Spectrum201
for Charter Communications
Advanced Cable Digital Video Recorder

Enjoy all your SD and HD entertainment on your terms. The Spectrum201 combines cable broadcast and broadband TV services, High Definition video, and Digital Video Recording (DVR) - all in one device.

- **Cable Broadcast TV**
The Spectrum201 offers a wide array of programming choices including both Standard Definition (SD) and High Definition (HD) channels and a program guide to help discover, search and choose content. It also gives various parental control options to manage the flow of programming into the home.

Technicolor’s HD video products provide a powerful, flexible platform that enables customers to capitalize on existing infrastructure while providing the capability of supporting a migration to IP Video in the future.

The Spectrum201 is capable of allocating up to 4 QAM demodulators for video capture providing a main display while simultaneously recording up to 3 additional programs and supporting multiple additional outlets.

- **DOCSIS 3.0 Cable Modem**
With its embedded DOCSIS 3.0 certified cable modem with 16 x 4 channel bonding, the Spectrum201 allows for data speed of up to 640 Mbps downstream and 160 Mbps upstream. When sharing QAM input between video and data services, up to 12 QAM demodulators support DOCSIS 3.0 functionality such as DOCSIS Set-Top Gateway (DSG), Metadata, or Video over DOCSIS.

- **High Definition Video**
The Spectrum201 supports HD broadcast services in up to 1080p/60 image quality video using the MPEG-4 and MPEG-2 compression standards.

- **Digital Video Recording Services**
With the ability to pause live TV, view and record multiple shows simultaneously; and rewind, fast-forward, and pause-recorded content, the audience can customize and enjoy their favorite programming at their convenience. The Spectrum201 supports 3.5 inch Hard Disk Drives (HDD) with capacity of up to 1 TerraByte (TB).

- **Proven and Reliable Conditional Access**
Supporting VideoGuard Server - Downloadable Conditional Access System (VGS-DCAS) and PowerKEY® Conditional Access System (CAS), the Spectrum201 provides proven and reliable content security solutions to help minimize piracy and reduce costs.

PowerKEY has been successfully deployed in 300 systems and over 70 million set-top box units around the world. It uses secure processors and three different encryption levels. The PowerKEY system is compliant with MPEG and DVB standards and can accommodate multiple CAS configurations through DVB Simulcrypt.

**Features at a Glance**
- Embedded 16x4 DOCSIS 3.0 data modem with shared video and DOCSIS QAMs
- MPEG-2 and MPEG-4 HD 1080p/60 video decode and display
- 1-port Fast Ethernet
- Built-in 3.5" Hard Disk Drive (1 TB capacity)
- CPU at 3000 DMIPS
- Supports downloadable Cisco VideoGuard CAS
- Embedded PowerKEY® CA
- 2 highspeed USB 2.0 master ports
- ZigBee RF4CE remote control
- Power management compliance with VA v3.0 Tier 2
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**Technical Specifications**

**Cable channel interface**

- **DOCSIS 3.0 front end**: DOCSIS 3.0 Certified, backwards compatible with DOCSIS 2.0, 16 bonded downstream, 4 bonded upstream channels
- **Video QAM demodulators**: Up to 4
- **Modulation**: 16, 32, 64, 128 and 256 QAM (ITU-T J.83 Annex A) and 64 QAM, 256 QAM (ITU-T J.83 Annex B)
- **Digital input frequency range**: 54 - 1002 MHz
- **Maximum downstream rates**: 686 Mbps (theoretical, 16 x 42.88 Mbps)
- **Maximum upstream rates**: 131 Mbps (theoretical, 4 x 32.78 Mbps)

**Video decoder**

- **Video decoding formats**: MPEG-4 Part 10/AVC, MPEG-2 up to Main Profile @ High Level
- **Video output resolution**: Up to 1080p/60, 10-bits
- **Aspect ratio**: 4:3, 16:9 Pan & Scan, letterbox
- **Video scaling**: Variable

**Audio decoder**

- **Audio decoding formats**: AC3, Dolby® Digital, Dolby Digital Plus™
- **Digital audio output**: 1 S/PDIF TOSLINK port
- **Analog audio output**: 2 RCA stereo audio jacks (left, right)
- **USB**: 1 USB 2.0 master port (high power: 1.2 A @ 5 V)

**System resources**

- **Processor**: Dual-thread CPU (3000 DMIPS)
- **RAM**: 1 GB DDR3
- **Flash Memory**: 512 MB NAND
- **Hard Disk drive**: 3.5-inch SATA HDD (1 TB capacity)

**Software**

- **Middleware solutions**: Zodiac, RP/Axiom
- **DRM and CAS**: NCAS, VideoGuard Server - Downloadable Conditional Access System (VGS-DACS), Embedded PowerKEY® CA

**Remote control**

- **IR remote control**: Carrier frequencies 38 kHz, 56 kHz modulation
- **Protocols**: XMP-1, SA protocol
- **Frequency bands**: ZigBee RF4CE

**Front panel**

- **LEDs**: Record LED
- **Buttons**: 1 single-colour back-lit power/standby button
- **Navigation buttons**: 5 single-colour back-lit Capsense navigation buttons (up, down, left, right, circle)
- **Reset button**: 1 USB 2.0 master port
- **IR remote control detector**: 1 DC jack

**Back panel**

- **Cable input**: 1 F-type connector, external threaded
- **HDMI output**: 1 HDMI 1.4 type A port with HDCP 2.0
- **USB**: 1 USB 2.0 master port
- **Ethernet**: 1 10/100 Base-T Ethernet LAN port
- **Power input**: 1 DC jack

**General specifications**

- **Dimensions**: 320 x 51 x 200 mm (12.60 x 2.01 x 7.87 in.)
- **Power supply**: 12 VDC, 3.0 A external PSU
- **PSU input voltage**: 90 - 132 VAC, 60 Hz (switched mode power supply)
- **Operating temperature**: 0 - 40 °C (32 - 104 °F)
- **Operating humidity**: 5 - 95 % RH non-condensing
- **Storage temperature**: -20 - 60 °C (-4 - 140 °F)

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