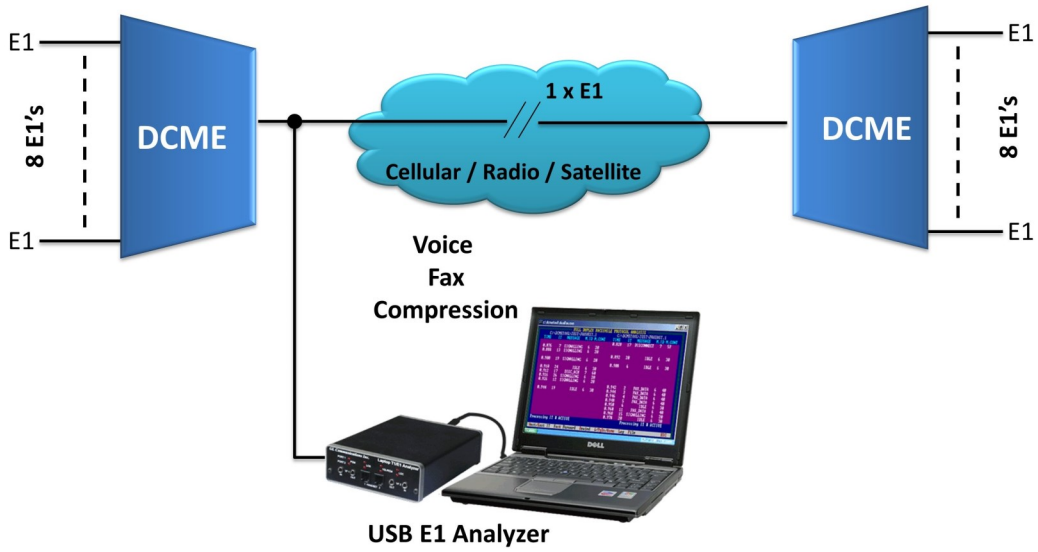
Digital Circuit Multiplication Equipment (DCME) Analyzer

(E1 Only)



Overview

DCME testing, analysis and verification is easy with GL' s DCME Analyzer. The DCME Analyzer is a PC-Based system (Desktop/Laptop) with GL's USB Dual E1 pod to connect non-intrusively to the bearer side of DCME equipment.

Both real-time and post processing of the bearer signal is possible. In real-time mode, the status of the bearer including synchronization, bearer loading, fax loading, and other statistics are easily monitored. In post processing mode, the entire DCME bearer signal is captured to the PC's hard disk using the available special E1 applications for recording. The captured file is then analyzed with the DCME software.

In the DCME analysis software, the software aligns to the DCME frame and then the DCME control channel(s) are decoded. The data can be displayed to permit bit level analysis and verification of channel mapping and implementation timing of the DCME protocol. DCMEs use variable bit rate encoding to create overload channels to handle overload conditions. Bearer channels are randomly selected for rate reduction. The software is able to identify the bit mode of each overload and normal channel (4, 3, or 2 bits).

Additionally, the facsimile sub-frame analysis software permits bit level analysis and verification of fax data sub-multiplexing on the DCME output bearer signal. The DCME Analyzer software calculates the mapping and interleaving algorithms, FEC, and permits time of implementation verification.

For more information on DCME Analyzer, refer to DCME Analyzer webpage.

Main Features

- DCME analyzer uses GL's USB Dual E1 pod to provide the capability to test and analyze DCME signals
- Supports IESS-501 Rev 3 Specifications and equipment such as DTX 360 of ECTel
- Connects non-intrusively to the bearer side of DCME equipment
- Captures the entire DCME bearer signal to the PC's hard disk
- Real-time and post processing of the DCME bearer signal
- Verification of channel mapping and implementation timing of the DCME protocol
- Golay and BCH error correction
- Bit level analysis and verification of facsimile data sub-multiplexing on DCME bearer

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DCME Analyzer Functions

Bearer File Analysis

- Synchronizes to the DCME Frame and Multiframe
- Decodes and verifies BC and IT identification words
- Displays frame by frame DCME map connectivity
- Perform Control Channel error correction

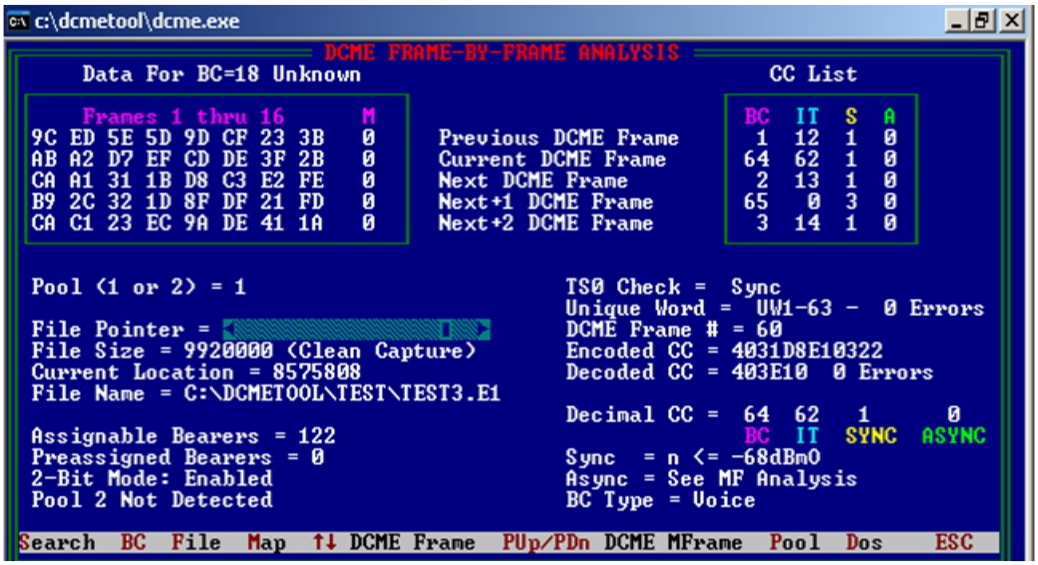

Figure: DCME Frame by Frame Analysis

Facsimile Subframe Analysis

- Decodes Facsimile Control Channel (FCC) and displays messages
- Displays raw fax bank data
- Displays facsimile data and signaling bits for IT channels
- Extraction of Facsimile data for viewing of image
- Extraction and processing of signaling data

Figure: DCME Frame by Frame Analysis

DCME Analyzer Functions

Overload Bit Rotation Analysis

- Analysis on the following types of BC' s 64 kbps, 40 kbps, Bit Banks, Fax Banks, 4/3 bit overload
- ADPCM bit extraction on specific IT, and audio playback

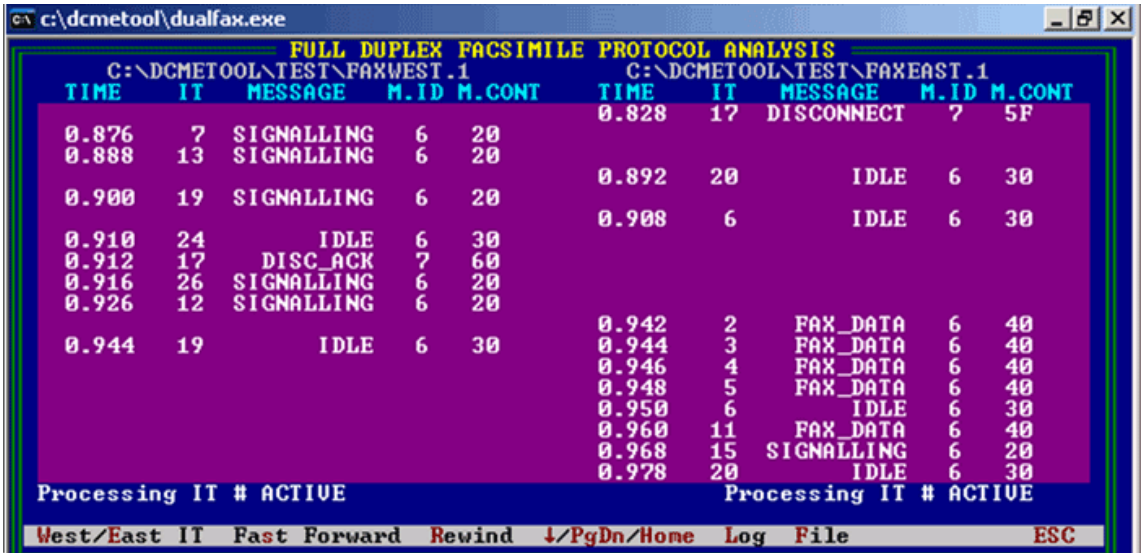

Figure: BC/IT Connectivity

Full Duplex Facsimile Protocol Analysis

- Decodes Facsimile Control Channel (FCC) and displays messages
- Displays raw fax bank data
- Displays facsimile data and signaling bits for IT channels
- Extraction of Facsimile data for viewing of image
- Extraction and processing of signaling data

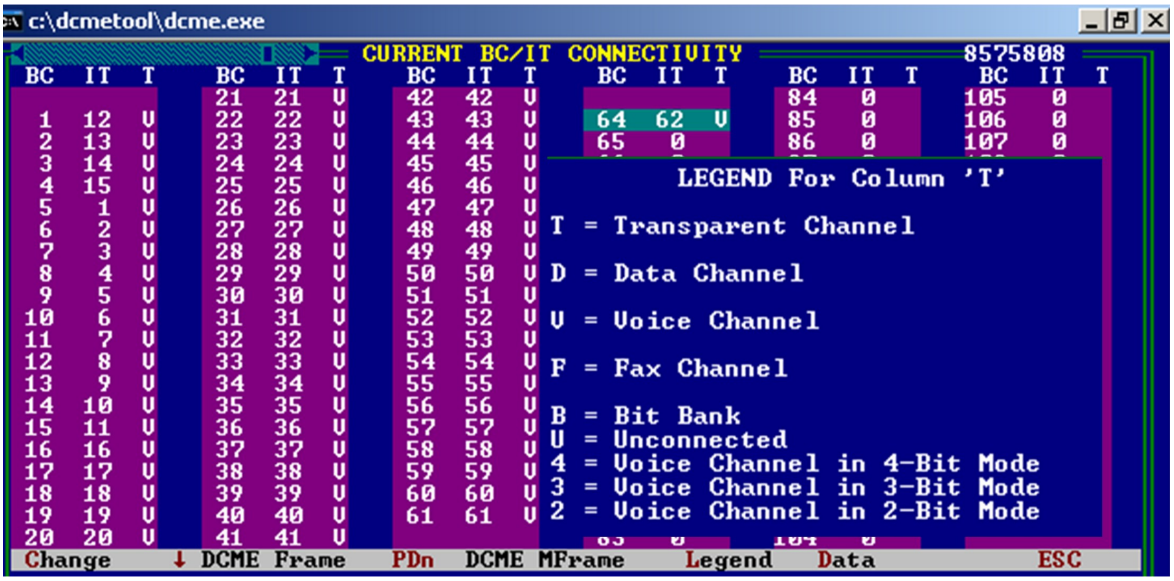

Figure: Full Duplex Facsimile Protocol Analysis

DCME Analyzer Functions

Real-time Analysis

- Indicates synchronizing and bearer format
- Gathers real-time statistics (every 1 second)
- BC / IT connectivity maps
- Real-time IT filtering of FCC messages

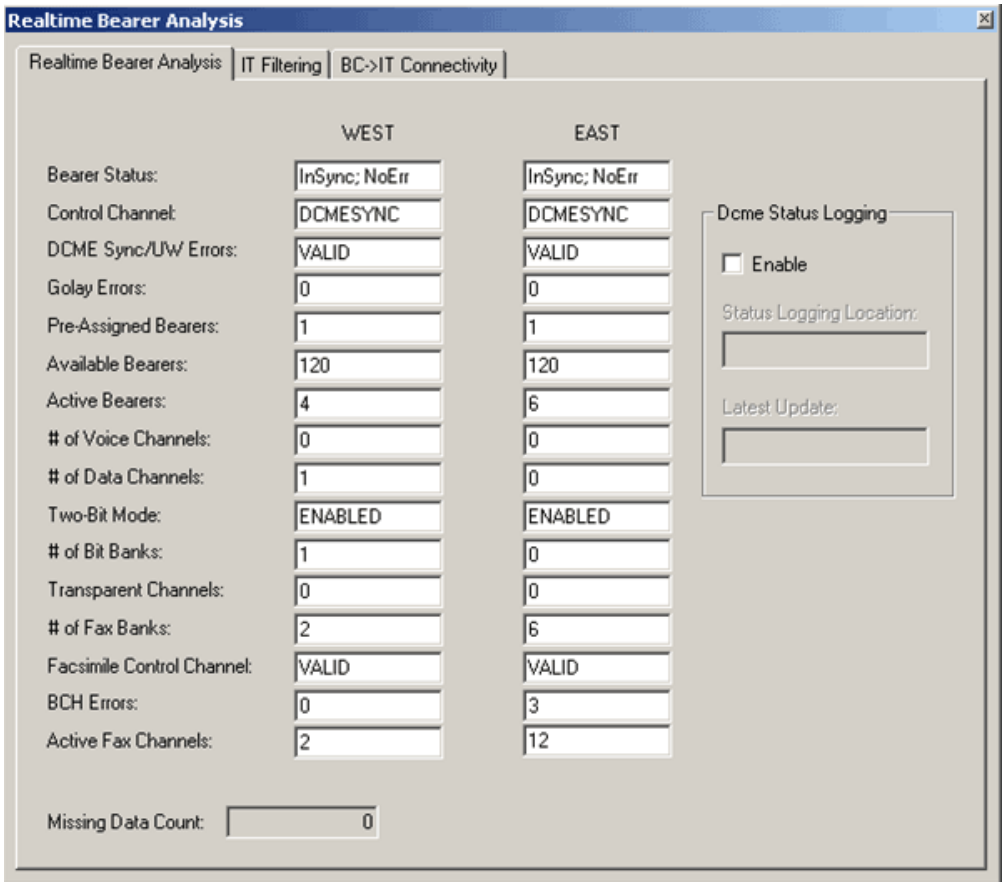

Figure: Real-time Bearer Analysis

Buyer's Guide

Item No	Product Description
DC007	• DCME Test & Analysis Software w/Desktop PC Includes: Minimum Specifications – Dual Port USB E1 Pod – Desktop PC (latest model)
DC008	• DCME Test & Analysis Software w/Portable PC Includes: Minimum Specifications – Dual Port USB E1 Pod – Notebook PC (latest model)

Note: PCs which include GL hardware/software require Intel or AMD processors for compliance.

For more information, refer to DCME Analyzer webpage.

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