



# American National Standard for Financial Services

## X9.104-1:2004

### Financial transaction card originated messages – Card acceptor to acquiring host messages

### Part 1: Messages, data elements and code values



Accredited Standards Committee X9, Incorporated  
Financial Industry Standards

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American National Standards Institute

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### Foreword

Business practices have changed greatly with the introduction of computer-based technologies. The substitution of electronic financial transactions at the point of sale for their paper-based predecessors has reduced costs and improved efficiency. These practices have had a particularly significant impact on the operation of retail businesses. Many stores are now dependent on the use of this technology in their daily operations, which applies to credit/debit cards, various proprietary cards, including for use in specialty markets, and for emerging payment methods.

This part of X9.104 provides a generic basis for the implementation of a common message exchange infrastructure at the point of sale for use by various verticals within the retail community and their component business operations. Such an infrastructure provides processing efficiencies, a consistent interface with existing host-to-host messaging, and, eventually, lower implementation costs. The infrastructure also provides a high degree of commonality in emerging point-of-sale systems that reduces exceptions and leads to a lesser number of chargebacks.

ANSI X9.104 consists of the following parts, under the general title *Financial transaction messages - Card acceptor to acquirer messages*:

- *Part 1: Messages, data elements and code values*
- *Part 2: Convenience store and petroleum marketing industry*

Subsequent parts may be published to define card acceptor to acquirer messages for sectors within the retail industry.

While the techniques specified in this part of X9.104 are designed to provide common payment system messages between the retail location and the acquirer processor, use of the Standard does not guarantee that a particular implementation provides interoperability. It is the responsibility of the individual implementers to put an overall process in place with the necessary controls to ensure that the process is properly implemented. Furthermore, the controls shall include the application of appropriate audit tests in order to verify compliance with this part of X9.104.

To aid clarity the following conventions are followed within this part of X9.104.

- Data element names have the first letter capitalized
- Data element names are shown in italics except when used in tables or figures.
- Message class names are shown capitalized when the context refer to their use in messages or transactions.

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.



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Consensus is established in the judgment of the ANSI Board of Standards Review when substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

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## ANS X9.104-1:2004

### Introduction

The National Association of Convenience Stores (NACS) convened its Payment Systems Committee as part of an overall Technology Standards Project in November 1995. Among the first priorities that Committee established was the belief that the industry would be best served if a common format for all payment messages could be adopted. There was strong sentiment for a possible standard for messages flowing from the card acceptor to the ensuing host processing system. The NACS Committee determined that, since existing standards did not serve this purpose, a set of guidelines should be written based on the international host-to-host standard, ISO 8583:1993, to ensure that the convenience store and petroleum marketing industry would be able to adopt a common format for these messages. *ASC X9-TG23-1999 Implementation guide for ISO 8583-based card acceptor to host messages – Part 1: Convenience store and petroleum marketing industry* was produced to address this need.

In 2003, *ISO 8583-1: Financial transaction card originated messages – Interchange message specifications – Part 1: Messages, data elements and code values* was published. To remain aligned with ISO 8583, *ANS X9.104* has been created. It replaces in whole X9-TG23-1999 and incorporates the updated ISO 8583-1 to create a common format for payment messages flowing from the card acceptor to the acquirer. During the discussions leading up to this project, it was agreed that both a generic and an industry specific standard should be developed. Accordingly, Part 1 of X9.104 defines the messages, data elements and code values generally used in the retail financial transaction processing environment. Part 2 of X9.104 defines specific examples of messages used in the convenience store and petroleum marketing industry. Subsequent parts may be published to define card acceptor-to-acquirer messages for other retail industries.

The data elements in the host-to-host message will conform to the format agreed to by the acquiring host and the receiving host. For messages conforming to ISO 8583, the acquiring host will supply the data elements as required by that standard. These data elements may be present in the message from the card acceptor or may be supplied by the acquiring host.

The use of the word "Card" in this part of X9.104 refers to any device that can initiate a purchase transaction (e.g., plastic magnetic stripe card, plastic card or any device embedded with a smart chip, RFID chip etc.).

NOTE: The user's attention is called to the possibility that compliance with this part of X9.104 may require use of an invention covered by patent rights.

By publication of this part of X9.104, no position is taken with respect to the validity of any such claim or of any patent rights in connection therewith. As of the date of publication, no patent holder had identified any such patent, nor filed the required statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license. Further details on the patent process and related requirements may be obtained from the standards developer.

Suggestions for the improvement or revision of this part of X9.104 are welcome. They should be sent to the X9 Committee Secretariat, Accredited Standards Committee X9, Inc., Financial Industry Standards, P.O. Box 4035, Annapolis, MD 21403 USA.

This part of X9.104 was processed and approved for submittal to ANSI by the Accredited Standards Committee on Financial Services, X9. Committee approval of the Standard does not necessarily imply that all the committee members voted for its approval.

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The X9A12 POS/Host Transaction Message Working Group which developed this part of X9.104 had the following members:

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This document cancels and replaces *ASC X9-TG-23-Part 1-1999* in whole. A summary of the most significant changes between TG-23 and X9.104 is provided in Annex D.

This is a preview of "ANSI X9.104-1:2004". [Click here to purchase the full version from the ANSI store.](#)

# **Financial transaction card originated messages – Card acceptor to acquiring host messages Part 1: Messages, data elements and code values**

## **1 Scope**

This part of X9.104 defines a common interface for the exchange of information between point of sale systems or terminal devices located in a retail establishment and the acquiring host transaction processing system(s). This part of X9.104 is applicable to all aspects of payment processing required by these retail facilities, including the reporting of specific products that are part of a purchase. The standard defines a sufficient number of message types and data elements to facilitate the exchange of all necessary information related to: (1) payment transactions originated by point of sale systems or terminal devices, and (2) automated control of the systems and devices.

This part of X9.104 identifies the expected capabilities of the processing environment in exchanges between the card acceptor POS system/device (terminal) and the acquiring host and subsequent processing as defined in ISO 8583 between the acquiring host and the issuing host. These capabilities are required to properly process the messages defined in this part of X9.104.

ISO 8583 defines the types of messages, the flow of each type of message and the basic content of each message. The sequence of message exchanges is described for all classes of messages. This part of X9.104 provides the definition of additional message content for control of messages between the card acceptor and the acquiring host and for information required by the retail community in general.

This part of X9.104 defines the specific use and additional values of many data elements in the message formats contained in ISO 8583. It also defines changes to ISO 8583 to accommodate the card acceptor to acquiring host environment. Certain auxiliary functions, such as the handling of chargebacks and multiple currency settlement actions, are supported by ISO 8583, but are not included in this part of X9.104. (See 5, Environment).

Communication-related characteristics, such as protocol, header and trailer information and transmission control, are outside the scope of this part of X9.104. Security techniques that may be utilized for the protection of data contained in the messages are also outside the scope of this part of X9.104.

## **2 Normative references**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 639, *Codes for the representations of the names of languages*

ISO 18245, *Merchant category codes*