



# 30 Meter Band

If you are asking these questions:

- **Where** on the 30 Meter Band is there activity?
- **What** different activity or modes are used on the 30 meter band?
- **How** do I find more information or links to the Internet for help on getting involved in different 30 Meter Activity or different modes?

Then please read on, jump in, and have some fun on this no contest WARC band that has propagation unlike any other. Since it sits between the 40 Meter and 20 Meter band it boasts paths open most anytime. At times acts Like 40 meters, yet also opens to DX like 20 meters. Not much going on 30 Meters? Think again! GL on the 30 Meter Band!

## 30 METER DIGITAL GROUP (30MDG)

ALL ARE WELCOME PLEASE JOIN IN:

[HTTP://WWW.30METERDIGITAL.ORG](http://www.30meterdigital.org)

## Live Propagation

<http://www.hamspots.net/30m/>

*(Special Thanks to Laurie VK3AMA & Sholto KE7HPV)*

<http://www.30meterdigital.org/30mspot.html>

<http://www.propnet.org/>

<http://psk.gladstonefamily.net/pskmap.html>

<http://wspnnet.org/drupal/wspnnet/map>

<http://www.obriensweb.com/sked/>

<http://hfradio.org/propagation.html>

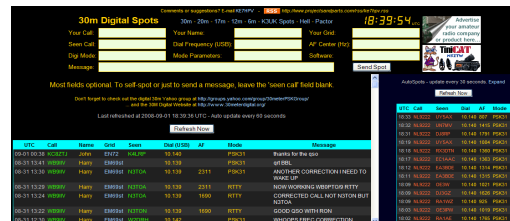
## Prediction Propagation Software

<http://www.dxzone.com/catalog/Software/Propagation/>

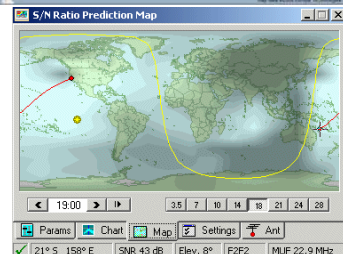
<http://www.g4ilo.com/voaprop.html>

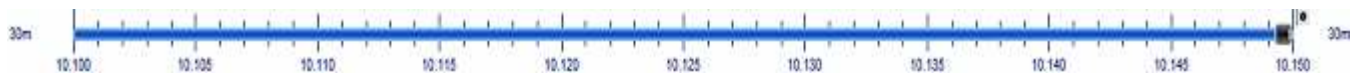
<http://www.voacap.com/hamcap-guide.html>

<http://www.dxlabsuite.com/propview/>



## The Internet Portal to the PropNET Project





## THE 30 METER BAND AT A GLANCE

(Note: We are **SECONDARY USERS** of the 30 Meter Band...the following information is **NOT** official, but based on observations from Internet sources and those active on 30 Meter Band.)

10.106 - 10.116	CW QRP
10.110	CW DXpeditions (of course varies with each)
10.115	CW IOTA
10.1175	CW HFPack
10.118	CW FISTS
10.120	CW Straight Key Century Club (slow speed CW)
10.120	<i>SSB Calling Frequency (OC-VK,AS - AF)</i>
10.1225	CW County Hunting Net
10.1239	WINLINK-Pactor 1 & 2
10.129	EMCOMM
10.132	SSTV-N (MP73-N <500hz)
10.134 - 10.140	Feld HELL
10.1345	OLIVIA
10.137	Feld HELL
10.138	Feld HELL Net 0000z to 0200z CDT Sundays
10.144	Feld HELL (Region I)
10.130 - 10.140	OLIVIA
10.1386	MEPT/WSPR (Beacons)
10.139	County Hunting Net
10.139	JT65 (WSJT)
10.140	QRP Digital Modes
10.1405	PROPNET (PSK)
10.139 - 10.141	WSPR (QSO MODE-WSJT)
10.140 - 10.142	PSK (DX)
10.141	30MDG Sunday Night PSK (possible Net soon)
10.142 - 10.143	MFSK (other Wider <500hz Digital Modes)
10.141	Dxpedition RTTY (of course varies with each)
10.140-10.145	DX RTTY
10.1412	WINLINK - Pactor 3 (WINLINK 10.140-10.150?)
10.142	SSTV-N (MP73-N <500hz)
10.142 - 10.143	ALE-400hz
10.145	ARRL SkipNet
10.145.5 - 10.148	ALE-2Khz
10.147 - 10.148	PSKMail/APRS
10.1491 - 10.1495	APRS

### IARU (10 MHz band)

#### Region-I:

10100-10140 = CW  
 10116 = centre of QRP activity  
 10140-10150 = narrow band modes, digimodes

#### Region-II:

10100-10130 = CW  
 10116 = centre of QRP activity  
 10130-10140 = narrow band digimodes  
 10140-10150 = all digimodes (no phone)

#### Region-III:

10100-10157.3 = CW  
 10116 = centre of QRP activity  
 10140-10157.3 = narrow band activity (CW, RTTY, FAX, digi-modes).

#### Note:

CW QSO's are accepted across all bands, except beacon segments which are discouraged on 30 Meters since we are secondary users of this band. (Rec. DC05\_C4\_Rec.13)

## Please Check Your Country's Rules/Regulations and/or BAND PLAN

(Make sure you are in compliance with your country's license rules and regulations)

<http://www.ac6v.com/frequencies.htm>

<http://hflink.com/bandplans/>

<http://hflink.com/bandplans/10mhz/>

# THE 30 METER BAND IN MORE DETAIL *(with references links)*

## CW 10.100 to 10.130

10.115 IOTA

<http://www.rsgbiota.org>



10.106-10.116 QRP

<http://www.qrparci.org/>

10.110 DXpeditions CW

10.1175 HFpack

<http://www.HFpack.com>

10.118 FISTS

<http://www.fists.org>

*10.120 SSB Calling Frequency  
(Oz-VK,AS -AF)*

10.1225 County Hunting Net

<http://ch.w6rk.com/>

10.129 EMCOMM

<http://www.wrrl.org/networks.asp>

### CW Software:

<http://www.dxsoft.com/>

[http://www.dxzone.com/catalog/Software/Morse\\_Code\\_Decoders/](http://www.dxzone.com/catalog/Software/Morse_Code_Decoders/)

<http://www.polar-electric.com/Morse/MRP40-EN/>

*Best decode is the human ear*



### CW Help:

<http://www.arrl.org/FandES/ead/learnCW/>

<http://www.netwalk.com/~fsv/CWguide.htm>

<http://morsecode.scphillips.com/jtranslator.html>

[http://www.dxzone.com/catalog/Operating\\_Modes/Morse\\_code/](http://www.dxzone.com/catalog/Operating_Modes/Morse_code/)

# SSTV-N (MP73-N Narrow <500hz)

IO.132 SSTV (MP73-N - NA)

IO.142 SSTV (MP73-N - outside NA)

**What does SSTV sound like?**

<http://www.qsl.net/g4hbt/sounds.htm>



**SSTV-N Software:**

<http://mmhamsoft.amateur-radio.ca/mmsstv/index.htm>

*(use MP73-N <500hz see Help Link)*

**SSTV-N Help:**

<http://www.obriensweb.com/narrowsstv.htm>

# RTTY

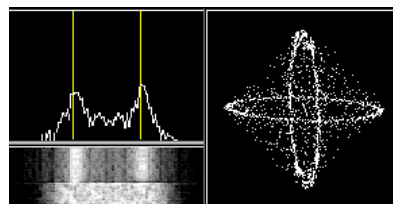
IO.130-IO.140 RTTY

IO.141 Dpendition RTTY

IO.140-IO.145 DX RTTY

**What does RTTY sound like?**

<http://www.kb9ukd.com/digital/>



**RTTY Software:**

<http://mmhamsoft.amateur-radio.ca/mmtty/>

<http://www.dxsoft.com/en/products/truetty/>

<http://www.dxzone.com/catalog/Software/RTTY/>

<http://www.rckrtty.de/>

## RTTY Software (Multimode):

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

<http://www.ham-radio-deluxe.com/Programs/DigitalMaster780/tabid/89/Default.aspx>

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

<http://www.wlhkj.com/Fldigi.html>

<http://mmhamsoft.amateur-radio.ca/MMvari/>

<http://homepage.mac.com/chen/w7ay/cocoaModem/index.html>

<http://www.dxlabsuite.com/winwarbler/>

## RTTY Help:

<http://www.aa5au.com/rtty.html>

<http://www.arrl.org/news/features/2003/01/03/1/>

[http://www.dxzone.com/catalog/Operating\\_Modes/RTTY/](http://www.dxzone.com/catalog/Operating_Modes/RTTY/)

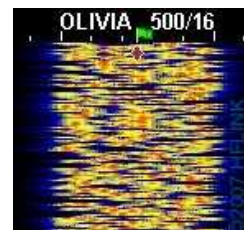
<http://groups.yahoo.com/group/MMTTY/>

## OLIVIA *(great weak signal mode)*

10.134-10.140

10.1345

*10134.5 USB dial freq [Olivia 500/16 Audio Center Freq=750 Hz] or [Olivia 1000/32 Audio Center Freq=1000Hz] (proposed Olivia calling freq for IARU Region 2 and Region 3)*



## What does OLIVIA sound like?

[http://myweb.tiscali.co.uk/g4ucj/html/digital\\_modes.html](http://myweb.tiscali.co.uk/g4ucj/html/digital_modes.html)

## **OLIVIA Software (Multimode):**

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

<http://www.ham-radio-deluxe.com/Programs/DigitalMaster780/tabid/89/Default.aspx>

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

<http://www.wlhkj.com/Fldigi.html>

<http://nlsu.com/olivia/>

## **OLIVIA Help:**

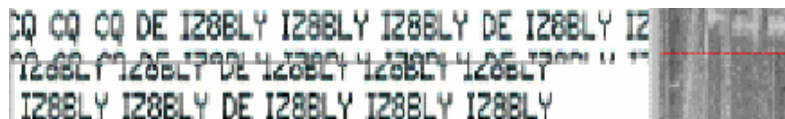
<http://hflink.com/olivia/olivia.html>

<http://groups.yahoo.com/group/digitalradio/>

<http://groups.yahoo.com/group/oliviadata/>

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

## **FELD HELL**



**IO.137**

**IO.138 NA Feld HELL Net 0000z to 0200z CDT Sundays**

**IO.144 (Region I)**

## **What does Feld HELL sound like?**

<http://www.wb8nut.com/digital.html>

## **Feld HELL Software (Multimode):**

<http://xoomer.alice.it/aporcino/>

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

<http://www.ham-radio-deluxe.com/Programs/DigitalMaster780/tabid/89/Default.aspx>

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

<http://www.wlhkj.com/Fldigi.html>

## Feld HELL Help:

<http://sites.google.com/site/feldhellclub/Home>

<http://www.qsl.net/zllbpu/FUZZY/starting.htm>

<http://uk.groups.yahoo.com/group/feldhellclub/>



## JT65 (WSJT - Great Weak signal mode)

IO.I39 JT65

### What does JT65 sound like?

[http://myweb.tiscali.co.uk/g4ucj/html/digital\\_modes.html](http://myweb.tiscali.co.uk/g4ucj/html/digital_modes.html)

### JT65 Software:

<http://physics.princeton.edu/pulsar/K1JT/>



## JT65 Help:

<http://groups.yahoo.com/group/wsjtgroup/>

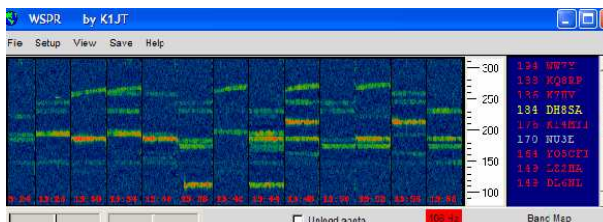
<http://www.obriensweb.com/bozoguidejt65a.htm>

<http://www.hflink.com/jt65a/>

<http://www.para.org.ph/membersarticles/WSJT/>

## WSPR (WSJT)

IO.I40 WSPR



### What does WSPR sound like?

<http://sv2dcd.blogspot.com/2008/05/oy3je-4m-qso-now-online.html>

## WSPR Software:

<http://physics.princeton.edu/pulsar/KIJT/>

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

## WSPR Help:

[http://physics.princeton.edu/pulsar/KIJT/WSPR\\_Quick\\_Start.TXT](http://physics.princeton.edu/pulsar/KIJT/WSPR_Quick_Start.TXT)

<http://wspnet.org/>

<http://wspnet.org/meptspots.php>

<http://wspnet.org/drupal/wspnet/map>

<http://www.pe2pe.eu/images/WSPR.htm>

<http://groups.yahoo.com/group/digitalradio/>

<http://groups.yahoo.com/group/multipsk/>

## PROPNET-PSK

### 10.1405 PROPNET-PSK

*i.e. 10.1389 + 0.001500 = 10.1404MHz. NA*

AF-OC = 10.1389 + 0.001300

AS-EU = 10.1389 + 0.001400

NA = 10.1389 + 0.001500

SA = 10.1389 + 0.001600



### The Internet Portal to the PropNET Project



## PROPNET Software:

<http://www.n7yg.com/propnetpsk/index.html>

## PROPNET Decoder of string (power, height, etc):

[http://www.pearhead.org/PropNET\\_PHG\\_decoder](http://www.pearhead.org/PropNET_PHG_decoder)

## PROPNET Help:

<http://www.n7yg.com/propnetpsk/index.html>

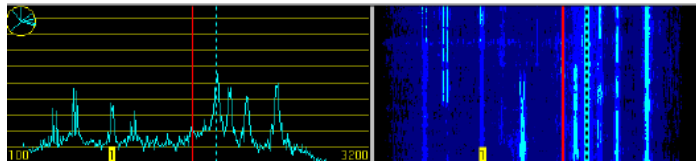
<http://propnet.org/index3faq.shtml>

<http://propnet.org/index3rp.shtml>

<http://groups.yahoo.com/group/PropNET-Online/>

## PSK

10.140 - 10.142 PSK



(All flavors of PSK, most used is BPSK3I...but also BPSK63,QPSK3I/63,etc and as another note as you will see below **PSK seems to be the most popular mode used on the 30 Meter Band** - it is NOT the best weak signal mode so have other modes at the ready)

## What does PSK sound like?

<http://www.wb8nut.com/digital.html>

## PSK Software (Multimode):

<http://www.digipan.net/> *(those new to digital/psk try Digipan first-easy to use)*

<http://www.dxlabsuite.com/winwarbler/>

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

<http://www.ham-radio-deluxe.com/Programs/DigitalMaster780/tabid/89/Default.aspx>

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

<http://www.wlhkj.com/Fldigi.html>

<http://mmhamsoft.amateur-radio.ca/MMvari/>

<http://homepage.mac.com/chen/w7ay/cocoaModem/index.html>

<http://www.logger32.net/>

*Too many to list go to larger sites or Google 'PSK Software'*

<http://ac6v.com/software.htm>

<http://www.dxzone.com/catalog/Software/PSK3I/>

<http://www.westmountainradio.com/links.htm>

<http://www.buxcomm.com/soundcardsoftware.html>

## **PSK Help:**

<http://groups.yahoo.com/group/30meterPSKGroup/?yguid=63426369>

<http://groups.yahoo.com/group/digitalradio/>

<http://www.bpsk3I.com/>

<http://www.aintel.bi.edu.es/software.html>

<http://www.mymorninglight.org/ham/psk.htm>

<http://www.qsl.net/wm2u/psk3I.html>

<http://groups.yahoo.com/group/psk3I/>

<http://www.youtube.com/watch?v=ZaAXMzGIUGA> (*New to digital ? Watch This!*)

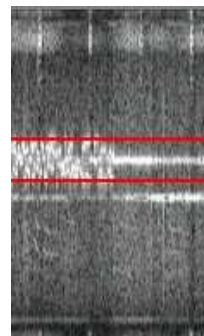
<http://www.youtube.com/watch?v=qHNvp7FfP6E>

## **MFSK** (*good weak signal mode*)

10.142 - 10.143 MFSK

**What does MFSK sound like?**

<http://www.wb8nut.com/digital.html>



## **MFSK Software (Multimode):**

<http://www.qsl.net/zllbpu/MFSK/>

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

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

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

<http://www.wlhkj.com/Fldigi.html>

<http://homepage.mac.com/chen/w7ay/cocoaModem/index.html>

**Note: MFSK can send pictures (SSTV) too!** *(Takes longer so adjust picture sizes to be smaller - see help link below)*

[http://f6cte.free.fr/SSTV\\_IN\\_MFSK16\\_EASY\\_WITH\\_MULTIPSK.doc](http://f6cte.free.fr/SSTV_IN_MFSK16_EASY_WITH_MULTIPSK.doc)

## **MFSK Help:**

<http://www.qsl.net/zllbpu/MFSK/>

<http://www.qsl.net/wm2u/mfsk.html>

<http://groups.yahoo.com/group/MFSK/>

<http://www.arrl.org/FandES/field/regulations/techchar/MFSK.html>

<http://sharon.esrac.ele.tue.nl/mirrors/zllbpu/MFSK/software/help.htm>

[http://www.dxzone.com/catalog/Operating\\_Modes/MFSK/](http://www.dxzone.com/catalog/Operating_Modes/MFSK/)

## **ARRL SkipNet**

IO.145 ARRL SkipNet

## **SkipNet Help:**

<http://www.uspacket.org/hfnets.htm>

## **ALE** (ALE2K and ALE400)

IO.143 ALE400

IO.1455 - IO.1481 ALE2k

**What does ALE sound like?**

<http://www.kb9ukd.com/digital/>

**ALE Software:**

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

<http://hflink.com/pcale/>

**ALE Help:**

<http://groups.yahoo.com/group/multipsk/>

<http://groups.yahoo.com/group/HF-LINK/>

<http://hflink.com/>

<http://hflink.com/channels/>

<http://hflink.com/automaticlinkestablishment/>

<http://hflink.com/hardware/>

## **PSKMail/APRS**

IO.1478 - IO.1482 PSKMail/APRS

**PSKMail/APRS Software:**

<http://pskmail.wikispaces.com/Download>

**PSKMail/APRS Help:**

<http://pskmail.wikispaces.com/>

<http://aprs.net/>

## **WINLINK**

IO.1239 WINLINK Pactor 1 or Pactor 2

IO.1412 WINLINK Pactor 3

IO.140 - IO.150 WINLINK (?)



## **MULTIPSK**



## **WINLINK Software and Help:**

<http://www.winlink.org/>

<http://www.zerobeat.net/bandplan-dissent.html>

<http://groups.yahoo.com/group/wi2kemcomm/>

[http://www.arwatch.com/watch/w\\_winlink.htm](http://www.arwatch.com/watch/w_winlink.htm)

## **APRS/PACKET**

10.1491 - 10.1495 APRS

### **APRS/PACKET Software:**

<http://www.agwtracker.com/>

<http://www.sv2agw.com/>

<http://www.ac6v.com/opmodes.htm#APRS>

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

### **APRS/PACKET Help:**

<http://www.ac6v.com/opmodes.htm#APRS>

<http://www.ac6v.com/software.htm#PACK>

<http://www.scs-ptc.com/>

## **Other Digital Modes *(Experimenting Welcome)***

### **Other Digital Mode Software:**

<http://www.westmountainradio.com/links.htm>

<http://www.buxcomm.com/soundcardsoftware.html>

<http://xoomer.alice.it/aporcino/Chip64/index.htm>

<http://www.weaksignals.com/jason>

*(Many others too! New Digital modes on the horizon all the time!)*

### **Other Digital Mode Help:**

<http://www.obriensweb.com/chip64help.htm>

<http://rv3apm.com/>

<http://www.bcar.us/Digital%20Signals.htm>

<http://www.eham.net/reviews/products/28>

# Digital Mode Clubs that include 30 Meters **30MDG**

(Note: Member Count/Number as of Sep08)



**30MDG: 30 Meter Digital Group** <http://www.30meterdigital.org/index.html>

Members= 1,109



**EPC: European PSK Club** <http://eu.srars.org/index.php>

Members= 4,492



**O70: PODXS O70 Club** <http://www.podxsO70.com/>

Members= 838



**PODXS Ø7Ø Club**

**DMC: Digital Modes Club** <http://www.digital-modes-club.org/index.htm>

Members= 1,481



**FH: Feld-Hell Club** <http://feldhellclub.org/index.php>

Members= 1,125



**OMC: Olivia Modes Club** <http://www.oliviamodesclub.net/index.php>

Members= 254



**CDG: Croatian Digital Group** <http://www.hamradio.hr/9alepc/index.htm>

Members= 98



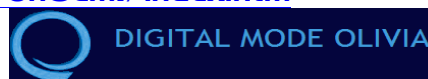
**DQSO: Digital QSO Club** <http://dqso.net/index.htm>

Members= 115



**OBC: Olivia Belgium Club** <http://www.freewebs.com/on6cml/index.htm>

Members= 81



**BDM: Belgium Digital Modes Club** <http://server.mbonline.be/~on3vhf/BDM/index.htm>

Members= 53



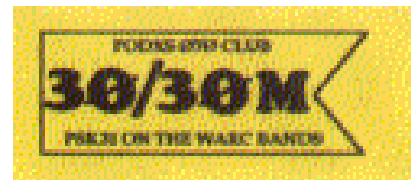
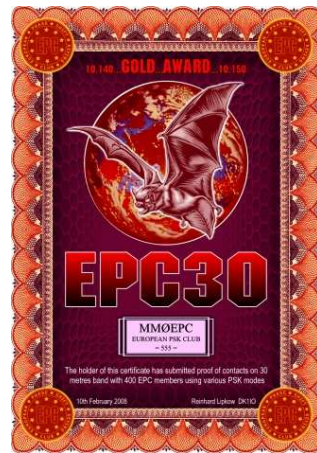
**BCS: Belgium Club SSTV** <http://on8ga.qsl.nu/BelgiumClubSstv/belgiumclubsstv>

Members= 340



# AWARDS

*(Get on the 30 Meter Band, participate, and have some fun! Please note these Awards are for FUN, contacts are NOT all confirmed, it is NOT a contest-no time limits/dates/etc, the only winners are those that have fun. Get on the band and promote the use of the 30 Meter Band and good will among other Digital Hams with like interests throughout the World...DX to Ragchew it is all here on 30 Meters)*



<http://www.30meterdigital.org/30mAwards.html>

<http://www.zl3rg.com/30MDG%20HP.html> *(Special Thanks to Rob ZL3RG)*

<http://www.zl3rg.com/30MDG%20Award%20Rules.html>

<http://zl3rg.com/Ultimate30MDG.html>

*(Special Thanks to John OE3JPK - Creator of Ultimate30MDG Award Software)*

[http://eu.srars.org/index.php?option=com\\_content&task=view&id=101&Itemid=136](http://eu.srars.org/index.php?option=com_content&task=view&id=101&Itemid=136)

[http://www.podxs070.com//endorsements/070\\_EndorsementRules.html](http://www.podxs070.com//endorsements/070_EndorsementRules.html)

<http://sites.google.com/site/feldhellclub/Home/awards>

<http://www.digital-modes-club.org/awards.htm>

<http://www.arrl.org/awards/dxcc/>

<http://www.arrl.org/awards/dxcc/news/20020904.html>

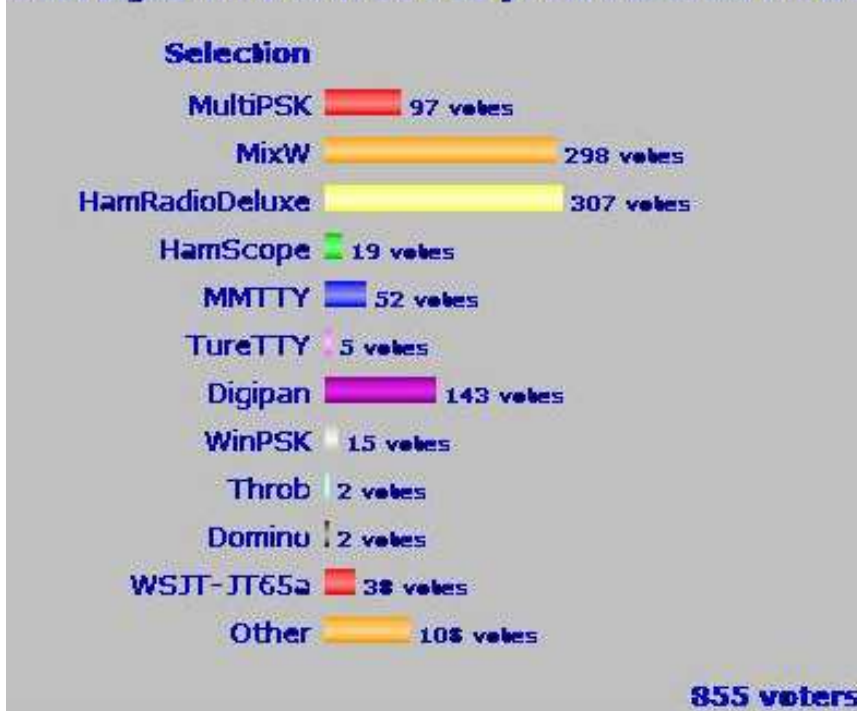
<http://www.hamradio.de/cgi-local/award.pl?action=showaward&awardnr=235>

*\*\* Please note all Surveys/Polls below are from the 30MDG website that started December 2007 to Current August 2008*

## 30M Survey - Digital Software

<http://www.30meterdigital.org/30msoftware.html>

What digital mode software do you like: and use most?



*References below In Order as Rated by Digital Ops (top picks only):*

#1 Rated DM780 with Ham Radio Deluxe

<http://www.ham-radio-deluxe.com/Programs/DigitalMaster780/tabid/89/Default.aspx>

#2 Rated MixW

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

#3 Rated Digipan

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

#4 Rated Multipsk

[http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm)

Rated best for Linux (also now for Windows)....FLDIGI give it a try!

(When Poll first introduced Linux was not in the Poll-our error only including Windows)

<http://www.wlhkj.com/Fldigi.html>

Winwarbler

<http://www.dxlabsuite.com/winwarbler/>

## MMVARI

<http://mmhamsoft.amateur-radio.ca/MMvari/>

## Rated best for MAC users...COCOAMODEM

*(When Poll first introduced MAC was not in the Poll-our error only including Windows)*

<http://homepage.mac.com/chen/w7ay/cocoaModem/index.html>

## User Yahoo Help Groups on the above software:

<http://groups.yahoo.com/group/ham-radio-deluxe/>

<http://groups.yahoo.com/group/mixw/>

<http://groups.yahoo.com/group/digipan/>

<http://groups.yahoo.com/group/multipsk/>

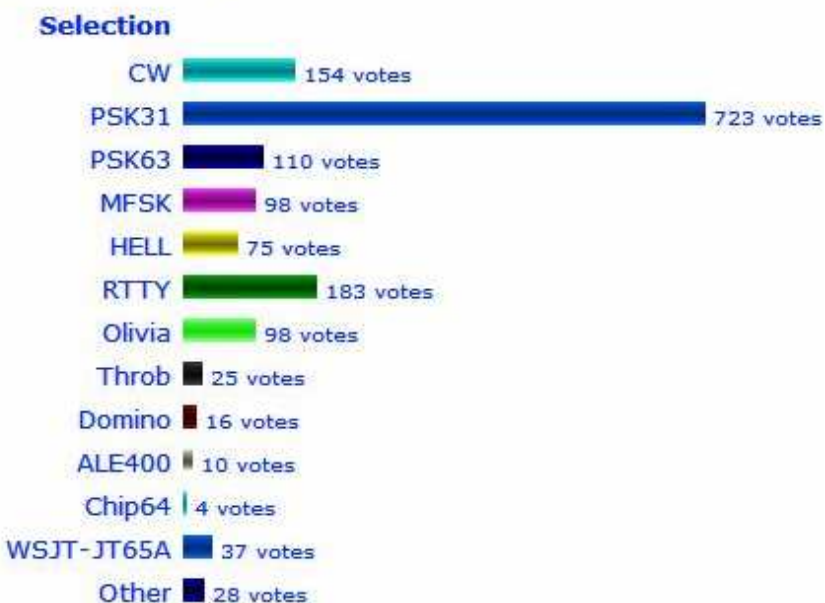
<http://rss.groups.yahoo.com/group/digitalradio/rss>

<http://groups.yahoo.com/group/linuxham/>

## 30M Survey on Most Used Digital Modes

<http://www.30meterdigital.org/30msoftware.html>

What Digital Modes do you use the most on 30 Meters?



821 voters

Software	Ham Radio Deluxe	MixW	DigiPan	MultiPSK	FLDigi	MMVari	Cocoamodem
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Mode	Ham Radio Deluxe	MixW	DigiPan	MultiPSK	FLDigi	MMVari	Cocoamodem
PSK	Supported	Supported	Supported	Supported	Supported	Supported	Supported
RTTY	Supported	Supported	Supported	Supported	Supported	Supported	Supported
CW	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Olivia	Supported	Supported	Supported	Supported	Supported	Supported	Supported
MFSK	Supported	Supported	Supported	Supported	Supported	Supported	Supported
HELL	Supported	Supported	Supported	Supported	Supported	Supported	Supported
WSJT(JT65)	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Throb	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Domino	Supported	Supported	Supported	Supported	Supported	Supported	Supported
ALE	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Chip64	Supported	Supported	Supported	Supported	Supported	Supported	Supported
SSTV	Supported	Supported	Supported	Supported	Supported	Supported	Supported
FAX	Supported	Supported	Supported	Supported	Supported	Supported	Supported
MT63	Supported	Supported	Supported	Supported	Supported	Supported	Supported

 = Supported

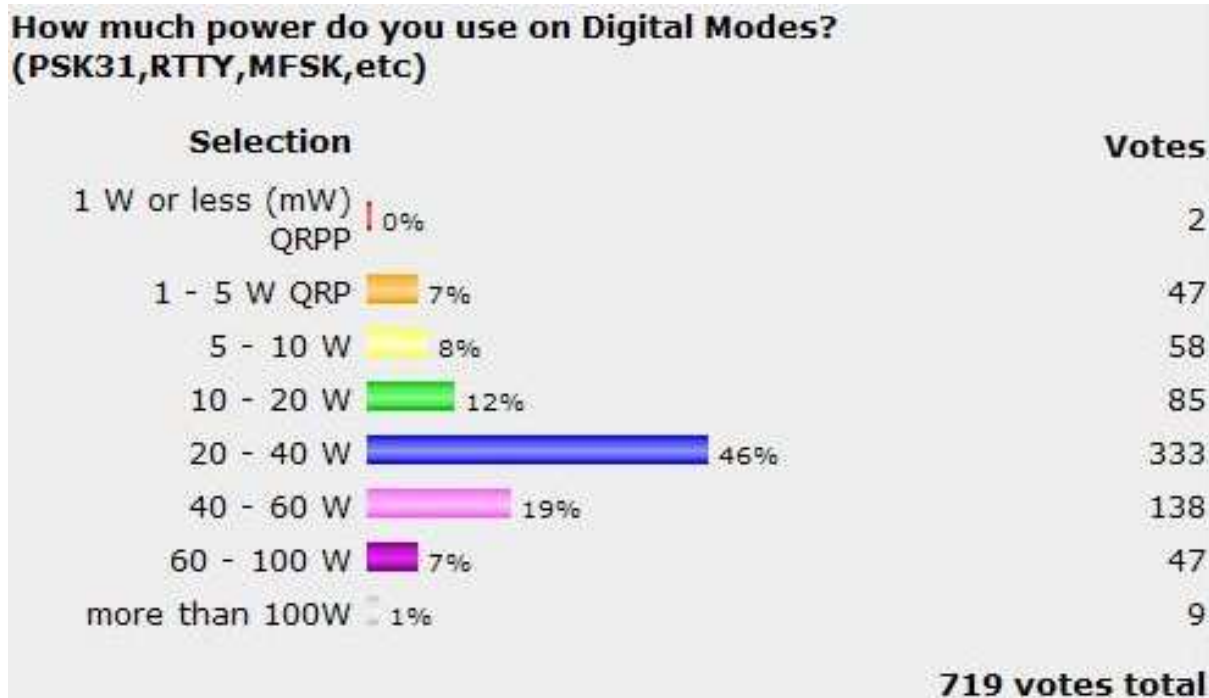
*( Thanks to Richard PA3GWH for this software vs digital mode supported chart)*

Some comparison numbers from Tony K2MO comparing different digital modes are toward the end of this document...this is a must read! Please experiment with different digital modes and 30 Meters is a great place to do just that and find others that are willing to experiment along with you!

## 30M Survey on Power Used

**Note: Almost 75% of digital operators are using 40w or less power. Please do NOT harm your radio by running 100% power on a 100% duty cycle mode (50% power or 50w or lower advised not only for your rig but also for a clean signal on the band so all can use the band (no ALC!). If you experiment using 100w then compare copy to 40w or less you will find little to no difference in copy. Either the band is open for the current propagation/path using your current mode/antenna at hand or it's not and no copy. If you want to increase your chances of contacts on a poor propagation/path then switch to another mode and/or different antenna!**

<http://www.30meterdigital.org/30msoftware.html>



Don't transmit a poor signal on the band and if you see one please help each other and let others know of a poor quality signal (we would all want to know that).

<http://www.psb-info.net/samples.html>

<http://www.ssiserver.com/info/pskmeter/>

<http://www.wlhkj.com/Modes/pskbad.htm>

Not everyone can have a 599 signal, please give proper and accurate signal reports:

<http://www.hamuniverse.com/rst.html>

<http://www.radioing.com/hamstart/rst.html>

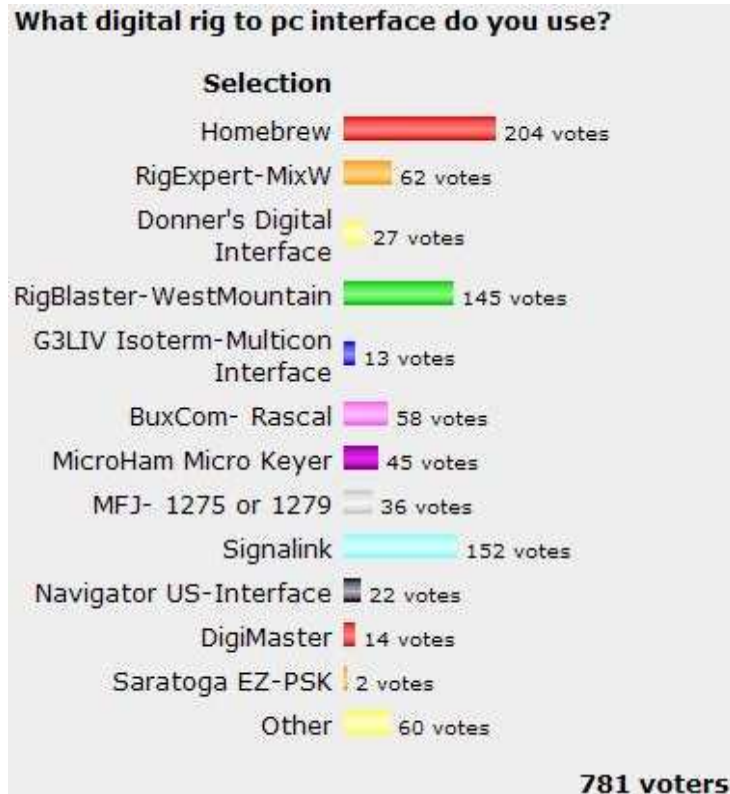
<http://www.psb-info.net/RSQ-discussion.html>

[http://groups.yahoo.com/group/rsq\\_signal\\_reporting/](http://groups.yahoo.com/group/rsq_signal_reporting/)

<http://www.psb-info.net/IMD-Measurement.html>

# 30M Survey on Rig to PC Interfaces

<http://www.30meterdigital.org/30msoftware.html>



<http://www.qsl.net/wm2u/interface.html>

<http://www.tigertronics.com/>

<http://www.westmountainradio.com/>

<http://www.rigexpert.com/>

<http://buxcommco.com/>

<http://home.att.net/~n8st/>

<http://www.n3fjp.com/rigcw.htm>

[http://www.waypoint.com/users/~discobay/Sound\\_Card\\_Presentation.htm](http://www.waypoint.com/users/~discobay/Sound_Card_Presentation.htm)

<http://www.mfjenterprises.com/Search.php?searchit=interface>

<http://www.eham.net/reviews/products/28>

*(Many other interfaces homebrew or Commercial so please Google to search for more)*

# 30M Survey on 30M Antennas

<http://www.30meterdigital.org/30msoftware.html>

What antenna are you using for 30 Meters? And with better propagation will you upgrade your 30 Meter antenna?



## 30M Antennas

The most important part of your Amateur Radio Station is your **ANTENNA!** Your antenna can limit or increase your activity on a band. We have folks that are having decent luck on the 30 Meter Band even those with restrictions using inside antennas to those that are upgrading to better antennas for more 30 Meter action. Please use what you have at hand and give 30 Meters a try....inside ant/loops/dipoles, low to the group wires, outback verticals, hamstick dipoles, G5RVs, OSF Windoms, etc all making contacts, so use what you have until you can upgrade to a better antenna. Those that want to increase their log and coverage might want to dedicate a couple antennas for 30 Meters for different coverage from a wire simple dipole for closer in propagation to a vertical for DX. There are too many antenna designs and ideas to cover here but we will give a few antenna links all the same... see you on the waterfall!

**Dipoles work!** Dedicate a 30 Meter Dipole cut to band and give it a try!

<http://www.hamuniverse.com/dipivcal.html>

<http://www.chem.hawaii.edu/uham/30.html>

<http://www.eham.net/articles/I9877>

<http://www.eham.net/articles/I9626>

Loops also work well:

<http://kalfsb.home.att.net/loopcalc.html>

<http://www.dxzone.com/catalog/Antennas/Loop/>

<http://www.dxzone.com/catalog/Antennas/30M/>

If you can't put up that Yagi or Quad for 30 Meters (which most of us can't) then get that **DX take off angle using a VERTICAL** that can fit in most any yard/garden:

<http://www.forcel2inc.com/>

<http://www.zerofive-antennas.com/>

<http://www.dxengineering.com/Parts.asp?ID=2219&PLID=274&SecID=113&DeptID=22&PartNo=DXE-30VE-I>

<http://www.k7su.com/verticalpage.html>

<http://www.arrl.org/tis/info/Vertical-H.html>

[http://www.new-tronics.com/main/html/base\\_hf.html](http://www.new-tronics.com/main/html/base_hf.html)

[http://www.bencher.com/ham/index.php?main\\_page=product\\_info&products\\_id=14](http://www.bencher.com/ham/index.php?main_page=product_info&products_id=14)

<http://www.gapantenna.com/>

A few other sites with loads of antennas ideas/links

<http://members.fortunecity.com/xelbef/hf-antennas.htm>

<http://www.ac6v.com/antprojects.htm>

If you can put up that 30 Meter Rotatable Dipole then do so if you are lucky like a few on the Band and can put up a 30 Meter Yagi or Quad then great! Those with those big stations will help the smaller stations pulling them in. If you are on the 30 Meter Digital Band much you will eventually hear or work Rob ZL3RG and others with 30 Meter Quads or larger antennas.

<http://zl3rg.com/quad.html>

# 30M VK3AMA Icons for Digital Mode Software

<http://www.vk3ama.com/memberlists.php> (Special Thanks to Laurie VK3AMA)

Most Recent Update [4783 Callsigns]. 02-Feb-2008 04:52:37 UTC

White: Download 60 kB  
 Black: Download 60 kB  
 Red: Download 60 kB  
 Green: Download 60 kB  
 Blue: Download 60 kB  
 Yellow: Download 60 kB  
 Cyan: Download 60 kB

Sample Icons:  
 +EPC 070 FH EPC 070 +070 FH OMC 070 DMC OMC +DMC 30M +070 FH  
 EPC 070 DMC OMC 070 DMC FH 070 FH OMC 30M FH OMC EPC 070 DMC  
 070 +EPC 070 DMC 30M +OMC 30M EPC 070 DMC FH

## 30M Beacons

(Please note Beacons are discouraged on 30 Meters yet we seem to have a few operating on 30 Meters...remember we are Secondary Users and must yield to Primary Users)

[http://www.dxzone.com/catalog/DX\\_Resources/Beacons/Beacon\\_stations/](http://www.dxzone.com/catalog/DX_Resources/Beacons/Beacon_stations/)

### 30 meter beacons

IO114	N4QA		I8mw			?		
IO125	KLIIF	Springfield MO	EM37IE	IO	1/4 GP	Omni	AI	PT
IO130	OKIIF		JO4OHG	0.5		AI	?	
IO132	VE3TO	Nr Ottawa	FN25EG	5	1/4 Vert	Omni	AI	24 MON-FRI
IO134	OKOEF	Nr Kladno	JO7OBC	.1/.2/.5	1/2 Vert	Omni	AI	24
IO135.9	HPIRCP	Cerro Jefe	FJO9HD	2.5	SlopeDip	Omni	AI	24
IO139.6	PY3PSI	Porto Alegre	GF49KX	1.6	Hor. Dip	N-S	AI	IRREG
IO140.0	sub-audible QRPP/QRSS3 beacons around here							
IO140.1	including IYRB, IWOHK, IK4IDP, G3ZJO, IIDFS, IQ4FJ							
IO140.6	DL5KZ	Numbrecht	JO3OSU	0.1	Dipole		AI	?
IO141.8	IK3NWX	Nr Monselice	PD JN55VF	4.2	Rot. Dip.	E-W	AI	24
IO144.0	DKOWCY	Scheggerott	JO44VQ	30	Dipole		AI,psk	24zz rtty
IO149.7	IZ8BZX	Torre del Greco	JN7OES	.1/.5/1	whip		Omni	hi/QRSSEXP

## **SWL – Yes we welcome ALL SWL'ers**

<http://www.xs4all.nl/~nl9222/>

<http://myweb.tiscali.co.uk/g4ucj/>

[http://www.n2ty.org/seasons/tara\\_dpx\\_swl.html](http://www.n2ty.org/seasons/tara_dpx_swl.html)

<http://www.ac6v.com/swl.htm>

[http://www.dxzone.com/catalog/Ham\\_Radio/Clubs/Technical\\_Specialty/Digital\\_Modes\\_Clubs/](http://www.dxzone.com/catalog/Ham_Radio/Clubs/Technical_Specialty/Digital_Modes_Clubs/)

[http://www.eu.srars.org/index.php?option=com\\_content&task=view&id=75&Itemid=153](http://www.eu.srars.org/index.php?option=com_content&task=view&id=75&Itemid=153)

## **30M Digital Mode Help**

### **Digital Operation Suggestions from 30 Meter Digital Group Ops:**

*\*\*\* Please remember that on 30 Meters we are SECONDARY USERS so we must give way to primary users of the band \*\*\**

#### **Suggestion by Darin VE3OIJ**

How about "allow enough time between cycles of your CQ macro that people can get a word in to let you know they're returning your call" ? One of the greatest frustrations of digital operation is the operator who has his CQ macro set for 5 second recycles so he spends his time transmitting right over top of your desperate attempts to call him.

#### **Suggestion by Loren KC7CWQ**

Whether using RST or RSQ, give and ask for valid signal reports. If I am wide, let me know, don't give me the standard 599. Good operators want to know how their signal appears on the waterfall. Loren 30MDG #0023 KC7CWQ

#### **Suggestion by Don KB9UMT**

**Do NOT use mic processor, do NOT have any ALC**

**DO use low power...20w to 30w will do as well as 50w and your rig finals will thank you for it and run cooler**

**Do NOT use 100% full 100w power**

**Do ask for TRUE/REAL signal reports and if your report is poor DO look into why you have a poor signal report**

**If the band is busy DO USE narrow digital modes (be kind to your neighbors)**

**DO HAVE FUN on 30m and take the time to ragchew and get to know others as we are here today and SK tomorrow**

#### **Suggestion by Jesse WB5NPW**

**"it's happened to me more than once but if I'm answering someone's cq with "his-call de my-call" don't call me. give me chance to work the person I'm working first.."**

#### **Suggestion by Cliff KU4GW**

**I think cutting the rig's mic gain or the PC soundcard output back til no ALC shows on the rig's ALC meter is the single most important thing to know operating PSK31." 73 de Cliff KU4GW 30MDG#865**

#### **Suggestion by Daithi GI7OMY**

**First of all - find an empty spot in the band, watch it for a while to make sure it is empty. If no station is calling CQ, but the band seems open, find a clear frequency and listen for a bit, if clear, then send QRL? QRL asks is the frequency busy? If someone responds with QRL, no need to respond and clutter up the frequency. If no response to your QRL, repeat a couple of times and then call CQ. Sending just QRL without your callsign is against the rules, but most do it anyway.**

**If you answer a CQ call, QSY off at the end - don't start calling CQ - the guy you just worked may have been there for some time and you're forcing him to hunt for an empty spot - he may have spent some time finding his spot at the start and he's not going to be happy if you push him off it.**

**If you see a call area that you want in QSO, do NOT call them as soon as they finish - wait for one of the two stations to send QRZ or CQ. The guy you want might not be the one operating on that spot and will have QSYed off (or should have)**

**Have a list of Abbreviations, Prefixes, and Q-Signals handy. Some DX stations cannot converse in English but you both can get the essentials across with Q-Signals.**

**Listen for a DX station calling CQ or wait until they have finished with a QSO.**

Good operators will send KN as a turn over, which is "go ahead, over, others keep out." Sending just K opens it for others to break in and this is OK if that is desired. SK is the signoff that should be used or CL ("clear") or 'QRT' if closing your station.

Give a call DXIIDX DE WZ9UUU WA9UUU AR (AR means that I am through with this transmission). The DX station knows their call, so send it once. Sending your call twice allows the other station to hear it, then confirm it. If you make the connection, the usual follow up is his or her signal report, repeated twice if the contact is shaky and weak, then your name and QTH. Don't send more than that on the first round. Turn it back to the DX with a K or KN. This will allow the two of you to evaluate if a QSO is sustainable or desirable. On the next over, ask about QSL information if you want it, before the band slips out. A signoff looks like this: DXIIDX DE WF6TTT, FB VLAD TNX NICE QSO HPE CUL VY 73 GM SK DXIIDX DE WF6TTT Use SK or CL (Closing Station) on your final transmission not AR or K (N)

Tail-ending. Wait until another QSO is complete, and then call the station you want to contact. If the frequency is being used by the other station, you'll find out fast because he will start to call CQ over your signals - always check first, transmit after. Also, if there is a pileup, don't fire up a call right on the heels of someone else - the originating station does need to be able to transmit and if everyone is calling him without a break, he isn't going to get a chance to call you or anyone else

Do not break into a QSO - even if you can't hear one of the stations involved, it doesn't mean they aren't there. Wait for the SK at the end of the one you can hear, wait a minute for the other station to sign off and then call in. Just make sure that the one you are calling is the one who was originally using the frequency.

If you hear a station calling another, it doesn't matter whether you are dying to have that prefix in your log - YOU are NOT the one being called so do NOT dive in with your call.

Do not give into the temptation to increase the RF power for a weak station. Even if you get him, remember that there are a lot of other stations operating inside that 3 KHz band and what you WILL do is to swamp their signals and, if they are operating a weak station, you are wiping them out. If you can't work him on 50 Watts max - forget it and try later.

Another suggestion - do NOT run a high power tuning signal in the middle of the band - low power and take it up to the 3KHz marker

### **\*\*\* Some tips for Digital Mode users:**

**Power Level** - for digital modes, limit your power output to one half (  $\frac{1}{2}$  ) the radio's maximum rated output. Most sound card digital modes use a "100% duty cycle", which means that your radio will be transmitting at all times, even when characters are not being sent. Most radios were not designed for 100% duty cycles, especially at full power. So reduce your transmitter power.

#### **HF Radio Settings**

**Tuning** - PSK31 benefits from a radio that can tune in very small steps, e.g. 1 Hz. If your radio can't do this, use the RIT (receiver incremental tuning) feature of the radio. The automatic frequency compensation feature in PSK31 software also helps.

**Filters** - use them on a busy band or unwanted signal...more on this to come (will update soon)

**Speech Compression** -- should be OFF.

**ALC (Automatic Level Control)** - watch the ALC meter to make sure it is below the maximum. In general, you don't want to 'overdrive' the radio with sound card audio levels that would create 'splatter' (unintended signals) on adjacent frequencies.

**AGC (Automatic Gain Control)** - does not affect receive audio when it is being pulled from a fixed-level audio pin in the radio's ACC or DATA jack.

**VOX** - If you prefer, or if you don't have a spare serial / COM port on your PC, you can use the VOX feature of your radio for PTT control. Activate VOX in your transceiver, and set the level, delay and anti-trip controls, as you would when using microphone (voice) input. Remember however that if you have your microphone connected to the radio, any incidental noise in the room can also be transmitted when using VOX.

**Microphone** - If you are using the ACC jack to control transmissions, you may need to disconnect your microphone from the radio to avoid sending room noise along with digital signals

\*\*\*\* I would not recommend using the speech compressor for digital modes....the mic gain on the rig along with the soundcard output adjustments work together to produce wattage out and correct levels- varies depending on soundcards/pc etc...So again NO SPEECH COMP, but YES you need some mic gain levels

<http://www.qsl.net/wm2u/psk31.html>

### \*\*\* WM2U's TIP LIST

- Set sound card sampling rate to 11025Hz
- This must be at least a 16 bit sound card.
- No Signal observed? Check your WAVE slider is not zero.
- Set Rx and Tx frequencies to 1000Hz.

**NOTE:** This value will get you up and running but if you plan on using a filter change it to the center frequency.

- If using LSB check the "Inverted QPSK" box.
- Too much noise! Try using a narrow CW filter.
- Using a Word Processor, write your buffered messages and save them as .txt files, placing em! in a folder called 'buffers' created in the main PSK31 folder.

**NOTE:** This is NOT a form of type ahead buffer. It is simply a method to pre write 'Standard' messages hence saving you keyboarding time.

### \*\*\* MORE HELP TIPS

- o Your sound card output must NOT overdrive your Mic Input.
- o Do not overdrive the sound card input from the Radio.
- o Get used to the Waterfall/Phase indicators for tuning.
- o Do not use your Speech Processor.
- o Be patient. This is a new mode. You will not find all the features you are used to yet!

## 30 Meter Band Specific Digital Mode Help

- The 30 Meter Band is open 24x7 somewhere-be patient
- The 30 Meter Band doesn't die at night like some might think (it is open somewhere it is just a matter if someone is on the air where it is open)
- Do have different digital mode software ready or use a multimode software so if other digital modes are seen/heard or needed you are ready
- If you don't have a specific 30 Meter antenna DO use what you have and give 30 Meters a try
- Once you decide to dedicate more time on the 30 Meter Band a better antenna cut for 30 Meters could prove helpful, or better yet having 2 antennas for different propagation paths (i.e. wire for domestic and vertical for DX)
- Do call CQ on the 30 Meter Band and not assume it is dead or no one is around....calling CQ is the first step to gain new contacts/friends on the band
- Do use the 30 Meter Digital SPOT Page and have fun or experiment with other digital modes with other digital operators with the same interests
- Do try more than just a few times for contacts and be patient, this is not the 20 Meter Band with many years of known digital activity but then again 30 Meters we hope remains with good digital operators and not over crowded like other bands...again casual use please

# Digital Mode HF Path Simulations

Compiled by **Anthony Bombardiere, K2MO**  
dxdx@optonline.net

*Path Simulator by Moe Wheatley, AE4JY*

## Digital mode Software

Fldigi  
MixW  
MMVari  
Multipsk  
Jason

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### Baseline Sensitivity Test Minimum SNR (no Ionospheric distortion)

In this test, the minimum SNR is reached when all the text being fed through the simulator is decoded without error.

A direct path (no ionospheric distortion) was used to establish a baseline SNR for each mode.

The "Quick Brown Fox" Pangram was used for each test.

Jason Turbo (Fast).....	-25db
PSKAMIO.....	-20db
PSKIO.....	-18db
Contestia 500/32.....	-15db
DominoEX-4 .....	-15db
FEC-3I.....	-15db
THROBX-4.....	-15db
MFSK16.....	-14db
THORII.....	-14db
RTTYM*.....	-13db
Contestia 500/16.....	-13db
CW 20 WPM*.....	13db
THORI6.....	-12db
Olivia 500/16 .....	-12db
MFSK3I*.....	-12db
Olivia 500/8.....	-10db

PSK3I.....-10db  
 CHIP-64.....8db  
 DominoEX-II.....-8db  
 MT63 IK.....-8db  
 Olivia 500/4.....-8db  
 PSK63.....-7db  
 Feld Hell.....-7db  
 CHIP-I28.....-5db  
 RTTY 45.....-5db  
 PAX2.....-2db  
 HFPacket (300baud).....+1db

\* Intermittent "bug" with RTTYM MixW Software

\*\* Subjective morse speed dictates SNR

## Ionospheric Simulations

Simulation: High Latitude

Magnitude: Moderate

Path Delay: 3ms

Frequency Spread: 10Hz

SNR: -8db (weak signal)

Contestia 500/16.....100%  
 CW 20 WPM.....100%  
 MFSK16.....100%  
 MFSK3I\*.....100%  
 Olivia 500/16.....100%  
 Olivia 500/8.....100%  
 RTTYM 500/32.....100%  
 Olivia 500/4.....90%  
 Feld Hell\*.....90%  
 ThrobX-4.....70%  
 Chip-64.....No Copy  
 Chip-I28.....No Copy  
 DominoEX 4bd.....No Copy  
 DominoEX IIbd.....No Copy  
 FEC-3I.....No Copy  
 PSK3I.....No Copy  
 Jason Turbo (fast).....No Copy  
 PSK10.....No Copy  
 PSKAMIO.....No Copy  
 PSK63.....No Copy  
 RTTY45.....No Copy  
 THOR-II.....No Copy  
 THOR-I6.....No Copy  
 MT63.....No Copy

**SNR: +10db (Moderate Signal)**

Chip64.....90%  
Chip-128\*\* .....00  
Feld Hell\* .....90%  
Olivia 500/4.....90%  
RTTY45.....90%  
ThrobX-4.....70%  
DominoEX 4bd.....No Copy  
DominoEX 11bd.....No Copy  
FEC-3I.....No Copy  
PSK3I.....No Copy  
Jason Turbo(fast).....No Copy  
PSKIO.....No Copy  
PSKAMIO.....No Copy  
PSK63.....No Copy  
THOR-II.....No Copy  
THOR-I6.....No Copy  
MT63.....No Copy

\*diffuse text - readable

\*\*Intermittent decode problem with Chip-128

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**Simulation: High Latitude**

**Magnitude: Disturbed**

**Path Delay: 7ms**

**Frequency Spread: 30Hz**

**SNR: -3db (weak signal)**

Contestia 500/16.....100%  
CW 20 WPM.....100%  
Olivia 500/16.....100%  
Olivia 500/8.....100%  
Olivia 500/4.....95%  
RTTYM\*\* .....95%  
MFSK3I.....90%  
MFSK16.....75%  
RTTY.....40%  
Chip-64.....10%  
Chip-128\*\* .....no copy  
DominoEX-4.....no copy  
FEC-3I.....no copy  
Jason Turbo (Fa.....no copy  
MT63IK.....no copy  
PSKIO.....no copy  
PSKAMIO.....no copy  
PSK3I.....no copy

PSK63.....no copy  
Thor-II.....no copy  
ThrobX-4.....no copy  
Feld Hell.....Readable

SNR: +10db (Moderate Signal)

Olivia 500/4.....100%  
Feld Hell\*.....90%  
Chip64.....75%  
Chip-I28\*\*.....75%  
RTTY45.....50%  
ThrobX-4.....No Copy  
DominoEX 4bd.....No Copy  
DominoEX IIbd.....No Copy  
FEC-3I.....No Copy  
PSK3I.....No Copy  
Jason Turbo (fast.....No Copy  
PSKIO.....No Copy  
PSKAMIO.....No Copy  
PSK63.....No Copy  
THOR-II.....No Copy  
THOR-I6.....No Copy  
MT63.....No Copy

\* diffuse print - readable

\*\* Intermittent decode problem Chip-I28

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Simulation: Mid-Latitude  
Magnitude: Disturbed  
Path Delay: 2ms  
Frequency Spread: 1Hz  
SNR: -8db SNR (weak signal)

Contestia 500/16.....100%  
MFSK16.....100%  
Olivia 500/16.....100%  
Thor-II.....100%  
Thor-I6.....100%  
CW 20 WPM.....90%\*  
DominoEX 4bd.....90%  
Feld Hell.....90%  
MFSK3I.....90%  
MT63 IK.....90%  
Olivia 500/8.....90%  
Olivia 500/4.....90%  
RTTYM 500/32.....90%  
ThrobX-4.....90%  
DominoEX IIbd.....80%

**FEC-3I.....70%**  
**PSK3I.....70%**  
**PSK63.....50%**  
**PSKAMIO.....50%**  
**Jason Turbo (Fast).....35%**  
**RTTY45.....20%**  
**PSK10.....20%**  
**Chip-64.....20%**  
**Chip-I28\*\*.....00**

**SNR: +10db (Moderate Signal)**

**DominoEX 11bd.....100%**  
**Feld Hell\*.....100%**  
**FEC-3I.....100%**  
**MT63.....100%**  
**Olivia 500/4.....100%**  
**THOR-II.....100%**  
**THOR-I6.....100%**  
**ThrobX-4.....100%**  
**SK63.....95%**  
**Chip64.....90%**  
**PSK3I.....90%**  
**PSKAMIO.....90%**  
**RTTY45.....90%**  
**DominoEX 4bd.....90%**  
**Chip-I28\*\*.....00**  
**Jason Turbo (fast).....No Copy**  
**PSK10.....No Copy**

\* diffuse print - readable

\*\* Intermittent decode problem Chip-I28

**Simulation: Low-Latitude**

**Magnitude: High**

**Path Delay: 6ms**

**Frequency Spread: 10Hz**

**SNR: -8db SNR (weak signal)**

**Contestia 500/16.....100%**  
**MFSK16.....100%**  
**MFSK3I.....100%**  
**Olivia 500/16.....100%**  
**RTTYM 500/32.....100%**  
**CW 20 WPM.....90%**  
**Olivia 500/8.....90%**  
**Olivia 500/4.....90%**

Throbx-4.....70%  
Feld Hell.....Poor Copy\*  
Chip-64.....No Copy  
Chip-128.....No Copy  
DominoEX 4bd .....No Copy  
DominoEX 11bd.....No Copy  
FEC-31.....No Copy  
Jason Turbo (Fast).....No Copy  
MT63 1k.....No Copy  
PSK10.....No Copy  
PSKAMIO.....No Copy  
PSK31.....No Copy  
PSK63.....No Copy  
RTTY45.....No Copy  
Thor-11bd.....No Copy  
Thor-16bd.....No Copy

SNR: +10db (Moderate Signal)

Olivia 500/4.....100%  
Feld Hell.....90%\*  
Chip64.....90%  
Chip-128.....??\*\*  
RTTY45.....70%  
ThrobX-4.....No Copy  
DominoEX 4bd.....No Copy  
DominoEX 11bd.....No Copy  
FEC-31.....No Copy  
PSK31.....No Copy  
Jason Turbo (fast).....No Copy  
PSK10.....No Copy  
PSKAMIO.....No Copy  
PSK63.....No Copy  
THOR-11.....No Copy  
THOR-16.....No Copy  
MT63.....No Copy

\* Characters diffuse difficult to read.

\*\* Intermittent decode problem Chip-128

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N.V.I.S.

Near Vertical Incidence Skywave

Simulation: Mid-Latitude NVIS

Magnitude: High

Path Delay: 20ms\*

Frequency Spread: 1Hz

**\*NVIS waves penetrate deeper into the ionosphere than waves that are beamed at low angles. The increased interaction with the plasma tends to slow the wave down increasing the time-of-flight. NVIS sky wave echoes can take up to 20ms to return and can often mix with ground waves due to the close proximity of NVIS stations. Multi-path timing delays of this magnitude can cause internal timing issues for some digital modes.**

The 20ms path delay used in this simulation is most likely the worse case scenario.

**SNR: +10db**

Contestia 500/32.....	100%
CW 20 WPM.....	100%
MFSK16.....	100%
MFSK31 (MMvari).....	100%
MT63 IK.....	100%
Olivia 500/16.....	100%
RTTYM 500/32.....	100%
THORII.....	100%
THORI6.....	100%
Contestia 500/16.....	95%
Olivia 500/4.....	95%
DominoEX-4 .....	95%
DominoEX-II.....	85%
Feld Hell*.....	80%
RTTY 45.....	80%
Chip-64.....	75%
DominoEX-22.....	60%
THROBX-4.....	60%
PSK31.....	10%
PSK63.....	10%
FEC-31.....	nil
PSKAMIO.....	nil
PSKIO.....	nil
<b>ARQ Modes (Unproto)</b>	
ALE400.....	10%
Pax.....	nil
Pax-2.....	nil
HFPacket (300baud).....	nil
HFPacket (300baud).....	nil

\* Hellschreiber Text Ghosting - difficult to read print

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## ARQ Modes

Minimum SNR Test  
(Direct Path no Ionospheric distortion)

PAX (UNPROTO).....-11db  
ALE400 (UNPROTO).....-8db  
PAX2 (Unproto).....-7db  
HF Packet (300 baud Unproto).....+1db

---

Simulation: High-Latitude  
PathSim Title: Moderate  
Magnitude: Moderate  
Criteria: Complete Pangram Decode  
(\*)Indicates partial decode  
Partial Decode Criteria: => 50% decode

ALE400 (Unproto).....-1db / -6db\*  
PAX (Unproto).....-4db / -10db\*  
PAX2 (Unproto).....+2db / 0db\*  
HF Packet (Unproto 300bd).....NO DECODE

\*Partial Decode

---

Simulation: High-Latitude  
PathSim Title: Disturbed  
Magnitude: High  
Criteria: Complete Pangram Decode  
(\*)Indicates partial decode  
Partial Decode Criteria: =>50% Copy

ALE400 (Unproto).....Incomplete / +2db\*  
PAX (Unproto).....NO DECODE  
PAX2 (Unproto).....NO DECODE  
HF Packet (Unproto 300bd).....NO DECODE

---

Simulation: Mid-Latitude  
PathSim Title: Disturbed  
Magnitude: Low  
Criteria: Complete Pangram Decode  
(\*)Indicates partial decode  
Partial Decode Criteria: => 50% Copy

ALE400 (Unproto).....-2db / -6db\*  
PAX (Unproto).....-4db / -10db\*  
PAX2 (Unproto).....+1db / -2db\*  
HF Packet (Unproto 300bd).....NO DECODE

---

**Simulation: Low-Latitude**  
**PathSim Title: Disturbed**  
**Magnitude: High**  
**Criteria: Complete Pangram Decode**  
(\*)Indicates partial decode  
**Partial Decode Criteria: =>50% Copy**

**ALE400 (Unproto).....Odb / -5db\***  
**PAX (Unproto).....Odb / -6db\***  
**PAX2 (Unproto).....NO DECODE**  
**HF Packet (Unproto 300bd).....NO DECODE**

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**RSID and Video I.D.Tests**  
**(MutliPSK Software by F6CTE)**  
**Minimum SNR (no Ionospheric distortion)**

**RSID..... -25db**  
**Video ID..... -2db**

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**High-Latitude Moderate**

**RSID.....No Decode**  
**Video.....Partial Decode\***

\* Difuse text difficult to read regardless of SNR

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**High-Latitude Disturbed**

**RSID.....No Decode**  
**Video.....No Decode\***

\*Text completely difuse

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**Mid-Latitude Disturbed**

**RSID.....-25db**  
**Video..... +3db**

---

**Low-Latitude Disturbed**

**RSID.....No Decode**  
**Video.....Partial Decode\***

\* Difuse text difficult to read regardless of SNR

*(Big thank you to Tony K2MO for letting us publish his findings here!!)*

## 30 Meter Digital Group Facts

- The 30 Meter Digital Group was officially formed November 21<sup>st</sup> 2007
- The group was formed to increase and support more digital activity on the 30 Meter Band
- Membership is well over 1,100 Members (as of 9/1/08) World Wide in months and still growing with many interested in learning more about the 30 Meter Band and digital modes
- Membership is **FREE** to anyone and there are no hoops to jump to get in this Club just join in. Give 30 Meter Digital a try...and have fun on the band is all we ask
- Do you have to be a member of the 30MDG to gain access to our website, forum, awards or information? **NO**, please join in on the 30 Meter Band our group is secondary but our primary goal is to increase digital activity on the 30 Meter Band or produce more `core` digital users of this great band.
- 30MDG promotes other digital groups as published in this informational document (we all have like interests using digital modes, ours is just a little different than others and geared for using digital modes on 30 Meter Band)
- 30MDG promotes good operating habits and digital mode procedures
- 30MDG supports all types digital modes but also focuses on using the least power needed and least wide digital mode to make the contact (please be kind to others using the limited space on this band...remember we are **SECONDARY USERS** and **MUST** give way to primary users of this band)
- 30MDG does **NOT** promote contesting on the 30 Meter Band...this is a WARC Band and a safe haven for casual operation from Ragchew to experimenting to working casual DX
- This group welcomes those new to digital modes or new to the 30 Meter band to promote good will...please do ask questions and join with us
- How is the 30 Meter Digital Group supported both site costs and awards? By average Hams just like you that volunteer their time and those once a year that volunteer to donate a few bucks for site costs



**THANK YOU FOR JOINING IN ON THE 30 METER BAND...HAVE FUN  
AND HOPE THIS INFORMATION WAS HELPFUL...73 DE 30MDG**

**[HTTP://WWW.30METERDIGITAL.ORG](http://www.30meterdigital.org)**

**30 Meter Digital Group**

*Join in on 10.140 +/- 1000*

