



U.S. Department of
Transportation



Intelligent Transportation Systems Standards Fact Sheet

SAE J2540

April 2002

Messages for Handling Strings and Look-Up Tables in ATIS Standards

Overview

Operating rules for efficiently coding textual strings (groupings of alphanumeric characters) for advanced traveler information systems (ATIS) messages can be valuable for communications with limited bandwidth. National tables (SDO-approved lists of common terms) that are described in this standard provide a reference that can be used for this type of information encoding. Included in the national tables are the international traveler information system (ITIS) or radio data system - traffic management channel (RDS-TMC) encodings. These are popular in Europe and are gaining acceptance in the United States as standardized encodings for ASCII character codes.

What is this standard for?

This standard, **SAE J2540, Messages for Handling Strings and Look-Up Tables in ATIS Standards**, provides the formatting rules used to facilitate the conveyance of information strings between ATIS data transmitters and data receivers. It allows a range of processing options to be used from a common set of rules, and supports universal character sets found in other languages. It provides a simple, uniform method of reconstructing messages for end users. It also allows the use of complex textual strings, incident phrases, and national tables (such as ITIS) that can be deployed without making legacy systems obsolete, thus promoting national interoperability and sustainable deployment. The standard also contains a number of national tables used in the delivery of incident descriptions over some media.

Who uses it?

This standard is intended for use by both data issuers (e.g., information service providers [ISPs], both public and private) and by data receivers and other end-users of data, such as equipment manufacturers who wish to produce products that receive ATIS messages. These users will find the range of operating rules described in this standard useful in developing and improving their systems.

How is it used?

This standard can be used as a basis for coding messages. For example, the string "street" (five octets or bytes long) might be represented by the ASCII control codes for "beginning of group" and "end of text" (two octets long). This results in a saving of 60 percent of the required bandwidth. The standard can also be used to decode all valid strings regardless of the options used by the sender. While intended for low bandwidth, one-way communications from the ISP to in-vehicle devices, the procedures in the standard can also support a two-way interchange of data. Locally used terms and phrases (e.g., a local table or list) can augment the lists described in the standard.

Scope

This standard is intended to provide information on how textual strings are processed in messages. Such strings typically describe incident events, street or place names, and other textual information. Messages in related SAE ATIS standards can also utilize this format for all textual strings that appear in the message. By following this standard, equipment manufacturers can

To obtain a copy of this draft standard, please contact:

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ensure that the largest number of data sources are compatible with their products. In addition, they will be able to take full advantage of newly created, more complex data sources (when they are created) and still maintain compatibility.

Related documents

[SAE J2354 – Advanced Traveler Information Systems \(ATIS\) Message Set](#)

[SAE J2369 – Standard for ATIS Message Sets Delivered Over Reduced Bandwidth Media](#)