American National Standard

Z39.56-1991

Serial Item and Contribution Identifier

NISO

National Information Standards Organization

transaction

Serial Item and Contribution Identifier

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Serial Item and Contribution Identifier

American National Standard for Serial Item and Contribution Identifier (SICI)

Abstract

This standard defines the requirements for providing in coded form an identifier for each item of a serial and each contribution published in a serial.

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Contents

Foreword

(This appendix is not part of American National Standard ANSI/NISO Z39.56-1991, but is included for information only.)

This Serial Item and Contribution Identifier (SICI) standard defines the requirements for a variable length code that provides a unique identification of serial items and the contributions contained in them. It is intended for use by all members of the bibliographic community involved in the use or management of serial titles and serial contributions. While the SICI code is intended to be applicable to both automated and human-readable environments, it does not prescribe any specific machine-scannable symbology, nor does it prescribe a specific machine-readable format for electronic transmission of the coded data.

As a prescriptive standard, it does define the requirements for constructing the shortest possible yet bibliographically unique Serial Item/Contribution Identification code. Every effort has been made to specify requirements that can be applied to the vast majority of serials and which can be used in the many different applications to which the code is applicable.

The current effort to develop this standard began with the Serials Industry Systems Advisory Committee (SISAC). From its inception, SISAC recognized that methods for increasing the efficiency with which data about serials could be entered into any system depended on a standard for identifying not only the serial items themselves, but their components as well. Therefore, in 1983, SISAC created a subcommittee to begin the development of such a standard. One of the SISAC subcommittee's first tasks was to submit to the National Information Standards Organization (NISO) a proposal that this standard be developed as an American National Standard under NISO auspices. NISO approved the proposal and created Standards Committee CC to develop the standard.

In the years since NISO Committee CC was formed, the practical relevance of a unique serial item and contribution identifier code has increased. Electronic interlibrary loan now is a major resource for libraries and information centers worldwide, and an increasing amount of this activity derives from searches of existing bibliographic databases. Electronic full text journal, newspaper, and other databases now exist with millions of articles available in electronic form and this activity will increase in future years. Major library and commercial systems serving specific user groups have arisen to support computer-based electronic document search, query, delivery, and original publication. The SICI standard can provide the first common link between the contribution indexing and abstracting databases, the publisher's and author's original works, and the burgeoning electronic information systems.

From the beginning of the work on this standard, there were several goals which the NISO Committee used to constrain and guide its work.

1. **To limit the standard to a code for unique identification of serial items and contributions.**

   The charge to the Committee was to create a unique identifier, not an extensive biblio-

graphic citation. On this ground, certain pieces of information, notably the concluding page of a contribution or other means for conveying the extent of a contribution, were not included. The Committee concluded that this information, though useful, did not contribute to the creation of a unique identifier and would be in conflict with other goals.

2. To cover the broadest possible range of serials, for example, scholarly, trade and popular, and both domestic and foreign, in both print and nonprint media.

The Committee made every effort to make the standard applicable to the widest possible variety of serials. It is possible to use this standard for all types of published serials, including popular magazines as well as scholarly journals, newsletters and newspapers, and non-print serials.

For example, the SICI code uniquely identifies each contribution when multiple contributions appear in a single location, e.g., on a single page, such as is common in trade and newspaper publishing. It also uniquely identifies identical titles in different items, such as is common for feature columns. It also uniquely identifies multiple occurrences of the same contribution in different editions of the same serial. Items and contributions contained in different physical forms which are exact reproductions (same enumeration, pagination, etc.) and contain exactly the same intellectual matter are not uniquely identified, leaving the user the option of obtaining the items in whichever physical form is most applicable.

This standard applies only when a serial title carries an ISSN and enumeration or chronology. The only limitation imposed by the code as to type of serial is that the serial be published (in any physical format). Documents in electronic form which contain no location numbers and no enumeration, are not considered to be within the scope of this standard.

3. To allow creation of the SICI code from either a citation or the serial itself, regardless of whether the serial is currently published and regardless of whether the publisher has printed the identifier on the serial.

A major Committee goal was to make the SICI assignable by any user, information distributor, or other party without requiring active or retrospective participation of serial publishers. The code fulfills this goal in that it can be derived directly from any machine-readable bibliographic records which include the ISSN, normal item citation, and a transcribed contribution title.

4. To provide the briefest possible code consistent with unique identification.

The Committee agreed that it was important that both currently published and retrospective materials be identified. This goal made it imperative that the coding scheme be easily used by both a person having the serial and those having only citations to the serial and yet provide for a consistent, systematic way for coding the information in a condensed form.

The Committee also recognized that the code should be kept as short as possible so it could be converted into machine-scannable symbology, and yet still provide unique identification. This goal was one of the more difficult ones to achieve. For example, earlier drafts of this standard specified only the beginning enumeration designation or the beginning chronology designation be used for those serials using combined numbering and/or combined dates. The Committee, at that time, believed that this technique would both shorten the code and still provide for unique identification of the item. This technique has now been dropped because it has been demonstrated that it would not provide unambiguous, exact identification when used with such applications as online citation searching and serials check-in. Thus, a few more characters have been added to meet the primary goal of unique identification. The SICI code is as compact as is possible when considering the billions of published contributions, the millions of serial items, and the hundreds of thousands of serials included in the defined scope.

5. To maintain consistency with other NISO standards.

Since there are other NISO standards for serials with which this standard would need to interact in the serials environment, the Committee tried to ensure that there was consistency among these standards.

Paramount among these was the standard identifier for the serials themselves, the International Standard Serial Number (ISSN). The SICI uses the ISSN to identify the serial itself, thus conforming to NISO standards. The ISSN is the only generally accepted standard identifier for serials and is widely and freely available from the International Serials Data System (ISDS) and its component national and regional centers for the entire range of publications which this standard is to cover. For older serials, published before the existence of the ISSN, and for current serials which do not have an ISSN, there are mechanisms in place to request an ISSN assignment from appropriate authorities. While the serial must have an ISSN in order to apply this standard, these reasons, together with the cumulative worldwide effect of twenty years' assignment of the ISSN, were judged by the Committee to more than balance that limitation.

The structure of the identifier itself reflects the Committee's view that there is a hierarchy which descends from the serial through its individual items to the individual intellectual contributions published in them. In this sense, the Serial Item Identifier/ Contribution Identifier is an extension of the ISSN to the items and individual contributions which make up a serial's hierarchy.

While the NISO Committee was developing this standard, parallel efforts were underway under the auspices of the International Organization for Standardization (ISO). Initial differences in approach were resolved so that the two became congruent. This standard

uses optional extensions included in the ISO version, called Biblid, to ensure that 1) serials which distinguish items by month and/or day of issue rather than detailed enumeration and 2) multiple articles beginning on a single location could be covered by this standard.

Early discussions of the Committee showed that a standardized transcription of traditional identifying information in human-readable form using alphanumeric characters was required even when machine-scannable symbologies, e.g., barcodes, are used. The standard itself, however, does not prescribe the physical location for presenting the SICI on the serial itself, nor does it prescribe the symbology. Other standards, e.g., ANSI Z39.1, Periodicals - Format and Arrangement and the SISAC symbol described in "Serial Issue Identification: Code and Symbol Guidelines" may provide the physical requirements for specific applications as needed.

In summary, the standard satisfies the charge to NISO Committee CC by providing a means for uniquely identifying the component parts of serials in a form useful in the recording, communication and storage of information about them.

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In addition, Elaine Woods served as technical editor in the drafting of the standard.

This standard was processed and approved for submittal to ANSI by the National Information Standards Organization. NISO approval of this standard does not necessarily imply that all Voting Members voted for its approval. At the time it approved this standard, NISO had the following members:

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1. Introduction

1.1. Purpose. This standard defines the requirements for a variable length code which provides a unique identification of serial items and a unique identification of each contribution contained in the serial. The acronym "SICI" which stands for Serial Item/Contribution Identification has been used in this standard to refer to the code itself.

1.2. Scope

1.2.1. This standard defines the Serial Item/Contribution Identification (SICI) code for use with published serials in all physical formats.

1.2.2. The code specified by this standard is intended for use by all members of the bibliographic community engaged in the ordering, accessioning, claiming, royalty collection, online retrieval, document delivery, etc. functions associated with the management of serials and the contributions they contain.

1.2.3. The code specified by this standard is intended to be applicable to both automated and human-readable environments. Although the standard does not prescribe a machine-scannable symbology or a specific machine-readable format for the electronic transmission of the coded data, it does prescribe a variable length format that will permit transcription into machine systems.

1.3. Principles and Guidelines. Use of this standard by publishers, including printing of the identifier, for both the serial items and contributions in them, will ensure that the coded information is readily available to all organizations that choose to enter it into their databases. However, in recognition of the large retrospective files of data describing serial titles and contributions published prior to the issuance of this standard, the standard prescribes the use of only those data elements that would normally be available to those using such files.

The Serial Item/Contribution Identifier employs an International Standard Serial Number (ISSN) to identify the serial title itself. In order to apply this standard to the individual items of any serial, that serial must have been assigned an ISSN.

2. Referenced Standards

2.1. American National Standards. When the following American National Standards are superseded by a revision approved by the American National Standards Institute, Inc., (ANSI) the revision shall apply.

ANSI Z39.9-1979 (R1984), International Standard Serial Numbering (ISSN)

ANSI Z39.44-1986, Serials Holdings Statements

2.2. Other Standards. Other standards related to this standard include:

ISO 3297-1975(E), Documentation - International Standard Serial Numbering (ISSN)

ISO 9115-1987(E), Documentation - Bibliographic Identification (biblid) of Contributions in Serials and Books

3. Maintenance Agency

The Maintenance Agency designated in Appendix C shall be responsible for reviewing suggestions for new data elements, responding to queries on the interpretation of the rules prescribed by this standard, and maintaining a current listing of inquiries and responses that may be used for potential future enhancement of this standard. Questions concerning the implementation of this standard and requests for information should be sent to the Maintenance Agency.

4. Glossary

Accompanying matter—Other material included with the serial item, for example, instructional pamphlets, and the like.

Alternative numbering—A secondary numbering scheme used in designating a series of continuously published issues of a publication.

Area—See Data area.

Article—See Contribution.

Bibliographic units—The logical segments of the publication sequence of a serial as designated by the publisher (for example, an issue) and including supplements, indexes and other accompanying material as designated by the publisher.

Check character—A character that is appended to a code as an additional character which serves the purpose of checking the consistency or validity of the code when it is recorded and/or transferred from one point to another. It is derived by using a mathematical algorithm involving the characters of the base code. It provides the capability of detecting most clerical or recording errors. The check character is sometimes referred to as a check digit when the check character normally results in a number.

Check digit—See Check character.

Chronology—The date(s) used by the publisher on the work to identify the individual bibliographic unit of a serial, i.e., the cover date.

Combined dates—The use of a combined chronology scheme in which the publisher has chosen to publish two or more dates as one item, i.e., May/June item.

Combined numbering—The use of a combined numbering scheme in which the publisher has chosen to publish two or more bibliographic units as one, i.e., volume 1/2.

Contribution—A published item, normally identified by a title and one or more authors, that constitutes an intellectually independent part of a publication. A contribution could be an article, paper, story (as in a newspaper), column, editorial, letter to the editor, meeting calendar, news item, obituary, erratum, book review, etc.

Cover date—This is the date as it appears on the cover of the item. It is the date most prominently stated by typography or location. This date often appears on the cover, spine, and/or title page. It is the date most often appearing in conjunction with the title or with the enumeration. It is the date by which most users would expect to request the publication.

Data area—A portion of the Serial Item/Contribution Identifier comprising a set of related data elements.

Data element—A distinguishable, defined unit of information.

Date information—See Chronology.

Date of coverage—See Cover date.

Element—See Data element.

Enumeration—The non-chronological scheme used by the publisher on the bibliographic unit to identify the individual bibliographic units of a serial and to show the relationship of a bibliographic unit to the serial as a whole. The enumeration may consist of a first-order designator and one or more subsequent-order designators and may be hierarchically arranged, e.g., volume, number, part, etc.

Field—See Data element.

First-order designator—The characters identifying the main or primary sequential division of the scheme of enumeration or chronology, or both, associated with a serial work, whether or not this main or primary division is further subdivided. Numbered series are considered to be at the first-order designator level. If two or more designators are present

(for example, volume number, part number, and item number), that which is the first logical subunit is defined as the first order designator. All other designators are defined as subsequent order. See also subsequent-order designator.

Hierarchical level—The relative position of one or more data elements to other data elements in the hierarchical structure of a system. Such relative position implies an upward or downward relationship among the data elements in the structure.

Index—A systematic guide to the contents contained in or concepts derived from any work or group of works, comprising a series of entries arranged in alphabetical, chronological, numerical, or other chosen order, such as subject, and with references or indicators to show where each indexed item or concept is located.

International Standard Serial Number (ISSN)—A number that provides for the unique identification of a serial publication and is assigned to that serials's title. An ISSN is composed of seven decimal digits plus an eighth check digit calculated via Modulus 11. The ISSN appears as two groups of four digits separated by a hyphen. A unique one-to-one correspondence exists between each assigned ISSN and the serial title to which it is registered; once registered, an ISSN is not reassigned.

ISSN—See International Standard Serial Number (ISSN).

Issue—See Item.

Item—A group of contributions, or one contribution, bound and published as a unit, usually under a title, as a part of a serial. Items normally carry a subsequent-order designator.

Location—The numbering of the pages, or equivalent units, of an item. In non-print media, the location could be known as, for example, frame number, screen number, reel number, etc.

Non-calendar year—A period of given months of publication that does not correspond to the Gregorian calendar year of January to December (for example, fiscal year or academic year).

Numbering—See Enumeration.

Pagination—See Location.

Punctuation—Nonnumeric, nonalphabetic characters, which may carry meaning or serve as delimiters, or both. (See Section 5.)

Serial—A publication in print or nonprint form issued in successive parts at regular or irregular intervals, bearing numerical and/or chronological designations, and intended to be continued indefinitely. Serials include: periodicals; newspapers; annual works; reports; journals; memoirs, proceedings, transactions, and the like of societies and other corporate entities, such as conferences; and numbered monographic series.

Serial contribution identification data area—A set of data elements used to identify a specific contribution to a serial. It consists of the location number at which the contribution begins, a title code and a check digit.

Serial contribution identifier—A term used to refer collectively to that portion of the code that uniquely identifies the contribution. The data elements that are included are the location number and, optionally, a title code.

Serial identification data area—A data element that identifies the serial. This area consists of the mandatory ISSN which identifies the serial.

Serial item identification area—A set of data elements used to identify serial items. The possible data elements are chronology, enumeration, and a check character.

Serial item identifier—A term used to refer collectively to that portion of the code that identifies the individual item of a serial. The data elements that may be included are the ISSN, enumeration, and chronology.

Standard version number—Identifies the version of this standard used in creating the SICI. The first ANSI-approved version shall be defined as "1". All draft versions created prior to ANSI approval are designated "0" (zero).

Subsequent order designator—The characters identifying the second and all subsequent levels of sequential division of the scheme of enumeration or chronology, or both, associated with a serial work; that is, the levels of data required to distinguish between bibliographic units carrying identical first-order designators. See also First-order designator.

Supplement—An additional publication of a serial, closely connected in subject matter and issued by the same publisher, but made up as a separate entity. A supplement usually complements items already published by bringing up-to-date or otherwise continuing the original. A supplement may carry its own enumeration and chronology and be treated as a separate serial title with its own ISSN, or it may be an integral part of the parent publication with no separate ISSN. This standard addresses the latter type of supplement.

Title—The identifying name given to a series of published items or the identifying name given to a contribution within a specific item.

Title code—A data element within the serial contribution identification area that, together with the location number at which the contribution begins, uniquely identifies the contribution. The title code is derived from the title of the contribution as given in the serial.

Variable length data element/field—A data element or field whose length is determined for each occurrence by the length of the data comprising that occurrence.

Word—A group of alphabetic, numeric, or special characters (such as the dollar sign ($), asterisk (*), etc.), delimited by a space on either side of the group.

5. Character Set

5.1. Punctuation. Punctuation used in this standard is given in Table 1.

5.2. Alphabetic characters. Alphabetic characters are used in this standard in four places: 1) in the enumeration when used by the publisher as a designation for a part, index, supplement, etc.; 2) in the location number; 3) in formulating the title code; and 4) in the check character.

Alphabetic characters used in formulating the SICI are transcribed as they appear on the item, in either upper or lower case. Alphabetic characters appearing in non-Roman scripts are transliterated to the Roman script, using the appropriate ANSI transliteration standards, or, if no ANSI standard is available, the ISO transliteration standards.

Table 1
Punctuation for Serial Item/Contribution Identifier Code

Symbol	Name	Purpose	Examples
-	Hyphen	(1) In the International Standard Serial Number, to separate the first four digits from the last four digits.	0044-0191
		(2) Precedes the check character in the Serial Item Identification Data Area or the Serial Contribution Identification Data Area. *Note*: Hyphens are omitted when occurring in enumeration	0044-09191 (198701) 1:1-X
/	Diagonal (virgule)	A connector between notations that form a single entity, (virgule) as in combined chronology or combined enumeration.	198603/04)25:3/4

Symbol	Name	Purpose	Examples
:	Colon	(1) In the enumeration data, to separate the first and each subsequent order designation of enumeration, i.e., as a separator between multiple levels of enumeration.	47:11 = v.47, no.11
		(2) In the Serial Contribution Identification Area to serve as the separator between the location number and the title code.	L.144A:TCIT
L.	Location	To separate the enumeration data from the Serial Contribution Identification Data Area.	47:11L.27:CTV A
()	Parentheses	(1) To enclose the chronology.	(19560815) = August 15, 1956
		(2) Empty parentheses separate the enumeration from the ISSN when there is no chronology.	0044-0191()47:11
+	Plus sign	In enumeration data to specify a supplement related to an issue or volume.	25:2+ = supplement 2 25+3 = supplement 3 25:2+39 = supplement 39
*	Asterisk	In the enumeration data to specify an index related to an issue or volume.	31:7* = index
;	Semicolon	Separate the version number from the enumeration (in the serial item identification area) or the title code (in the serial contribution data area).	0044-0191()47:11;1-X

6. Data Areas and Data Elements

6.1. General Outline. Table 2 lists the data areas and data elements that are included in the Serial Item/Contribution Identification Code. For each data area and data element, its presence (either mandatory (M), mandatory if applicable (MA), or not applicable (n/a) for the Serial Item Identifier or the Serial Contribution Identifier is noted. The various data areas and data elements are described in Sections 6.2 through 6.4.

Table 2
Contents of Serial Item/Contribution Identifier

Section Reference	Data Areas and Elements	Item Identifier	Contribution Identifier
6.2	Serial identification data area	M	M
6.2.1	ISSN	M	M
6.3	Serial item identification data area	M	M
6.3.1	Chronology	MA	MA
6.3.2	Enumeration	MA	MA
6.3.3	Standard version number	M	M[1]
6.3.4	Check character	M	M[2]
6.4	Serial contribution identification area	n/a	M
6.4.1	Location number	n/a	M
6.4.2	Title code	n/a	MA[3]
6.4.3	Standard version number	M	M[1]
6.4.4	Check character	M	M[2]

[1] When the Serial Contribution Identification Data Area is used, the standard version number is used as specified in section 6.4.3 and the Serial Item Identification Data Area standard version number and its preceding punctuation are dropped. Each code will have one, and only one, standard version number, which will always precede the check character.

[2] When the Serial Contribution Identification Data Area is used, the check character is used as specified in section 6.4.4 and the Serial Item Identification Data Area Check Character and its preceding hyphen are dropped. Each code will have one, and only one, check character which will always be the last character and be preceded by a hyphen.

[3] Location specified by the location number.

6.2. Serial Identification Data Area. (Mandatory for Serial Issue Identifier and Serial Contribution Identifier.)

The International Standard Serial Number (ISSN) is used as the unique identification number of a serial publication on which the Serial Item Identifier (SII) and the Serial Contribution Identifier are based. All serial item /contribution identifiers must have an ISSN.[4]

6.2.1. The ISSN shall be displayed as four digits - (hyphen) four digits.

Example: 1234-6789

[4]ISSN are assigned by and are available from National Centers within the International Serials Data System. ISSNs for serials published in the United States are assigned by and are available from the National Serials Data Program, Library of Congress, Washington, D.C.

6.3. Serial Item Identification Data Area. (Mandatory for Serial Item Identifier and Serial Contribution Identifier.)

In addition to the ISSN, the Serial Item Identifier (SII) is composed of two data elements traditionally used to identify serial items: the chronology and the enumeration. This pair of data elements is used to create a code for the Serial Item Identifier in terms of date (chronology) and volume/issue numbering (enumeration) information.

6.3.1. Chronology. (Mandatory, if applicable, for Serial Item Identifier and Serial Contribution Identifier.)

Chronology identifies a specific date, i.e., the cover date, for an item of a serial title. Although it may not be needed for unique identification of a serial item, it provides a confirmation check on the enumeration and also provides an alternative access for serial items requested by date only.

6.3.1.1. Date Used. The cover date that appears on the individual item shall be used to construct the chronology. If multiple dates appear on the item, select the date of coverage. If a cover date does not appear, no chronology shall be supplied.

Chronology must always be given when present. When only chronology is present, i.e., enumeration is not present, the chronology is given as chronology (enclosed in parentheses) and not converted to enumeration.

6.3.1.2. Format. All dates are recorded numerically in the format YYYYMMDD (Y=Year, M=Month, D=Day). Only the applicable levels of chronology are used. For example, if there is no day, month, or season given, only the year is recorded. The chronology shall be enclosed in parentheses. If no chronology is given, empty parentheses shall be used to separate the ISSN from the enumeration.

Months shall be recorded using the following numeric values:

01 = January	07 = July
02 = February	08 = August
03 = March	09 = September
04 = April	10 = October
05 = May	11 = November
06 = June	12 = December

Examples:

(1986)	= 1986 annual
(19560815)	= August 15, 1956
(198901)	= January, 1989
()	= no chronology

Seasons shall be recorded using the following numeric values:

21 = Spring	23 = Fall
22 = Summer	24 = Winter

Example: (197521) = Spring 1975

Designations referring to a portion of a year shall be recorded using the following numeric values:

31 = 1st quarter	33 = 3rd quarter
32 = 2nd quarter	34 = 4th quarter

Example: (197733) = 3rd quarter, 1977

6.3.1.3. When one calendar scheme is present on the publication, that scheme shall be used as the basis for recording chronology data. When more than one calendar scheme (for example, Gregorian and Islamic) is present on the publication, the Gregorian scheme shall be used, if present. When more than one calendar scheme is present on the publication, and the Gregorian scheme is not used, the first calendar scheme cited shall be used as the basis for recording chronology. In all cases, the months and seasons are converted to numerics relative to the calendar scheme used.

6.3.1.4. Combined Chronology. If a serial carries combined chronology in any level of the chronology, as in a double year, double month, etc. the first and last elements, separated by a diagonal, shall be recorded.

Examples: (198505/06) = May/June 1985
(1968/1969) = 1968/1969 annual

6.3.1.5. If there is no enumeration and only dates appear on the item and a supplement or index is published, the same rule as outlined under the enumeration data element is used. (See Section 6.3.2.7)

Examples: (198104)+ = 1981 April Supplement
(195607)* = 1956 July Index

6.3.2. Enumeration. (Mandatory, if applicable, for Serial Item Identifier and Serial Contribution Identifier.)

The enumeration identifies one specific item of a serial title. To construct the enumeration portion of the Serial Item Identifier, first and subsequent order designators (e.g., the volume and issue etc. numbers, that appear on the item) shall be used.

6.3.2.1. Sequence the enumeration according to the publisher's usage on the piece, with the highest, most inclusive level (first-order designator) of the enumeration scheme recorded first. As many levels as needed may be recorded. Each level of enumeration is separated from the next lower level of enumeration by a colon (:).

Examples:

1:1	= v.1, no.1
8:4:A	= v.8, no.4, pt. A
44:A:1	= v.44, pt. A, no. 1
3:15:B:2	= new series 3, v. 15, pt. B, no. 2
4:6	= no. 4, v. 6
65:A:2	= v. 65, supplement A, pt. 2

6.3.2.2. All numeric information shall be converted to Arabic numbers.

Examples:

7:1	= v. VII, no. 1
8:5	= v. 8, no. Five
3:1	= Troisieme vol. no. 1

6.3.2.3. Alphabetic data used as enumeration designations shall be transcribed as it appears on the piece, in either uppercase or lowercase. Note that any hyphens that occur in the enumeration are omitted.

Examples:

12:36B	= v. 12, no. 36B
5:23a	= v. 5, no. 23a
7:6:A	= v. 7, no. 6, pt. A
SAC3:3	= v. SAC-3, no. 3

6.3.2.4. Alphabetic characters appearing in non-roman scripts shall be transliterated to the roman script, using the appropriate ANSI transliteration standards, or, if no ANSI standard available, the ISO transliteration standards.

6.3.2.5. Combined Numbering. When a serial carries combined enumeration in any level of the enumeration, as in a double volume, double issue, etc., the first and last order designators, separated by a diagonal, shall be recorded.

Examples:

23:1/2	= v. 23, no. 1/2
7/8:12	= v. 7/8, no. 12

6.3.2.6. When a serial carries alternative schemes of enumeration such as, for example, a scheme of continuously incrementing item numbers in addition to a regular scheme of enumeration, the regular numbering scheme is used in the Serial Item Identifier. When only a continuous numbering scheme is used, then the continuous number scheme is used in the Serial Item Identifier.

101:12	= v. 101, no. 12 that also has a continuous number of 3798.
3621	= no. 3621 (only enumeration scheme on the serial)

6.3.2.7. The supplement or index level, when used (i.e., supplements or indexes to a serial that are not treated as a separate serial with an ISSN of their own), is separated from the previous hierarchical level by a plus sign (+) or an asterisk (*). The plus sign (+) is used to designate a supplement; the asterisk (*) is used to designate an index. If there is more than one supplement or index to a single volume or item, the enumeration of the supplement or index follows the supplement or index designation.

Examples:

12:6+	= v. 12, no. 6, supplement
25*	= v. 25 index
16:3+2	= v.16, no. 3, supplement 2
29+3	= v. 29, supplement 3

6.3.3. Standard Version Number. (Mandatory for the Serial Item Identification Area; see 6.3.3.3. below for its requirement in the Serial Contribution Identification Area).

A standard version number which identifies the version of this standard used in creating the SICI, immediately precedes the check character.

6.3.3.1. The first ANSI-approved version shall be defined as "1." All draft versions created prior to ANSI approval shall be designated "0" (zero). The standard itself shall always carry the version number in a prominent position on the title page.

6.3.3.2. The standard version number shall be immediately preceded by a semicolon (;).

6.3.3.3. When only the Serial Item Identification data area is used, the standard version number immediately precedes its check character. When the Serial Contribution Identification data area is used, the standard version number shall immediately precede its check character and shall not appear in the Serial Item Identification Data Area. Each code shall have one, and only one, standard version number.

6.3.4. Serial Item Identification Area Check Character. (Mandatory for the Serial Item Identification Area; see 6.3.4.2 below for its requirement in the Serial Contribution Identification area)

The check character for the Serial Item Identification Area is calculated by applying the Modulus 37 algorithm to the characters that are contained in the ISSN, the chronology, and the enumeration. Procedures for the calculation of the Modulus 37 check character are given in Appendix B.

6.3.4.1. The check character shall be preceded by a hyphen (-).

6.3.4.2. When the Serial Contribution Identification Area is created and its associated check character calculated, the Serial Item Identification Area check character and its preceding hyphen are dropped from the code. Each code shall have one, and only one, check character.

6.4. Serial Contribution Identification Data Area. (Mandatory for Serial Contribution Identifier)

The Serial Contribution Identifier is an extension of the Serial Item Identifier described in 6.3. The Serial Contribution Identifier consists of the Serial Identification Data Area, the Serial Item Identification Data Area, plus the initial location number within the item on which the contribution begins, a four-character (or less) alphanumeric title code derived from the title of the contribution (if necessary), the standard version number, and the Serial Contribution Identification Data Area check character. The title code is optional and need not be used when 1) only one contribution begins in the specified location and 2) the location has a unique number.

6.4.1. Location Number. (Not applicable for Serial Issue Identifier; Mandatory for Contribution Identifier).

This data element contains the uppercase letter "L," followed by a period, and the location of the initial contribution as it appears in the contribution.

6.4.1.1. If no location number is given at the location where the contribution begins, it must be derived from preceding location numbering. It may contain both numeric and alphabetic characters.

6.4.1.2. The location number is preceded by the punctuation "L." (uppercase letter L followed by a period).

Example: L.207

6.4.1.3. The location number may contain numeric characters and alphabetic characters in uppercase and lowercase.

Example: L.144A

6.4.1.4. The location numbers are recorded as they appear on the item. Roman numerals shall not be converted to Arabic numbers.

Example: L.vii

6.4.1.5. Location numbers may be in the sequence of issue or volume, but shall include no issue or edition data. If the volume number appears with the location number, only the location number is recorded.

Example: L.326 = v.86, p. 326

6.4.2. Title code. (The title code is not applicable for Serial Item Identifier. It is mandatory for Serial Contribution Identifier 1) when more than one contribution begins in the same location; 2) when no location number appears in the item; and/or 3) when each contribution within an item begins with location, e.g., page 1. In these circumstances, the title code must be used in order to create a unique contribution identifier.)

6.4.2.1. The title code is separated from the location number by a colon (:).

6.4.2.2. Construct the title code using the rules given in (1) through (8) as follows:

(1) Select the first letter of each of the first four words or character strings of the title that contain four or more characters. If the title contains any word or character string with four or more characters, ignore all words or character strings of three characters or less.

Examples:

LP	= Lost in paradise
WTL	= Ft. Worth tops the league
MSSG	= McDonald's success story in Germany
2H	= 2001 top hits
MRA	= De Mille retrospect in Tel-Aviv
MCD	= W. De la Mare crossed the Delaware
W	= Water and Ice

(2) If all words or character strings in the title contain three characters or less, then select the first letter of the first four words or character strings.

Example: TCIT = The cat in the hat

(3) Ignore internal punctuation, i.e., treat internal punctuation as a blank space except for a word consisting entirely of numbers and/or special characters.

Examples:

YA	= D-Day 40 years anniversary
$ISM	= $2.00 increase seen in meat prices
HBFV	= 30-hour basic flop very likely
AS	= Ch-ASISS for science
AVDL	= D'Alembert, da Vinci and the Dalai Lama

(4) Roman numerals appearing in a title are treated as alphabetic characters and follow the same rules as given (1) through (8).

Examples:

PJXM	= Pope John XXIII memorialized
EC	= Elizabeth II crowned
CP	= The Compaq portable II

(5) Only the title as it appears on the initial page of the contribution shall be used to construct the title code. The title code should not be derived from the title as it appears in the Table of Contents or other locations.

(6) Subject to the rules given in (1) through (8), use any and all title words without attempting to distinguish "titles" from "subtitles."

(7) Do not use authorship or other related information as part of the title, except when an author's name is given within the title.

Examples:

HGRG	= Henry Goodwin's rules for good behavior [by Henry Goodwin]
RGB	= Rules for good behavior [by John Paley]
SRB	= Dr. Strangelove's recipe for bombs [by Dr. A.B. Strangelove]

(8) Record alphabetic characters in the title code in uppercase.

6.4.3. Standard Version Number. (Mandatory for the Serial Item Identification Area and Serial Contribution Identification Area; see 6.4.3.2. below for its requirement in the Serial Contribution Identification Area.)

A standard version number, which identifies the version of this standard used in creating the SICI, immediately precedes the check character. The standard itself will always

carry the version number in a prominent position on the title page.

6.4.3.1. The standard version number shall be immediately preceded by a semicolon (;).

6.4.3.2. When only the Serial Item Identification data area is used, the standard version number immediately precedes the check character. When the Serial Contribution Identification data area is used, the standard version number shall immediately precede the check character and shall not appear in the Serial Item Identification Data Area. Each code shall have one, and only one, standard version number.

6.4.4. Serial Contribution Identifier Check Character. (Mandatory for Serial Item Identification Area and Serial Contribution Identification Area; see 6.4.4.2.)

The check character for the Serial Contribution Identification Area is calculated by applying the Modulus 37 algorithm to the characters that are contained in the ISSN, the chronology, the enumeration, the location number, and, if present, the title code. Procedures for the calculation of the Modulus 37 check character are given in Appendix B.

6.4.4.1. The check character shall be preceded by a hyphen (-).

6.4.4.2. When the Serial Contribution Identifier Check Character is calculated, the Serial Item Identifier Check Character and the preceding hyphen are dropped and are not used to calculate the Serial Article Identifier Check Character. Each code shall have one, and only one, check character. This check character shall always be the last character.

Appendix A
Serial Item/Contribution Identifier Examples

(This appendix is not part of American National Standard ANSI/NISO Z39.56-1991, but is included for information only.)

This appendix includes examples of how the standard would be used to create Serial Item/Contribution Identifier (SICI) codes. Actual serials and serial articles were used to create this appendix.

Note that none of the examples includes a check character as it would be generated by machine. Therefore, examples end with a hyphen. Also note that the standard version number is given as "1."

1) "Quality: Theory and Practice." AT&T Technical Journal, v. 65, issue 2, (Mar.-Apr. 1986), p. 4.

   8756-2324(198603/04)65:2L.4:QTP;1-

2) "Jury Awards $2.5 Million in Asbestos Suit." Business Insurance, v. 20, no. 28 (July 14, 1986), p. 16.

   0007-6864(19860714)20:28L.16:JA$M;1-

   Note: Illustrates the use of special characters and numbers in constructing the title code (6.4.2.2.(3)).

3) "ETERBACK- A Nearly 'Non-Stop' Configuration for Low Cost MUMPS System." Quarterly MUG, v. 15, no. 4 (1986), p. 19.

   0193-0885(1986)15:4L.19:ENSC;1-

   Note: Illustrates 1) only a year given in chronology (6.3.1); and 2) internal punctuation that is ignored when constructing the title code (6.4.2.2 (3)).

4) "The Compaq Portable II." Library Systems, v. 6, no. 6 (June 1986), p. 4.

   0277-0288(198606)6:6L.4:CP;1-

   While roman numerals are treated as alphabetic characters, the "II" in this example contains fewer than four characters and is ignored in the title code (6.4.2.2. (4)).

5) "ALAN: A (Circuit-Switched) Local Area Network." IEEE Journal on Selected Areas in Communications, v. SAC-3, no. 3 (May 1985), p. 427.

0733-8716(198505)SAC3:3L.427:ACSL;1-

Note: The volume number includes alphabetic characters which must be included in the enumeration designation but the punctuation is removed (6.3.2.3).

6) "16 Questions Every Nonprofit Director Should Ask." The Grantsmanship Center News, v. 13, no. 3 (May/June 1985), p. 54. [also numbered with continuous number: Issue 62].

0364-3115(198505/06)13:3L.54:QEND;1-

Note: When there are alternative enumeration schemes, the volume/issue numbering is used (6.3.2.4).

7) "Technology Assessment." Proceedings of the IEEE, v. 73, no. 12 (Dec. 1985), p. 1756.

0018-9219(198512)73:12L.1756:TA;1-

8) "Perception of Blackness." Journal of the Optical Society of America. A: Optics and Image Science, v. 3, no. 4 (Apr. 1986), p. 432.

0740-3232(198604)3:4L.432:PB;1-

Note: The "A" for the series/part designation is not included because separate ISSN are assigned for "A" and "B."

9) "La Maniere Exacte Dont Leibniz A Invente l'Integration Par Sommation." Revue Philosophique de la France et de l'Etranger, 110e annee, t. 175, no. 1 (janv.-mars 1985), p. 29.

0035-3833(198501/03)175:1L.29:MEDL;1-

Note: The "110e annee" is not part of the designation.

10) "Computer Conferencing and Online Education Designing for the Medium." The Canadian Journal of Information Science, v. 10 (1985), p. 1.

0380-9218(1985)10L.1:CCOE;1-

Note: Illustrates only one level of enumeration (6.3.2.).

11) "Characteristics of InSb Photovoltaic Detectors at 77 K and Below." Proceedings of SPIE--the International Society for Optical Engineers, v. 364, p. 123.

0277-786X()364L.123:CIPD;1-

Note: Illustrates no chronology (6.3.1.2).

12) "Microwave and X-Ray Observations of Delayed Brightenings at Sites Remote From Primary Flare Locations." Solar Terrestrial Environmental Research in Japan, v. 9 (Dec. 1, 1985), p. 107.

0386-5444(19851201)9L.107:MODB;1-

Note: Illustrates chronology with year, month, day (6.3.1).

13) "Indexing the Glasgow Herald." Catalogue & Index, no. 78/79 (Autumn/Winter 1985), p. 7.

0008-7629(198523/24)78/79L.7:IGH;1-

Note: Illustrates use of combined chronology/enumeration. (6.3.1.4, 6.3.2.5).

14) "U.S.-Canada Tariff Tiff." Association of Research Libraries Newsletter, no. 130 (June 18, 1986), p. 9.

0066-9652(19860618)130L.9:CTT;1-

15) "Business Week Corporate Scoreboard." Business Week, no. 2781 (Industrial Edition), Mar. 14, 1983, p. 51-100.

0739-8395(19830314)2781L.51:BWCS;1-

Note: The edition is assigned a different ISSN from the regular issues of Business Week.

16) "Istoriia literatury." Voprosy pitaniia, 1987, 10 (okt 1987), p. 127.

0042-8833(198710)1987:10L.127:IL;1-

Note: Both enumeration and chronology given because both appear on the item.

17) "Upgrade Inefficient Windows and Doors." Consumer Guide to Home Energy Savings, 1991, p. 23

1052-9179(1991)L.23;1-

Note: Example of an annual publication where only chronology is given on the item.

18) "Review of JVC South East Asian Video Cassettes." Ethnomusicology Research Digest, no. 28 (26 Nov. 1990).

1054-1624(19901126)28:RSEA;1-

Note: An electronic serial with no location information.

Supplements

19) "Company Directory." Training [Marketplace Directory supplement], v. 21, no. 8 (Aug. 1984) ["Part 2 mailed with Aug. issue.], p. 1.

0095-5892(198408)21:8+L.1:CD;1-

20) "Problems of Implementing the Trueblood Objective Report." Journal of Accounting Research (Supplement to vol. 12, 1985), p. 29.

0021-8456(1985)12+L.29:PITO;1-

21) "The 1971 Annual Report of Alnaser Company--Egypt." The Accounting Review (Supplement to v. 51, 1976), p. 77.

0001-4826(1976)51+L.77:1ARA;1-

22) "L'Analogie Perdue: la Metaphysique Sur les Chemins de la Science de Descartes a Kant." Archives de Philosophie, [Supplement to v. 46, cahier 3 (juil.-sept. 1983), p. 1.

0003-9632(198307/09)46:3+L.1:APMC;1-

Special Numbering

23) "Vibrational Spectra, Normal Vibrations and Infrared Intensities of Six Isotopic Benzoic Acids." Spectrochimica Acta. Part A: Molecular Spectroscopy, v. 42A, no. 8 (1986), p. 881.

0584-8539(1986)42A:8L.881:VSNV;1-

24) "Connection Formulae for Painleve V Functions ..." Physica D: Nonlinear Phenomena, v. 200, nos. 2&3 (June/July 1986), p. 187.

0167-2789(198606/07)200:2/3L.187:CFPF;1-

25) "The Central Star of NGC 2346: Further Photometric Observations." Astronomy and Astrophysics, v. 160, no. 1 (May (I) 1986), p. L1.

0004-6361(198605)160:1L.L1:CS2F;1-

Note: The roman numeral in the citation repeats the no. 1 in the enumeration and is not contained in the SICI.

26) "The Rosette Nebula. III: Interstellar Dust Extinction and a Model of the Molecular Cloud Complex." Astronomy and Astrophysics, v. 160, no. 2 (May (II) 1986), p. 287.

0004-6361(198605)160:2L.287:RNID;1-

27) "Uber die Moglichkeit der Zustandsvoraussage chaotischer Systeme." Annalen der Physik, 7. Folge, Band 43, Heft 3-5 (mai 1986), p. 259.

0003-3804(198605)7:43:3/5L.259:UMZC;1-

28) "Efficient Evaluation of X-Ray Scattering Integrals of Cartesian Gaussian-Type Functions." Acta Crystallographica. Section A: Foundations of Crystallography, v. A42, pt. 4 (1 July 1986), p. 257.

0108-7673(19860701)A42:4L.257:EESI;1-

29a)"Correlated Walks and Ising Problems." Kinam, v. 2, ser. A, (1980), p. 193.

0185-125X(1980)2:AL.193:CWIP;1-

29b)The Behavior of H2O, CO, and O2 on the Basal Plane of Ruthenium." Kinam, v. 2, ser. A. (1980), p. 45.

0185-125X(1980)2:AL.45:BBPR;1-

29c)"Tricritical Behavior in Quasi-Binary Fluid Mixtures." Kinam, v. 6, ser. A (1984), p. 3

0185-125X(1984)6:AL.3:TBQB;1-

29d)"Structure and Stability of Hydrodynamic Modes for Shear Flow." Kinam, v. 6, no. 3-4 (1984), p. 169.

0185-125X(1984)6:3/4L.169:SSHM-

30) "Apparition d'Une Societe Pluri-Ethnique en Polynesie Orientale, 1850-1918." Revue Francaise d'Histoire d'Outre-Mer, t. 72, 1er trimestre (1985), p. 61.

0300-9513(198531)72L.61:ASPE;1-

31a)"Logique Mathematique." Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences. Ser. A, Sciences Mathematiques, Ser. B, Sciences Physique, t. 280, ser. A et B, no. 1 (6 janv. 1975), p. 1.

0336-6034(19750106)280:A/B:1L.1:LM;1-

31b)"Physique Theorique." Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences. Ser. A, Sciences Mathematiques, Ser. B, Sciences Physique, t. 280, ser. A et B, no. 1 (6 janv. 1975), p. 1.

0336-6034(19750106)280:A/B:1L.1:PT;1-

Indexes

32) Index to v. 73 (1985) of the Proceedings of the IEEE. (Dec. 1985).

0018-9219(1985)73*;1-

33) Index to v. 43 (1985) of the Journal of the Physical Society of Japan (issued as no. 13 of that volume).

0031-9015(1985)43:13;1-

Note: Because this index is published as a number within the regular numbering scheme there is no SICI designation for the index, per se.

APPENDIX B
Procedure for Calculation of the Modulus 37 Check Character

(This appendix is not part of American National Standard ANSI/NISO Z39.56-1991, but is included for information only.)

The use of a check character helps to guard against errors resulting from improper data transcription. The check digit used in the Serial Item/Contribution Identifier is calculated on a Modulus 37 basis as indicated in Table B-1.

Table B1
Table of Check Character Values

Char.	Value	Check	Char.	Value	Check
0	0	0	J,j	19	J
1	1	1	K,k	20	K
2	2	2	L,l	21	L
3	3	3	M,m	22	M
4	4	4	N,n	23	N
5	5	5	O,o	24	O
6	6	6	P,p	25	P
7	7	7	Q,q	26	Q
8	8	8	R,r	27	R
9	9	9	S,s	28	S
A,a	10	A	T,t	29	T
B,b	11	B	U,u	30	U
C,c	12	C	V,v	31	V
D,d	13	D	W,w	32	W
E,e	14	E	X,x	33	X
F,f	15	F	Y,y	34	Y
G,g	16	G	Z,z	35	Z
H,h	17	H	All others = 36		#
I,i	18	I			

The modulus value obtained by the check character calculation will be substituted for the corresponding number or capital letter. The value "36" will be represented by the symbol "#" (pound sign).

Modulus 37 Check Character Calculation

All punctuation characters are included in the check character calculation.

1. Use Table B-1, Table of Check Character Values, to assign numeric values to each character in the human-readable string.

2. Replace all non-alphabetic characters (e.g., punctuation marks) in the human-readable string with the numeric value of 36.

3. Starting from the right-most position of the new all-numeric string, sum all of the odd position values. the right-most position (i.e., position 1) will always be the hyphen (value 36) that directly precedes the check character.

4. Multiply the sum obtained in rule 3, by three.

5. Sum the values in the original number not used in step 3 (the even position numbers) with the result of step 4.

6. Integer divide the result of step 5 by 37.

7. Subtract the integer remainder from 37. The result is the modulus 37 check character value. If the division has a remainder of zero, the zero (0) is the check character.

8. Use Table B-1, Table of Check Character Values, to match the remainder value to the appropriate check character - Numeric, Alpha (Upper Case) or pound sign (#).

Example:

Original human-readable string:	9: 7654-
All numeric string (steps 1 & 2):	(9)(36)(7)(6)(5)(4)(36)
Sum of odd position digits (step 3):	36+5+7+9=57
Multiply sum by 3. (step 4):	57x3=171
Sum of all values (step 5):	4+6+36+171=217
Modulus 37 (step 6):	37 into 217=5 remainder 32
Subtract remainder from 37 (step 7):	37-32=5
Match value to check character (step 8):	5=5
Final string:	9:7654-5

Appendix C
Designation of Maintenance Agency

(This appendix is not part of American National Standard ANSI/NISO Z39.56-1991, but is included for information only.)

The functions assigned to the maintenance agency as specified in Section 3 will be administered by the Faxon Company.

Questions concerning the implementation of this standard and requests for information should be sent to The Faxon Company, 15 Southwest Park, Westwood, MA 02090 (Tel. 617-329-3350).

STANDARD EVALUATION FORM

Information on where, when, and how standards are used, and with what results, is difficult to obtain. The purpose of this form is to provide users of this document with a convenient and easy way to communicate about that use to those responsible for the standard. All American National Standards are periodically reaffirmed, revised, or withdrawn due to obsolescence. Feedback of the kind you provide here can have an important effect, not only on future versions of this standard, but on the way other standards are created as well.

Standards are intended to be useful. If you have used (or are planning to use) this standard in any way, please complete this form and drop it in the mail to the return address indicated on the reverse. Help us to improve the standards that you use.

QUESTIONS

Standard Being Evaluated: ANSI/NISO Z39._____

1. How did you find out about this standard? (Provide details, if possible.)

- ☐ Written citation/reference _____
- ☐ Promotional literature _____
- ☐ Personal referral _____
- ☐ Other (please specify) _____

2. Are you using (or planning to use) this standard in any way, and if so, to what extent?

- ☐ Full use (unmodified)
- ☐ Partial use (unmodified)
- ☐ Modified use
- ☐ No use

3. In what kind of environment(s) will this standard be used?

- ☐ Governmental
- ☐ Personal
- ☐ For profit
- ☐ Nonprofit (academic/educational community; e.g., university/college/school)
- ☐ Nonprofit (other)

4. How (for what purpose) will this standard be used?

- ☐ Library or information system
- ☐ Database generation
- ☐ Publishing/publication
- ☐ Personal project
- ☐ Other _____

5. During what year will this standard first be used?_____

6. How do you rate this standard? (circle one)

1	2	3	4	5	6	7	8	9	10
Poor	Marginal	Fair	Satisfactory	Good	Above	Average	Very Good	Excellent	Outstanding

7. How do you rate your experience and results in using this standard? (circle one)

1	2	3	4	5	6	7	8	9	10
Poor	Marginal	Fair	Satisfactory	Good	Above	Average	Very Good	Excellent	Outstanding

8. How could this standard be improved?

_____

_____

_____

_____

9. Would you be interested in working on revisions to this standard or on other standards in the same area?

☐ Yes ☐ No

10. Other comments (You are welcome to attach additional material):

_____

_____

_____

_____

11. Form completed by: Name _____

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Please return form to: **National Information Standards Organization (Z39)**
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Z39.57-1989	Holding Statements for Non-Serial Items
Z39.59-1988	Electronic Manuscript Preparation and Markup
Z39.61-1987	Recording, Use, and Display of Patent Application Data
Z39.63-1989	Interlibrary Loan Data Elements
Z85.1-1980	Permanent and Durable Library Catalog Cards

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