



PACTOR[®] III

The High Speed Data Transfer Protocol

The software upgrade for all PTC-II modems for
up to five times faster data transfer



200 600 1400 2800 3600 bps

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the pactor creators

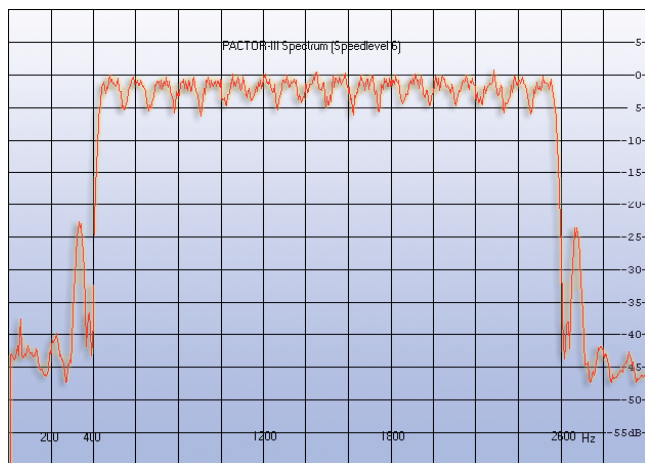
PACTOR® III

The High Speed Data Transfer Protocol

200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 bps

PACTOR®-III is a third generation HF protocol building on latest developments in 2-dimensional orthogonal pulse shaping, advanced error control coding, and efficient source coding. Due to the advanced signal processing methods applied, PACTOR®-III provides outstanding performance under poor and moderate signal conditions. As PACTOR®-III also achieves very high throughput rates under good signal conditions, it is well-suited to HF channels with good SNR and low signal distortion as well. During the development of PACTOR®-III, high importance was attached to compatibility with ordinary SSB transceivers (using standard 2.2-2.4 kHz wide IF filters). Therefore, PACTOR®-III can achieve its maximum speed with using unmodified, common and cheap SSB transceivers. The occupied bandwidth is around 2400 Hz at a maximum.

Thus PACTOR®-III is the ideal means of fast and reliable data communication over (the sometimes difficult medium) HF radio. The new protocol is fully backwards compatible to existing PACTOR®-I/II networks.



Spectrum of speedlevel 6
Bandwidth of the main spectrum: 2400 Hz @ -40 dB

Key features of the PACTOR®-III protocol:

- Under virtually all possible signal conditions faster than PACTOR®-II. Under average signal conditions a speed gain factor of 3-4 is achieved, under very favorable conditions the speed improvement can exceed factor 5.
- Maximum data throughput (without compression) higher than 2700 Bit/sec, around 5200 Bit/sec if PMC (online text compression) is applied.
- At least as robust as PACTOR®-II under extremely poor signal conditions.
- Maximum bandwidth only about 2400 Hz.
- Low crestfactor (high mean output power).
- High spectral efficiency - PACTOR®-III makes very good use of the bandwidth.
- Fully backwards compatible to existing PACTOR®-I/II networks.

In order to achieve a high degree of adaptivity, PACTOR®-III utilizes 6 different speedlevels. Switching between these sub-protocol levels is fully automatic and is based on sophisticated estimation algorithms.

Speed Level	Tones	Brut-Rate	Net-Rate [bit/sec]	Crest-Faktor[dB]
1	2	200	76.8	1.9
2	6	600	247.5	2.6
3	14	1400	588.8	3.1
4	14	2800	1186.1	3.8
5	16	3200	2039.5	5.2
6	18	3600	2722.1	5.7

With the transmission of plain text a 1.9 times higher transfer rate is achieved due the online data compression.

With the actual firmware you can test PACTOR®-III for free (max. 20 connects).

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SCS Spezielle Communications Systeme GmbH & Co. KG

Roentgenstraße 36
D-63454 Hanau

Phone: +49(0)6181/850000
FAX: +49(0)6181/990238

We accept Master- and Visa-Cards

www.scs-ptc.com

mail: info@scs-ptc.com