Filtronic Sigtek, Inc.

www.sigtek.com

ST-135

Software Radio Demodulator

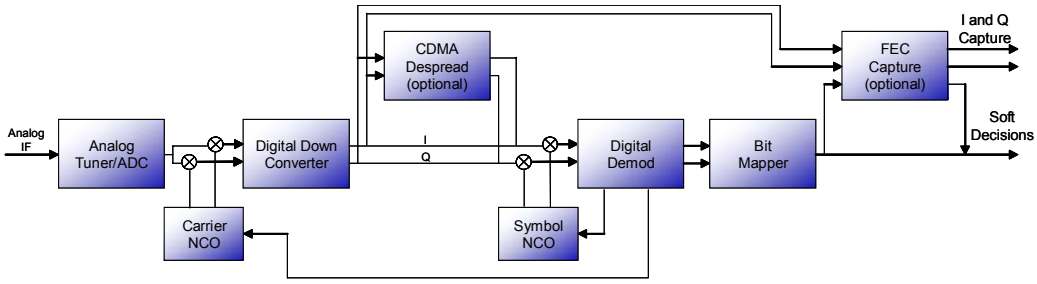
for demodulating diverse signals

A member of Filtronic Sigtek's high performance VME software radio family, the ST-135 high performance software radio demodulates a growing set of signals including BPSK, DBPSK, QPSK, DQPSK, FSK and MSK. Bit rates from 1.2 Kbps to 32 Mbps with future growth to 40 Mbps and beyond. The expandable software radio architecture allows addition and enhancement of demodulation types. Control software includes a Java™ control application for TCP/IP remote operation and NT device drivers. Options include a direct sequence CDMA spread spectrum receiver and FEC decoder.

Features

- Demodulates BPSK, DBPSK, QPSK, DQPSK, OQPSK, MSK, and FSK
- PSK symbol rates from 1.2 kS/s to 16 MS/s
- FSK symbol rates from 1.2 kS/s to 500 kS/s
- Phase estimator assisted TDMA burst acquisition
- Tuning resolution of 1 Hz
- Java™ remote control over TCP/IP interface
- NT device drivers (Solaris™ drivers optional)
- TDM, TDMA, Push-to-Talk, SCPC
- Matched filter CDMA spread spectrum RX (opt.)
- FEC decoder (opt.)

ST-135 Software Radio Block Diagram



ST-135 VME Card

Double width VME: 6U x 160mm

Ordering Information

ST-135-xxx Burst Demod
- -000 : Analog input
- -ECL : ECL input
- -DMF : CDMA option
- -FEC : FEC option

*Chassis are available upon request

INPUT

IF:	120 to 200 MHz 45 to 95 MHz (optional)
Level:	-10 to -60 dBm
External Reference:	10 MHz
Connector:	SMA, 50 ohm

OUTPUT

Soft decision bits:	RS-422 and VME P2
X-Y constellation:	SMA, high impedance scope

DEMODULATION

Signals:	BPSK, DBPSK, QPSK, DQPSK, FSK, and MSK
Rates:	PSK from 1.2 kS/s to 16 MS/s FSK from 1.2 kS/s to 500 kS/s
Burst acquisition:	Phase estimator assisted
Carrier error tracking:	5% of symbol rate

FEC Decoder/Capture (optional)

Viterbi FEC:	1/2, 3/4, and 7/8 with constraint length 7
Capture buffer:	2 Msamples x 16-bit I and Q

Direct Sequence CDMA Spread Spectrum Receiver (optional)

Signals:	BPSK and QPSK
Chip rates:	1 MHz to 16 MHz
Sequence Length:	2^4 to 2^{21} (SRAM loadable)
Acquisition:	1024 length, matched filter assisted, serial despreader

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