

XG2330 E1/Datacom Transmission Analyzer

Datasheet



Flexible combination and comprehensive analysis, XG2330 is a powerful handheld instrument, providing a scalable, future-proof solution for testing 2Mb/s and N×64kb/s digital circuits. Through the easy-to-download testing options, XG2330 offers full-featured measurements of error, alarm, signaling, tone and timeslot data, and helps to verify quality-of-service in your networks. It can be widely used in the R&D, production, installation, verification and maintenance of SDH, PDH, PCM, DTU and Data protocol converter equipments.

Basic Functions

E1 Testing

- 120Ω balance and 75Ω unbalance line interfaces
- HDB3 and AMI line codes
- Out-of-service framed and unframed testing
 - ✓ 2Mb/s, N×64Kb/s BER testing
 - ✓ Frame data and alarm monitoring
 - ✓ Clock slip measurement
- In-service framed and unframed testing
 - ✓ Hi-Z and through mode testing
 - ✓ CODE, FAS, CRC4, E-BIT BER testing
 - ✓ Frame data and timeslot activity monitoring
 - ✓ Monitoring of octet code in any selected timeslot
 - ✓ Built-in 64kb/s tone channel monitoring capability
 - ✓ ABCD code monitoring in CAS signaling
 - ✓ TS16 monitoring in CCS signaling
- Double E1 channel testing
 - ✓ Double E1 channels Rx Hi-Z and through mode testing
 - ✓ Double E1 channels Code, FAS, CRC-4, E-BIT BER testing
 - ✓ Double E1 channels FAS/NFAS, CAS Multiframe, CCS timeslot 16 and timeslot activity monitoring
- Double E1 channels timeslot data monitoring
- Double E1 channels built-in 64kb/s tone channel monitoring capability
- Double E1 channels CAS and CCS signaling monitoring
- Round trip delay measurement
- APS delay measurement
- Pulse Mask Measurement
 - ✓ Input E1 pulse shape display
 - ✓ Pulse width measurement
 - ✓ Pulse width and amplitude ratio measurement
 - ✓ Up-edge and down-edge time measurement
 - ✓ Overshoot and undershoot ratio measurement
 - ✓ Pulse amplitude and level measurement
- PCM simulator
 - ✓ Extensive error insertion and alarm generation
 - ✓ Frame data control and monitoring
 - ✓ Idle word insertion in one or more timeslots with programmable pattern
 - ✓ VF tone generation and measurement in one or more timeslots
 - ✓ Listen to any voice channel in the receiver via earphone
 - ✓ Talk to any voice channel in the transmitter via microphone
 - ✓ Can perform the tests of signal level and

- frequency of the VF channel simultaneously
- ✓ CAS and CCS signaling generation and monitoring
- Frequency and Offset measurements
- Level measurement
- Transmit clock deviation up to ± 999 ppm
- Clock source: Internal, Interface and External 2M clock/signal
- Testing pattern: PRBS, Fixed Code, 16-BIT User-programmable word
- Error insertion: Single and Fixed Rate
- Real-time transmit circuit status indication: open/short
- Manual or auto-timer measurements
- Performance analysis according to G.821, G.826, and M.2100

Network Testing

- IP PING
- Trace Route
- IP Config.

Other Functions

- Auto-configuration:
 - ✓ E1 frame format, BERT pattern, the timeslots carried BERT pattern automatic detection and setting for E1 testing
 - ✓ BERT pattern and Tx data rate automatic detection and setting for Datacom testing
 - ✓ BERT pattern and octet timing automatic detection and setting for G.703 64kb/s CO testing
- Real-time clock
- BERT pattern: PRBS, Fixed Code, 16-BIT User-programmable word and QBF
- Error insertion: Single and Fixed Rate
- Reset the results to zero and auto configure
- Manual or auto-timer measurements
- Self-check, keyboard and LED testing
- Performance analysis according to ITU-T G.821, G.826 and M.2100
- Histogram analysis of error and alarm events

- Upgradeable software via USB interface

Option 1: Jitter Testing

- Peak-to-peak jitter measurement
- Jitter measurement comply with O.172 filter (18-100kHz)
- Hit seconds and hit free seconds counts

Option 2: Datacom Testing

- Datacom (V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530 and EIA-530A) BER testing
- Asynchronous BER testing with baud rate 50b/s~57.6b/s
- Synchronous BER testing with data rate 1.2kb/s~2048kb/s
- DTE or DCE equipment emulation
- Synchronous clock source selectable
- Frequency measurement
- Handshaking signals control and monitoring

Option 3: G.703 64kb/s CO Testing

- G.703 64kb/s Codirectional BER testing
- Octet timing control and monitoring
- Frequency and offset measurement
- Transmit clock source: Internal and Interface

Option 4: Mux & Demux Testing

- E1-Datacom synchronous 64kb/s, N×64kb/s BER testing
- E1-G.703 CO synchronous 64kb/s BER testing
- Frequency and Offset measurement of Rx interface
- Handshaking signals monitoring of Datacom interface
- E1 framed data and alarm monitoring

Option 5: Drop & Insert Testing

- “Insert” mode: Insert synchronous 64k, N×64kb/s data from Datacom or G.703 CO interface to one or more timeslots of E1 signal
- “Drop” mode: Drop one or more timeslots data from E1 signal to Datacom or G.703 CO interface
- “Insert + Drop” mode: Insert and drop one or more E1 timeslots data from or to Datacom or G.703 CO interface

Main Features

- Handheld design, easy-to-use
- Full-featured measurements to E1, Datacom and unique IP PING testing from Datacom
- High resolution large color touchscreen
- Smart navigation mode display
- Extensive error and alarm generation, detection and indication
- Up to 99 days' continuous test performance
- Save/Recall up to 10 user-defined configurations and 10 groups of results
- Built-in Li-ion rechargeable batteries and AC Power supply as well
- Test results uploaded, conserved and printed by TestManagerPro software via USB interface connected to PC

Configurations

E1/Datacom Transmission Analyzer	1set
E1 75Ω Unbalanced Test Cable	2pcs
E1 120Ω Balanced Test Cable	1pcs
USB Communication Cable	1pcs
AC Power Adapter	1pcs
Li-ion Rechargeable Battery (Built-in)	1pcs
TestManagerPro Setup CD	1pcs
User's Manual	1pcs
Waterproof Package	1pcs
Quality Certificate Card	1pcs
Maintenance Card	1pcs
Packing List	1pcs

Option Cable

Datacom Adapter Cables	4pcs
Datacom Interface Loop-back Connector	1pcs
G.703 CO Test Cable	1pcs

Specifications

E1 Testing

Internal Clock

2048Kb/s ± 10ppm

Frequency Deviation

±999ppm

Line Interfaces

75Ω (Unbalanced)

120Ω (Balanced)

High Input Impedance>2KΩ

Line Code

HDB3, AMI

Frame Type

Unframed, PCM30, PCM30CRC, PCM31, PCM31CRC

Receiving Sensitivity

> -43dB

Tx Clock Source

Internal, Interface and External 2MHz clock or HDB3 signal

Pulse Mask Measurement

Comply with G.703

Jitter Measurement

Comply with G.823, O.172

Frequency Measurement

Accuracy: ±1Hz

Offset Measurement

Accuracy: ±1ppm

Range: -999ppm~+999ppm

VF Insertion

Frequency: 200Hz ~ 3400Hz, Step: 10Hz

Level: -60dBm ~ +3dBm

Microphone mode

VF Measurement

Frequency: 200Hz ~ 3400Hz,

Accuracy: ±1Hz

Level range: -60.00dBm ~ +3.14dBm

Delay Measurement

Accuracy: ±1μs

G.703 64kb/s CO Testing

Line Rate

64kb/s ± 100ppm

Line Interface

120Ω, Balanced

Line Code

AMI

Datacom Testing

Line Interfaces

V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530, EIA-530A

Data Rate

ASYNC: 50, 75, 150, 300, 600bit/s, 1.2, 2.4, 4.8, 7.2, 9.6, 19.2, 38.4, 57.6kb/s

SYNC: 1.2, 2.4, 4.8, 7.2, 9.6, 19.2, 38.4kb/s, N×64kb/s (N=1~32)

Test Patterns

PRBS: $2^{23}-1$, $2^{20}-1$, $2^{15}-1$, $2^{11}-1$, 2^9-1 , 2^6-1

Fixed Code: 1111, 0000, 1010

16-BIT: User Programmable Word

PRBS Polarity: Normal or Inverted

QBF: QBF1, QBF2, QBF3, QBF4

LED Alarm Indications

SIG LOSS, AIARM, PAT LOS, ERROR, HISTORY

Error Insertion

Type: BIT, FAS, CODE, CRC4, E-BIT

Single, OFF, Fixed Rate: 10^{-2} , 10^{-3} , 10^{-4} , 10^{-5} , 10^{-6} , 10^{-7}

Performance Analysis

ITU-T G.821, G.826 and M.2100

Serial Port

USB Connector

Display

4.3 inch large size display with backlit color touch screen

Rechargeable Battery

Li-ion battery, continuous working for 4 hours

Recharge Time

Approx. 2 hours

Power Supply

AC Adapter:

Input: 100V ~ 240VAC, 50/60Hz

Output: 12VDC /1.5A

Battery:

Li-ion battery

TestManagerPro Software

Operating System: WIN98/ME/2000/NT/XP

Operating Temperature

0°C~50°C

Storage Temperature

-30~+70°C

Humidity

5%~95% non-condensing

Dimensions

240mm×102mm×55mm (L×W×H)

Weight

Approx. 750g

Ordering Information

XG2330	E1/Datacom Transmission Analyzer (option excluded)
Option 1	Jitter Testing (optional)
Option 2	Datacom Testing (optional)
Option 3	G.703 64kb/s CO Testing (optional)
Option 4	Mux & Demux Testing (optional)
Option 5	Drop & Insert Testing (optional)

For more information or a directory from sales offices, please send inquiry to mail address:sales@xgxc.com



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