



SATSTREAM

21531 NARROWBAND QPSK DATA RECEIVER



A narrow bandwidth QPSK satellite data receiver for low speed data and voice grade audio and control

FEATURES

- Voice grade audio and serial data capabilities
- Selective addressing: unit, group, region, all
- Narrow bandwidth for reduced satellite costs
- Software setup of frequency and features
- Flexible bandwidth allocation between voice and data
- Need not rely on terrestrial networks for infrastructure
- Optional Emergency Alert System capabilities
- SCPC or FM Subcarrier on video - FSK modulation

APPLICATIONS

- News and weather text distribution
- Low resolution graphics distribution
- Selective distribution of news wires
- Low cost back haul audio circuits
- Emergency notification systems
- Remote control systems
- Remote pager or sign controller
- Highway information systems audio feed

DESCRIPTION

The Satstream 21531 FSK Data Receiver accepts L band signals directly from a C or Ku band high stability PLL LNB. It provides reliable low speed data or voice grade communications with low occupied satellite transponder bandwidth that results in lower satellite bandwidth charges. Data rates supported range from 2400 to 12000 bits per second with bandwidths of 10 to 30 KHz. The receiver is configurable via a serial port, data is stored in non-volatile memory.

The selective addressing feature allows voice and/or data to be directed to specific individual units, units of a common group or region ID, or to all units. In the absence of active voice channel usage, the full bandwidth of the system becomes available for data. Relay contact closure outputs may be used for remote control applications including selection of alternate program sources.

The standard 1 RU Rack Mount version is standard, however a smaller desktop version is also available. The receiver includes a universal switchable AC power supply.

EMERGENCY ALERT - OPTION Z

SCPC FM FSK is a simple and time proven technology that does not need to rely on complex terrestrial infrastructure making it ideal for mission critical communications that must work faultlessly in time of disaster. The EAS option provides additional features that allow the receiver to act as a repeater for EAS notifications. All segments of the standard EAS broadcast are digitized and packeted at the uplink modulator.

Approximately 5000 bits per second of the data stream are dedicated to the EAS broadcast when it is enabled. At the receiver the incoming EAS packets are interpreted. Precision frequency Alert Tones and FSK data are locally synthesized in the receiver. EAS audio is inserted in the audio output stream in accordance with the timing captured at the uplink modulator. By regenerating all tones and voice messages locally, distortion and possible corruption of the data is minimized. A push to talk output is available to activate dispatch systems automatically. A loss-of-signal alert output is also provided. When not carrying an active EAS message, the available bandwidth may be used to transmit other data—text or graphics.



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SPECIFICATIONS

Input Frequency Range

SCPC Version (Option A)
 SCPC Version (Option B)
 SCPC Version (Option B1)

50.00 – 90.00 MHz (Transceiver IF)
 950 – 1450 MHz (Standard L Band)
 950 – 1750 MHz (Extended L Band)

Recommended SCPC LNB

Subcarrier Version (Option F)
 Subcarrier L Band Tuner (Option L)

Low phase noise PLL LNB

100 KHz – 8.995 MHz
 950 – 1450 MHz

Frequency Resolution—all Inputs

1 KHz or better

Tuning Accuracy (uncorrected)

SCPC: better than 3 parts per million
 AFC correction for up to 100 KHz LNB offset

Modulation

Shaped FSK for minimized bandwidth on transponder
 Pseudo-random scrambled signal for energy dispersal

Forward Error Correction

Viterbi $\frac{1}{2}$ or $\frac{3}{4}$ or none

Audio Data Rates (Option V or Z)

Selectable 2400, 3200, 4000, 4800, 7200, 9600 bps

Audio Input (Option V or Z)

Voice grade output, unbalanced low impedance

Control/Supervisory Serial Port

DB9 RS232
 Configurable rates 1200-19200 bps

Auxiliary Serial Data Port

DB9 RS232 or RS485
 Configurable rates 1200-19200 bps

Relay Contact Closure Port

4 SPST (Form A) isolated relay contacts

Power Requirements

90-260 VAC 48-63 Hz less than 30 VA

Environment Requirements

0-50 C, 5-95% relative humidity
 maximum altitude 3500 meters

Dimensions

Standard rack mount: 1RU 19" Rack
 19" wide x 1.75" high x 7.0" deep (48.26 x 4.45 x 17.8 cm)

Option T: Desktop Version
 7.6" wide x 1.95" high x 7.0" deep (19.3 x 4.95 x 17.8 cm)

DESCRIPTION OF OPTIONS FOR MODEL 21531

A:	SCPC Input Frequency	50.00 – 90.00 MHz
B:	SCPC Input Frequency	950 – 1450 MHz (standard)
B1:	SCPC Input Frequency	950 – 1750 MHz
C:	FM Subcarrier Input Freq.	100 KHz – 8.995 MHz
E:	Ethernet LAN Interface	Supervisory and control port
M:	MPEG Audio Output	Monaural or stereo analog output
N:	Selective Addressing	Data channel selective addressing
P:	Telephone Modem	Supervisory and control port including SMTP
R:	Remote Programming	Remote or downlink programming control
S:	LCD Status Display	Display and keypad for local manual setup
T:	Desktop Package	Desktop instead of normal rack mount configuration
V:	Voice Grade Audio	Additional compressed voice grade channel input
Z:	EAS Repeater	Provides locally synthesized EAS audio output channel