

DESCRIPTION

Radiant's Eclipse Series leverages advanced engineering and intelligent, user-friendly design to rapidly and cost-effectively deploy all-digital lineups to low-cost digital set-tops. Affordable for systems of all sizes, the Eclipse Series is ideal for MDUs, hotels, hospitals, gated communities, casinos, and retirement centers.

QRF-5000 Encoder - a plug-and-play device that encodes local baseband video and audio channels and multiplexes them with a built-in QAM modulator and a broadcast agile RF up-converter for distribution into existing cable network.

With digital services increasingly being used to deliver video to the home, operators are focused on enhancing the subscriber's viewing experience by increasing the variety of services they offer and improving quality, while still maintaining a cost-efficient and easy-to-manage infrastructure.

Featuring standard definition encoding, with features as MPEG-2 multiplexing, ASI Input/Output and QAM modulation and up-conversion, the QRF5000 allows operators to transition existing analog residential sources (such as security, training and local channels) into digital, improving the user experience and allowing the operator to deploy digital-only set-top boxes instead of higher cost digital-analog tuners.

Presently most residential services are distributed in the analog domain only, utilizing multiple devices for analog QAM modulation and upconversion, and delivering one analog channel per 6 MHz spectrum channel. This inefficient solution means that multiple security, training and local channels consume significant operational cost, spectrum and overhead. Radiant's Eclipse Series efficiently allows operators to make the transition to digital, with an ideal, flexible and future-proof path to the a all-digital domain.

Current solutions are either composed of software, or multiple components. Low-end PC-based residential encoding provides a partial solution, with limited encoding horse power, while requiring increased space and power. Multiple component solutions, while they may include high quality components, generally incur higher operational and actual expenses.

Radiant's QRF5000 is an embedded, hardware-based solution compliant with all relevant industry standards. It was built with the operator in mind—a simple to use front panel provides complete control over the platform, while an IP interface allows for an external modem to provide remote functionality. The feature-rich platform consumes little power and generates less noise. In addition, it is designed to be placed anywhere in the building, from the basement to the lobby.

With its standard 64 or 256 QAM output and ASI interfaces, the QRF5000 is capable of integrating in any existing headend or residential environment. Multiple units can be cascaded within a single ASI or 6 MHz QAM channel. Further decreasing operational overhead costs. With the companion QRF5200 an input option allows the operator to receive the existing RF transport from the headend and then drop and/or add a locally encoded service. This functionality enables the operator to not only reduce the RF spectrum by reutilizing existing frequencies, but also, since mapping the new service to pre-defined program IDs, the current STB channel map can remain as is.



QRF5000 Digital QAM Channel Inserter

BENEFITS

Cost effective, integrated, single box solution

Flexible channel selection capability

Moves system toward all digital solution

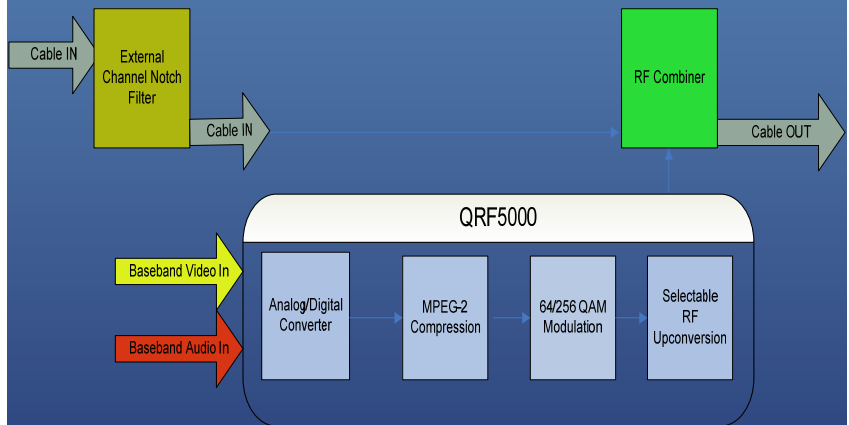
64 QAM and 256 QAM Selectable Output

FEATURES

Easily Configured via Front Panel, Easy to Use GUI or Web Browser

Economic insertion of analogue video feeds on existing digital cable plant to view with digital converter box

Designed for Gated Communities, MDU's, Hotels and Retirement Centers



3 Diamond Award

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**Radiant
 Communications
 Corporation**

SPECIFICATIONS

Video
 Baseband Video ASI input Expansion
 Connectors 1 or 2 Video
 Video Compression BNC or S-Video
 Video Bit Rate MPEG-2
 Resolution 1.5 - 15 Mbps
 DI, 3/4 DI, 2/3 DI, 1/2 DI

Audio
 Connectors 1 or 2 Stereo Audio
 Audio Compression Stacked RCA
 Audio Sample Rate Dolby Digital
 Audio Bit Rate 32, 44.1, 48 kbps
 128 - 256 kbps

RF Input
 Connector: F-Type
 Impedance: 75 Ohms
 Return Loss: 12 dB
 Frequency Range: 54MHz—864MHz
 Frequency Step Size: 62.5 KHz
 ITU Mode: Annex B 64 QAM, 256 QAM
 Input Power Range:
 64 QAM -17dBmV—+23dBmV
 256 QAM -12dBmV—+18dBmV
 Oscillator Leakage: < 26dBuV typical
 Min required CNR:
 64 QAM 25.5dB
 256 QAM 32.5dB

General Characteristics
 Power: 31 W @ 90 to 240V AC
 Operating Temperature: 0° to 50° C
 Storage Temperature: -40° to 70° C
 Altitude 20,000 ft@ 21° C
 Size: 19.0" W x 12.0" D x 1.75"H
 Weight: 5.5 pounds

Output
 QAM 64 or 256 per ITU-J.83 Annex B downstream standards
 RF Output One contiguous QAM modulated RF channel on 1RF port
 RF Output Level 44 - 58 dBmV Front Panel Controlled
 RF Output Adjustment Step Size 0.5 dBmV
 RF Output Accuracy +/- 2 dB +/- 5000 Hz
 RF Output Stability +/-1 dB relative to RF Output level
 Loss >14 dB 177 - 750 MHz
 >13 dB 750 - 870 MHz
 Frequency Range - Agile - 57 MHz (Ch 2) to 873 MHz (Ch 137)
 RF Muting Ratio >65 dB
 In-Channel Spurious and Noise >35 dB Unequalized MER
 >41 dBc Equalized MER

Certifications
UL: IEC 60950-1:2001, First Edition
EMC Directive: 89/336/EEC
 Generic Emissions Standard: EN61000-6-3:2001
 Product Specific Emissions: EN55022 Class A, FCC Part 15 Class B
 Generic Immunity Standard: EN 61000-6-1:2001
 Electrostatic Discharge: EN 61000-4-2
 Radiated Susceptibility: EN 61000-4-3
 Electrical Fast Transient/Burst: EN 61000-4-4
 Surge: EN 61000-4-5
 Conducted Susceptibility: EN 61000-4-6
 Voltage Dips and Interruptions: EN 61000-4-11
 Harmonic Current: EN 61000-3-2
 Voltage Fluctuations & Flicker: EN 61000-3-3

ASTM D4169-Distribution Cycle 13- Assurance Level I Schedule A: Handling
 ASTM D4169-Distribution Cycle 13- Assurance Level I Schedule C: Vehicle Stacking
 ASTM D4169-Distribution Cycle 13- Assurance Level I Schedule F: Loose Load Vibration
 ASTM D4169-Distribution Cycle 13- Assurance Level I Schedule E: Vehicle Vibration
 MIL-STD-810 Method 507.2 Procedure III-Aggravated Humidity
 HALT Testing -10 to +70 degrees C @ 4g, 8g & 12g
 IEEE C62.41 Surge Resistance Test ± 1000V on video inputs
 RoHs compliant



ORDERING INFORMATION

PART NUMBER	DESCRIPTION
QRF5000-X	Digital QAM Channel Inserter

Note:

- Specify X—Input Channels
- Due to product enhancements, specifications are subject to change without notice



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