



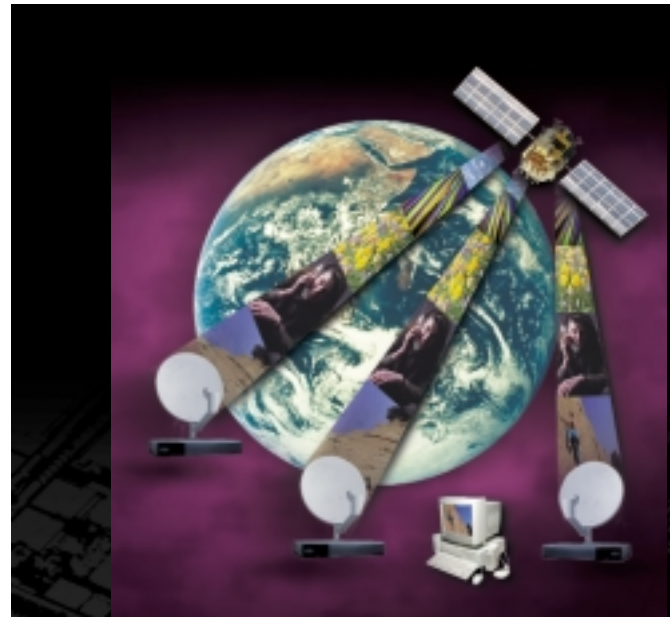
# Digital Satellite Tuner RF IC

## CX24108

### Highly Integrated, Complete Broadband Satellite Front-End Solution

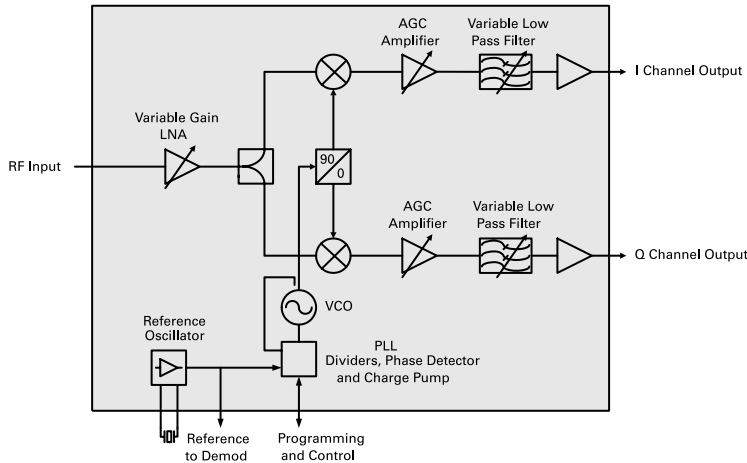
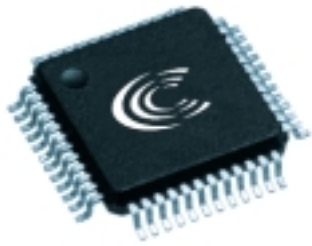
Conexant's CX24108 is our second generation direct down-conversion satellite tuner RF IC intended for high-volume digital video, audio and data receivers. When combined with the HM1221 QPSK demodulator/FEC IC, the CX24108 provides a complete broadband satellite front-end solution capable of operating from 1 to 45 Msps in the most demanding satellite environments. It is designed for 80+ transponder systems and is compatible with international standards such as DVB and DSS. The highly integrated CX24108 satellite tuner RF IC reduces DBS tuner BOM cost and simplifies RF layout.

Following the integrated LNA, the CX24108 downconverts the satellite carrier directly to baseband and provides variable baseband filtering for the I/Q signals. It also has a completely integrated local oscillator. The VCO and synthesizer are built in and do not require external resonators or varactor diodes. All of this performance is available with just a single +5V supply.



### Distinguishing Features

- Single-chip RF-to-baseband satellite receiver
- Zero-IF architecture eliminates the need for image-reject filtering
- Variable baseband filters for optimal interference rejection
- Integrated LNA and LO with onboard VCO and synthesizer
- Single +5V supply



CX24108 block diagram

**Product Features**

- Single-chip RF-to-baseband satellite receiver
- Zero-IF architecture eliminates the need for image-reject filtering
- Integrated LNA
- Integrated LO with onboard VCO and synthesizer
- Variable baseband filters for optimal interference rejection
- Single +5V supply

**Product Specifications**

- RF input: 950 to 2150 MHz
- Input power range: -20 to -81 dBm
- Noise figure: 10 dB, typical
- Input IP3 at minimum gain: 12 dBm, typical
- I/Q phase difference:  $\pm 3$  degrees, typical
- I/Q amplitude difference:  $\pm 1.5$  dB, typical
- Filter tune range: 0.5 to 30 MHz
- Output voltage,  $R_L \geq 1k\Omega$ : 0.5 V<sub>p-p</sub>
- Typical junction temperature: 90° C at room temperature
- Operating temperature range: 0° to 70° C
- Package type: 48-pin eTQFP

Conexant and the Conexant symbol are trademarks of Conexant Systems, Inc.

**Further Information**

literature@conexant.com  
 (800) 854-8099 (North America)  
 (949) 483-6996 (International)  
 Order # 100969A  
 00-0600  
 Digital Infotainment  
 Printed in USA

**World Headquarters**

Conexant Systems, Inc.  
 4311 Jamboree Road  
 Newport Beach, CA  
 92660-3007  
 Phone: (949) 483-4600  
 Fax 1: (949) 483-4078  
 Fax 2: (949) 483-4391

**Americas**

**U.S. Northwest – Santa Clara**

Phone: (408) 249-9696  
 Fax: (408) 249-7113

**U.S. Southwest – Los Angeles**

Phone: (805) 376-0559  
 Fax: (805) 376-8180

**U.S. Southwest – Newport Beach**

Phone: (949) 483-9119  
 Fax: (949) 483-9090

**U.S. San Diego**

Phone: (858) 713-4730  
 Fax: (858) 713-4008

**U.S. North Central – Illinois**

Phone: (630) 773-3454  
 Fax: (630) 773-3907

**U.S. South Central/Mexico – Texas**

Phone: (972) 733-0723  
 Fax: (972) 407-0639

**U.S. Northeast – Massachusetts**

Phone: (978) 367-3200  
 Fax: (978) 256-6868

**U.S. Carolinas – North Carolina**

Phone: (919) 858-9110  
 Fax: (919) 858-8669

**U.S. Southeast/South America – Florida**

Phone: (727) 799-8406  
 Fax: (727) 799-8306

**U.S. Mid-Atlantic – Pennsylvania**

Phone: (215) 244-6784  
 Fax: (215) 244-9292

**Canada – Ontario**

Phone: (613) 271-2358  
 Fax: (613) 271-2359

**Europe**

**Europe Central – Germany**

Phone: +49 89 829-1320  
 Fax: +49 89 834-2734

**Europe North – England**

Phone: +44 1344 486444  
 Fax: +44 1344 486555

**Europe – Israel/Greece**

Phone: +972 9 9524000  
 Fax: +972 9 9573732

**Europe South – France**

Phone: +33 1 41 44 36 51  
 Fax: +33 1 41 44 36 90

**Europe Mediterranean – Italy**

Phone: +39 02 93179911  
 Fax: +39 02 93179913

**Europe – Sweden**

Phone: +46 (0) 8 5091 4319  
 Fax: +46 (0) 8 590 041 10

**Europe – Finland**

Phone: +358 (0) 9 85 666 435  
 Fax: +358 (0) 9 85 666 220

**Asia Pacific**

**Taiwan**

Phone: (886-2) 2-720-0282  
 Fax: (886-2) 2-757-6760

**Australia**

Phone: (61-2) 9869 4088  
 Fax: (61-2) 9869 4077

**China – Central**

Phone: 86-21-6361-2515  
 Fax: 86-21-6361-2516

**China – South**

Phone: (852) 2 827-0181  
 Fax: (852) 2 827-6488

**China – South (Satellite)**

Phone: (86) 755-5182495  
 Fax: (86) 755-5183024

**China – North**

Phone: (86-10) 8529-9777  
 Fax: (86-10) 8529-9778

**India**

Phone: (91-11) 692-4789  
 Fax: (91-11) 692-4712

**Korea**

Phone: (82-2) 565-2880  
 Fax: (82-2) 565-1440

**Korea (Satellite)**

Phone: (82-53) 745-2880  
 Fax: (82-53) 745-1440

**Singapore**

Phone: (65) 737 7355  
 Fax: (65) 737 9077

**Japan**

Phone: (81-3) 5371 1520  
 Fax: (81-3) 5371 1501