

# THE BELLCORE OTDR DATA STANDARD

# 074

## APPLICATION NOTE

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EXFO is leading the way by being first to push the Bellcore format, while at the same time ensuring its customers the continuity of compatibility with major OTDR suppliers.

The Bellcore OTDR format offers the advantage of being able to build a database with test results from different OTDR manufacturers, permitting migration from one manufacturer's OTDR solution to another, while simultaneously preserving workable historical OTDR databases. This is a very useful tool for data exchange between partners, such as, for example, contractors and their clients—a common situation where two parties don't necessarily share similar test equipment

Attaining the common standard format we know today has been an ongoing process involving both OTDR industry representatives and OTDR users. In October 1995, Bellcore proposed a standard data format for OTDR files. The intent of their proposal was to enable users to compare OTDR data from different test equipment manufacturers, by using a universal file format. Their standard proposal is part of the GR-196-CORE document entitled Generic Requirements for OTDR-type Equipment.

Originally, the Bellcore format was considered “an objective for all new OTDRs designed to save trace data and analysis information.” Since then, major test equipment manufacturers (HP, Anritsu, W&G, EXFO, PK, etc.) have worked toward integrating a data format that complies with Bellcore's common ground proposal.

During implementation of this format, manufacturers noticed inconsistencies, prompting them to make recommendations to Telcordia. In response, Telcordia made adjustments to the Bellcore formats described in Special Requirement SR-4731, issued in February 2000. During this process, not all manufacturers were at the same Bellcore format adaptation stage. This resulted in differences in the Bellcore formats of different OTDR suppliers.

EXFO played a deciding role in the implementation of the Bellcore format and has led the way by integrating this format, while ensuring the continuity of compatibility with all manufacturers. In the past, EXFO always made sure that its files could be accessed by competitors and in some cases, when incompatibilities were due to competitors' software, EXFO made the effort to flag exactly where the fault was created.

Now that major OTDR suppliers have changed their formats to fully comply with Telcordia's Bellcore standards, EXFO can announce that its ToolBox 6.7 Bellcore file format is fully Bellcore compliant and compatible with most OTDR manufacturers. Furthermore, to ensure compatibility with manufacturers who have not yet converted to the fully compliant Bellcore format, EXFO has produced an executable program permitting the conversion of files from ToolBox 6.7 Bellcore format to the previous Bellcore format. For more on this program, contact our technical support team.

## What's in a Bellcore OTDR File?

Bellcore uses a series of building blocks to structure its file format. These blocks are described in detail in appendixes A and B of the GR-196-CORE document and SR-4731. The table below provides an overview of these building blocks.

### Bellcore OTDR File

<b>Map</b>	Catalog of the file's remaining blocks.
<b>General parameters</b>	General information on the file (entered by the user).
<b>Supplier parameters</b>	General information on the OTDR (entered by the OTDR).
<b>Fixed parameters</b>	Specific information on the OTDR setup (entered by the OTDR).
<b>Key events</b>	Summary of the trace analysis performed by the OTDR (entered by the OTDR).
<b>Linked parameters</b>	Specific information on the fiber link relating geographical and fiber trace landmarks to key events and fiber traces (entered by the user).
<b>Data points</b>	The power level representing the data points from which the fiber trace is made (entered by the OTDR).
<b>Special proprietary</b>	Unique information about the measurement or supporting data not required to perform analysis of the data file, but used to support additional proprietary features provided by the authoring supplier (optional).
<b>Checksum</b>	Checksum enabling the file to be checked for errors.

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