

SCT2860

DIGITAL HEADEND TRANSCODER

DRAKE
DIGITAL



GENERAL DESCRIPTION

The R.L. Drake model SCT2860 is a professional quality, modular, digital headend component providing QPSK or 8PSK input to QAM transmodulation and RF upconversion functions in a single module. Up to ten SCT2860 modules and a power supply module can be accommodated in the RMT150 rack mounting tray, occupying only a 2 unit (3.5") high rack space. The SCT2860 can transcode DigiCipher II or DVB digital satellite signals, included those with advance turbo satellite FEC modes, outputting QAM modulation.

The SCT2860 accepts L band RF inputs between 950 and 2150 MHz from the LNB at the satellite dish. The Drake LBS2250 may be used to allow switching between two LNB feeds and to also provide output combining for up to 10 SCTs. The transcoder demodulates and error corrects the selected satellite QPSK or 8PSK signal.

The transcoder then applies cable environment FEC to this stream and remodulates using QAM modulation that occupies a nominal 6 MHz wide cable channel slot.

The RF upconverter then upconverts the IF QAM signal to the selected output channel - any standard EIA, IRC, or HRC CATV channel or a broadcast off-air channel frequency in the range of 54 to 860 MHz.

Bandpass flatness and phase noise are closely controlled in the SCT2860 to insure a high MER and S/N ratio of the output signal. This insures that the transcoder will not introduce a source of errors into the distribution process. Because the MPEG2 transport stream information is not modified by the transcoder, all encryption, authorization, and program guide information is passed on to the CATV set top box, unchanged.

SPECIFICATIONS

SATELLITE INPUT

Frequency Range: 950 MHz to 2150 MHz.
Tuning Increment: 500 kHz.
Acquisition Range: ± 5.0 MHz minimum.
Input Level: -25 dBm to -70 dBm.
Input Impedance: 75 Ohms, return loss of 10 dB minimum.
I/Q Phase Imbalance: <1 Degree.
I/Q Amplitude Imbalance: <1dB.
Mode: QPSK, 8PSK.
FEC: DCII, DVB, advanced Turbo modes
VITERBI Autoscans: 1/2, 2/3, 3/4, 5/6, 6/7, 7/8 - DVB
5/11, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8 - DCII
Turbo QPSK modes: 1/2, 3/4, 2/3, 5/6, 7/8
Turbo 8PSK modes: 2/3, 5/6, 8/9, 3/4, 4/5
Input Data Rate: 2 Mbaud to 30 Mbaud.

QAM OUTPUT

Output Impedance: 75 Ohms, return loss of 10 dB minimum.
Output Level: +40 dBmV minimum.
Display Error: ± 2 dB maximum.
Level Adjustment Range: 15 dB.
Frequency Range: 54 MHz to 864 MHz.
Frequency Plan: Standard, IRC, or HRC CATV channels
or off-air broadcast channels.
Broadband Spurious: -60 dB, 5 MHz to 900 MHz.
Broadband Noise: -75 dBc, 6 MHz bandwidth.
Phase Noise: -85 dBc/Hz @ 10 kHz offset.
Frequency Stability: ± 5 kHz.
QAM I/Q Phase Error: <1 degree.
Channel Amplitude Error: <1 dB.
Carrier Suppression: 45 dB.
MER: >39 dB, with blind equalizer.
Mode: 16, 32, 64, 128, 256 QAM.
Symbol Rate: 1 Mbaud to 7 Mbaud.
FEC: ITU-T J.83 Annex A or Annex B.

RS232 CONTROL

Data Link: 4800 baud interface to PS151 via power
supply cable.
RS232 Input: DB-9 connector on PS151 for connection
to modem or PC.
RS232 Output: DB-9 connector on PS151 for connection
to additional transcoders.

GENERAL

Operating Temperature Range: 0° C to +50° C, ambient.
Size: 1.1" W x 3.4" H x 11.2" D.
(2.79 cm W x 8.63 cm H x 28.45 cm D.)
Weight: 1.375 Lbs. (.624 Kg).
Power Requirement: All voltages are provided by the Drake
model PS151 power supply. PS151 power
requirement: 90 to 260 VAC / 150 W,
maximum w. 10 transcoders powered.

Specifications subject to change without notice or obligation.