

PACTOR

High speed data
over HF

Mythbusters

- Yes modems are not cheap
- No, SCS will not license their IP out
- PACTOR 1 is available as a sound card mode
- BUT, SCS modems work well, very, very well

Definition

- **History** (<http://en.wikipedia.org/wiki/PACTOR>)

PACTOR (Latin: The mediator) was developed by Special Communications Systems GmbH (SCS) and released to the public in 1991. It was developed in order to improve the reception of digital data when the received signal was weak or noisy. PACTOR is an evolution of both AMTOR and packet radio; its name is a portmanteau of these two technologies. PACTOR combines the bandwidth efficiency of packet radio with the error-correction (CRC) and automatic repeat request (ARQ) of AMTOR. Amateur radio operators were instrumental in developing and implementing these digital modes. PACTOR is most commonly used on frequencies between 1 MHz and 30 MHz.

- **PAC = packet**, error corrected
- **TOR = ARQ**, automatic request to query

Networks / Users

- Marine – Sailmail
 - Base stations generally coastal
- Amateur – Winlink
 - More base stations than Sailmail, 5 in our region
 - Email, Sailedocs, GRIB
- Agencies – Winlink
 - Email, not on Amateur frequencies
- SES – SCSMail
 - Email, Sailedocs, SMS, file transfer

SCS Modems

- Pactor I – symbol rate = 400 (300) bps
- Pactor II – symbol rate = 800 (700) bps
- Pactor III – symbol rate = 3600 (2722.1) bps

With compression up to 1.9x

And now the Dragon

Pactor IV – symbol rate = 10500 bps

Modem varieties

- Versions generally start with RS232 only with Pactor 2 installed
- Top of the range comes with a P3 license installed and connection to the PC can be USB or Bluetooth. GPS interface supported (NMEA0183).
- Interfaces to any HF radio

So what?

- Peer to peer – keyboard to keyboard
- Email over HF
- Mini web pages
- GRIB weather maps
- Saildocs – forecasts, sea conditions

Other features

- AX25 modem
- RTTY terminal
- PSK31 interface
- WEFAX interface

Email

- **RMS Express**
- **Airmail** (does a lot more than just email)
- **SCS Mail**

Saildocs

- Can request almost any web page via an email
- Email subject contains instructions on what information is desired, simply send and wait a bit
- Reconnect and Saildocs will have sent an email to you with the information requested in a small package.

GRIB

- GRid In Binary
- A file format that contains gridded meteorological data
- Allows a lot of information to be transported over slow links, e.g. HF SSB

Links

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

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

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

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

<http://www.grib.us/>

<http://siriuscyber.net/airmail/>