

Highlights

- Full function T1, FT1 & DS0
- Monitors Signaling Bits on all 24 Channels
- DS0 Drop for Optional DDS and "Packet Mode" Stress Testing
- Remote PC Control through GUI Interface
- One keystroke setup for T1/FT1 Line Monitoring
- Automatic Configuration & Pattern Recognition
- Measures T1 Level, Frequency and Clock Slips
- CSU, ESF, NIU, V.54 & High bit-rate Digital Subscriber Line (HDSL) ADTRAN/PairGain Loop Codes with Automatic Arming
- Supports SF/ESF/SLC Framing with AMI/B8ZS Line Coding

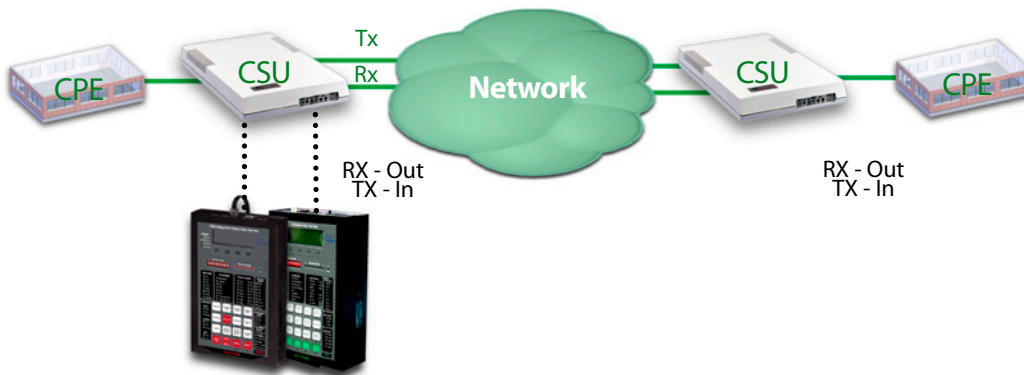
The **Halcyon Option C** is a complete T1 and Fractional T1 test option which may be added to the **704-NTS1/-NTS2 Universal Data Test Set** or the **756A Integrated Digital Data Services (DDS) Test Set** platforms. This *factory Installed option* provides comprehensive loopback control and a library of BERT test patterns. Automatic configuration provides one keystroke setup resulting in error free configuration, reduced fault clearing time and minimal training.

In the Monitor mode, one press of the Auto key and the technician is rapidly advised of the receive framing, line coding, test pattern or live data and a pass/fail indication. A glance at the front panel LEDs updates the test status without further intervention, eliminating the menu searching.

Option C's Fractional T1 offers an easy to use interface. When Fractional T1 is selected, a display of the 24 DS0 time slots permits the user to simply mark those to be included in the fractional test and select the BERT pattern to be used.

Application

BERT with Option C (Universal Data Test Set)



Universal Data Test Set Integrated T1, FT1 & DS0 Option



The feature set of Option C is designed for field technician T1 facility turn-up certification, maintenance and troubleshooting. The library of BERT patterns, loop-up codes, versatile CSU/DSU emulation and DS0 DDS, Drop functions coupled with the lightweight package make the Halcyon Option C the outstanding choice for T1/FT1 field testing requirements.

Option C is included on 704A Universal Data Test Sets (-NTS1/-NTS2) configurations and may be added to 704A-PKG2 and the 756A test set configuration. These test sets can be customized to include ADSL TIMS to 1.5MHz, metallic Signaling, Class Services Testing, DDS Testing and BRI ISDN. Fully optioned, these test sets weigh 4 pounds or less.



Halcyon Option C

Specifications

TRANSMITTER

- T1 Interface: *SIDE A* - Bantam Transmit and Receive in parallel w/ RJ-45
SIDE B - (Reference Input) Bantam jacks
- T1 Signal Format: DS1 PCM, 1.544MHz ±50Hz
- Operating Modes: Full T1 or Fractional T1 Nx56/64 DS0 DS1 Signal
- Waveshape: Meets T1.403 specifications
- DS1 Line Level: 0 ±0.2dBdsx (6.0 V p-p)
- Line Codes: AMI, B8ZS
- Clocksource: Recovered from Receiver or internally generated 1.544MHz ±30Hz
- Framing: SF, ESF, SLC-96, Unframed
- FT1 Fill Date: Idle code (7F) sent in unused DS9 time slots
- Test Patterns: QRSS, 2047, 2¹⁵⁻¹, 2²⁰⁻¹, 2²³⁻¹, 3 in 24, All 1s, All 0s, Alt 1/0, 2 in 8, 1:7, 63 and 511
- Error Injection: Single bit or streamed BER at 1e-3, 1e-4, 1e-5, 1e-6, or 1e-7
- Line Build Out: 0, -7.5, -15, 22.5dB
- DSX Pre-Equalizer: 5 steps for cable lengths to 655 feet

ANALYSIS MODES

- BERT Analysis: Bit Errors (BE), Errored Seconds (ES), Bit Error Rate (BER), %Error Free Seconds (%EFS), Severely Errored Seconds (SES), %Severely Errored Seconds (%SES), Elapsed time
- LINE Analysis: T1 level, frequency, Frame Slips, Clock Slips, Framing Errors, Bipolar Violations (BPV), CRC Event Counts CRCs)

RECEIVER

- Input Impedance: 100 Ohms
- Input Signal Level: +6 to -32dB
- DS1 Level Monitor: 4 steps: 0 to -7.5, -7.5 to -15, -15 to -22dB, less than -22dB
- Clock Source: Recovered from received signal (from 0 to 6,000 feet)
- DS1 Alarm Reporting: Yellow, AIS
- DS1 Status Reporting: Frame Sync, Loop current, B8ZS, Framing Errors, CRC Events, BPV Errors, Excess Jitter, Excess Zeros
- Simple Current: Terminates 60mA nominal. Loop current indicator lights at 55 ±2mA or higher
- Simplex Voltage Drop: 16 volts nominal
- Loopbacks: Activates and responds to inband and out of band NIU, CSU/DSU
- Local Loopbacks: Provide near end self loopback or line or payload
- Remote Loopback: Transmit in band and out of band CSU, DSU, NIU, Line, Payload, HDSL, Adtran/PairGain

DROP FUNCTIONS

- DS0 BERT Functions: Send test pattern, loop back channel
- Data Rate: 56/64Kbps
- DS0 Test: Individual DS0 Channel BERT in FT1 Mode mode: An contiguous combination up to 24 DS0 Channels
- DS0 Data Rates: 2.4, 4.8, 9.6, 19.2, 38.4, 56, 64, Nx56/64
- DS0 BERT Test Patterns: 2047, 511, DDS1 thru DDS4 (SP1-4) and all 1s and all 0s

Ordering Configurations

Option	Description	Order No.
OPT-C	T1/DS1 & FT1 Interface w/ CSU Emulation.	28-50704-010

Option C is standard on the 704A-NTS1/NTS2, 704A-PKG3 and 756A-02/-07 configurations. Option C may be added to the existing 704A-PKG2, 756A-0X and 704A-4XX configurations.

Supplied Equipment

Availability
AVAILABLE FACTORY INSTALLED ONLY!

Options & Accessories

Option/Accessory Description	Order No.
5-foot Bantam-to-Bantam Cable	25-50012-00
7-foot RJ-48-to-RJ-48 Cable	25-55256-092
Operation Manual	96-50456-030
Quick Guide (T1/FT1)	96-50704-453
Keypad Overlay	41-50756-300