

## Model D9492 DAVIC QPSK Demodulator

### Description

The Model D9492 DAVIC QPSK Demodulator is an integral component of Scientific-Atlanta's Digital Headend product line. This device works in conjunction with digital set-tops (including Scientific-Atlanta's Explorer® family of set-tops) and the D9482 DAVIC QPSK Modulator to provide a forward signaling and

reverse path communications for interactive video and data systems over a conventional two-way CATV network. Combined, the D9492 QPSK Demodulator and D9482 QPSK Modulator create a DAVIC-compliant headend QPSK signaling hub.



21894B

### Features

- Interfaces with the D9482 QPSK Modulator through ATM-25 interfaces to create a DAVIC-compliant headend QPSK signaling hub
- Provides Reed-Solomon error correction for improved performance
- Provides simple-to-use front panel controls for easy operation
- Provides provisioning, control, and status monitoring information through interface to the D9482 QPSK Modulator from remote Ethernet access



# Model D9492

## DAVIC QPSK Demodulator

### Specifications

Baseband Interface to QPSK Modulator

Type: ATM-25

Connection Architecture: Star (from D9482 QPSK Modulator to multiple D9492 QPSK Demodulators)

### RF Specifications

Tuner Frequency Range

5.0 MHz to 42.0 MHz

Tuning Step Size

250 kHz

Tuner Input Ranges

-13 to +3 dBmV (range 1)

-5 to +11 dBmV (range 2)

+3 to +19 dBmV (range 3)

+11 to +27 dBmV (range 4)

Maximum Input Power

> 35 dBmV (range 4) over specified tuner frequency range

Input Return Loss

> 12 dB

Tuner Spurious Output Response

< -50 dBc

Tuner LO Leakage at Input

< -15 dBmV (range 1)

Maximum Co-channel Single-tone Interferer

< -16 dBc for BER  $\leq 1 \times 10^{-8}$

Maximum Total Adjacent Similar QPSK Carrier

Power for BER  $\leq 1 \times 10^{-8}$

< +14 dBc at nominal carrier input level

(no in-band noise)

Tuner Output Frequency

44.004 MHz nominal

### Modulation Specifications

Modulation Type

Differentially encoded QPSK

Error Correction

Shortened Reed-Solomon (59, 53), t = 3

Channel Spacing

1 MHz

Data Rate

1.544 Mbps (nominal)

Maximum Cell Rate (exclusive TDMA)

3,000 ATM cells per second

Payload Datagram

ATM cell; AAL-5 compliant

Scrambling Generator

PRBS-6 synchronized to first bit after 4 octet preamble

Burst Alignment

Preamble detection, followed by unique word correlation

Bit Error Rate (BER)

Better than  $1 \times 10^{-8}$  @ 18 dB Eb / N0 (19.89 dB C/N) over the full RF input range.

Burst Noise Immunity

No lost cells for noise bursts up to -60 dBc/Hz of duration 1  $\mu$ sec in any 350  $\mu$ sec period

### Electrical Specifications

Voltage (2 options)

-42 VDC to -56.7 VDC (option 1)

90 VAC to 260 VAC (option 2)

Power

< 20 W

### Connector Specifications

DC Input (with option 1 only)

Terminal block

AC Input (with option 2 only)

3-prong male socket

RF Input

Type F (75  $\Omega$ )

IF Monitor Port

Type F (75  $\Omega$ )

ATM-25

RJ-45

Alarm Relay

Terminal block

Alarm Contact Closures

Contact type: 1 form C (NO, NC) contacts

Contact rating: 115 VAC; 1A; switched

### Mechanical Specifications

Rack Mount Type

EIA RS-310

Dimensions

1.75 in. H x 19 in. W x 16.5 in. D

### Environmental Specifications

Operating Temperature

0°C to +50°C

Operating Humidity

0% to 95% non-condensing

Specifications and product availability are subject to change without notice.



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Part Number 740360 Rev C  
June 2002