

Bert & Protocol Analyzers HCT-7000

E1/ T1/ Datcom, Protocol and BERT tester

The HCT-7000 is a portable, battery powered communication tester, designed for a wide range of protocol analysis and BERT (Bit Error Rate Test) at full E1 speeds (2.048Mbps) and is fully suitable for equipment installations, on-line or off-line diagnostics, debugging, and interface development. The HCT-7000 features a backlit Liquid Crystal Display (LCD), push-button switch keyboard, interface lead indicator LEDs, user replaceable data port interface modules and internal rechargeable Li-Ion battery. The unit includes the Basic Interfaces, basic operational firmware, comprehensive User Guide, universal AC power adapter (100~240 VAC) and a sturdy hard shell carry case.



I/F Module

Features

- Auto Configuration
- ASYNC terminal emulation
- File Management, upload/download file or captured data to PC for analysis
- Menu driven setup
- Self Tests and Diagnostics
- Frame Relay Analysis S/W Package:
 - 1). 2M frame monitor and emulation based on ITU Q.933, ANSI T1.618/T1.617 and RFC1490 (RFC2427) packets
 - 2). PING
 - 3). LMI setup
- User password setting or Radius authentication for Remote Access
- Histogram Analysis (optional)

Specifications - Datacom BERT

Mode A: DTE or DCE Synchronous BERT Interface
 RS-232, V.35, X.21, RS-449, RS-530
 Data rates for 56Kbps Multiples; Nx56Kbps (n = 1~32)
 56k, 112k, 168k, 224k, 280k, 336k, 392k, 448k, 504k, 560k, 616k, 672k, 728k, 784k, 840k, 896k, 952k, 1008k, 1064k, 1120k, 1176k, 1232k, 1288k, 1344k, 1400k, 1456k, 1512k, 1568k, 1624k, 1680k, 1736k, and 1792k bps
 Data rates for 64Kbps Multiples; Nx64Kbps (n = 1~32)
 64k, 128k, 192k, 256k, 320k, 384k, 448k, 512k, 576k, 640k, 704k, 768k, 832k, 896k, 960k, 1024k, 1088k, 1152k, 1216k, 1280k, 1344k, 1408k, 1472k, 1536k, 1544k, 1600k, 1664k, 1728k, 1792k, 1856k, 1920k, 1984k, and 2048k bps
 BERT Patterns
 63, 127, 2⁹-1 (511), 2¹¹-1 (2047), 2¹⁵-1 ITU standard, 2¹⁵-1 non-standard(inverted), 2²⁰-1 ITU standard, 2²⁰-1 non-standard(inverted), QRSS, 2²³-1 ITU standard, 2²³-1 non-standard(inverted), ALL ONES (Mark), ALL ZEROS(Space), ALT (0101...), 3 in 24, 1 in 16, 1 in 8, 1 in 4, User Programmable
 Tx Clock Source
 The Tx Clock may be set to internal or external
 The polarity may also be inverted
 Rx Clock Source
 The Rx Clock is set to external. The polarity of the external clock may also be inverted
 BERT Transmit Error Rate
 single, 10³, 10⁴, 10⁵, 10⁶, or 10⁷
 Flow Control
 DCE permitted to transmit on RTS signal or not
 DTE permitted to transmit on CTS signal or not

Specifications

General Specifications		
Interface Modules (Dual Port)	Datcom Interface Module E1 Interface Module	RS-232C/D (V.24), RS-449 (V.36), RS-530, X.21, V.35 G.703 E1 (2048K)
Basic Interfaces	Centronics printer & Craft control serial port	
Protocols	Async, Sync (BSC), HDLC, SDLC, X.25, Frame Relay, SS#7, PPP (Sync.), V5.1.	
Data Rate	ASYNC	50 — 256Kbps
	SYNC	150 — 2048Kbps
Data Code	ASCII, EBCDIC, HEX, IPARS, Transcode, EBCD	
Data Length	ASYNC	5,6,7, or 8 bits
	SYNC	8 bits
Parity Bit	ASYNC	None, Odd, Even, Mark, Space
Stop Bits	ASYNC	1, 2
Display Modes	Data only	Full Duplex/ Half Duplex
	Data and Lead	Status/ Frame and Packet
Error Check	None, Parity, LRC, CRC-16, CRC-CCITT	
LCD Display	320 x 240 dots graphic	
Capture Buffer	SDRAM	
Line Monitor	DTE, DCE, DTE & DCE	
Emulation	DTE, DCE & MONITOR only	
LEDs	System	External power, I/F 1 Error, I/F 2 Error, Paused
	Datcom I/F Module	TD, RD, RTS, CTS, DSR, DTR, DCD, RI, XTC, TC, RC, RL, LL, TM
	E1 I/F Module	Signal Present, HDB3, Signal Loss, FAS Loss, AIS, RAI, MRAI, MFAS Loss, CAS Loss, Pattern Loss, Excess Zero, Error
Power	AC	100 — 240VAC Adapter
	DC	19VDC
Environment	Temperature	0 — 50°C (Operating); -20 — 65°C (Storage)
	Humidity	0 — 90% non condensing
Power Consumption	TBA	
Dimensions(WxDxH)	220mm x 65mm x 275mm	
Weight	1.6Kg	
Compliance	TBA	
MTBF	TBA	

Specifications - G.703 E1/T1 BERT

BERT Patterns

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BERT Display Format

Normal ITU-M.2100 (option)
ITU G.821

BERT Transmit Error Rate

Force Single Error: Logic (Bit), Frame, CRC, and BPV (BipolarViolation)

Performance Analysis

Logic, Frame, CRC, BPV, E-bit Errors

Receive Counter

Error Seconds

Error Free Seconds

Error Rate

G.821 Available Seconds

G.821 Degraded Minutes

G.821 Severely Error Seconds

G.821 Error Seconds

G.821 Unavailable Seconds

G.826 Blocks

G.826 Available Seconds

G.826 errored block (EB)

G.826 background block error (BBE)

G.826 errored second (ES)

G.826 severely errored second (SES)

G.826 errored second ratio (ESR)

G.826 severely errored second ratio (SESR)

G.826 background block error ratio (BBER)

LOF (Loss of Frame) Events

COFA (Change of Frame Alignment) Events

Severely Errored Frame Count

Ordering Info

HCT 7000

A Master unit include a backlight LCD, switch keyboard, interface lead indicator LEDs, internal rechargeable battery, AC power adapter (90-260VAC), sturdy carry case

Hardware Options

E1 Interface Module
E1 Logic, Frame, CRC, BPV, E-bit BERT, G.821/826 BERT, M.2100 BERT.
Two BNC ports, the standard accessories are two BNC to BNC 75 ohm cables

Optional Adaptor Cables for E1 I/F
DB15/RF-45 adapt
CAB-DB15BANF2-E1
CAB-DB15BANM2-E1
CAB-BANMIPM-E1
CAB-BAN3PSM-E1

Datacom Interface Module
Two HD26 ports supporting RS-232, V.35, RS-530/RS-449, X.21interface. The

Optional Adaptor Cables for Datacom I/F
CAB-HD26DB25M(F)-232-1
CAB-HD26DB25M(F)-530-1
CAB-HD26DB25M(F)-449-1
CAB-HD26DB25M(F)-X21-1
CAB-HD26DB25M(F)-V35-1

Software Options

Frame Relay Suite
Frame Relay Emulation & Monito, PING and LMI setup

SS#7 F/W
E1/T1 CCS SS#7 Protocol Analysis
Firmware Pack

ISDN F/W
T1 CCS ISDN-D Channel Protocol Analysis
Firmware

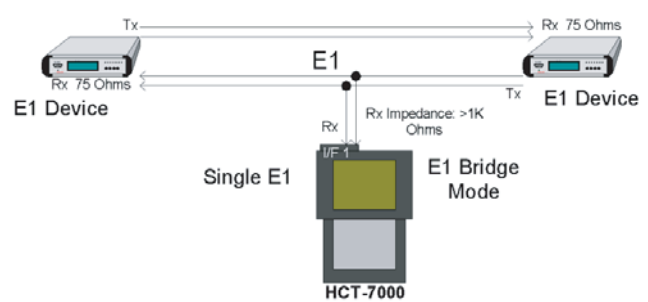
V5 F/W
E1 CCS V5.1/V5.2 Protocol Analysis

Application

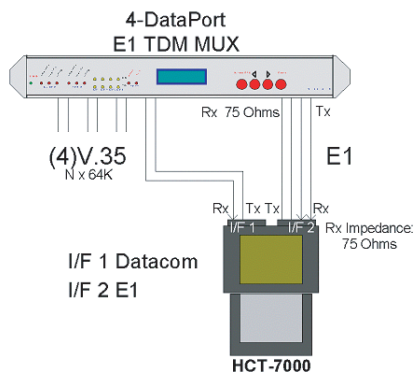
E1 Terminal Mode



E1 Bridge Mode



MUX feature - E1 BERT & Datacom BERT



E1 Dual Port - Drop and Insert BERT Test

