

# SAT-1CS

## E1/Datacom Tester

# SYNERGY TELECOM PVT LTD



### Major Features

- ⊙ LCD large-screen display, 320×240 lattice, backlight, LED indication
- ⊙ Hand held, auto configuration
- ⊙ Multi-task operation at one time
- ⊙ Store 20 test results and 9 test configurations, with power-off memories
- ⊙ Store the test results to PC for analysis and printing
- ⊙ Automatically power on/off for testing by programmable timer
- ⊙ Alarm and histogram analysis
- ⊙ Software updating

### Major Functions

#### Basic functions as below:

- ⊙ Normal test
- ⊙ Direct connection mode
- ⊙ Audio frequency test
- ⊙ Loop delay test
- ⊙ Automatic protection switching time testing (APS)
- ⊙ Datacom test
- ⊙ Co-directional 64 kbit/s test

#### For 2Mbit/s:

- ⊙ Service-interrupted 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 testing
- ⊙ Line signal level and frequency testing
- ⊙ Voice channel signal level and frequency testing
- ⊙ Pattern slip testing
- ⊙ Straightforward signaling
- ⊙ Audio frequency testing
- ⊙ Loop circuit delay testing
- ⊙ Automatic protection switching time testing (APS)
- ⊙ 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 error analysis
- ⊙ Multi error and alarm inserting
- ⊙ Three input modes (terminating, bridging and monitoring)
- ⊙ Two clock options (internal, external and picking-up)

#### For Datacom:

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

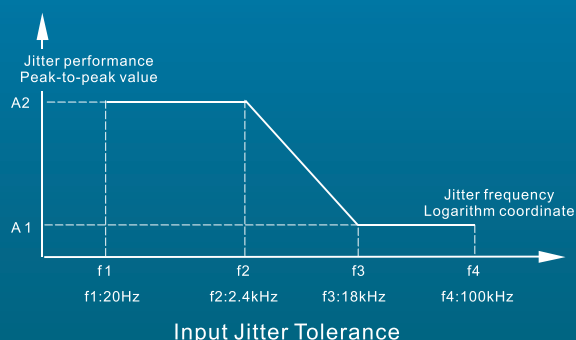
#### For Co-directional 64Kbit/s:

- ⊙ Service-interrupted
- ⊙ 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 testing

## Technical Index

### © 2Mbit/s Technical Index

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



### (4)Input Impedance

- Unbalance terminating: 75  $\Omega$  G..703
- Balance terminating: 120  $\Omega$  G..703

### (5)Signal structure

- (5.1) Unframed structure
  - (5.2) Framed structure: PCM30, PCM31, PCM30CRC, PCM31CRC
- Framed structure complies with the requirement of 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  $10^{-1} \sim 10^{-7}$ .

### © Co-directional 64k Technical Index

- (1)Signal input rate: 64kbit/s  $\pm 50$ ppm (G.703 requirement  $\pm 100$ ppm)
- (2)Input impedance: Balance 120  $\Omega$ , up to G.703
- (3)Input jitter tolerance: Up to G.823.
- (4)Impedance of output interface: Balance 120  $\Omega$ , 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)Bit error, pattern slip, none single, ratio,  $10^{-1} \sim 10^{-7}$ .
- (7)Alarm insertion: None, AIS, Patterless

### © Datacom Technical

- (1)Data interface type: V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530 and 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),  $N \times 64$ kbps ( $N=1 \sim 32$ )
    - Error:  $\pm 15$ ppm (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 $10^{-1} \sim 10^{-7}$ .

### (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 at a 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

## Other Parameters

### © 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  $\times$  W  $\times$  H: 220  $\times$  162  $\times$  48mm
- Weight: 0.95kg

### © Ambient parameters

- Operating temperature: -10 $\sim$ +50 $^{\circ}$ C
- Storage Temperature: -30 $\sim$ +70 $^{\circ}$ C
- Humidity: 5%~90%, non-condensing

