



logix

ET2048 G703/G704 Monitor & Tester

- Speed 2.048Mb - G703 Interface
- G.704 Framing Analysis
- BERT (PRP15) generator/checker
- Master and Slave Timing options
- Adjustable Sensitivity: 0 to -11 or -43dB
- High Impedance Monitor Mode
- 75Ω or 120Ω matching options
- Battery powered -typically 16hours

Specifications

Product Description

HDB3 Line Signal Detector

In both modes, the line is checked for a valid HDB3 line signals, this being shown as a green for valid HDB3 signalling or red for no HDB3 signals. Line errors (Bipolar violations or BPVs) are also indicated.

G.703 line Bit Error Rate Test (BERT)

This provides a means of testing circuits with an unframed data pattern. This test may be run either end-to-end, using a pair of testers, or with a remote loop, using a single tester. With the switch in BERT mode, the tester initially transmits continuous HDB3 zeros until valid incoming carrier is detected. The ET2048 then generates the standard unframed PRP-15 test pattern ($2^{15}-1$ pseudo-random bit sequence), and can generate on command either single bit errors or a steady stream of errors at a rate of E-6 (2 errors per second). It will then check the received PCM signals for the presence of the PRP15 pattern-green LED indicates synchronisation, bit errors-yellow LED, and a BER worse than 1 in 1000-red LED. The user can select either Master or Slave timing options for the BERT test allowing the tester to operate over a wide range of network configurations.

G.704 Monitoring is disabled when the ET2048 is operating in BERT mode.

G.704 framing monitor

In this mode, the ET2048 checks the incoming PCM signals for the G.704 framing structure. This test will normally be used to monitor live circuits carrying traffic and will therefore normally use Hi-Z line bridging, though 75Ω or 120Ω matching can be selected if required.

LEDs show the presence of, and errors in, the framing signal (FAS), channel-associated signalling (CAS), and cyclic redundancy check (CRC-4). An FAS error rate of greater than 1 in 1000 is also indicated.

Indicators are also provided to show the presence of a distant alarm (DA) or distant multiframe alarm (DMFA). The alarm indication signal (AIS) is similarly checked for and indicated.

Error and alarm LEDs (except DA) can be latched or momentary, according to the switch setting. A reset button is provided to clear latched indications

Switches

Power Off/On

Hi/Lo Sensitivity: Hi = -43dB , Lo = -11dB

Impedance Matching: 75Ω, 120Ω, High

Monitor Mode / Bert-master/ Bert-slave

*In Master ET2048 originates the timing
In Slave ET2048 synchronises output to the clock of the received signals.*

Inject Errors (BERT mode only)

Latch / Momentary: controls LED functions

Reset: Cancels latched error indications

LEDs

Lo Battery: ≤ 30 mins power remaining

Rdy/Synch :

Test pattern Synch / test pattern output
(Flashing: transmit '0's, Solid: transmit PRP)

Line Signal: HDB3 signal detector

(green= valid signals , red= no HDB3 signals)

BPV: Bi-polar violations detected

AIS: All ones detected

PRP Pattern Synch/ Errors/ Error Rate $\leq 10^3$

FAS: Frame Synch / Errors/ Error Rate $\leq 10^3$

RA: Remote Alarm detection ON/OFF

CRC4 / CRC4 errors

CAS / CAS errors

DMFA: Distant Multiframe Alarm ON / OFF

Line

Matching: 75Ω or 120Ω

Return Loss >15dB (51kHz to 3.072mhz)

Dynamic Range: 0 to -11db or 0 to -43dB

Isolation typically 3kV transmit to receive

Transmit pulse amplitude and masks to G.703

Test Pattern PRP15 ($2^{15}-1$)

Physical

Size 65×120×22mm (excluding connectors)

Weight 140g (5oz) approx (including batteries)

Case ABS to UL-94H

Power

Source 2 × AA cells (MnAlk recommended)

Life typically 16 hours

Lo bat flashes when less than 30mins of battery power life remaining when using Alkaline batteries