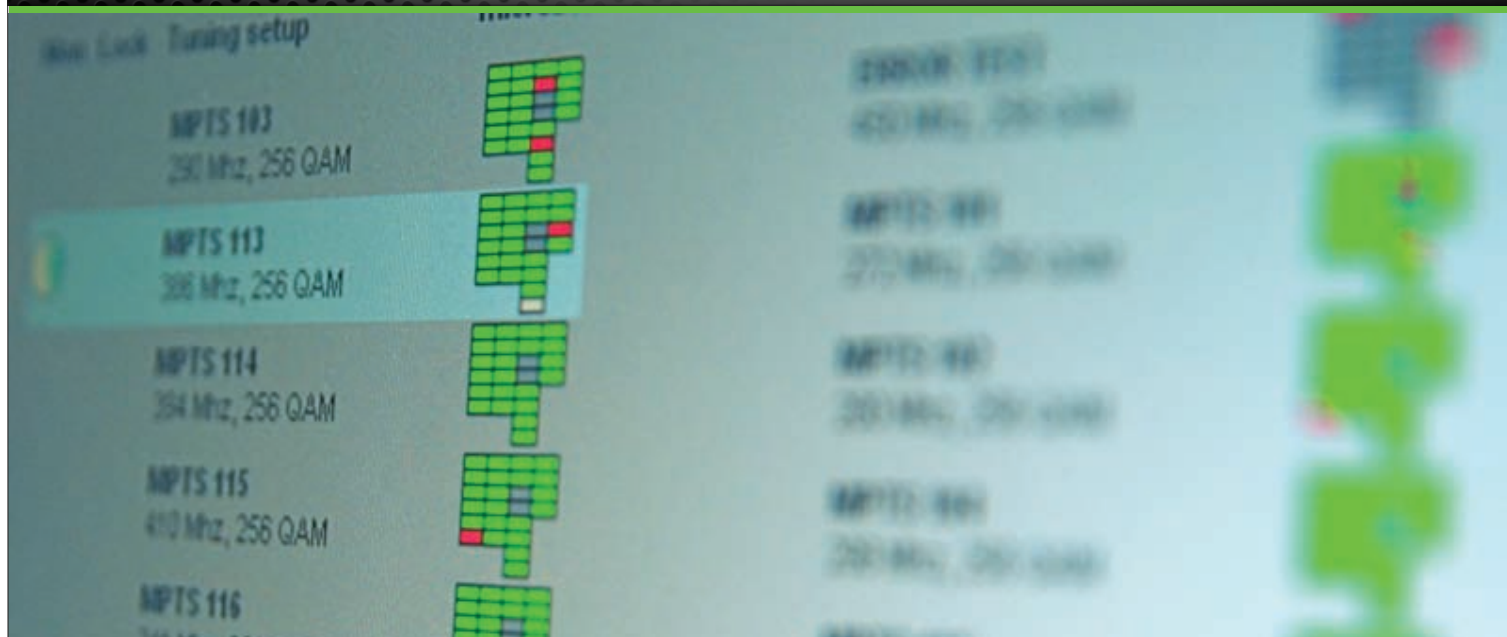




BRIDGETECH products adhere to The Global Standard of Digital Television.



BRIDGETECH products adhere to Advanced Television Systems Committee



The ETSI TR 101 290 functionality contain the innovative microETR displaying technology enabling visual representation of a large number of services in a single page.

The ETSI TR 101 290 functionality is included as standard on the VB12/VB120 and available as an option on the VB20/VB220.

Full analysis is performed on Ethernet, ASI, QAM and COFDM signals according to the industry standard TR 101 290 specification. BRIDGETECH has added many new checks to the analysis engine which complement and extend the TR 101 290 specification.

The BRIDGETECH implementation provides operators with unparalleled input signal visibility. The probes can detect and trigger alarms for many of the common errors that would normally go unnoticed by conventional monitoring systems.

Some of the additional checks cover the Conditional Access system, RF measurements for QAM and COFDM inputs, extended tests for most of the PSI/SI tables such as verification of important descriptors as well as comparison of the NIT across different frequencies.

The microETR technology presents transport stream measurements in one easy to comprehend GUI. The operator can easily click on the stream containing errors and drill down to find the cause of the problem. The probe displays full measurements and details for all checks, not just the alarms themselves. A powerful template system allows alarm settings and thresholds to be reused for ETR, PID, service and RF alarms.

Tables and descriptors can be analysed visually for PSI, SI and PSIP. Minimum, maximum and current bitrate measurements are available for both PIDs and services and for either textual or graphical presentation.

Alarms are available both as SNMP traps and as XML documents. All errors are mapped to PIDs and services so that the NMS system is notified as to which services are affected.

FEATURES INCLUDE:

- ETSI TR 101 290 monitoring and analysis for Ethernet, ASI, QAM and COFDM input interfaces
- Monitoring of all ETR 101 290 Priority 1, 2 and 3 alarms except buffer alarms
- Display of detailed measurements for all ETSI TR 101 290 checks such as section interval and PCR discontinuity
- Many additional checks that supplement and extend the tests defined in ETSI TR 101 290
- Full table and descriptor parsing for PSI, SI and PSIP. Data is displayed in a tree structure and the data location is shown in a hex dump of the tables
- Browsing of services and PIDs in a tree structure
- Graphical display of bitrate measurements
- Fully sortable PID list
- RF measurements with configurable alarm thresholds for QAM and COFDM interfaces
- For the VB250 (COFDM) and VB260 (QAM) interface cards tuning lists can be created automatically from the NIT. The VB120 will tune to and monitor each frequency in turn
- The automatic frequency tuning can be locked by the operator for manual inspection
- microETR™ technology allows the operator to view status for all monitored frequencies simultaneously
- Support for monitoring of analog channels in cable and terrestrial networks
- Powerful template based system for ETR, PID, service and RF measurements
- SNMP traps specifying PIDs and services affected by an error
- Complete alarm lists, PID and service lists for all monitored streams are available as XML in the Eii interface
- Graphical display of PCR jitter histogram

ETR Priority 1 checks:

- TS Sync check
- Sync byte check
- PAT check. Enhancements over the specification:
 - * Minimum number of services check
- Continuity Counter check
 - * Individual PIDs can be excluded from this check
- PMT check. Enhancements over the specification:
 - * Minimum number of services
 - * Language descriptor check, requires language descriptor to be present for all audio PIDs
- Missing PID check
 - * Individual PIDs can be excluded from this check

ETR Priority 2 checks:

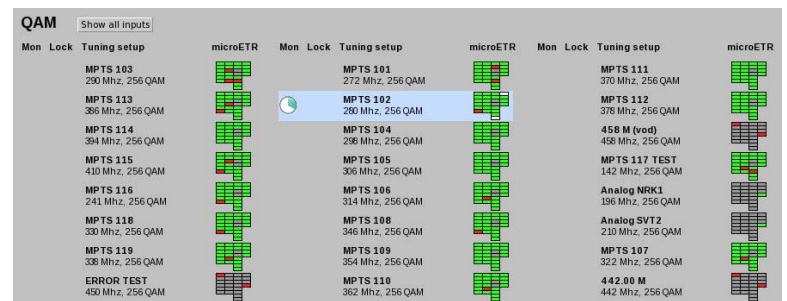
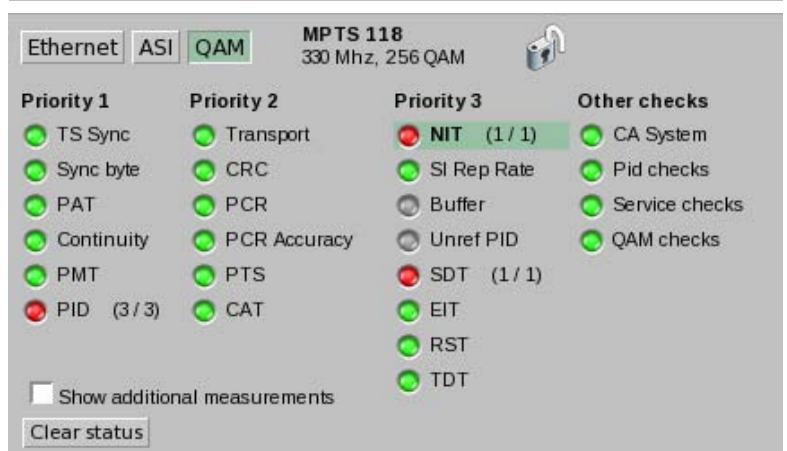
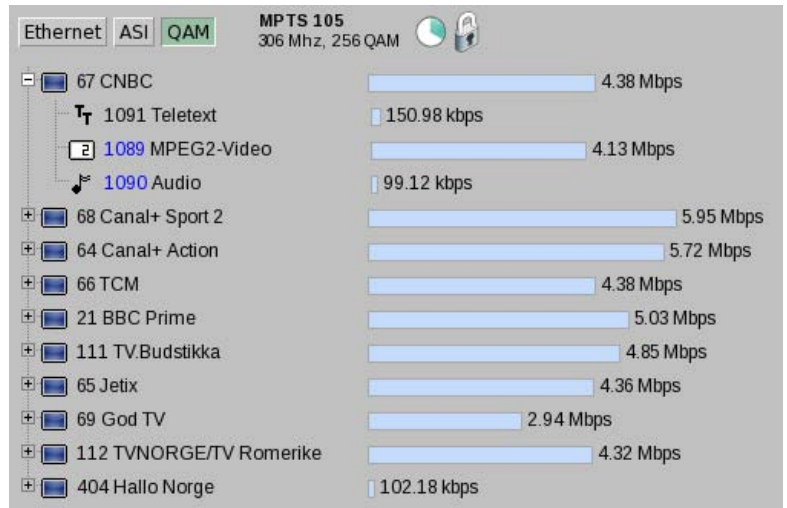
- Transport error indicator check
- CRC check
- PCR check
- PCR Accuracy check
 - * Jitter is measured as PCR_OJ
- PTS check
- CAT check

ETR Priority 3 checks:

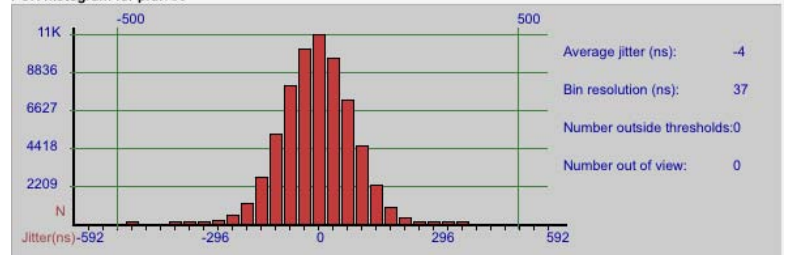
- NIT check. Enhancements over the specification:
 - * TS descriptor check, for each of the types Satellite, Cable and Terrestrial you can specify if the descriptor must be present, can not be present or is optional
 - * Network ID check, requires that the network ID matches the specified ID
 - * Original Network ID check, requires that the original network ID matches the specified ID
 - * Minimum number of transport streams check
 - * NIT compare check, compares NIT on all frequencies with the NIT transmitted on a reference frequency
- SI repetition rate check
- Unreferenced PID check
 - * Individual PIDs can be excluded from this check.
- SDT check. Enhancements over the specification:
 - * Compare with PAT, verifies that all services in PAT are also present in the SDT
 - * Service name check, checks that all services have a service name
- EIT check
- RST
- TDT
- MGT
- CVCT/TVCT
- ATSC EIT
- RRT
- PIM
- PNM

Additional Bridgetech defined checks:

- CA System. The functionality includes:
 - * ECM interval check
 - * EMM bitrate check
 - * Monitoring of control word change interval
 - * On a PID per PID basis it is possible to require the PID to be scrambled, require the PID to be clear (not scrambled) or if scrambling is optional
- PID checks
 - * Minimum and maximum PID bitrate check
 - * PID presence check
- Service checks
 - * Minimum and maximum service bitrate check
 - * Service presence check
- Interface checks. RF measurements for QAM and COFDM.
 - Can be used to monitor analog carriers as well
 - * Pre FEC BER
 - * Post FEC BER
 - * Signal to Noise Ratio
 - * Signal Strength



PCR histogram for pid:700

**COMPLIANCE:**

CE-marked in accordance to low voltage directive (LVC) 73/23/EEC and EMC directive 89/336/EEC. Compliant to requirements for US and Canada. Designed for CSA approval.

BRIDGE TECHNOLOGIES Co AS continuously improves on products and reserves the right to modify the specifications without prior notice.

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