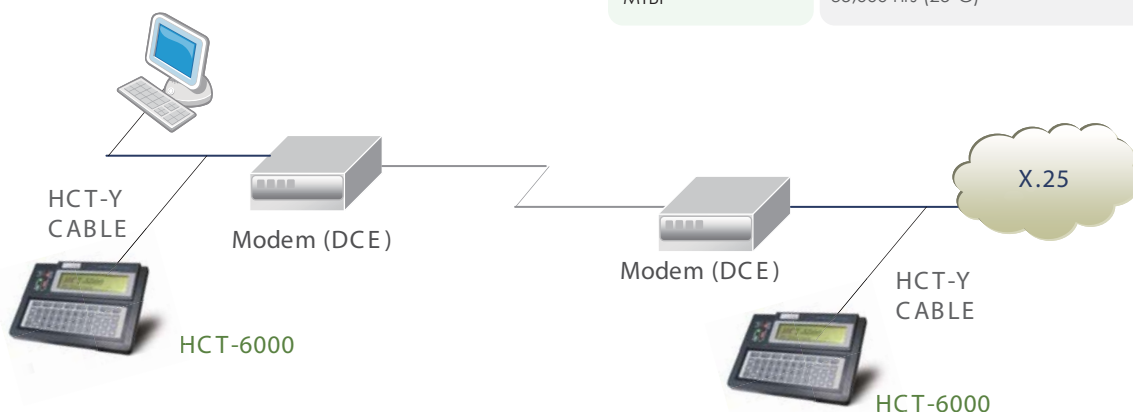## 128Kbps Protocol Analyzer with 2M BERT

HCT-6000

The HCT-6000 is a portable, battery powered communication tester, designed for a wide range of protocol analysis up to 128K bps and BERT (Bit Error Rate Tester) at full T1 (1.544Mbps) or E1 (2.048Mbps) speeds and is fully suitable for equipment installations, on-line or off-line diagnostics, debugging, and interface development. It features a backlit Liquid Crystal Display (LCD), tactile membrane switch keyboard, interface lead indicator LEDs, and internal rechargeable batteries. The unit includes a full assortment of interface adapter cables, comprehensive User Guide, AC power adapter (100 to 240VAC) and a sturdy zippered nylon carry case. The HCT-6000A has the same features as the HCT-6000 with the exception of BERT support only to 128K bps.
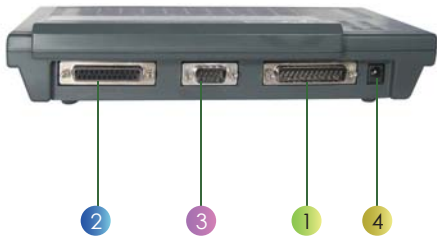
Features
- Menu driven setup
- Auto Configuration and Scan
- ASYNC terminal emulation
- 128K BERT (Low Speed)
- 2M BERT (High Speed)
- Frame Relay Analysis (option)
- System Reset Function
- Up/Down Load
- On-Line Monitor
- File Management
- Remote Control
- Self Tests and Diagnostics

Basic Interfaces	RS-232C/D(V.24), RS-449(V.36), RS-530, X.21,V.35, printer port, remote control port (RS-232 async)
Protocols	ASYNC, SYNC(BSC), HDLC, SDLC, X.25, DDCMP
Optional software	Frame Relay, PPP/SLIP, SNA ROM, G.826
Data rate	**ASYNC** : 50-115,200bps, **SYNC** : 150-128,000bps
Data code	ASCII, EBCDIC, HEX, IPARS, TRANSCODE, EBCD
Data Length	**ASYNC Mode:** 5,6,7, or 8 bits **SYNC Mode:** 8 bits
Parity Bit	**ASYNC Mode:** None, Odd, Even
Stop Bits	**ASYNC Mode:** 1, 1 1/2, 2
Display Mode	LSB or Inverted, Normal or Inverted, Full/Half Duplex, Data and Lead Status, Frame and Packet
Error Check	None, Parity, LRC, CRC-16, CRC-CCITT
LCD Display	8 lines, 32 characters per line, with backlight and contrast controls
Capture Buffer	512KB static ram, battery backed up.
Line Monitor	DTE; DCE; DTE & DCE
Emulation	DTE; DCE; MONITOR only
BERT Patterns	63, 511, 2047, FOX (ASCII), SPACE, MARK, ALT
BERT Speed	2Mbps (except HCT-6000A) 128Kbps
Counter & Timer	5 each internal counter and timer
Indications	LEDs (TD, RD, RTS, CTS, DSR, DTR, DCD, TC, RC, XTC, DTE,ECE, Sync loss)
Power Input	100~240VAC adapter to 12VDC 600mA
Dimension	237 x 173 x 37mm (W x D x H)
Weight	1.2 Kg
Temperature	0°C ~ 50°C (Operating), -10°C ~ 70°C (Storage)
Humidity	10 ~ 90% non-condensing
Certification	CE, FCC
MTBF	35,000 hrs (25°C)

Line Testing application

HCT-Y CABLE

Modem (DCE)

HCT-6000

Modem (DCE)

HCT-Y CABLE

X.25

HCT-6000

HCT-6000 Back view

1 COMMUNICATION
V.24/RS232, V.35, or RS-449. (switch selectable)
note: G.703 available with optional external
adapter and set to RS-449 mode.

2 PRINTING CENTRONICS Parallel port.

3 REMOTE Serial port used for remote control.

4 Power DC9V in.

PROTOCOL ANALYSIS
The HCT-6000 is capable of performing protocol analysis for ASYNC, SYNC, HDLC, SDLC(NRZI), SDLC, DDCMP, X.25 (Frame and Packet), and FRAME RELAY, as well as options for testing TCP/IP, SLIP, PPP, and detailed testing of FRAME RELAY.

AUTO CONFIGURATION
The HCT-6000 provides the ability to analyze line data to automatically detect and set communication protocol type, data RATE, data CODE, data FORMAT, parity and synchronous PATTERN.

BERT/BLERT : Bit/block Error Rate Test
a. Transmit/ Receive Patterns : Includes Mark, Space, ALT, FOX, 63, 511, 2047. The 2Mbps BERT also includes 2^{15}-1, 2^{20}-1, 2^{23}-1 and QRSS.
b. Data Block Size : Under CCITT specifications, 63, 511, 1000, 2047 bits.
c. Error Rate Test : Contains a bit COUNTER, bit ERROR numbers, a block COUNTER, block ERROR numbers, errorSECONDS, forced ERRORS, and bit error rate as a calculation of TOTAL NO. OF RECEIVED ERROR BITS TOTAL NO. OF RECEIVED BITS.

INTERNAL TIMERS & COUNTERS
The HCT-6000 contains five registers for Timers (in milliseconds) and five registers for Counters (in units) for program start/stop.

HARD COPY PRINT
A standard CENTRONICS INTERFACE with Female DSUB-25 connector is provided for printing CAPTURED data, PROGRAMMING, SETUP configuration information, and BERT results.

TERMINAL EMULATION
The HCT-6000 provides a complete setup of all communication parameters, Baud rate, data bits, stop bits, parity bit, etc., including Half duplex (local echo) and Full Duplex (remote echo) modes and in either DCE (data communication equipment, such as modems) or DTE (data terminal equipment, terminals) configurations.

DATA LINE MONITOR
Simulation : DCE or DTE, Data and Status, Frame and Packet. Record data in real-time into capture memory.
Monitor : DTE only, DCE only, or DTE/DCE at the same time.
Protocols : SDLC, SDLC(NRZI), HDLC, SYNC(BSC), ASYNC, DDCMP, X.25, FRAME RELAY.

SUPPORTED INTERFACE STANDARDS
V.35 to G.703, RS-449 to G.703, RS422, X.20/X.21,RS485, RS449, RS-530, RS232, CURRENT LOOP. TTL interface.

BCC / Error Checking
ASYNC LRC, CRC-16, NONE. SYNC CRC-16, LRC, CRC-CCITT, NONE. HDLC CRC-CCITT, SDLC CRC-CCITT, X.25 CRC-CCITT
Frame Relay CRC-CCITT

DATA CODES
ASCII, EBCDIC, HEX, IPARS, TRANSCODE, EBCD.

2M BERT Test Patterns
The transmit patterns under 2M BERT include 63/127/511/2047, MARK (all 1's), SPACE (all 0's), ALT(0101), 2e15-1, 2e20-1, 2e23-1, and QRSS. In SYNC mode only.

2M BERT Test Speeds
The speeds available under 2M BERT are 48k, N64 values of 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, 2048k, plus N56 values of 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 1792kbps.

Ordering Information

Master Unit

■ HCT-6000A	128K Protocol Analyzer & 128K /BERT
■ HCT-6000	128K Protocol Analyzer & 2M BERT

Optional software

■ Frame-Relay	Frame-Relay software package
■ TCP/IP	TCP/IP,PPP,SLIP software package
■ SNA ROM	SNA ROM software package
■ G.826	ITU G.826 software package

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Tester Series