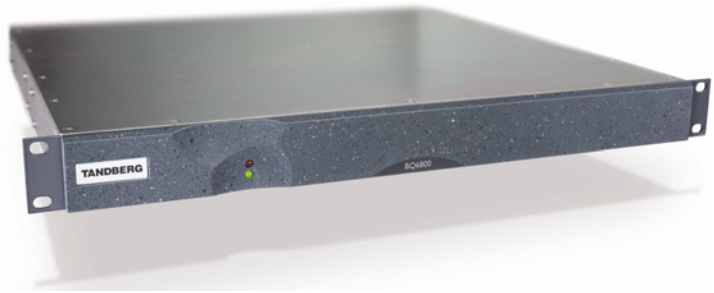
TANDBERG television
Part of the Ericsson Group



BQ6800
Broadcast QAM

Cable operators are constantly competing against satellite and IPTV operators. The need to offer more services over the cable network, while protecting content owners against broadcast piracy is a prime consideration. The introduction of digital cable services goes some way towards achieving this. To provide QAM services, a number of discreet components had to be used and it was difficult to protect the content. Further, network expansions required more equipment and hence adding to costs. The BQ6800 High Density Broadcast QAM solves all this problems and more.

Located at the network edge, the TANDBERG BQ6800 is a key component for the deployment and running of any cost-effective broadcast service over cable networks. The BQ6800 provides unrivalled density and flexibility for remote multiplexing, QAM modulation and UHF up-conversion in a single highly integrated 1RU unit. With built-in support for DVB Common Scrambling Algorithm, the BQ6800 protects against broadcast piracy.

PRODUCT OVERVIEW

Cost Reductions

With market leading QAM density, modulation and up-conversion in a single 1RU enclosure, enables space and cost savings. Fewer numbers of units need to be installed, configured and maintained - giving further savings through operational costs, time and labour.

Increased Reliability

The highly integrated unit facilitates the need for fewer units and thus increases the overall system reliability.

Remote Access

The BQ6800 provides web access, thus allowing operators to remotely configure and monitor its status via GUIs. It further provides SNMP messages for monitoring platforms such as nCompass Control.

BASE UNIT FEATURES

High-Density Broadcast QAM (BQ6800/BAS)

Core features of BQ6800 include:

- Reception of multi-program program streams (MPTS) over Gigabit Ethernet
- Supports 12 QAM channels.
- 2 adjacent QAM channels per F-connector output
- Optical (option) or electrical Gigabit Ethernet input
- Redundant 1+1 optical Gigabit input using optional SFP modules
- Reception of multi-program transport streams (MPTS) or FAT MUX streams over Gigabit Ethernet
- Advanced de-jittering algorithms to reconstruct DVB compliant streams
- Service filtering and stream routing according to static configuration
- PID remapping and PSI/SI generation and insertion
- Simultaneous support of HD and SD streams
- Control via TANDBERG Television system management applications

SOFTWARE OPTIONS

DVB Conditional Access Scrambling (BQ6800/SWO/DVBCA)

BQ6800 protects against broadcast piracy using built-in DVB Common Scrambling Algorithm.

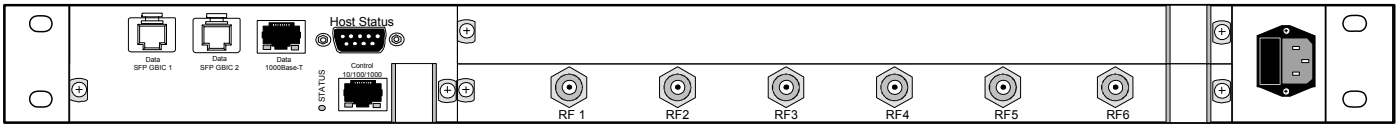
- Scrambling enabled on a per-service basis
- Capable of scrambling every service
- Standard Simulcrypt/OpenCAS interfaces

HARDWARE OPTIONS

12 Channel QAM Modulator Assembly (BQ6800/HWO/12QAM)

- 6 F-type connections with two adjacent QAM channels on each

SAMPLE CONFIGURATION



SPECIFICATIONS

Inputs

Gigabit Ethernet Interface (one active input)

Electrical RJ-45 (1000BASE-T), IEEE802.3ab

Optical SFP† (1000BASE-SX/LX), IEEE802.3z

Redundant SFP† (optionally provides 1+1 optical input redundancy)

Input Capability

Capable of processing a fully-loaded Gigabit Ethernet link

Stream encapsulation in UDP (RFC 768)

7 transport stream packets per IP datagram (auto detected)

Removes up to +/-20ms input jitter

Support for unicast and multicast flows (IGMPv1)

†SFP modules are not included as standard, but can be supplied separately if required

Outputs

QAM

75Ω F-type connector

ITU-T J.83 Annex A, B and C

64, 256 QAM constellations

Symbol rate up to 7.0Msym/s

6 or 8MHz bandwidth

Frequency range 53 – 867 MHz adjustable in 10KHz steps

Frequency accuracy better than +/- 10 KHz

RF output power level 44-58 dBmV adjustable in 0.1dB steps

RF output power accuracy +/- 1.5dB

Output return loss > 12dB

MER > 40dB

BER < 10e-9

Each output provides one or two adjacent QAM channels

Processing

Rate detection and de-jittering of each incoming transport stream

Extraction of incoming PSI

PID remapping as required

Service filtering

Automatic generation and insertion of outgoing PSI tables

Control

Dedicated 10/100 Ethernet control port (RJ45)

SNMP and HTTP control

RS-232 port for basic configuration

Complete configuration possible with a single file download to ease large deployments

Physical and Power

Dimensions (W x D x H)

483 x 370 x 44mm (19" x 13.5" x 1RU)

Approximate Weight

10.5kg

Power Input

Power Input: 100–120 Vac or 220–240 Vac wide ranging

Power Consumption

Max. 150W, depending on configuration

Temperature

Operational: 0°C to +50°C (32°F to 122°F) ambient with free air flow

Storage: -20°C to +70°C (-4°F to 158°F)

Relative Humidity

0% to 90% (non condensing)