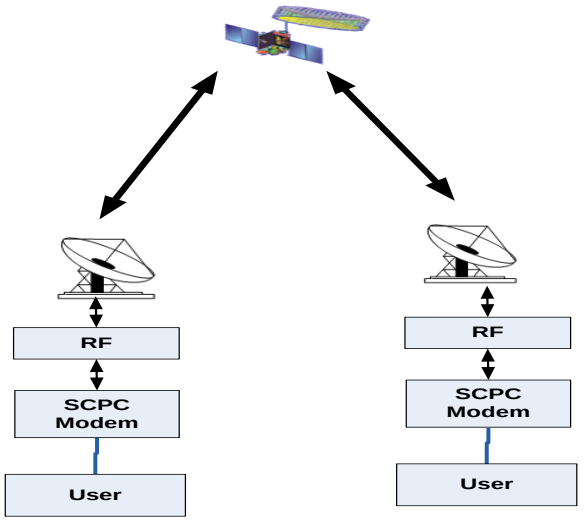

Typical Diagram of SATCOM link with SCPC Modem

SCPC MODEM IP CORE

SCPC modem IP core performs modulation & demodulation for enabling two communications through satellite network. Modem takes binary data from user, performs scrambling, FEC encoding & pulse shaping operations and provides modulated complex baseband samples for DAC. Similarly, it demodulates the modulated signal & performs FEC decoding & descrambling operations and provides binary data at output. SCPC modem have serial synchronous data interface with HDLC encapsulation option for packet type data.

Salient Features

Modulation	BPSK/QPSK
Data Rate	32Kbps-2Mbps
Data Interfaces	Serial Synchronous
Forward Error Correction	Conv. (K=7, R= ½, ¾) +Reed Solomon (short)-optional
Scrambler	V.35 (IESS-308)
Phase Ambiguity	Differential Encoding/Decoding
Acquisition Range	< ±Symbol Rate/8
Encapsulation	HDLC / Custom (details to be provided)
Required Eb/No for BER of 1x10-6	6.0dB (including implementation margin)
Dynamic Range	30 dB
ADC/DAC interface	12 bit I/Q Samples

Typical Application

- In SATCOM hub stations & terminals for enabling two-way point to point communication in continuous mode
- Two-way audio/video & data communication over satellite network

Technology Transfer

SAC/ISRO offers to transfer this technology of the **SCPC Modem IP Core** developed by SAC to industries in India with adequate experience and facilities. Enterprises interested in obtaining knowhow may register and submit their proposal to IN-SPACe, Ahmedabad at www.inspace.gov.in

For more details, Contact:
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