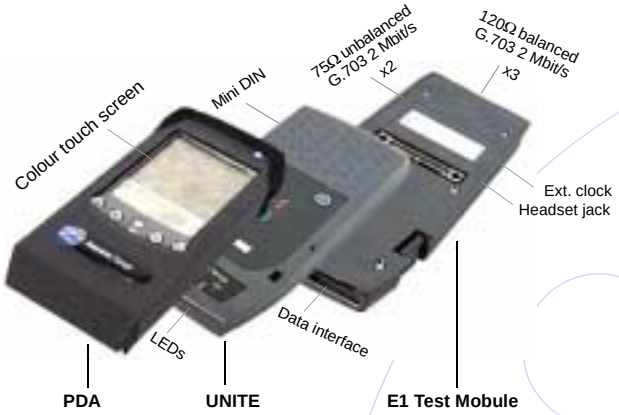
Aurora Tango E1

Datasheet



Aurora Tango, the Smart Way to Test E1

Relevant features

- Bit rates from 50bit/s up to 2048 kbit/s
- Operation Modes for G.703
  - Bidirectional monitor
  - Through
  - Terminal
- Clock Sources
  - Internal, stratum 3 quality
  - External (2 Mbit/s, 2 MHz), SMB 75Ω connector
  - Recovered from R_x
- G.703, O.171, G.821, G.826, M.2100 compliant

G.703 interfaces

- One T_x and dual R_x (model depending)
- Three unbalanced 75Ω connectors BNC or DIN
- Two balanced 120Ω connector RJ-45
- PMP connection; resistive gain: up to 32dB + 6dB of cable loss
- High Impedance connection: sensitivity at both ports >30 dB

Frame analysis

- TS0 Overhead analysis, display, capture, and store
- CAS analysis, display, capture, store and print
- Timeslots map idle/busy status
- Capture, drop to speaker, store of nx64kbit/s channels

Generation

- Frequency offset: up to 20,000 ppm
- Options: PCM30 or PCM31, with or without CRC, Unframed
- TS0 and TS16 programming
- Timeslot [TSi i=1...31] programming
  - TSi with tone
  - TSi with idle noise
  - TSi with PRBS/Fixed Sequence/User sequence
  - TSi with external signal from interface or microphone
- Loopback protocol codes according V.54, X.21, etc. carried in a Nx64kbit/s channel or in Sa bits of TS0
- Test signals:
  - Tone: frequency and level
  - Frequency range: 10Hz to 4000Hz; steps of 10Hz
  - -60 to +10 dBm0; steps of 1dBm0
  - Fixed sequence: 1010, 100, (1:3, 3:1, 7:1,...), all 1s, all 0s
  - User programmable word
  - PRBS: 2^n-1 (n= 6, 9, 11, 15, 20, 23)
  - QRSS

Voice Frequency

- TSi contents can be dropped to the speaker
- External tone can be dropped to a TSi
- VF analysis, Level, Frequency, Offset, Max., Min.
- Tone Generation [10Hz, 4kHz]

Events

Errors

- Error analysis: CODE, FAS, CRC, REBE, BIT, SLIP
- Error insertion: CODE, FAS, CRC, REBE, MFAS, BIT, SLIPs

Alarms

- Alarm analysis: LOS, LOF, AIS, RAI, CRC-LOM, CAS-LOM, MRAI, MAIS, LSS, All0, All1
- Alarm insertion: LOS, LOF, AIS, RAI, CRC-LOM, CAS-LOM, MRAI, MAIS, LSS, ALL0, ALL1

Performance

- PASS/FAIL indication according to program able objectives
- Ok/Bad indication per parameter compliance
- Counters: number of, ratio (%)
- G.821 analysis: ES, SES, (DM), AT, UT, elapsed time
- G.826 analysis: ES, SES, BBE, ABE, AT, UT
- M.2100 analysis: ES, SES, BBE, ABE, AT, UT

Pulse Mask

- Signal Level Nominal or Attenuated up to 20dB
- Graphical display, storage and print with G.703 mask
- Ok/Bad indication

Jitter measurements

Generation

- Generation from 0.1 Hz to 100 kHz (resolution 0.1 Hz), amplitude from 0.5 mUIpp to 10000 UIpp (resolution 5 mUIpp
- Intrinsic Jitter/wander < 10 mUIpp

Analysis

- Analysis from 0.1 Hz to 100kHz, amplitude range from 0 to 1000 UIpp (resolution up to 1mUIpp)
- Filter mode: deactivated, LP (Lowpass), B1 (Lowpass + Highpass1), B2 (Lowpass + Highpass2)
- Jitter amplitude threshold programming
- Results: LED, hits, seconds with hits, trace, max UIpp

Jitter Tolerance

- Tabular and graphic
- Results with a selected or user programmable mask

Jitter Transfer

- Stimulus amplitude based on a tolerance measurement
- Graphical results
- User editable masks

Clock slips

- Frequency deviation between Rx-Rx or Rx-Clock inputs
- Number of hits or aggregate slips (positive and negative)

Functions

- Autoconfiguration or detection of received signal: rate, TSi type, and PRBS
- One-button test Selection of a test procedure
- Remote Control using the same Java user interface
- Round Trip Delay measurement
- Frequency analysis: Values: current, max., min., level, offset, and Ok/Bad indication

Test platform

Architecture

- E1 Test Module
  - Size: 210x90x90 mm
  - Weight: <1 kg
- UNITE (Universal Test Engine)
  - Size:210x90x52 mm
  - Weight: 0.5 kg
  - 6 LEDs: Power, Charging, Port A event, Port B event, Progress/Pass/Fail test, On/Off test
- Pocket PC
  - Size: 120x75x20 mm
  - Weight: 0.2 kg
  - Colour Touch Screen: 240x320 pixel
- PC operation
- Other test modules Gigabit Ethernet, ISDN, ADSL, SHDSL

Ergonomics

- Battery operated or 12 V dc from mains conversion
- Built-in speaker
- GUI Languages: English, French, German, Spanish

Safety

- Storage ETS 300 019-1-1
- Transportation ETS 300 019-2-2
- Operation ETS 300 019-1-7
- EMC: Radiated/Conducted Emission EN55022
- Immunity EN5502
- Electrical Safety: EN60950
- Operating 0 to 50ºC, Storage -40 to 70ºC

Connectors

- Ext. clock connector: SMB 75 Ohms
- Jack Connector for headset
- Mini-DIN for Printer and PC control

TrendCommunications

Trend Communications Ltd
Knaves Beech Estate
Loudwater, High Wycombe
Buckinghamshire HP10 9QZ UK

International..+44 (0) 1628 524977
UK..... 01628 524977
España..... 93 300 3313
Deutschland..... 089 32 30 09 11
France.....01 69 35 54 70
India.....22 8597 463/4
US..... 256 461 0790