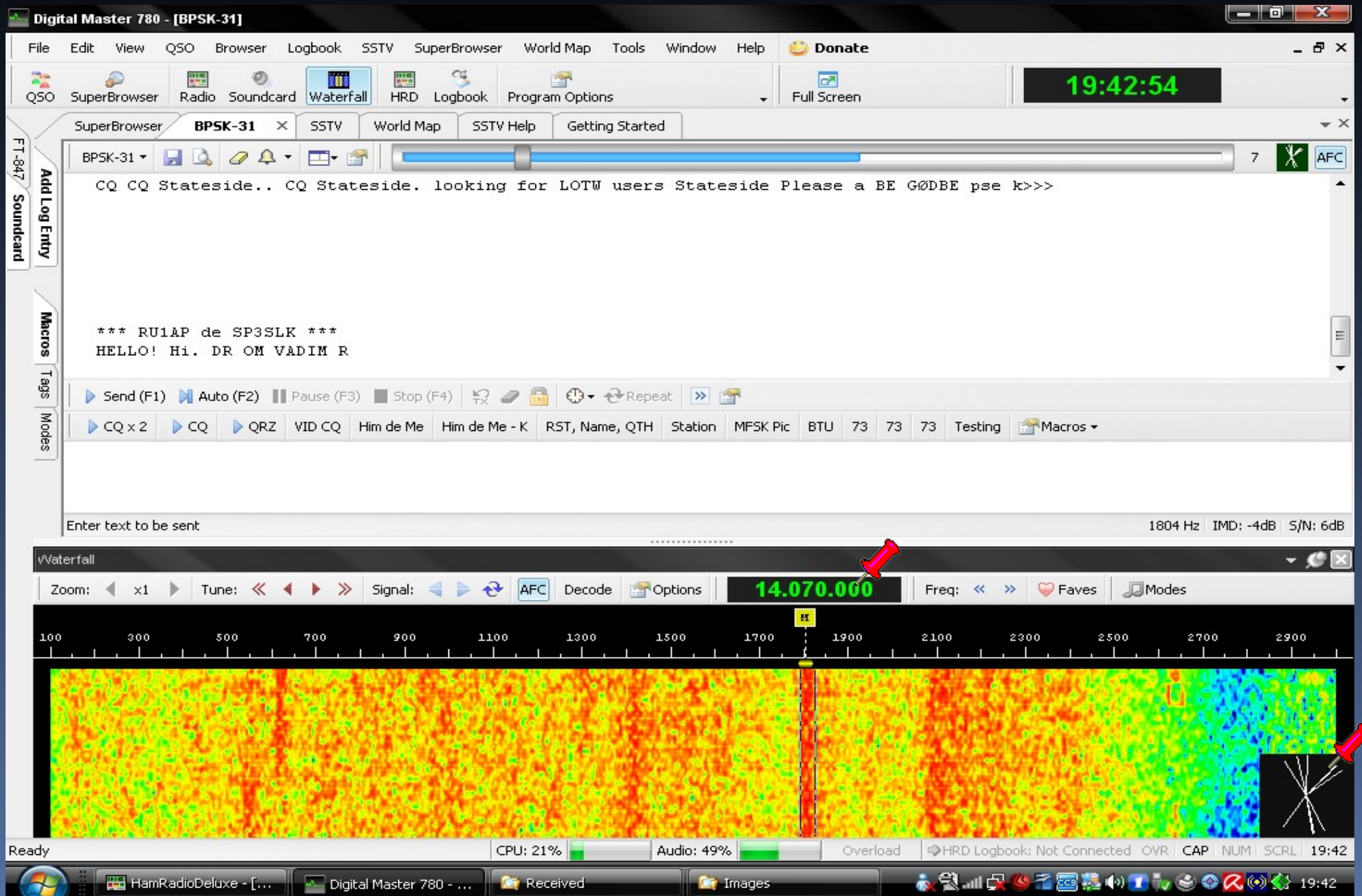
Center Frequency Marker
Define up to three center frequencies, normally set to the center of a narrow filter. When enabled a [C] button is displayed in the waterfall toolbar - pressing this button adjusts the radio DM780 channel frequencies so that the DM780 channel is in the center of the narrow filter.

You must also define a Radio macro button to enable the narrow filter - or select the filter from the radio pane in DM780 or from your radio's front panel.

Radio Macros
It is normally convenient to display special radio macro buttons in the waterfall toolbar. Typically radio macros are used to enable narrow or wide filters.

Various
Erase when changing frequency - erase the waterfall when the radio frequency changes.
Only update if visible - only updates the waterfall if visible - saves CPU cycles on computers with less-powerfull graphics.
Show radio frequency toolbar - shows the current radio frequency in the waterfall toolbar.
Show soundcard in window title - shows the name of the current soundcard selection in the waterfall title bar.

VISTA DE FRECUENCIA Y TUNE EN LA BARRA DEL WATERFALL



CON EL BOTON DERECHO SELECCIONAMOS CALLSIGN CON ESTO EL INDICATIVO SE INCORPORA A LAS MACROS Y AL FINALIZAR EL QSO SE INCORPORA AL LOGBOOK

The screenshot displays the Digital Master 780 software interface, which is used for digital radio communication. The main window is titled "Digital Master 780 - [BPSK-31]". The interface includes a menu bar (File, Edit, View, QSO, Browser, Logbook, SSTV, SuperBrowser, World Map, Tools, Window, Help) and a toolbar with various icons. The "Macros" menu is open, showing options for "Call CQ" and "Reply". The "Call CQ" option is selected, and the "Reply" option is also visible. The "Info" tab is active, displaying the call log entry for "BPSK-31". The call log entry shows the time "23:28:30" and the call sign "a5BBO YO5BBO YO5BBO EU PSK r roán". The "Send (F1)" button is highlighted, and a tooltip indicates that "YO5BBO Not Worked" and "DXCC Romania (Not worked)" are not working. The "Waterfall" window is visible at the bottom, showing a frequency spectrum from 100 to 2900 kHz. The "Browser" window shows the call sign "YO5BBO" and the website "QRZ.COM". The status bar at the bottom indicates "Ready", "CPU: 21%", "Audio: 63%", and "Overload OVR CAP NUM SCRL 23:29".

Macros

Options

Call CQ

- 1) CQ x 2
- 2) CQ x 3
- 3) QRZ

Reply

- 4) Him de Me
- 5) Him de Me Pse K
- 6) Report, Name, QTH
- 7) Station

Info

Macros Tags Modes

BPSK-31

23:28:30> Main

PTT None

Input Avance AC97 Audio

Aux

Output ... Avance AC97 Audio

3D Depth

23:28:30> Main

a5BBO YO5BBO YO5BBO EU PSK r roán

Send (F1) Auto (F2)

YO5BBO Not Worked

DXCC Romania (Not worked)

DXCC 20M: Not worked

Call CQ Reply Info Clos

OH2LU de EA4EWH

OH2LU de EA4EWH

Enter text to be sent

1073 Hz IMD: S/N: 0dB

Waterfall

Display Center

80m 40m 30m 20m 17m 15m 12m 10m 6m

100 300 500 700 900 1100 1300 1500 1700 1900 2100 2300 2500 2700 2900

Browser: QRZ.COM Callsign YO5BBO

Ready

CPU: 21%

Audio: 63%

Overload OVR CAP NUM SCRL 23:29

SI SELECCIONAMOS QRZ CON EL BOTO DERECHO EN UN INDICATIVO NOS APARECE LA PAGINA CON INFORMACION DE NUESTRO POSIBLE CORRESPONSAL

The screenshot displays the Digital Master 780 software interface. The top menu bar includes File, Edit, View, QSO, Browser, Logbook, SSTV, SuperBrowser, World Map, Tools, Window, Help, and a Donate button. The status bar shows the time 23:34:12 and a frequency of 14.070.000. The main window is titled 'Digital Master 780 - [BPSK-31]' and contains several panes. On the left, the 'SuperBrowser' pane shows 'Options' and 'Call CQ' with a list: 1) CQ x 2, 2) CQ x 3, 3) QRZ. The 'Main Logbook' pane shows a list of callsigns: a5BBO, YO5BBO, YO5BBO, EU, PSK, r roán. The 'World Map' pane shows a map of Europe. The 'Browser' pane shows the QRZ.COM website for YO5BBO. The website header includes the QRZ.COM logo and a search bar. The main content area shows the profile for YO5BBO, including the name Horatiu E. Gheorghe, address P.O. BOX 280, 410610 ORADEA 1, ROMANIA, and a photo of a man sitting at a desk. The bottom status bar shows 'Ready' and various system metrics: CPU: 18%, Audio: 62%, Overload, OVR, CAP, NUM, SCRL, and the time 23:34.

Digital Master 780 - [BPSK-31]

File Edit View QSO Browser Logbook SSTV SuperBrowser World Map Tools Window Help Donate

QSO SuperBrowser Radio Soundcard Waterfall Options

23:34:12 14.070.000

SuperBrowser BPSK-31 x SSTV Main Logbook World Map

Macros

Options

Call CQ

- 1) CQ x 2
- 2) CQ x 3
- 3) QRZ

Reply

BPSK-31

23:28:30> Main

a5BBO YO5BBO YO5BBO EU PSK r roán

--e

?hL O e u e t e

t o o t c e h e e i t t

e w c t i t e t t o t (o

Browser: QRZ.COM Callsign YO5BBO

http://www.qrz.com/detail/YO5BBO

QRZ.COM

LDG Z-100 Autotuner

Search QRZ 2.0 Login

GigaParts

Icom IC-V8000

~~\$249.00~~

\$197.10

COPPER GROUND STRAP

ROMANIA

YO5BBO

Horatiu E. Gheorghe

P.O. BOX 280

410610 ORADEA 1, ROMANIA

Lookups: 14911 QRZ Member

Email: Login required to view

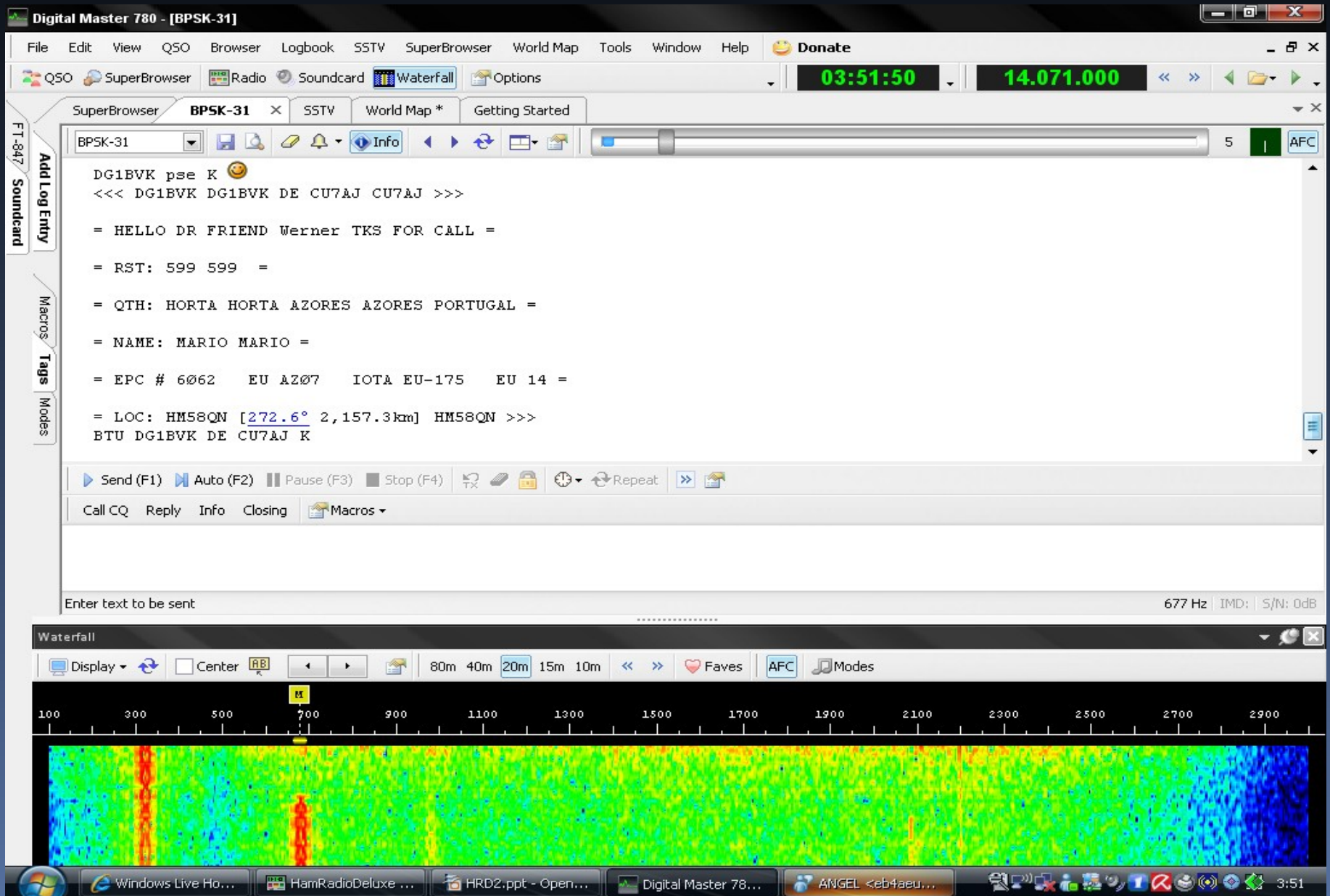
Click for more detail...

Browser: QRZ.COM Callsign YO5BBO

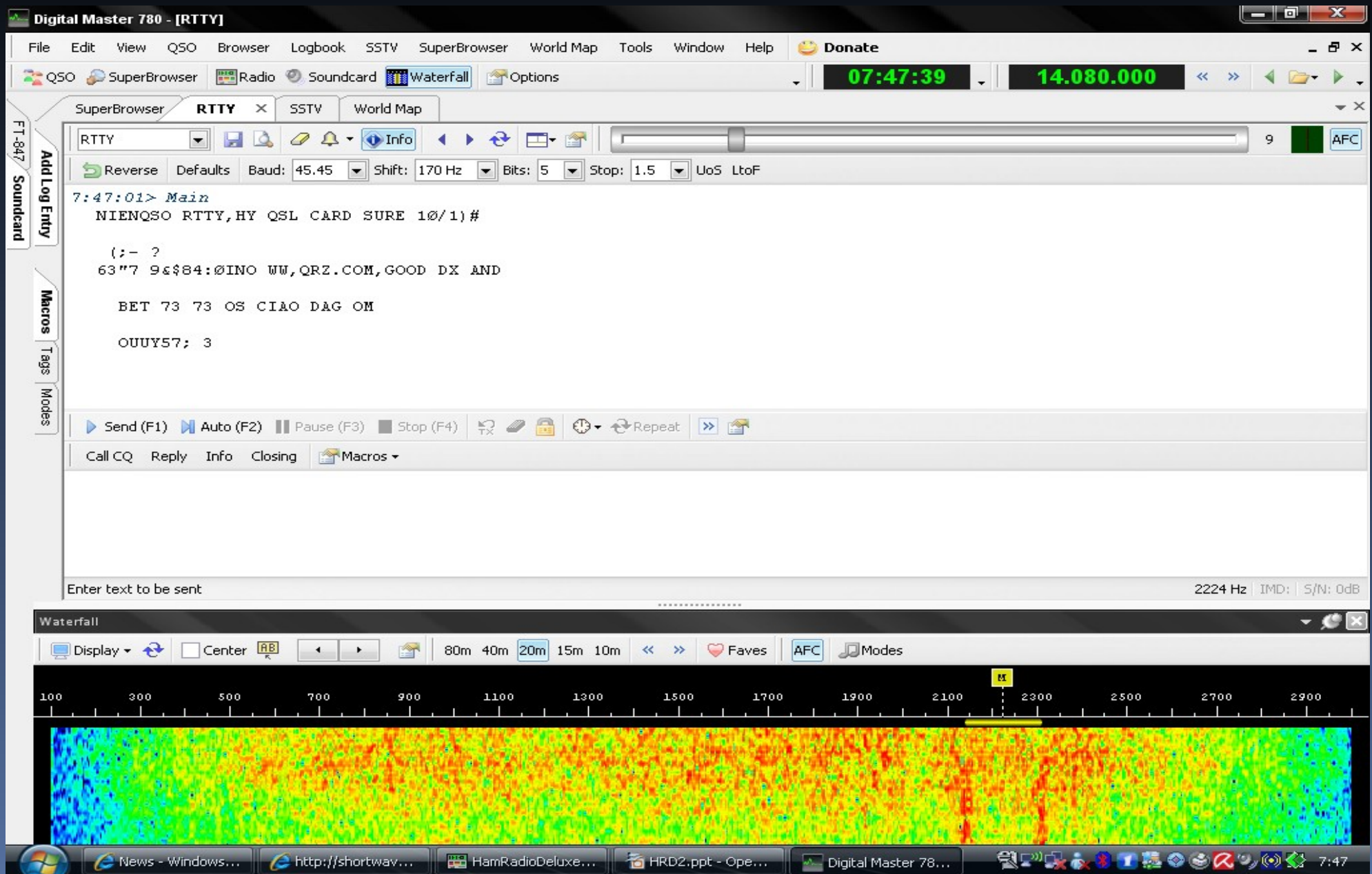
Ready CPU: 18% Audio: 62% Overload OVR CAP NUM SCRL 23:34

HRD HRD2.ppt - O... HRD Label - H... HamRadioDel... Digital Master... Dibujo - Paint

EJEMPLO BPSK



EJEMPLO EN RTTY



Ham Radio Deluxe ahora con función SSTV Estación Espacial 12 septiembre 2008

Simón HB9DRV acaba de añadir nuevas funciones a su flamante programa gratuito y planea incluir el modo Robot 36 que es el que usara la estación espacial en SSTV

Las ultimas versiones beta pueden bajarse
en:

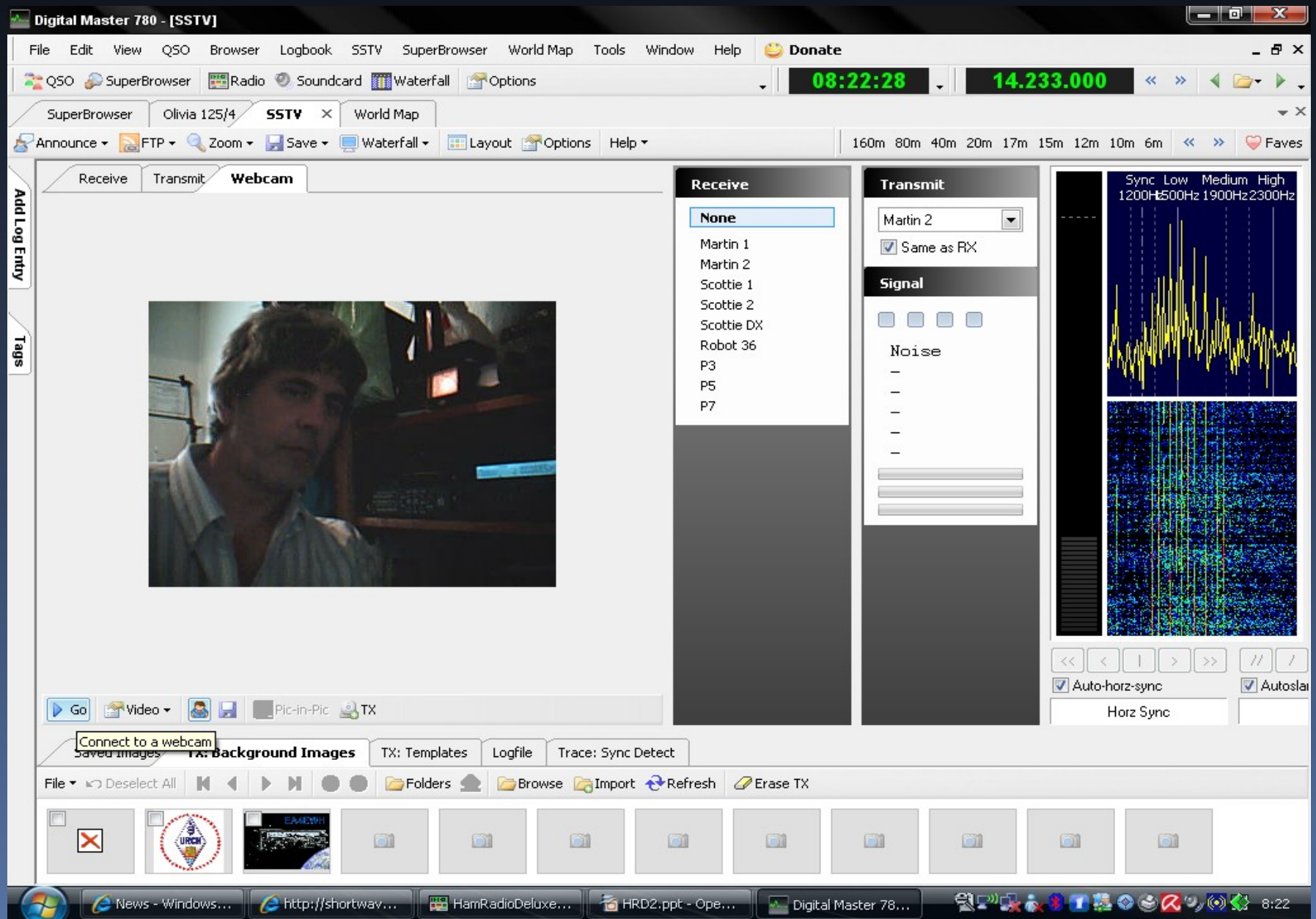
<http://www.ham-radio-deluxe.com/Download>

Ham Radio Deluxe,web principal:

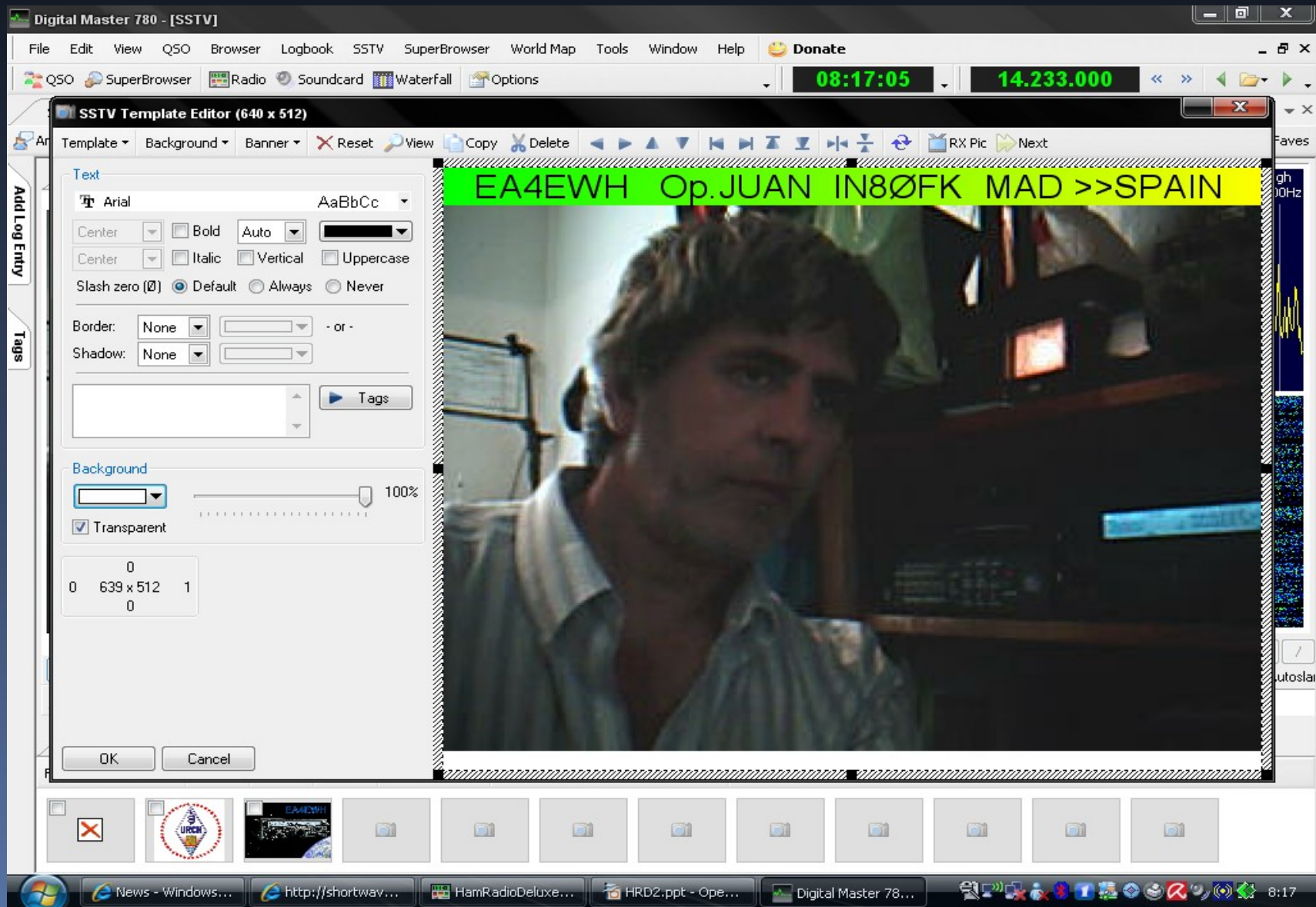
<http://www.ham-radio-deluxe.com/>

Y recuerda que se espera actividad de S S TV
desde la I S S desde octubre 2008.

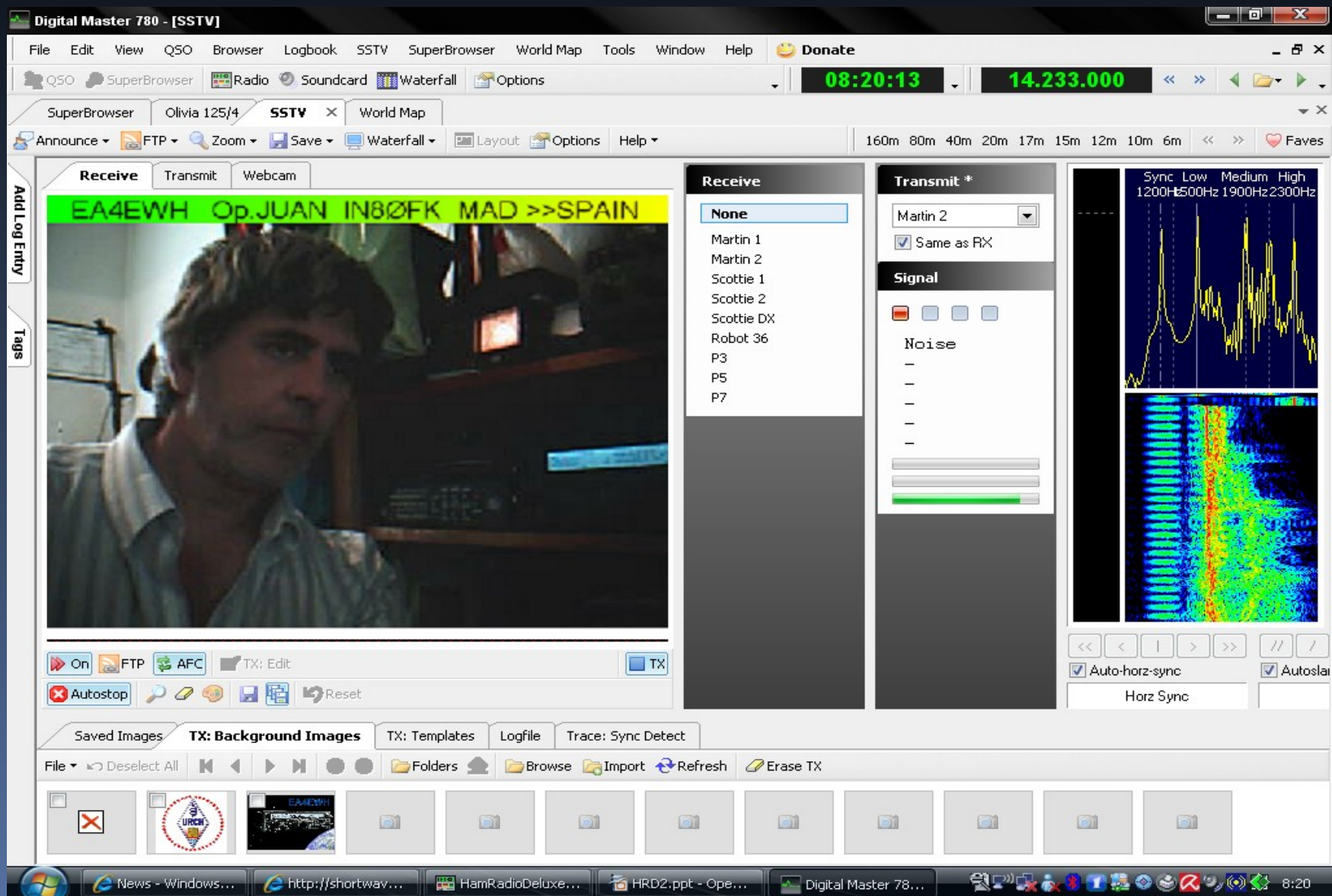
ACTIVACION WEBCAM



EDITOR DE IMAGEN SSTV



TRANSMISION DE IMAGEN SSTV



EJEMPLO RX SSTV

Digital Master 780 - [SSTV]

File Edit View QSO Browser Logbook SSTV SuperBrowser World Map Tools Window Help Donate

QSO SuperBrowser Radio Soundcard Waterfall Options 08:00:51 14.233.000

SuperBrowser Olivia 125/4 **SSTV** World Map

Announce FTP Zoom Save Waterfall Layout Options Help 160m 80m 40m 20m 17m 15m 12m 10m 6m Faves

Receive Transmit Webcam

Receive

None

Martin 1
Martin 2
Scottie 1
Scottie 2
Scottie DX
Robot 36
P3
P5
P7

Transmit

Martin 2

☒ Same as RX

Signal

Noise

☐ ☐ ☐ ☐

Sync Low Medium High
1200Hz 500Hz 1900Hz 2300Hz

Auto-horiz-sync Autosla

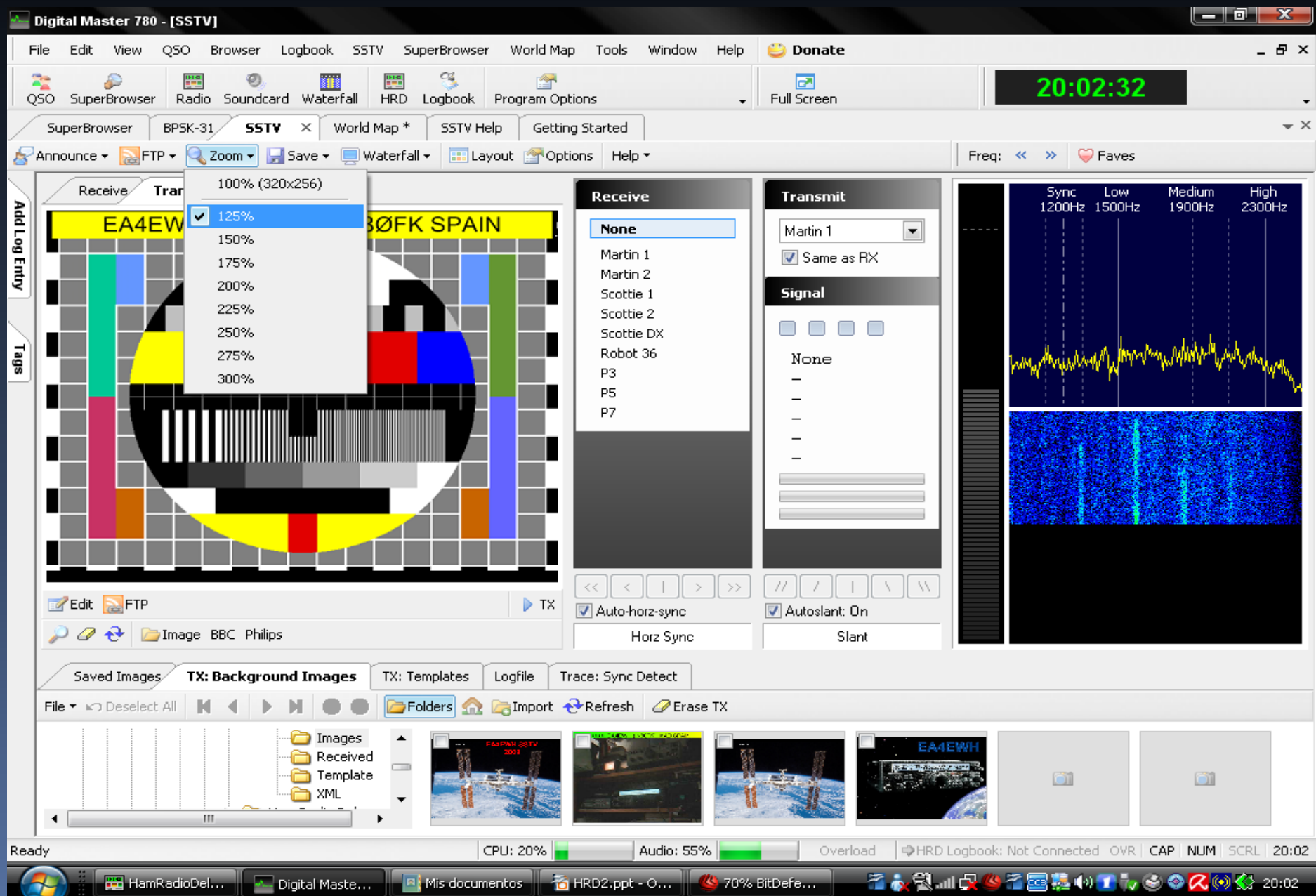
Horz Sync

Saved Images TX: Background Images TX: Templates Logfile Trace: Sync Detect

File Details Deselect All Folders Browse Refresh Delete Image Processing FTP FTP All

Windows taskbar: News - Windows... http://shortwav... HamRadioDeluxe... HRD2.ppt - Ope... Digital Master 78... 8:00

EL ZOOM MUY IMPORTANTE EN SSTV



EFEECTO DEL ZOM A 100%

Digital Master 780 - [SSTV]

File Edit View QSO Browser Logbook SSTV SuperBrowser World Map Tools Window Help Donate

QSO SuperBrowser Radio Soundcard Waterfall HRD Logbook Program Options Full Screen **20:11:43**

SuperBrowser BPSK-31 **SSTV** World Map * SSTV Help Getting Started

Announce FTP Zoom Save Waterfall Layout Options Help Freq: << >> Faves

Receive Transmit Webcam

EA4EWH SSTV MAD IN8ØFK SPAIN

Receive: None
Martin 1
Martin 2
Scottie 1
Scottie 2
Scottie DX
Robot 36
P3
P5
P7

Transmit: Robot 36
☒ Same as RX

Signal: ☐ ☐ ☐ ☐

Noise: —
—
—
—
—

☒ Auto-horz-sync ☒ Autoslant: On
Horz Sync Slant

Sync 1200Hz Low 1500Hz Medium 1900Hz High 2300Hz

TX: Background Images TX: Templates Logfile Trace: Sync Detect

File Deselect All Folders Import Refresh Erase TX

Images Received Template XML Ham Radio Deluxe HRD Logbook HRD Rotator HRD Satellite Tracker

CPU: 19% Audio: 55% Overload HRD Logbook: Not Connected OVR CAP NUM SCRL 20:11

PRUEBA DE TRASMISION DE EA4EWH MANDADA POR TOMAS EA4AAZ A MI

EA4EWH

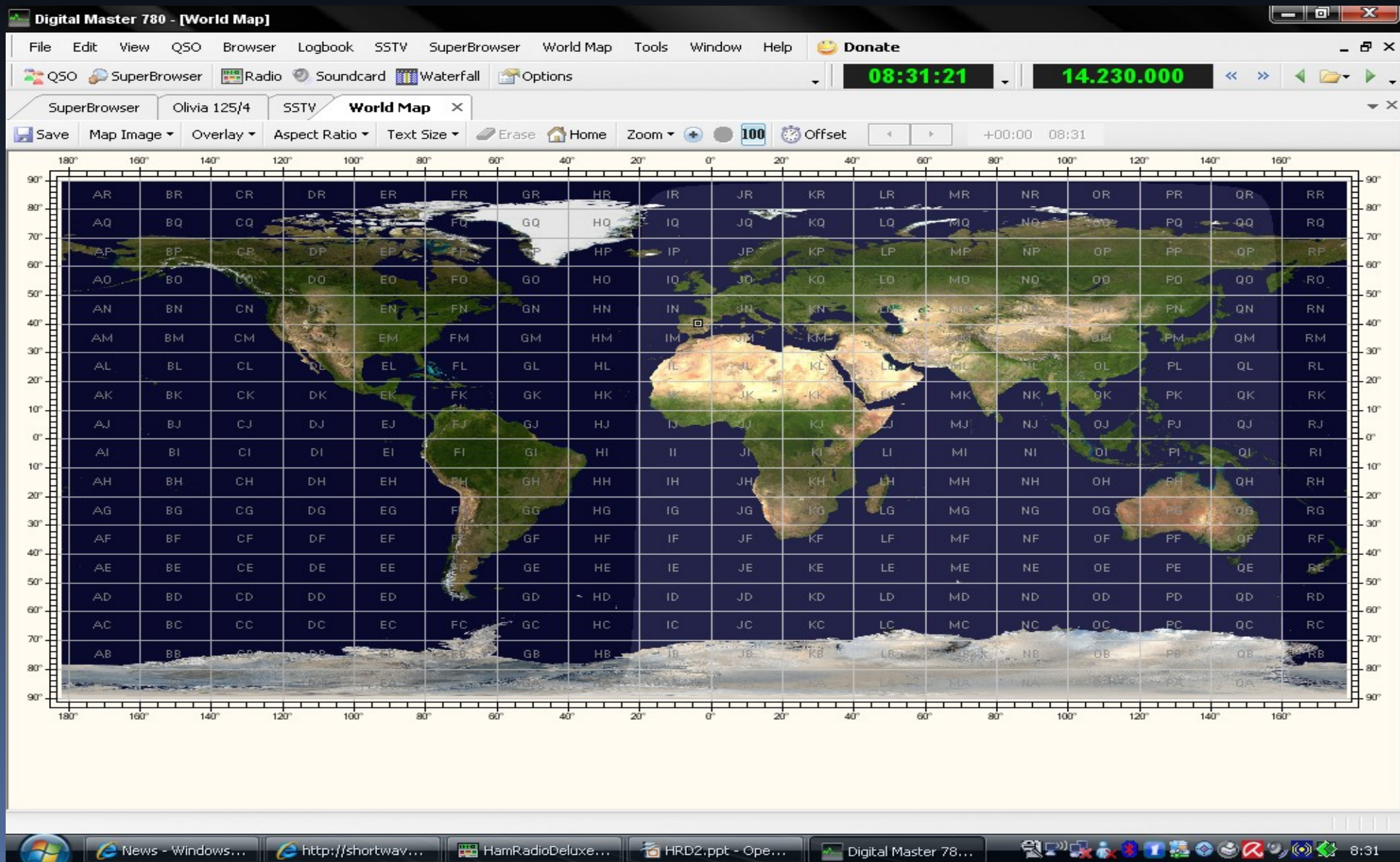


de EA4AAZ

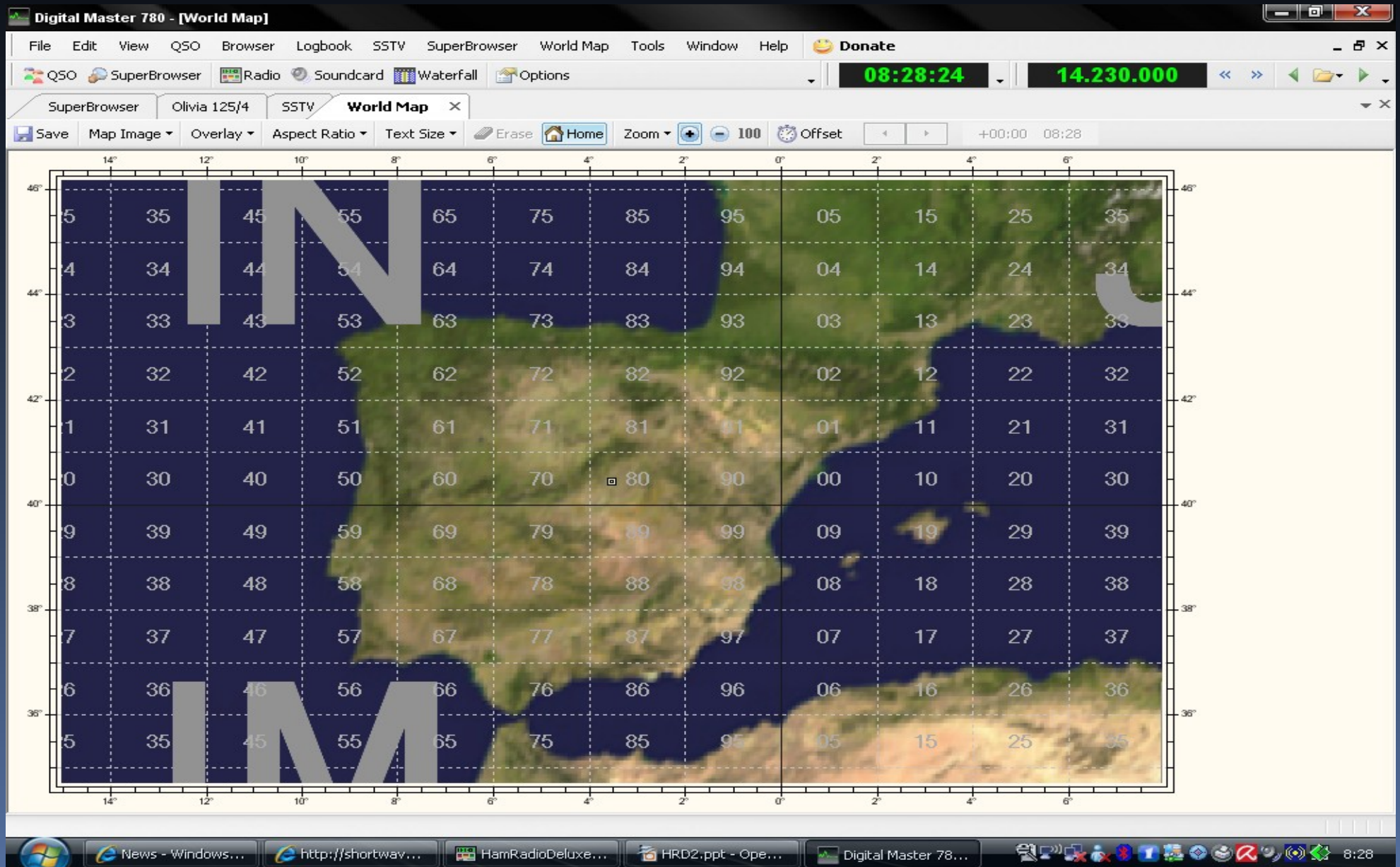
TRANSMISION DE TOMAS EA4AAZ REENVIADA A TOMAS POR MI EA4EWH



World Map locator



ZOOM World Map locator



LOGBOOK CONFIGURACION

The screenshot shows the HamRadioDeluxe software interface. The main window is titled "HamRadioDeluxe - [Logbook Entries]". The menu bar includes File, Edit, View, Bands, Favourites, Quick Save, Macros, Logbook, Scanning, Tuning, Tools, Voice, Window, and Help. The toolbar contains various icons for functions like Connect, Selection, Favourite, Quick Save, Full Screen, DX Cluster, Logbook, Satellites, SW Data, Sliders, Customise, Options, Forums, Undo, Redo, Add, Backup, Tune Up, Mapper, DM780, PSK31, Synch, Remote, Serial, Programs, Browser #1, Browser #2, Lookup, WinKey, Bandscope, Audio Grabber, Audio Browser, and Main Tabs. The main area displays a logbook table with columns: Date, Start, End, Station, Band, Mode, Country, Locator, Frequency, Sent, Recv, and Name. The table is currently empty. To the right, a "Column Layout" dialog box is open, allowing users to check the columns to be shown in the logbook display and use the Up and Down buttons to reorder the columns. The dialog includes a list of columns with checkboxes, and buttons for Up, Down, Show, Hide, Default, Reset, Save, Load, and Cancel.

HamRadioDeluxe - [Logbook Entries]

File Edit View Bands Favourites Quick Save Macros Logbook Scanning Tuning Tools Voice Window Help

Connect Selection Favourite Quick Save Full Screen DX Cluster Logbook Satellites SW Data Sliders Customise Options Forums Undo Redo Add Backup

Tune Up Mapper DM780 PSK31 Synch Remote Serial Programs Browser #1 Browser #2 Lookup WinKey Bandscope Audio Grabber Audio Browser Main Tabs

Print Preview Add Edit Delete Analysis Grid Plot Refresh Fit Widths Layout Backup Configure QRZ Google Earth

C:\Documents and Settings\Administrador\Da... \HRD Logbook.mdb (292 KB) Select Auto-Apply Apply <<

Entries Max: 1000 0 / 0

☒ Date Today 11/03/2009

☒ Filter ☐ Exact By: 1: Custom =

☒ Summarise By: Country And:

Sort By: Date And:

Date	Start	End	Station	Band	Mode	Country	Locator	Frequency	Sent	Recv	Name
------	-------	-----	---------	------	------	---------	---------	-----------	------	------	------

Column Layout

Check the columns to be shown in the logbook display. Use the Up and Down buttons to reorder the columns.

Column

- ☒ Date
- ☒ Start
- ☒ End
- ☒ Station
- ☒ Band
- ☒ Mode
- ☒ Country
- ☒ Locator
- ☐ DXCC
- ☐ IOTA
- ☐ Distance
- ☐ Bearing
- ☒ Frequency
- ☒ Sent
- ☒ Recv
- ☒ Name
- ☒ Address
- ☒ QTH

Up Down Show Hide Default Reset

Save 1 3 2 4

Load 1 3 2 4

OK Cancel

AÑADIR UNA ENTRADA AL LOGBOOK

The screenshot shows the HamRadioDeluxe software interface with the 'Add Logbook Entry' dialog box open. The dialog box contains the following fields and options:

- Contact:** 19/03/2009 08:40:59 S9+10
- (F2) Start:** 19/03/2009 08:40
- (F3) End:** ☒ Same as start ☒ Current time
- (F5) Station:** QRZ (F1)
- Mode:** USB
- Band:** 20m
- Freq:** 14.230.000
- RST Recv:** 59
- RST Sent:** 59
- Locat:**
- Address:**
- Name:**
- QTH:**
- Remark:**
- Options:** ☒ Automatic
- Buttons:** Options, Reset [F4], Autofill, Add, Close

The background shows the HamRadioDeluxe main window with a menu bar (File, Edit, View, Bands, Favourites, Quick Save, Macros, Logbook, Scanning, Tuning, Tools, Voice, Window, Help) and a toolbar with various icons. A table with columns 'Date', 'Start', 'End', and 'St' is visible in the background.

SOPORTE DEL LOGBOOK

ADIF completo (importa/exporta)

Cabrillo (exporta)

ASCII (exporta)

eQSL carga en tiempo real

Convierte Fácilmente los registros a papel

Ham Radio Deluxe

Logbook User Guide

By Simon Brown, HB9DRV



December 22, 2008

NUEVO LOGBOOK IN HRD V5

HRD Logbook - [Logbook]

File View Browser Calendar Countries Logbook Tools Window Help Donate

Open Layout A Layout B HRD DM780 Rotator Tuning Add About Configure Full Screen

7.076.980

Radio Pane

Disconnect Options

FT-847

Main: **7.076.980**

Sub:

Mode: LSB Sat Rx: LSB

Sat Tx: LSB Tone

Repeater

Radio Screen **My Logbook** **My Logbook HRD** **My Logbook HRD**

Add Delete Modify Refresh Width Layout Selection QRZ.com Awards More... Filter

Display

Selection

Layout

Database

My Logbook HRD
My Logbook

ISO date	Time on	Call	Mode	Sent	Rcvd
8/04/2009	23:51:44	EA4FEU	LSB	599	599

All Default ACCESS 1

DX Cluster: Spots: EA4EVMH on HB9DRV-9

Close Show ALL Alarms Options QRZ.com

Add Spot

Date	Time	Freq	DX	Spotter	Comments
28-Apr	2358	7.003.5	4L6CQ	K3AU	
28-Apr	2358	28.250.0	K6FRC/B	WJ50	Track
28-Apr	2358	7.183.0	ON7CD	WS2E	NEED
28-Apr	2358	7.177.0	OS8A	W4LT	
28-Apr	2358	71.830.0	ON7CD	WS2E	NEED
28-Apr	2357	14.085.1	EA2VE	KE9ET	
28-Apr	2355	10.110.8	W9DY/M	K3AU	CQ
28-Apr	2356	7.035.0	UA2FHZ	N2ZN	PSK
28-Apr	2356	7.173.0	CT1FMX	CT1GIF/W2	CQ

30 Day Solar Data Solar Cycle Progress Audio Monitor **DX Cluster: Spots...**

Rotator

Filter

40m (M)

7000 7050 7100 7150 7200 7250 7300

4L6QC
4L6CQ
CM6RCR
LY1000CM
EU3BN
UT5ND
RX3ZE/P
FM/F5HB
CT1JOP
OZ1GML
UA2FHZ
YV1PX
IS0/IN3SAU
ID9N
UA4YE
UA6YE
EA4SG
HK4OBA
G7VQE
PA3ERY
EA8YU
HB0/DL2SBY
LA3XIA
CT1FMX
OS8A
ON7CD
VP2EKG
PJ7/K2GSJ

Greyline

Clock

02:00:34

40m (M) 40m (S) 80m

Ready

QRZ.com and ... Ham Radio De... HRD Logbook HRD Logbook ... 2% BitDefend...

Una Configuración Personalizada

HRD Logbook - [QRZ.COM Callsign ZS8T]

File View Browser Calendar Countries Logbook Tools Window Help Donate

Open Layout A Layout B Layout C HRD DM780 Rotator Tuning Add About Configure Full Screen

14.000.800

Tuning

Radio Favourites 160m 80m 60m 40m 30m 20m 17m 15m 12m 10m 6m Fine Options

My Logbook HRD QRZ.COM Callsign ZS8T

<http://www.qrz.com/db/ZS8T>

ICOM
IC-756PROIII
\$2499.00
WITH FREE SHIPPING

ZS8T
Petrus Kritzinger
Marion Island,
PRINCE EDWARD & MARION IS. - S. AFRICA
Lookups: 15079

QRZ.COM
No picture available

Audio Recorder

Limit: 5 min

Title:

Artist:

Album: Ham Radio recordings

DX Cluster: Spots: EA4EWH on HB9DRV-9

Close Show ALL Alarms Options

QRZ.com Add Spot

Date	Time	Freq	DX	Spotte
29-Apr	1522	14.180.0	J28JA	PD0NHM
29-Apr	1521	14.189.4	9M2TO	IT9KCD
29-Apr	1520	10.118.1	IK1WEG/8	HA2ESM
29-Apr	1520	14.000.0	ZS8T	MW0CRI
29-Apr	1520	14.189.5	9M2TO	IV3OKC
29-Apr	1520	14.189.5	9M2TO	IV3OKC
29-Apr	1520	18.145.0	5X1NH	IK8JVG

Greyline

Clock

10:35:57

20m (M)

Filter

1M00

ZS8T
Z36A
ZF2ZB
E21EJC
YB4IR
W9JLR
RK3ER
W7SW
Z35G
W5ZR
BX4AD
YQ9EPC
9V1SV
XV9TH
ZS6AIB
A71CT
I22KXB
BX4AF
DU1IVT
KL7LF
J28JA
VU2DK
9M2TO
VK3ECH
4Z5PG
VR2PW
VA2TG
E20WXA
BX2AAL
LY5A
BX4AN
ID9N
BW2/JP1RIW

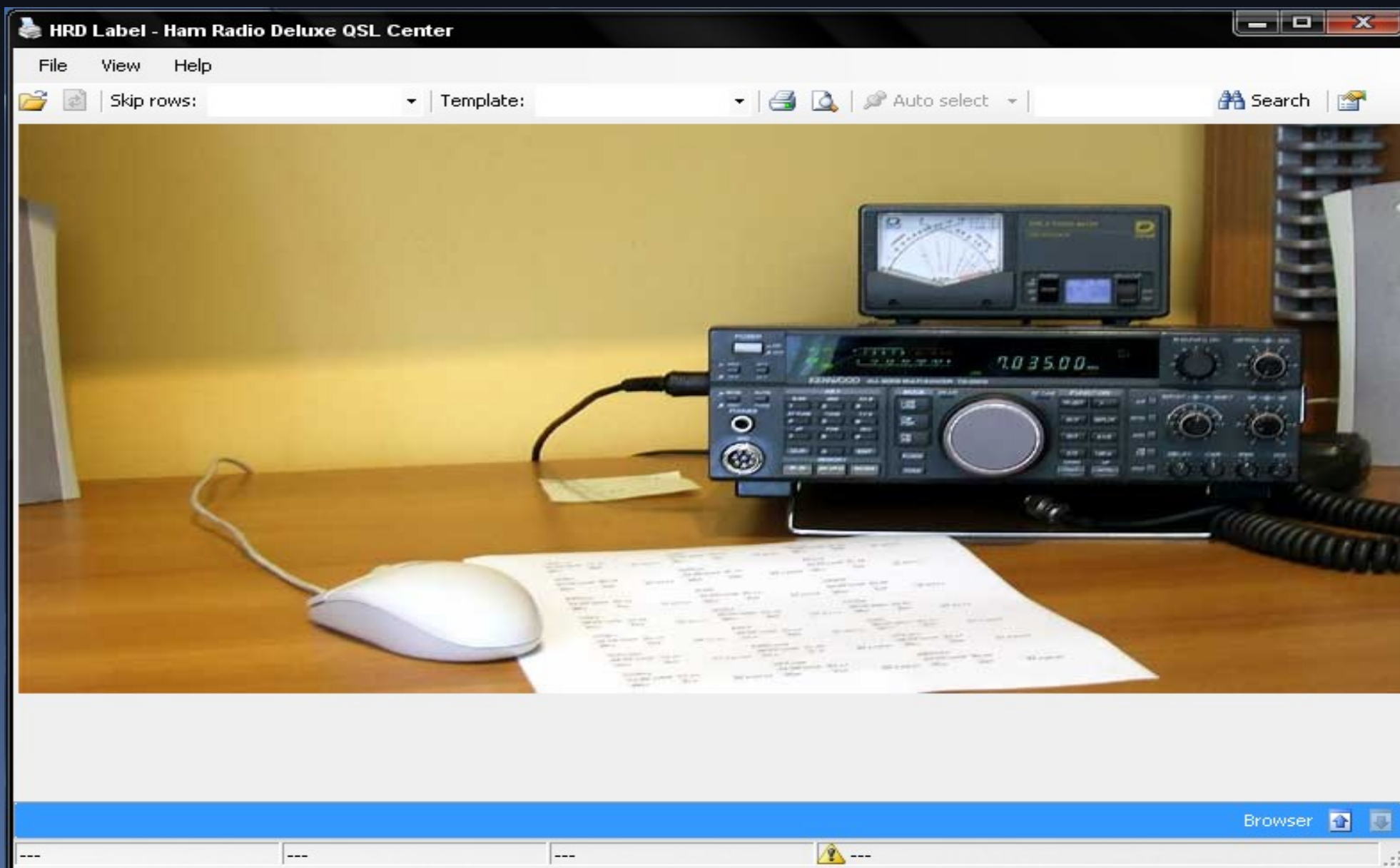
20m (M) 40m (S) 80m

Ready

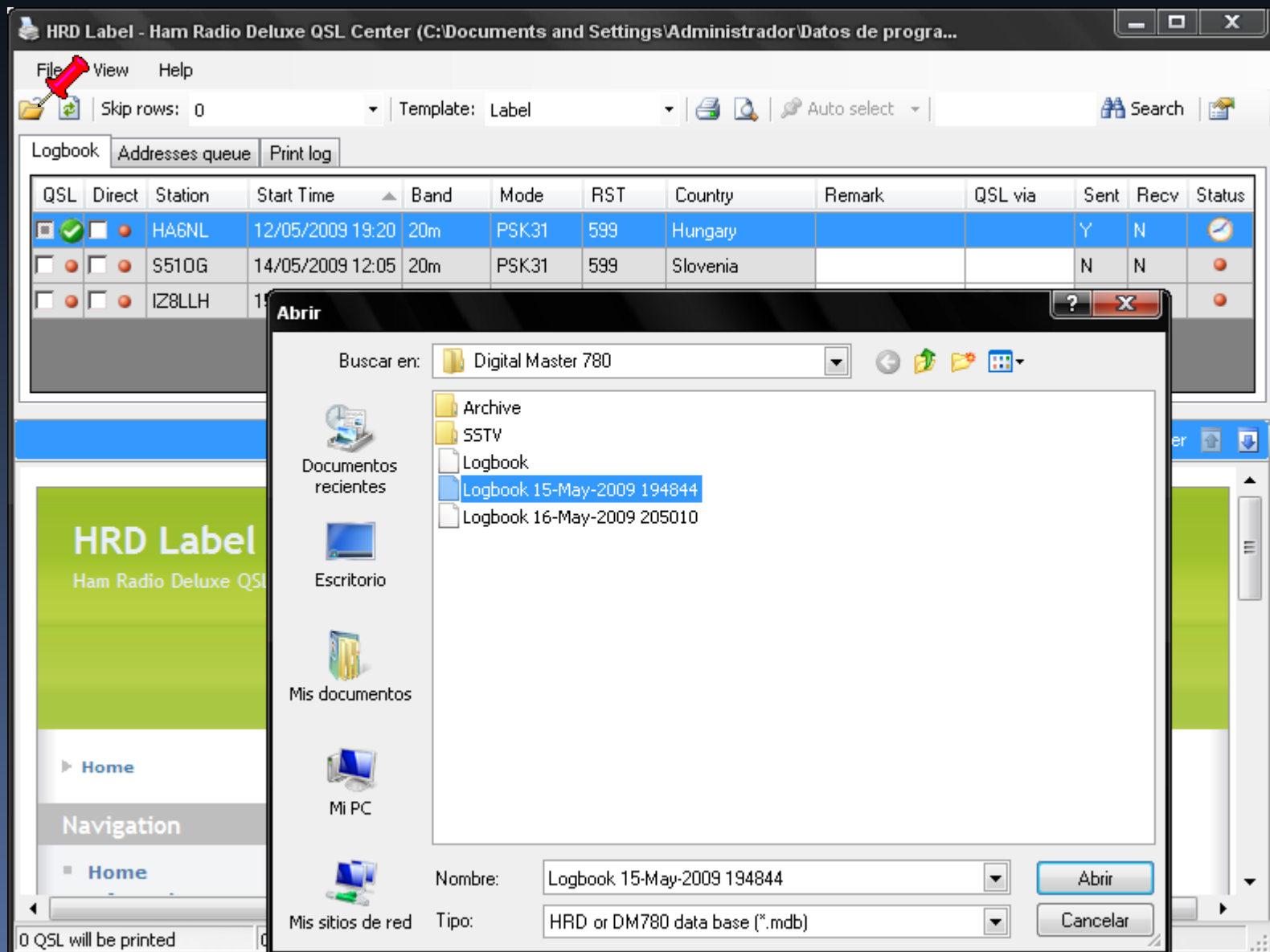
HamRadioDeluxe - [FT... HRD Logbook - [QRZ... Windows Live Messenger

10:35

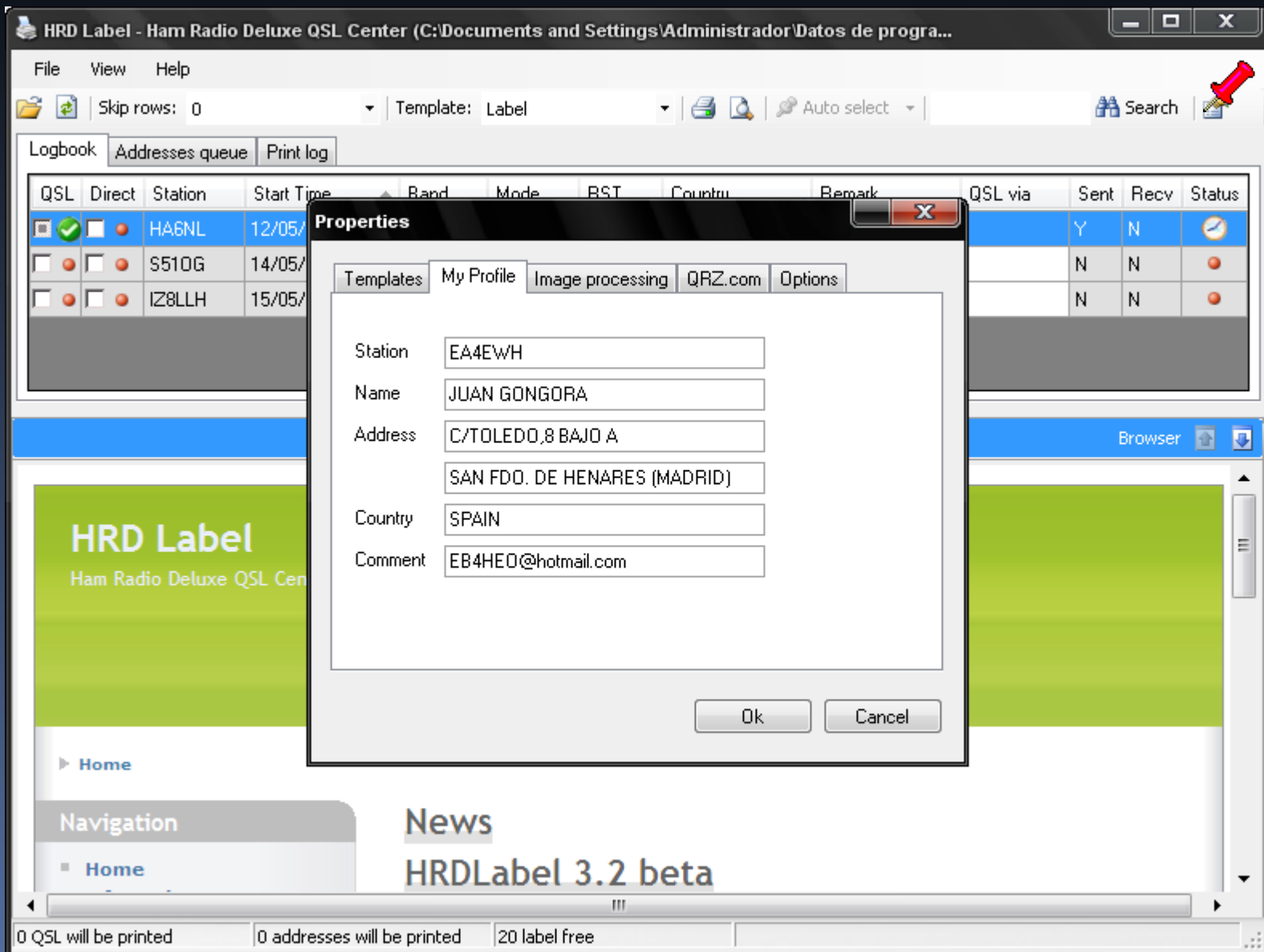
HRD LABELS



SELECCION DE LA BASE DE DATOS DEL LOGBOOK



CONFIGURAMOS NUESTROS DATOS



IMPRIMIENDO EL LOGBOOK CON HRD LABELS

HRD Label - Ham Radio Deluxe QSL Center (C:\Documents and Settings\Administrador\Datos de programa\Simon Brown, HB9DRV\Digital Master 780\Logbook 15-...

File View Help

Skip rows: 0 Template: Label Auto select Search

Logbook Addresses queue Print log

QSL	Direct	Station	Start Time	Band	Mode	RST	Country	Remark	QSL via	Sent	Recv	Status
<input checked="" type="checkbox"/>	<input type="checkbox"/>	HA6NL	12/05/2009 19:20	20m	PSK31	599	Hungary			Y	N	
<input type="checkbox"/>	<input type="checkbox"/>	S51OG	14/05/2009 12:05	20m	PSK31	599	Slovenia			N	N	
<input type="checkbox"/>	<input type="checkbox"/>	IZ8LLH	15/05/2009 17:37	20m	PSK31	599	Italy			N	N	

QRZ.COM **Work DX!**

QRZ 2.0 Search

GigaParts
Icom
IC-756PROIII
~~\$2499.00~~
\$2249.10

SLOVENIA
S51OG
ANTON RATAJ
NA RAZGLED 7
SENTJUR, 3230
SLOVENIA

Lookups: 5460 QRZ Member
Email: Login required to view QSL: QSL VIA BUREAU, DIRECT, E-QSL, EPC #3930
Click for more detail...

Address
Name
Address
Country
Contribution
Send direct

QSL Manager
QSL Manager
Set QSL Manager

More info

0 QSL will be printed 0 addresses will be printed 20 label free

HRD HRD2.ppt - OpenOffic... HRD Label - Ham Radi...

22:59

VISTA PREVIA A LA IMPRESION

EA4EWH
Confirming QSO to:

S51OG

DATE(D-M-Y)

14-05-2009

UTC

12:05

Band

20m

RST

599

Mode

2x PSK31

PSE QSL

Print my QSL labels with HRD Label

EA4EWH
Confirming QSO to:

HA6NL

DATE(D-M-Y)

12-05-2009

UTC

19:20

Band

20m

RST

599

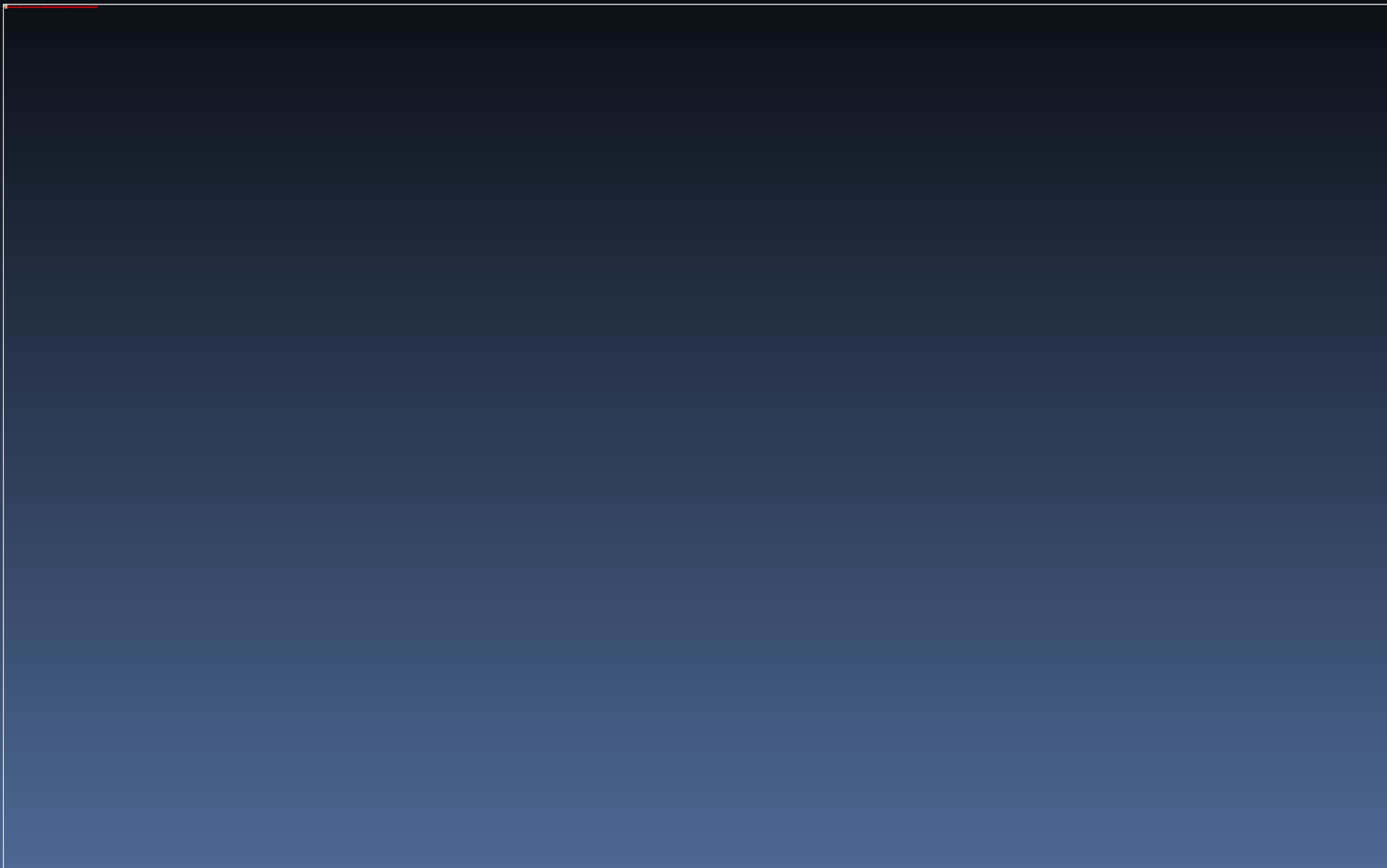
Mode

2x PSK31

PSE QSL

Print my QSL labels with HRD Label

Lo ultimo de QSLS vía WEB ojo de PAGO



<http://www.eqsl.cc/qslcard/Index.cfm>

LINKS

<http://chinto.ham-radio.ch/Index.htm>

<http://forums.ham-radio.ch/>

[http://wiki.ham-radio-deluxe.com/index.php?
title=Main_Page_Es](http://wiki.ham-radio-deluxe.com/index.php?title=Main_Page_Es)

<http://www.iw1qlh.net/>

FIN DE LA PRESENTACION

JUAN GONGORA

EA4EWH

