

TLP-3C 2M Transmission Analyzer

Description

TLP-3C 2M Transmission Analyzer is a multi-functional and full-featured digital transmission system test device, designed for the installation test, engineering check and acceptance, daily maintenance of digital networks, mainly performing channel test, alarm analysis, fault finding and signaling analysis. In addition, this instrument further provides various protocol converters with one-way and bi-directional bit error test function. These capabilities make it ideal for field use.

Basic Functions

1) 2M testing

75Ω and 120Ω line interfaces
 HDB3 and AMI line codes
 Out-of-service 2Mb/s, N×64kb/s BER testing
 "PCM simulator" mode testing
 Frame data control and monitoring
 Timelot activity monitoring, FAS, N-FAS, TS16MFO analysis
 Built-in 64kb/s tone channel listen capability
 CAS and CCS signaling generation and monitoring
 Round trip delay measurement
 APS delay measurement
 Extensive error and alarm generation
 VF tone generation and measurement
 Level measurement
 Pulse mask measurement
 Jitter measurements to ITU-T standard O.172
 Frequency and offset measurement
 Clock slip measurement
 Up to ±999ppm transmit clock deviation
 Clock source: Internal, Interface or External 2M clock/signal
 Real-time transmit circuit open/short indication

2) Datacom testing

Datacom (V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530 and EIA-530A) interfaces BER Testing
 ASYNC BER testing with baud rate 300b/s~38.4Kb/s
 SYNC BER testing with data rate 300b/s~8Mb/s
 DTE or DCE emulation
 SYNC clock source and sense selection
 Frequency measurement

Features

- Handheld design and easy-to-use
- Full-featured measurements to 2M, Datacom
- High resolution backlight large LCD screen, with adjustable contrast
- Smart navigation mode and multi-language displays
- Extensive error and alarm generation, detection and indication
- Histograms analysis of alarm and error events



Part Number	Description
TLP-3C	2M Transmission Analyzer

3) G.703 CO testing

G.703 CO 64kb/s BER testing
 Octet timing control and monitoring
 Frequency and offset measurement
 Clock source: Internal, Interface selectable

4) Protocol converter testing

2M-Datacom SYNC 64k or N×64kb/s BER testing
 2M-G.703 CO SYNC 64kb/s BER testing
 Frequency and offset measurement
 Handshaking signals monitoring
 2M frame data and alarm monitoring

5) Other functions

Real-time clock
 Test pattern: PRBS, Fixed Code and 16-BIT User Word
 Error injection: Single and Fixed Rate
 Manual and auto-timer measurement
 ITU-T G.821, G.826, and M.2100 performance analysis

- Up to 99 days continuance test performance
- Save/Recall of up to 7 user-defined setups and 70 sets of results
- Up to 6 hours operation from a single battery charge
- Built-in Li rechargeable battery and smart charger circuit
- Can be charged with automobile cigarette lighter battery adapter
- Ungradable software via an integrated RS232C interface
- Test results uploaded, conserved and printed by PC Manager software

Specification

Item	Description		
2M	Internal Clock	2048kb/s ±10ppm	
	Frequency Deviation	±999ppm	
	Line Interface	75Ω (Unbalanced), 120Ω (Balanced); High Input Impedance >2KW	
	Line Code	HDB3, AMI	
	Framing	Unframed, PCM30, PCM30CRC, PCM31, PCM31CRC	
	Receive Sensitivity	>-43dB	
	Tx Clock Source	Internal, Interface and External 2MHz clock or signal	
	Pulse Mask Measurement	Comply with G.703	
	Jitter Measurement	Comply with O.172	
	Frequency Measurement	Accuracy: ±1Hz	
	Offset Measurement	Accuracy: ±1ppm Range: -999ppm~+999ppm	
	VF Injection	Frequency: 200MHz~3400MHz, Step: 10Hz Level: -60dBm~+3dBm	
		VF Measurement	Frequency: 200MHz~3400MHz Accuracy: ±1Hz Level range: -60dBm~+3.14dBm -60dBm~-21dBm, accuracy: ±2.87dBm -20dBm~+3.14dBm, accuracy: ±0.21dBm
	Delay Measurement		Accuracy: ±1us
Line Rate	64kb/s ±1000ppm		
Line Interface	120Ω, Balanced		
G.703 CO	Line Code	AMI	
	Line Interfaces	V.24, V.35, V.36, X.21, RS-449, RS-485, EIA-530, EIA-530A	
Datacom	Data Rate	ASYN C300, 600bit/s, 1.2, 2.4, 4.8, 7.2, 9.6, 19.2, 38.4kb/s	
		SYNC C300, 600bit/s, 1.2, 2.4, 4.8, 7.2, 9.6, 19.2, 38.4kb/s N×64kb/s (N=1~32), 4M, 8Mkb/s	
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	
LED Alarm Indicators	Signal Loss, AIS, Frame Loss, MFrame Loss, Pattern Loss, Remote Alarm, Error, Clock Slip.		
Error Injection	Type: BIT, FAS, CRC4, CODE, E-BIT		
	Single, 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		
Display	320×240 pixel backlit monochromatic LCD		
Serial Port	RS-232C		
Rechargeable Batteries	5×1.2V AA NiMH batteries, continuous working for 6 hours		
Recharge Time	Approx. 2 hours		
AC Power Adapter	Input: 100V~240VAC, 50/60Hz Output: 12VDC/1.5A		
TestManager Pro	WIN98/ME/NT/2000/XP		
Dimensions	L×W×H 200mm×160mm×45mm		
Operating Temperature	0°C~50°C		
Storage Temperature	-20°C~+70°C		
Humidity	5%~95% non-condensing		

Standard Accessories

Standard Items	Quantity	Standard Items	Quantity
TLP-3C 2M Transmission Analyzer	1pc	Simulation software	1pc
75Ω BNC/L9 E1 test cable	2pcs	Carrying case	1pc
BNC/BNC cable	1pc	User' s manual	1pc
RS232 serial upgrading cable	1pc	Warranty card	1pc
DATA converting line (36PIN to 44PIN)	1pc	Certificate of conformity	1pc
X.21 testing line	1pc	V.35 testing line	1pc
V2.4 testing line	1pc	V.11 testing line	1pc
		AC adapter	1pc

Optional Accessories

Optional Items	Quantity	Optional Items	Quantity
120 testing line	2pcs	64K testing lines	1pc