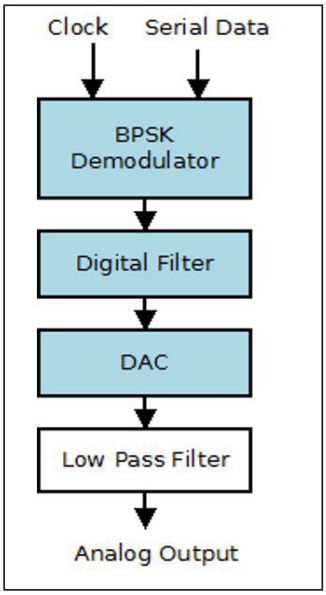
FPGA based Digital BPSK Modulators and Digital Band-Pass Filters

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed FPGA based digital BPSK modulators for subcarrier modulation of Telemetry Data and Digital Band-pass filters for filtering the modulated data. These modulators and filters are part of Telemetry formatter FPGA.



Salient Features

- BPSK Modulators: Direct Digital synthesis based BPSK modulator with Frequencies of 32 KHz and 128 KHz.
- Digital Filters: IIR type digital filters with Centre frequencies of 32 KHz and 128 KHz.

Major Specifications

Data Rate	:	2 kbps
Structure Type for Filter	:	Lattice Ladder
Modulator Type	:	Direct Digital Synthesis
Sampling Frequency	:	16 times Center frequency
Cut off frequencies for 32 kHz filter & bandwidth	:	30 kHz and 34 kHz; Bandwidth- 4kHz
Cut off frequencies for 128 kHz filter & bandwidth	:	120 kHz and 136 kHz; Bandwidth- 16kHz
Filter Order	:	4th Order
D/A Input	:	12-bit

Technology Transfer

URSC-ISRO offers to transfer this technology of FPGA based Digital BPSK Modulators and Digital Band-pass Filters to industries in India with adequate experience and facilities. Industries interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

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