QMS200

MEASURE

Quality Monitoring System

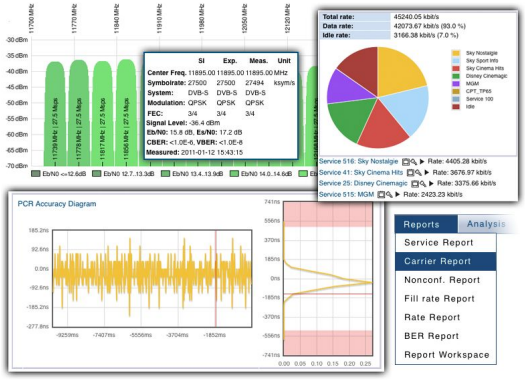
Complete and flexible solution for MPEG Transport Stream monitoring, in-depth ETR 101290 analysis of Transport Stream, data decapsulation and IP flow monitoring, including an automatic carrier scanning function, a flexible and customizable report generator on all measured values, allowing operator-driven in-depth analysis of single streams up to fully unattended operation providing periodic reports.

At a glance

The QMS200 helps the broadcaster in finding error events on the DVB transmission system on different levels, from physical layer (bit error rates, quality of reception), ETR 101290 (Clause 1-3) TS-level real-time compliance checks up to IP encapsulation.

The scanning function allows monitoring of carriers without knowledge of carrier parameters like center frequency, symbol rate or FEC rate.

The QMS200 provides standard operator interfaces, including a Web-interface, SNMP, as well as optional electrical alarm outputs for fast error propagation of user-defined errors. The flexibility of external interfaces, with optional ASI and RTP inputs, round out the features of the QMS200.



Main System Functions

Scanning function

The QMS200 is able to automatically perform a frequency scan on a given orbital position, providing a list of downlink frequencies with modulation, symbol rates, and coding rates. Parameters such as symbol rates to search, or a list of frequencies to monitor for presence may be set manually.

When the parameter (carrier) list is complete, each carrier is then automatically verified to match predefined parameters. Upon successful analysis of a carrier, the analysis results are fed into a report generator.

Transport Stream Monitoring

The QMS200 system checks the received MPEG-2 Transport Stream multiplex for errors with respect to ETR 101290. Further, it checks the packet timing and the associated PCR timestamps for accuracy and it monitors if PIDs are within predefined bandwidth ranges.

Thus, broadcasters can check if their streams are within specifications even after multiple multiplexing stages and transmission lines. Optionally, the QMS200 system is able to generate alarms if the values are not within the specified range. Furthermore, it is able to automatically generate reports .

IP Flow Monitoring

The QMS200 demultiplexes any MPEG-2 Transport Stream multiplex in real-time, investigates simultaneously all or a selected range of PIDs, extracts encapsulated IP packets (MPE, ULE and GSE) and creates data – flows for further processing. It stores meta information and related statistical data (e.g. PID, PSI/SI data, protocol header info, type of service) in a SQL database.

Online Carrier Analysis

The operator either selects a carrier out of an automatically generated list or manually enters the carrier parameters to be monitored.

For line-up support, as long as no carrier lock is achieved a signal level value is indicated. As soon as the hardware locks, further parameters such as E_b/N_0 are available. Furthermore, the 'Services Live View' mode provides for service monitoring in a hierarchical style, presenting parameters extracted from the PSI/SI tables as well as ETR 101290 measurement parameters, including PCR accuracy and table repetition rates. Parameters may be included in a report, representing a snapshot of the current measurement.

Report Generator

The QMS200 report generator provides following customizable reports, (to be extended upon request):

- **Service overview:** A listing of services per user-defined time periods.
- **Detailed service list:** A listing giving detailed information about each service present.
- **Quality parameters:** Signal level, E_b/N_0, E_S/N_0, estimated Channel and Viterbi BER.
- **Non-compliance report:** A listing summarizing non-compliances measured during a measurement period.
- **Fill rate report:** A listing providing the fill factor (data vs. null/idle) of an input stream over the last 12 months.
- **Export function:** HTML and PDF supported, export filters allow for further processing.

Quality Monitoring System

Specification

Analysis Options

- DVB-S/S2
  - Scans for DVB-S and DVB-S2 carriers
  - Spectrum Monitoring
  - Automated Carrier Identification (if SI Information is available)
  - Signal Quality Monitoring (Signal Level, E_b/N_0, E_S/N_0,)
- ETR 101290 Analysis – TS level
  - ETSI TR 101290 real-time compliance check (Level 1-3)
  - High Precision Measurement of Packet Timing
  - Calculation of PCR accuracy and other timing relevant information
- PSI/SI Analysis
- ULE/MPE/GSE Analysis
  - Decoding of ULE, MPE, and GSE (optional) encapsulated streams
  - Optional monitoring of encapsulation errors
  - Statistical Analysis
- IP Analysis
  - Monitoring of IP flows, services, ports, MAC/IPv4/IPv6 addresses

Data Output Options

- GbE with RJ45 connector
- Transport Stream:
  - ASI (75 Ohm BNC), with L-Band input type only
- TS forwarding (optional): via RTP
- IP forwarding (optional): natively forwards received IP data
- Optional Netflow/IPFIX Services Export
- Optional Alarm outputs

Data Interface

- GbE with RJ45 connector
- Data Input Options:
  - L-Band (F-type):
    - DVB-S (QPSK, 8PSK)
    - DVB-S2 Broadcast Profile (QPSK, 8PSK)
    - DVB-S2 (QPSK, 8PSK, 16APSK, 32APSK)
  - ASI (75 Ohm BNC) (optional)
  - RTP/IP (optional)

Clock Options

- High Precision Clock Option
- 10 MHz Reference Input
- 10 MHz Reference Output

Software System

- Robust and reliable operation through Linux operating system
- gcs *flex:DVB* IP/MPEG2-DVB decapsulation software
- Multiprotocol encapsulation (MPE), Unidirectional Lightweight Encapsulation (ULE), and Generic Stream Encapsulation (GSE) supported
- Configuration, Monitoring&Control via
  - Web-interface
  - SNMP

Physical, Power, Environment

- 1-2RU (depending on options), width 19", rack-mountable
- Fully EMC compliant, CE label
- Power supply: 110-230VAC, 50/60Hz
- Operating temperature: 5 – 40°C

Ordering Options

	Inputs				
	DVB-S/S2	RTP/UDP	ASI	Storage	Low Energy Low Noise
QMS200-L	✓		✓	Flash	✓
QMS200-B		✓	✓	HDD	
QMS200-P	✓	✓	✓	HDD	

Contact Information

gcs
Global Communication & Services GmbH
Jakob-Haringer-Straße 1
5020 Salzburg, Austria, Europe

Tel: +43 (0)662 450025
Fax: +43 (0)662 450025-90
Email: sales@gcs-salzburg.at
Web: www.gcs-salzburg.at

Product category: Measure

EN ISO 9001
Zertifikat Nr. 20 100 92004065

Related Products: **ODG200** – Open DVB Gateway | **BSR200** – Broadband Satellite Receiver

Published: 2011-09-13