SAT-1XS
Series E1 and Datacom Tester

AITELONG
Keeping your system safe and running

Key Features

◎ 5 inch LCD with backlight, the largest screen in the industry
◎ Handheld, rugged design, easy to operation
◎ Particular history and real-time LED indicator design, find troubles more clearly
◎ Smart auto configuration feature
◎ Alarm and Histogram analysis for troubleshooting
◎ Multi-task operation at the same time
◎ Store 20 test results and 9 test configurations, with power-off memory
◎ Automatically power on/off testing by programmable timer
◎ Powerful PC software supports download results to PC, data analysis, report generation, printing, etc.
◎ Software updating

Key Functions

◎ **SAT-1AS:**
Normal test
Pass through testing
Audio frequency test
◎ **SAT-1BS:** provides more two functions than SAT-1AS:
Loop delay test
Automatic protection switching time testing (APS)
◎ **SAT-1CS:** provides more three functions than SAT-1BS:
2Mbit/s line level and frequency testing
Datacom test
Co-directional 64Kbit/s test

Applications for E1

◎ Service-interrupted error testing
◎ On-line service error testing
◎ Framed and unframed signals generation and reception
◎ 2Mbit/s unframed error performance testing
◎ 2Mbit/s framed N×64Kbit/s channel error testing
◎ Bit error, coding error, frame error, CRC error and E-bit error testing
◎ Signal loss alarm, AIS alarm, framed remote alarm, multi-framed remote alarm, out-of-frame, and pattern loss alarm
◎ Frequency offset transmitting
◎ Voice channel signal level and frequency testing
◎ Pattern slip testing
◎ Pass through testing
◎ Audio frequency testing
◎ Loop delay test (except SAT-1AS)
◎ Automatic protection switching time testing (APS) (except SAT-1AS)
◎ Voice monitoring
◎ Signal state display, Voice channel content display, Voice channel busy / idle indication
◎ Alarm and error histogram analysis
◎ Time slot content analysis, drop and insert signal on each time slot
◎ Framed content analysis
◎ G. 821/G. 826/M. 2100 performance analysis
◎ Multi errors and alarms inserting
◎ Three input modes (terminating, bridging and monitoring)
◎ Provides two clock options (internal and picking-up)

Applications for Datacom:

◎ Includes V.24/V.28/RS232, V.35, V.36/RS-449, X.21, RS-485, RS422, EIA-530, EIA-530A
◎ SYNCH and ASYNCH testing
◎ DTE and DCE emulation
◎ Bit code testing
◎ Pattern slip testing
◎ Signal loss alarm
◎ Line signal frequency testing
◎ Loop delay testing
◎ Automatic protection switching time testing(APS)
◎ G.821, M2100 service-interrupted error testing

Applications for Co-directional 64Kbit/s:

◎ Service-interrupted error testing
◎ Bit code testing
◎ Pattern slip testing
◎ Signal loss, AIS alarm
◎ Line signal frequency testing
◎ Loop delay testing
◎ Automatic protection switching time testing(APS)
◎ G.821, M.2100 error performance testing

E1/2M Technical Specifications

(1)Signal input rate: 2048kbit/s±50ppm (G.703 requirement±100ppm)
(2)Signal code: HDB3, AMI.
(3)Input jitter tolerance: Up to G.823.

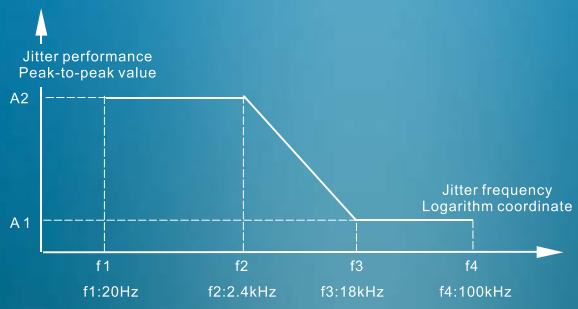

Fig. 1 Input Jitter Tolerance

(4)Input Impedance
Unbalance terminating: 75Ω G..703
Balance terminating: 120Ω G..703
(5)Signal structure
(5.1) Unframed structure
(5.2) Framed structure: PCM30, PCM31, PCM30CRC, PCM31CRC, complied with G.704
(6)Testing pattern: 2^6-1, 2^9-1, 2^{11}-1, 2^{15}-1, 2^{20}-1, 2^{23}-1, and artificial code
(7)Error code insertion: Bit error, Pattern slip, None single, Ratio 10^{-1}~10^{-7}.
(8)Alarm insertion: No Signal, Frame Loss, AIS, Patten Loss

Datacom Technical Specifications

(1)Data interface type: V.24/V.28/RS232, V.35, V.36/RS-449, X.21, RS-485, RS422, EIA-530, EIA-530A
(2)Generator
(2.1) SYNCH mode
Clock source: Internal and picking-up clock
Phase relation between clock and data: co-direction or reverse direction.
Rate: 1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 38.4, 48, 56(kbps), N×64kbps (N=1~32)
Error: ±15ppm (ppm: parts per million)
(2.2) ASYNCH mode
Rate: 50,75,110,150,200,300,600,1200,2400,3600,4800,7200,9600; 14.4k,19.2k,38.4k,57.6k(bps)
Data structure: Word length: 5, 6, 7, 8(bits) Stop bit: 1, 2(bits)
Odd-even check: Odd, Even, 1, 0, None.
(2.3) Error code insertion: None, Single, or Ratio 10^{-1}~10^{-7}.
(3)Receiver
(3.1) SYNCH mode
Clock source: Internal and picking up clock
Phase relation between receive clock and receive data: Co-direction or reverse direction.
Clock Rate: 2048kbps maximum
(3.2) ASYNCH mode
The rate and data structure are the same as the generator.
(4)Testing pattern: 2^6-1, 2^9-1, 2^{11}-1, 2^{15}-1, 2^{20}-1, 2^{23}-1,and artificial code

Co-directional 64Kbit/s Technical Specifications

(1)Signal input rate: 64Kbit/s±50ppm(G.703 requirement ±100ppm)
(2)Input impedance: balance 120Ω, up to G.703
(3)Input jitter tolerance: up to G.823.
(4)Impedance of output interface: balance 120Ω, up to G.703
(5)Testing pattern: 2^6-1, 2^9-1, 2^{11}-1, 2^{15}-1, 2^{20}-1, 2^{23}-1, and artificial code
(6)Error code insertion: Bit Error, Pattern Slip, None, Single, Ratio 10^{-1}~10^{-7}.
(7)Alarm insertion: No Signal, AIS, Patter Loss

General Specifications

◎ Power supply
(1)Special power adapter
Input: AC220V 50Hz
Output: DC 9V 1.2A
(2)Internal rechargeable battery
4000mAh, 6V nickel-hydrogen rechargeable battery
Working time: 8 hours
Charging: 8 hours at power-off state, and 12 hours at power-on state
◎ Dimension and weight
L×W×H: 220×162×48mm
Weight: 950g
◎ Ambient parameters
Operating temperature: -10~+50℃
Storage Temperature: -30~+70℃
Humidity: 5%~90%, non-condensing