CENSUS OF MANUFACTURING STATISTICS, 1972-1976

ABSTRACT: This CENSUS dataset contains establishment statistics and industry structure data for 450 4-digit CENSUS of Manufacturing Industries. The data is for 5 years, 1972-1976. Establishment data is from INDUSTRY PROFILES. Industry structure data is from CENSUS of MANUFACTURERS: 1972; Special Report, Concentration Ratios in Manufacturing. Industry definitions are based on the 1972 SIC definitions, which involve major revisions from previous years.

JCL: The dataset is stored in variable format (i.e. free format) and can be read using the following fortran program and JCL:

```
      INTEGER SIC(450),NAME(450,14),STRUC(450,8),VAR(450,5,14)
      DO 10 I=1,450
10    READ(8,END=999) SIC(I),(NAME(I,J),J=1,14),
     *(STRUC(I,K),K=1,8),((VAR(I,M,L),L=1,14),M=1,5)
999   STOP
      END
//GO.FT08F001 DD DSN=PRFL7276,DISP=OLD,UNIT=TAPE6250,
// DCB=(RECFM=VBS,IRECL=370,BLKSIZE=13030,LABEL=(52,SL,,IN),
// VOL=SER=DATABK
```

PRINT FORMAT: (I4,14A3,I7,I1,6I3,5(I4,13I9))

CITATION: RESEARCH PROGRAM IN COMPETITION AND BUSINESS POLICY, GRADUATE SCHOOL OF MANAGEMENT, UCLA

DATA SET ORGANIZATION: There is one record per industry. The records are sorted in ascending sequence by SIC. The SIC, NAME and STRUC variable names in the READ statement above correspond to the first ten industry and structure variables listed below. SIC corresponds to SIC, NAME corresponds to the SIC label (i.e. The SIC label occupies 14 variable spaces), and each of the structure variables corresponds to variables 3 thru 10 of the industry and structure variables. The variable name VAR in the READ statement above includes the 14 industry statistics variables listed below for 5 years. There is one variable space for each variable. The years are listed in ascending order.

OF RECORDS: There is one record per industry and there are 450 industries, so there are also 450 records.

VARIABLES:

1. SIC
2. SIC LABEL (INDUSTRY NAME)

Structure Data

1. NUMBER OF COMPANIES 1972
2. CODE
3. 4-FIRM CONCENTRATION RATIO
4. 8-FIRM CONCENTRATION RATIO
5. 20-FIRM CONCENTRATION RATIO
6. 50-FIRM CONCENTRATION RATIO
7. SPECIALIZATION RATIO
8. COVERAGE RATIO

Industry statistics, for each of 5 years (see note 2 below)

1.	YEAR	
2.	TOTAL EMPLOYMENT	(HUNDREDS)
3.	SALARY AND WAGES	($100 THOUSAND)
4.	PRODUCTION WORKERS	(HUNDREDS)
5.	MAN-HOURS	(100 THOUSAND)
6.	WORKER'S WAGES	($100 THOUSAND)
7.	VALUE ADDED	($100 THOUSAND)
8.	SUPPLEMENTAL LABOR COST	($100 THOUSAND)
9.	COST OF MATERIALS	($100 THOUSAND)
10.	VALUE OF SHIPMENTS	($100 THOUSAND)
11.	NEW EXPENDITURES	($100 THOUSAND)
12.	INVENTORIES	($100 THOUSAND)
13.	TOTAL ASSETS	($100 THOUSAND)
14.	TOTAL RENTS	($100 THOUSAND)

SOURCES:

1. U.S. Bureau of the Census, CENSUS of MANUFACTURES: 1972 Special Report Series, Concentration Ratios in Manufacturing MC72(SR)-2, U.S. Government Printing Office, 1975, Washington, D.C. This dataset contains the first ten variables and can also be found on tape as:

```
//GO.FT08F001 DD DSN=C4VS72,DISP=OLD,UNIT=TAPE6250,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=3520),
// LABEL=(19,SL,,IN),VOL=SER=DATABK
```

2. U.S Bureau of the Census. ANNUAL SURVEY of MANUFACTURERS 1976. INDUSTRY PROFILES; M76(AS)-7. Washington, D.C.: U.S. GOVERNMENT PRINTING OFFICE, 1978. Contains variables 10-24 for each year (1972-1976) and can also be found on tape:

```
//GO.FT08F001 DD DSN=PROF7276,DISP=OLD,UNIT=TAPE1600,
// VOL=SER=WESTN2,LABEL=(16,SL,,IN),
// DCB=(RECFM=VBS,LRECL=340,BLKSIZE=13030)
```

NOTES:

which are not always directly comparable to the 1967 classifications.

2. The array VAR contains 70 variables for each SIC. The first 14 variables are those listed above under industry statistics for the year 1972, the second 14 variables are the same variables for the year 1973, etc.

3. For variable 4, a "9" Code indicates that the Concentration Ratios are computed on the basis of VALUE ADDED instead of VALUE of SHIPMENTS. VALUE of SHIPMENTS is not used because it "contains a substantial and unmeasurable amount of duplication."

4. For Variables 5 through 10, the following Codes are used when no values for the variables are given by the data source:

(D) is indicated by -1, signifying that the value is "withheld to av disclosing figures for individual companies".
(X) is indicated by a zero, which signifies that the value is "not applicable". This code usually follows a concentration ratio that has the value 100, or is close tc it.

5. For the Industry statistics variables 1-14, the following Codes are used when no values for the variables are given by the data source: (D) is indicated by A-3, signifying that the value is "withheld to avoid disclosing figures for individual companies." (S) is indicated by A-4, signifying that the value is "withheld because the estimate did not meet publication standards."

6. On the original data set for variables 1-14 (see source 2) there is a coding for values having "associated standard errors exceeding 15 percent, or are nct consistent with other CENSUS series and related data". That coding has not been included on the dataset.

7. Variable 23, TCTAL ASSETS, corresponds to GROSS BOOK VALUE OF FIXED ASSETS in the earlier Census Profiles datasets. This category is broken down into NEW STRUCTURES AND ADDITIONS, NEW MACHINES AND EQUIPMENT, and TOTAL NEW PLANT EXPENDITURES for years 1975 and 1976 on TAPE 919324,FILE 3, TABLE 51.

8. This dataset contains information for 4-digit Industries only. Data for 2-digit and 3-digit Industries for years 1972-1976 can be found in datasets D2PR7276 and D3PR7276.

1972 Census of Manufactures
LOCATION OF MANUFACTURING PLANTS

Computer Tape Documentation

The Location of Manufacturing Plants tapes are computer-readable files providing information on the number of manufacturing establishments in each of the approximately 450 manufacturing industries, classified according to their employment size class and the State and county within which they are located. Each logical record is associated with a particular industry (4-digit SIC) and a particular county (or State or U.S. Summary) and contains the number of establishments in seven employment size categories: 1-19 employees, 20-49, 50-99, 100-249, 250-499, 500-999 and 1000 employees or more. There is a record for each industry-county or industry-State combination with one or more manufacturing plants.

The data are available sorted in two different ways: (see "Sequence of Records" below)

File ML-1 Industry by State, county (1 tape)
File ML-2 State, county by industry (1 tape)

Concept Definitions

The employment size class assigned to each plant is based on the average 1972 total employment reported by the plant. Both production workers and "all other" employees at the manufacturing plant are included in this total figure. The production worker figure represents the average employment during the pay period including the 12th of the month in March, May, August, and November, while the "all other" employment figure is the number of employees in the pay period including March 12.

Establishments are classified in accordance with the industry definitions embodied in the 1972 Standard Industrial Classification (SIC) system. A full description of each industry appears in Census of Manufactures General Summary report MC72(1)-1 Appendix B, which is distributed with each tape order and which should be considered by the user to be an integral part of this documentation. A detailed explanation of the procedures and concepts used in taking the Census of Manufactures is found in the introduction to that publication.

Relationship to other Census of Manufactures Data

Published census reports, and the corresponding tape file set (MFRA72), contain industry data not only on number of establishments, but on aggregate employment, payrolls, value added, value of shipments and other measures. While data are published for small areas (States, SMSA's, counties and major cities) it is not possible to provide these statistics with complete industry detail in each area without disclosing figures for individual companies, and such figures are suppressed where necessary. The Location of Manufacturing Plants files, containing only establishment counts, fill in many of the data gaps necessarily arising in the regular 1972 Census of Manufactures published tables. Instead, the detailed count of manufacturing plants in these files, cross-classified by industry, county and size, provides a revealing picture that will be useful to (a) those involved in economic development programs at the regional, State and local area levels; (b) those engaged in industrial market analysis or allocation of sales territories; and (c) those concerned with industrial dispersion, regional shifts of industry, and similar problems.

The use of these data in conjunction with the Census of Manufactures area and industry reports may permit closer approximations of the level of economic activity than simple establishment counts. (Of special interest are industry table 4 which provides general statistics - employment, payroll, value added, value of shipments and capital expenditures - by size of establishment by 4-digit industry for the U.S.; and area tables 3 to 8 which provide general statistics for States, SMSA's, counties and cities with limited industry detail.) However, caution must be observed in making such approximations because there are very significant differences in the relationships among employment, payroll, cost of materials, value of shipments, value added, etc., for individual plants within each industry and particularly by geographic area within industry or among different industries within an area. Judgements based on broad industry or area averages may be subject to serious error if these averages are applied simplistically to the more detailed Location of Manufactures summaries.

Sequence of Records

Sequence of industries is in ascending numerical order of the four-digit SIC code. There are no 2- or 3-digit industry summaries. Sequence of States is geographic (by census division) according to geographic State codes illustrated on page 8 , rather than alphabetic, although the FIPS (alphabetic order) State codes are also carried on each record. Sequence of counties within State is alphabetic (FIPS county codes).

File ML-1 - Logical records are in sort by industry by State and county within State; that is, all records for a particular industry appear as a group. An industry summary record (U.S.) precedes each set of State and county records for that industry.

File ML-2 - Logical records are in sort by State and county within State by industry; that is, all industry records for a given county appear as a group. There are no all-industry State total or all-industry county total records, though these totals can be easily computed by the user.

Time-Series Data

Files essentially similar to ML-1 are available from the 1967 and 1963 censuses. Two important caveats apply, however. A number of significant modifications were made to the classification of particular kinds of plants for 1972, although the basic 4-digit coding structure remains the same. The 1967 to 1972 changes are detailed in the explanatory text of General Summary report MC72(1)-1, and are also noted in two convenient chart presentations in the Standard Industrial Classification Manual, 1972 ($8.80 from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; classification number PREX 2.6/2:IN27/972).

1967 and earlier tapes employ geographic State codes and alphabetic sequence of counties within State, although the earlier county codes differ from the current FIPS codes. In most cases it should be satisfactory to match on county names, although a few counties have been renamed or changed boundaries (especially the independent cities in Virginia and divisions in Alaska). A geographic reference file for the 1972 economic censuses public use tapes contains county records with both FIPS (1972) and the old (1963-1967) county codes.

Distribution and Reference

1972 Location of Manufactures tapes are sold for $80 per tape by the:

Customer Services Branch
Data User Services Division
Bureau of the Census
Washington, D.C. 20233 (phone: 301/763-5045)

Four options on tape characteristics are available as detailed in the chart on page 5 :

a) 7-track, 556 bpi, BCD
b) 7-tract, 800 bpi, BCD
c) 9-tract, 800 bpi, EBCDIC
d) 9-track, 800 bpi, ASCII

This documentation, including General Summary report MC72(1)-1, is provided with each tape purchase or may be obtained separately for $3 from the above address. Corrections or supplements to this documentation, if any, will automatically be sent to tape and documentation purchasers

Microfilm "dumps" of these tapes are being created; copies may be obtained for the cost of the reporduction from the above address.

Any questions relating to tape contents, file design, or documentation may be directed to Customer Services Branch. Questions relating to industry classification or other subject matter concepts should be directed to Industry Division, Bureau of the Census (phone: 301/763-2500).

UPDATES TO THIS DOCUMENTATION

Revisions or corrections to this documentation or notice of errors in the data files, if any, will automatically be sent to every tape purchaser and others who obtained this documentation directly from the Census Bureau. If you obtained this documentation through a third party, notify the Customer Services Branch (address on previous page) to be placed on the distribution list for any future pertinent notices.

August, 1975

Technical Characteristics of the Magnetic Tape Recording

Characteristics	IBM Compatible Tape	
	7-Track Tape	9-Track Tape
Width	.5 inch	.5 inch
Reel Size	10.5 inch diameter; maximum 2400 foot length	10.5 inch diameter maximum 2400 foot length
Recording Mode	NRZI (nonreturn to zero)	NRZI (nonreturn to zero)
Number of Recording Tracks	7 (6 data, 1 parity)	9 (8 data, 1 parity)
Density (characters or bytes per inch)	556/800	800
Language	Binary Coded Decimal (BCD)	Extended Binary Coded Decimal Interchange Code (EBCDIC) USA Standard Code for Information Interchange (USASCII or ASCII)
Error Controls	Character - even parity Track - longitudinal redundancy check	Character (byte) - odd parity Block-Cyclical code check based on an 8-bit character which is computed from data characters during write operation and recorded at end of tape block as hardware function
Recorded Tape Representation	One 6-bit character per tape frame	One 8-bit character (byte) per tape frame
Interblock Spacing	.75 inch	.6 inch (nominal)
Block size	fixed length - 3456 characters (32 logical records per block)	
Number of Blocks	3561 Blocks (113,947 logical records)	

Labels. The internal tape labels used are essentially similar to IBM OS labels. The illustration below indicates the contents of the five 80-character records and the placement of tape marks. Detailed explanation of all label fields is included in "Technical Conventions for the 1970 Census Summary Tapes," available on request.

Illustration of Label Sequence
on 1972 Location of Manufactures Plants Tapes

VOL1XX12345
tape id.[1]

HDR1ML1XLOCATIONOFMFRMFRL7200010001 73293 99365 000000CENSUS
file identifier[2] file set volume creation date[3]

HDR2F034560010820 ET
block length record length parity[4]

** TAPE MARK **

Data

** TAPE MARK **

EOFIML1XLOCATIONOFMFRMFRL7200010001 73293 99365 00 3561 CENSUS
block count[5]

EOF2FQ34560010820 ET

** TAPE MARK **

** TAPE MARK **

[1] Physical tape identifier. This designation should agree with the written label on the outside of the tape.

[2] File identifier. File ML-2 is identified by "ML2XLOCOFMFRXAREA"

[3] Creation date. This refers to the data of creation of the original master tape; not relevant for a copy.

[4] Parity. "ET" means even parity (7-track tapes only). Blank for 9-track tapes (odd parity).

[5] The block count is the total number of 3456-character physical records on the tape.

1972 Location of Manufacturing Plants
Record Format

Character Position	Description
1-4	4-digit SIC code
5-6	Geographic State Code (see page 8)
7-8	FIPS State Code (not a sequence key) Blank for Industry total records
9-11	FIPS County Code Blank for Industry and State-industry total records
12	Record Type 1 = Industry total records 2 = State-industry records 3 = County-industry records
13-60	Alphabetic labels, left justified Industry total record - industry name State-within-industry total record - State name and census division name County-within-industry record - county name
61-66	Total number of establishments
67-72	Number of establishments with 1-19 employees
73-78	" " " " 20-49 "
79-84	" " " " 50-99 "
85-90	" " " " 100-249 "
91-96	" " " " 250-499 "
97-102	" " " " 500-999 "
103-108	" " " " 1000 employees or more.

"Geographic" codes for States, Regions, and Divisions
and FIPS codes for States

	Geo[1]	FIPS[2]
Northeast Region	09	
New England Division	10	
Maine	11	23
New Hampshire	12	33
Vermont	13	50
Massachusetts	14	25
Rhode Island	15	44
Connecticut	16	09
Middle Atlantic Division	20	
New York	21	36
New Jersey	22	34
Pennsylvania	23	42
North Central Region	29	
East North Central Division	30	
Ohio	31	39
Indiana	32	18
Illinois	33	17
Michigan	34	26
Wisconsin	35	55
West North Central Division	40	
Minnesota	41	27
Iowa	42	19
Missouri	43	29
North Dakota	44	38
South Dakota	45	46
Nebraska	46	31
Kansas	47	20
South Region	49	
South Atlantic Division	50	
Delaware	51	10
Maryland	52	24
District of Columbia	53	11
Virginia	54	51
West Virginia	55	54
North Carolina	56	37
South Carolina	57	45
Georgia	58	13
Florida	59	12
East South Central Division	60	
Kentucky	61	21
Tennessee	62	47
Alabama	63	01
Mississippi	64	28
West South Central Division	70	
Arkansas	71	05
Louisiana	72	22
Oklahoma	73	40
Texas	74	48
West Region	79	
Mountain Division	80	
Montana	81	30
Idaho	82	16
Wyoming	83	56
Colorado	84	08
New Mexico	85	35
Arizona	86	04
Utah	87	49
Nevada	88	32
Pacific Division	90	
Washington	91	53
Oregon	92	41
California	93	06
Alaska	94	02
Hawaii	95	15

[1] Geographic codes for States, divisions, and regions have been referred to in other publications as "1960 State codes"

[2] Federal Information Processing Standards codes.

FILE SET MFRA72

TECHNICAL DOCUMENTATION for the 1972 CENSUS OF MANUFACTURES (Selected Published Data) PUBLIC-USE SUMMARY TAPE

Page

1 Introduction
2 Scope of this Manual
3 Overview of File Structure
4 Disclosure
5 Notes on Geographic Areas Covered
6 Geographic Reference Files
7 Industry Categories
8 Record Sequence
8 Location of Manufacturing Plants Tape
8 Time Series Data on Tape
9 Other 1972 Economic Censuses Files

10 Record Structure - definition of flags and tally fields

12 Standard Record Identification Fields

Descriptions of Specific Files and Matrices

		Corresponding Printed Tables
14	File MA-1 General Statistics	
	Matrix 201 U.S. by Industry (2, 3, 4)	GS-3
	Matrix 202 Regions by Industry (2, 3, 4)	-
	Matrix 203 Divisions by Industry (2, 3, 4)	Div-2
	Matrix 204 States by Industry (2, 3, 4)	Area-5
	Matrix 205 SMSA's by Industry (2, 3, 4)	Area-6
	Matrix 206 Selected Counties [1] by Industry Group (2, 3)	Area-7
	Matrix 207 Selected Cities [1] by Industry Group (2)	Area-8
	Matrix 208 States, SMSA's, Counties, and Selected Cities [1]	Area-4
18	File MA-2 Detailed Statistics	
	Matrix 209 U.S. by Industry (2, 3, 4)	Ind-3
	Matrix 210 States and ADM Components	Area-3
20	File MA-3 General Statistics by Employment Size of Establishment	
	Matrix 211 U.S. by Industry (2, 3, 4)	Ind-4
22	File MA-4 Materials Consumed	
	Matrix 212 U.S. by Industry (4) by Materials (6 digit code)	Ind-7A

Appendices

24 A-Technical Characteristics of the Magnetic Tape Recording
25 B-Tape Labels
28 C-Geographic Codes for Regions, Divisions, and States
29 D-Units of Measure Codes for Materials Consumed
30 E-1967 Data on 1972 CCDB Tape

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[1] Selected counties or cities are those with 450 or more manufacturing employees.

This manual documents the following file set:

MFRA72 1972 Census of Manufactures: Selected Published Data (one tape)

The files in this set correspond to the selected data tables from reports published in the 1972 Census of Manufactures: Industry Series tables 3, 4, and 7a; Area Series tables 3-8; General Summary table 3. Data are presented in these files for 1972 only, even though selected items for 1967 may appear in corresponding tables. Other published tables are not available in computerized form. On the other hand, one set of unpublished data has been released on tape, as described on page 8 under "Location of Manufacturing Plants Tape."

This file set and documentation are being distributed through the:

Customer Services Branch
Data User Services Division
Bureau of the Census
Washington, D.C. 20233
(phone: 301/449-1600)

for $80, prepaid, and through several independent summary tape processing centers (names and addresses available on request).

For additional information concerning the file, contact Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233. Phone: (301) 449-1600.

For additional information concerning the technical documentation, contact Data Access and Use Staff, Data User Services Division, at the above address. Phone: (301) 449-1667.

For additional information concerning the subject matter of the file, contact Industry Division, at the above address. Phone: (301) 763-7660.

This documentation presents the best description of these data files available at the time of their release. If additional important information comes to light, such as errors in the data files or in the documentation, it will be published in supplements to this documentation. These data files have been corrected to reflect errata to the corresponding reports issued through August 1976. All users who purchase these tapes from the Census Bureau and others of whom we have record will automatically receive any supplements or future errata notices. Users who obtain these files through summary tape processing centers or other sources should contact the Customer Services Branch (address above), to be put on the list for supplemental mailings. Notifying that office of address changes is also advised.

Scope of this Manual

This manual provides descriptions of file structure, record formats, sequence of records, and other concepts with special application to these computerized files. Other essential information, such as a general description of census methodology, definitions of basic terms and kind-of-industry classifications, notation of changes in industrial classification from 1967 to 1972, and facsimilies of certain report forms, is contained in introductory material and appendices to the corresponding published reports. The General Summary report from the 1972 Census of Manufactures is automatically sent with documentation when files are purchased from the Bureau.

Users desiring more detailed references on census methodology may obtain the Procedural History of the 1972 Economic Censuses, available from the Government Printing Office, Washingon, D.C. 20402 ($6.00, GPO Catalog No. C56.202:EC7/2/972. A Guide to Industrial Statistics, to be published during 1977, will give additional descriptive information and will interrelate the manufactures censuses with current industrial statistics. The most complete description of the Standard Industrial Classifications is contained in the Standard Industrial Classification Manual, 1972 also available from GPO ($8.80, Catalog No. PrEx 2.6/2: In 27/972).

Overview of File Structure

A logical record in these files typically corresponds to a single line (row) of data in a published report; and is identified to a specific geographic area and industrial classification (or total).

All records with a common format appear together in a file which is separated from other files by tape marks and labels. Files consist of one or more matrixes or matrices. A matrix is a logical grouping of data generally corresponding to a table separately numbered in a printed report. Each matrix is assigned a 3-digit number which is unique among all 1972 economic census files. All files in a given series constitute a file set. A file set constitutes the normal unit of issue and may consist of one or more tapes.

All files are nationwide in scope. For example, a matrix containing data for counties includes counties from all States, regardless of the fact that they were originally issued in 51 separate printed reports.

All logical records are of fixed size within any one file, and are packed into physical blocks of convenient size. Logical records are all multiples of ten characters, the first 40 characters being identification fields (area codes, SIC's, etc.) in a format standard for most 1972 Economic Censuses summary tapes; followed by ten characters for each data item or cell in the record. Those ten characters are subdivided into a one-character flag followed by a nine-character data or "tally" field as explained on page 10.

All data are presented in integer form. Non-numeric characters, other than a minus sign for negative values, are not used.

Disclosure

In accordance with Federal law governing census reports, any data which would disclose the operations of an individual establishment or industrial organization are not published. However, the number of establishments in an industry category is not considered a disclosure; therefore, this item may appear in instances where other items of information for the same kind of industry or locality are withheld.

Suppression of data to avoid disclosure is indicated by a "4" in the flag location for a data field, in which case the tally portion of the data field will contain zeroes. Care should be taken in processing to make sure that such tallies are not treated as real zeroes. Certain groups of data fields are suppressed on the basis of the same set of criteria, and therefore if one is suppressed all are suppressed. Fields subject to suppression are listed in the "Applicable Flags" section of each file description.

Items which are never suppressed include total number of establishments and the number of establishments with 20 employees or more and similar employment size classes.

Notes on Geographic Areas Covered

Regions and Divisions. These groups of States are longstanding units defined by the Bureau of the Census, and do not relate to the Federal Administrative Regions. The nine divisions are sub-units of the four regions. States in each region and division and their codes are defined in Appendix C.

States. All references to States apply as well to the District of Columbia.

Two coding systems are used: (1) the Federal Information Processing Standards (FIPS) codes which number States in alphabetic sequence from 1 to 56 (with several gaps); and (2) "geographic" codes which number States within their census divisions, beginning with the 10's series for New England (Maine is code 11) and ending with the 90's series for the Pacific Division (Hawaii is code 95). All data records identifiable to a State carry both FIPS and geographic codes. However, for sorting purposes the geographic code is consistently used. (The geographic State codes were termed "1960 State Codes" in 1970 census summary tape documentation.)

Standard Metropolitan Statistical Areas (SMSA's). Definitional criteria are presented on pages 1-12 of the General Summary. SMSA's are those defined as of April 27, 1973. Care should be taken in comparing SMSA data from different periods. A number of SMSA's changed boundaries after the 1970 Census of Population, based on commuting data from that census. A few SMSA's change names and even codes as the official designation took account of the latest population figures. A number of SMSA's were added during the same period reflecting new criteria for designation. Several new SMSA's have been designated since April 27, 1973 and they are not presented as such in these data. County components of each SMSA and indications of changes in definition since 1967 are given in Appendix F of the General Summary.

Standard Consolidated Areas (SCA's). Data are provided for the two SCA's defined as of the census reference date: The New York-Northeastern New Jersey SCA (comprising the New York, Nassau-Suffolk, Newark, Patterson-Clifton-Passaic, Jersey City, New Brunswick-Perth Amboy-Sayreville SMSA's) and the Chicago-Northeastern Indiana SCA (comprising the Chicago and Gary-Hammond SMSA's). The SCA summaries are coded 0001 and 0002 respectively, in the SMSA code field. These SCA's should not be confused with the 13 Standard Consolidated Statistical Areas more recently defined.

Counties. County summaries in these files include county equivalents such as parishes in Louisiana, boroughs in Alaska, and independent cities in Virginia and several other States. Three-digit FIPS codes, alphabetic in sequence, are used throughout.

Places. Data are presented for four types of places:

1. Incorporated "cities" of 2500 inhabitants or more as enumerated in the 1970 Census of Population or in a special census conducted before December 31, 1972. In general this includes incorporated cities, boroughs, villages and towns, except for towns in New England, which are treated below, and towns in New York and Wisconsin for which no data are provided. New incorporations between 1970 and December 31, 1972 which include area which had a 1970 population of 2500 or more are counted, as are cities which were under 2500 in 1970 but which annexed territory by the end of 1972 such that the 1970 population in the combined territory was 2500 or more.

2. Unincorporated places, defined by the Census Bureau, which had 25,000 inhabitants or more in the 1970 census.

3. Towns in the New England States which had an urban population, based on 1970 census definitions, of 2500 inhabitants or more, or which had a total population of 10,000 or more.

4. Townships in New Jersey and Pennsylvania which had 10,000 inhabitants or more in 1970.

The latter two categories, occasionally termed Special Economic Urban Areas (SEUA's), are actually minor civil divisions (MCD's) and are not generally categorized as "places" by the Census Bureau except for these economic censuses. There are no FIPS codes for places. Incorporated and unincorporated places in categories 1 and 2 carry the same 4-digit codes as were used in the 1970 censuses, which are unique within each State and are typically multiples of 5. The SEUA's were assigned four digit codes which merged them into the alphabetic sequence of the other place codes. These 4-digit SEUA codes may be linked to the 3-digit MCD codes (unique within county only) used in the 1970 census and other data bases by means of the Geographic Reference Files, discussed on page 6.

Concept of Geographic Level

To facilitate retrieval of data for different types of geographic areas hierarchically nested within one another, the concept of geographic level is introduced. One digit codes used in these data files and in the Geographic Reference File are as follows:

0	U.S.	4	Standard Consolidated Areas
1	regions	5	Standard Metropolitan Areas
2	divisions	6	counties
3	States	7	places (as defined above)

It may be noted that State, SMSA, and county codes are carried not only for their specific records, but also on applicable records at more detailed levels. For instance, a place record carries State codes (necessary for identification) plus an SMSA code (if it is in a metropolitan area) and a county code (except for places crossing county boundaries).

A "level qualifier" is also used whenever an entire area, as identified by other codes, is not covered. The only use of the level qualifier in Manufactures files is in the File MA-1, Matrix 208 where an SMSA or SCA crossing a State boundary has multiple summaries: one for the SMSA or SCA total, and one for the part of the SMSA or SCA in each State.

0	entire area (normal condition)
4 or 5	SMSA or SCA part in State only (File MA-1, Matrix 208)

Geographic Reference Files

1972 Economic Censuses data files identify geographic areas by codes and not by name. Area names and their corresponding codes are provided in computerized form on Geographic Reference Files contained on a single reference tape. In most cases this same code linkage may also be found in other sources, such as the 1970 Census Geographic Identification Code Scheme, "FIPS PUB" publications, or the computerized 1970 Census Master Enumeration District List (MEDList). These sources do not, however, give place codes for SEUA's discussed above or county codes for independent cities in Virginia and Georgia designated between 1970 and 1973, nor do they reflect changes or additions in SMSA codes.

The Geographic Reference Files provide all applicable codes for each summary area, including indicators for (a) the type of place, (b) places that cross county boundaries and (c) places which coincide with counties. Code linkages are provided for SEUA's to 1970 Census MCD codes, and for counties to the non-FIPS county codes used on 1963 and 1967 Location of Manufacturing Plants and selected special tabulations from earlier economic censuses.

Corrected 1970 census population counts are provided for all areas (corrections recognized through January 1976). SMSA populations are for SMSA's as defined for the economic censuses. Population figures for incorporated places which annexed territory between January 1, 1970 and December 31, 1972 are given in terms of 1970 boundaries, but an additional field provides the 1970 population of the area annexed.

A unique group of codes on the Geographic Reference Files provide indicators to the kind-of-business or industry detail presented in

various economic census files. One indicator tells, for instance, whether given counties or cities appear at all in Matrices 206 or 207 and, if so, whether any SIC breakdowns are presented. For certain applications this may significantly simplify manipulations of the data file. Further descriptive information is contained in the documentation for the 1972 Economic Censuses Reference Tape. The tape, with documentation is priced at $80.

Industrial Categories

Kind-of-industry classifications in these files are in accordance with the industry classifications defined in the 1972 edition of the Standard Industrial Classification (SIC) Manual. The SIC system includes 2, 3, and 4-digit codes, 3-digit classifications being subdivisions of broader 2-digit classifications, and 4-digit codes representing further subdivisions. Categories are presented in hierarchical order. Unlike data from the censuses of retail trade and selected service industries, there are no departures in census coding from the basic SIC structure. Whereas subdivisions of individual 4-digit categories are presented for selected industries in Industry Series tables 3 and 4, data on tape (Matrices 209 and 211) are not presented below the 4-digit level.

SIC codes are defined in Appendix B of the General Summary report. Additional descriptive material about each SIC is included in the "explanatory text" of the Industry Series reports (there are 81 reports, each covering a group of industries). Where there have been changes in SIC's between 1967 and 1972 this latter source describes the changes and their impact; corresponding information about SIC changes appears in chart form in Appendix C of the General Summary.

A second, sequential coding system has also been created to facilitate direct-access retrieval of verbal titles for each industry in the Industry Name File which is part of the 1972 Economic Censuses Reference Tape, mentioned above. Both the sequential system and the SIC codes are carried on records in the data files and in the name file, and either will provide unique linkage.

For the U.S., data for all SIC's are shown at the 4-digit level. For regions, divisions, and States data lines are omitted when there are fewer than 150 employees in that SIC in that area. For SMSA's data lines are omitted when there are fewer than 250 employees, and for cities and counties the minimum criterion is 450 employees in a particular SIC. If, for SMSA's, counties or cities, all data cells other than number of establishments must be suppressed in order to avoid disclosure, that data line is normally omitted, even if it meets the 250 or 450 criterion, though in a number of cases the data line does appear with all data suppressed except number of establishments figures. Since the presentation of data for given industries is determined on an industry-by-industry basis, the user cannot anticipate a specific sequence of records for a given area as is possible with files from the censuses of retail trade, wholesale trade, and selected service industries.

Record Sequence

Record sequence is indicated in each matrix description. An indication of "State by SIC" would mean that records appear grouped by State, with States in ascending code sequence and industries within a State in ascending SIC sequence.

Location of Manufacturing Plants Tape

The restrictions on industry detail for counties and cities as described above can leave the user with very little data for counties or cities without major industrial concentrations. To fill in many of the resulting gaps in the data, the Census Bureau also has available the Location of Manufacturing Plants file, available only on tape. This file presents the number of establishments by industry (4-digit SIC) by county by employment-size class with no suppression or omissions. Resorted, the file can provide a complete inventory of the manufacturing SIC's present within each county. Each county/industry combination is represented by a record containing the number of establishments in seven employment size categories: 1-19 employees, 20-49, 50-99, 100-249, 250-499, 500-999, and 1000 employees or more. There are no figures on payroll, value added, etc.

These data can be used in conjunction with data in the present files to permit closer approximations of the level of economic activity by industry in a given county, though caution must be observed in simplistically applying broad industry or area averages to the more detailed Location of Manufacturing Plants summaries.

Time Series Data on Tape

The Location of Manufacturing Plants tape is the only economic census file also produced in earlier years, and roughly parallel files are available for 1972, 1967, and 1963. The present files of published data are the first of their kind. The 1972 County and City Data Book (CCDB) does include a limited set of statistics from the 1967 censuses for States, SMSA's, counties, and cities of 25,000 or more, and all CCDB contents are available on tape. As further shown in Appendix C on page 29, most of the general statistics are provided for each area, but there is no breakdown by industry, only a summary for the manufactures sector as a whole. 1967 SMSA data in the CCDB does not account for changes in SMSA definitions between 1967 and 1972.

Annual statistics on the number of employees and first quarter payroll by kind-of-business by county are available in computerized files from County Business Patterns, 1962 to 1973. Comparability may be a problem to the extent that changes in Standard Industrial Classifications have occurred during that period. Statistics from the 1974 County Business Patterns, to be available during 1976, in standardized computerized form for the first time, will be based on the 1972 SIC system, and will also include total annual, as well as first quarter payroll. More information on the CBP tapes may be obtained from the Data User Services Division.

Annual time series at the national level for all manufacturing SIC's are provided in a public-use tape of published Industry Profiles for the period 1958 to 1971. Data items include the "general statistics" plus end-of-year inventories and a number of derived measures. A file of 1972 to 1974 Industry Profiles data will become available later in 1977.

Other 1972 Economic Censuses Files

Other file sets, documented separately, are being created from the 1972 Economic Censuses:

1972 Census of Retail Trade: Area Series and Size Tables
1972 Census of Retail Trade: Merchandise Line Sales*
1972 Census of Wholesale Trade: Area Series and Size Tables
1972 Census of Wholesale Trade: Commodity Line Sales
1972 Census of Selected Service Industries: Area Series and Size Tables
1972 Census of Manufacturers: Location of Manufacturing Plants (unpublished data)*
1972 Census of Mineral Industries: Area Series (tables 2a, 4, 5) and Industry Series (tables 3 and 4)
1972 Census of Construction: Area Series and Industry Series
1972 Survey of Minority-Owned Businesses
1972 Census of Transportation: National Travel Survey*, Truck Inventory and Use Survey*, Commodity Transportation Survey*

Conventions of file structure and encoding are comparable to those of the present files with the exception of those files followed by an asterisk. More information on any of the above is available from the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C.

Record Structure

Identification fields. Each record consists of data for a given area, identified by standard geostatistical codes, and a given industrial classification, identified by an SIC code. These and other identifying codes appear in Characters 1-40 in fields standard for all files, as specified on pages 12 and 13.

Data fields. The remainder of each record consists of 10 character data fields, each subdivided into a one-character "flag" and a nine character tally field. Data fields are numbered from 1 to n.

Flag. The flag character is normally zero, but otherwise indicates the absence of data or some important qualification to the data:

Flag	Definition
0	Data present (zero in data field represents actual value)
1	Data present but subject to qualification expressed in footnote in corresponding data report or in documentation
2	Value in data field is greater than zero but rounds to zero at unit presented (data field contains zero) (Z)
3	No data - see footnote in corresponding data report or in documentation
4	No data - suppressed to avoid disclosure of confidential information (D)
5	No data - suppressed because data did not meet acceptable standards (S)
6	No data - not applicable (X)
7	No data - not available (NA)
8	Data present - value represents the sum of one or more categories in addition to this category. (Used only on file MA-3; see page 19)
9	No data - value for this category has been added to that of another category. (Only on file MA-3)

Note that wherever flags 2 to 7 and 9 appear, the associated tally field will contain zeroes. Of these all except flag 2 indicate the absence of data for one reason or another.

Character location for a given flag can be obtained by multiplying the field number by 10 and adding 31.

Annual time series at the national level for all manufacturing SIC's are provided in a public-use tape of published Industry Profiles for the period 1958 to 1977. Data items include the "general statistics" plus end-of-year inventories and a number of derived measures. A file of 1972 to 1974 Industry Profiles data will become available sometime in 1977.

Tally fields. Each tally field contains integers only (a minus sign "-" in the left-most position indicates a negative number). The unit of measurement, frequently hundreds of thousands of dollars, is indicated in parentheses after the field description in the following record layouts. Alphabetic characters which indicate suppression or other conditions in data fields in corresponding published reports have been removed, and their place taken by flags described above.

Character location for a given tally field can be obtained by multiplying the field number by 10 and adding 32 through 40.

Standard Record Identification Fields

Characters

1-3 Matrix number: unique identification among all 1972 Economic Censuses tapes.

4 Geographic level:

0 = U.S.	4 = SCA (Standard Consolidated Area)
1 = Region	5 = SMSA (Standard Metropolitan Statistical Area)
2 = Division	6 = County
3 = State	7 = Place

5 Geographic level qualifier:

0 = entire area
4 = SMSA or SCA part in State only (File MA-1, Matrix 208)

6-7 Geographic State, division, or region code (see Appendix C)
Blank for SCA's and SMSA's in more than one State.

8-9 FIPS[1/] State code (see Appendix C)
Blank for U.S., regions, divisions, SCA's and SMSA's in more than one State.

10-13 FIPS SMSA code (or Census SCA code)[2/]
SMSA code is given for counties and places in SMSA's.
Blank for U.S., regions, divisions, States, nonmetropolitan counties and places, and all counties in New England.

14-16 FIPS county code
County code is given for one-county SMSA's, and for places within a county.
Blank for U.S., regions, divisions, States, SCA's, multi-county SMSA's and places crossing county boundaries.

17-20 Census place code (including codes for Special Economic Urban Areas - SEUA's)
Blank for all higher levels.

21 "2"

22-24 Line linkage to Industry Name file.
øøø for total of all industries.

25-28 SIC code, left justified
Blank for total of all industries.

1/ Federal Information Processing Standards codes.

2/ There are only two SCA's:
0001 = New York-New Jersey Standard Consolidated Area
0002 = Chicago, Illiana-Northwestern Indiana SCA
All other codes in this field are FIPS SMSA codes

Standard Record Identification Fields - continued

Fields Unique to Manufactures Files

Characters

29-34 Matrix 212 only: Code for Material Consumed, titles for each code are presented on pages 5-10 to 5-24 of the report Selected Materials Consumed, MC72(1)-5 or in individual Industry Series reports.
Blank for total-within-industry record
Blank for all other matrices

35-36 Matrix 208 only: "Secondary State" Code.
Blank for all records except State component records for multi-State SMSA's
Matrix 212 only: Unit of measure for materials consumed, see Appendix D.
Blank for all other matrices

37 Matrix 210 only: ADM record indicator
0 = Summary of all establishments including those for which data were imputed.
1 = Summary of those establishments for which data was imputed from administrative records.
Blank for all other matrices.

38 Matrix 212 only: Bracket indicator
0 = Normal data
1 = Data represent total of this material class and one or more following classes where bracket flag is "2"
2 = Data for this material class have been cumulated into the previous record with bracket flag "1"
Blank for all other matrices.

39-40 Matrices 201 to 208: Imputation level indicator (see page 14)

File MA-1 GENERAL STATISTICS
Matrices 201 to 208 defined below.

Number of data cells: 11	Areas:	See descriptions of individual matrices below.
Characters per record: 150	Industries:	
Number of records:	Source:	

Record Contents

Identification fields which vary: Characters 1-28, 39-40. See pages 12-13.

Imputation indicator (Characters 39-40): The payroll and sales data for small establishments (generally single-unit companies with less than 10 employees) were obtained from administrative records of other government agencies instead of from a census report form. These data were then used in conjunction with industry averages to estimate the balance of the items shown in the table for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time the data were tabulated. Contents of this field indicate the level of imputation in this record, more specifically the percentage of value of shipments in this area/industry which are accounted for by administrative records, scaled by 10 percentage points: 00 = 0 to 9 percent, 01 = 10 to 19 percent, . . . 09 = 90 to 99 percent, 10 = 100 percent.

Data fields (Characters 41 to 150): See page 10 for discussion of flags and character locations.

1 Total number of establishments
2 Number of establishments with 20 employees or more
All employees:
3 Number (100) 1/
4 Payroll ($100,000)
Production Workers:
5 Number (100)
6 Man-hours (100,000)
7 Wages ($100,000)
8 Value added by manufacture ($100,000) 2/
9 Cost of materials ($100,000) 3/
10 Value of shipments ($100,000) 2/ 3/
11 Capital expenditures, new ($100,000)

Applicable flags: No flags will appear for fields 1 and 2.
Flag 1 may appear in field 3, but only for matrices 202 to 204 as per footnote one. When this occurs fields 4-11 are suppressed as a group (flag 4).
For matrices 204 to 208, fields 3-11 may be suppressed as a group (flag 4)
Field 11 may be suppressed independently.
Flag 2 (data rounds to zero) may appear in any field 3-11.

1/ General statistics for some industries/producing areas are withheld to avoid disclosing figures for individual companies. However, for State, division, and region records (Matrices 202 to 204) for industries with 150 employees or more, the number of establishments is shown and a figure is given for the employment size range. Such figures can be discriminated from normal data by the presence of the flag for data with footnote (1). The value shown in the data field and their corresponding ranges are:

2	150 to 249 employees "AA"	17	1000 to 2499 employees "EE"
4	250 to 499 employees "BB"	25	2500 employees or more "FF"
7	500 to 999 employees "CC"		

These ranges are represented by double-letter symbols in the published reports. Care should be taken that these values are not confused with actual data values.

2/ Establishments in several industries reported value of production instead of value of shipments: 2032, 2033, 2035, 2037, 2038, 2085, and 3761. Consequently, the formula for computing value added by manufacture was modified to exclude any change in finished product inventories between the beginning and end of the year.

3/ The total value of shipments for all industry groups (2- and 3-digit) and a few individual industries (4-digit) includes extensive duplication arising from shipments between establishments in the same industry classification.

Subunits within File MA-1

Matrix 201 U.S. by Industry (2, 3, 4 digit)
Sort: SIC
Source: General Summary Table 3

Matrix 202 Regions by Industry (2, 3, 4 digit)
Sort: Region by SIC (see Appendix C for region codes)
Special Conditions: See footnote 1 above
Source: Not published sorted by region, but corresponds to region summaries in Industry Series table 2.

Matrix 203 Divisions by Industry (2, 3, 4 digit)
Sort: Division by SIC (see Appendix C for division co es)
Special Conditions: See footnote 1 above
Source: Division summaries table 2 in General Summary

Matrix 204 States by Industry (2, 3, 4 digit)
Sort: State (Geographic) by SIC (see Appendix C for geographic State codes)
Special Conditions: See footnote 1 above
Source: Area Series table 5
Cutoff: Industries with fewer than 150 employees are not shown

Note: Matrices 201 to 204 contain exactly the same data as are in industry series table 2 resorted, except in the few cases where subdivisions of 4-digit industries are shown in the industry series (bakeries, textiles, shoes)

Matrix 205 Standard Metropolitan Statistical Areas by Industry (2, 3, 4 digit)
Sort: FIPS SMSA code (alphabetic within U.S.) by SIC
Source: Area Series table 6
Cutoff: Industries with fewer than 250 employees are not shown

Matrix 206 Selected Counties by Industry Group (2, 3 digit)
Sort: State (geographic) by FIPS county by SIC
Source: Area Series table 7
Cutoff: Counties and industry-groups-within-county with fewer than 450 employees are not shown

Matrix 207 Selected Cities by Industry Group (2 digit)
Sort: State (geographic) by Census place code (alphabetic) by SIC
Special Conditions: Data for independent cities and cities which are coextensive with counties are provided only in matrix 206.

Source: Area Series table 8
Cutoff: Cities and industry-groups-within-city with fewer than 450 employees are not shown

Matrix 208 States, SMSA's, Counties, and Selected Cities

Sort: State (geographic) by level: State, SMSA's and SMSA-State components, then counties, then cities, in sort by their respective codes. SMSA's in more than one State have multiple records: SMSA total, then two or three records for the SMSA components in each State, in sort by the "secondary State" code in characters 37-38, the "secondary State" being the true State and the State code in characters applicable only for sorting purposes.

Source: Area Series Table 4

Cutoff: No cities with fewer than 450 manufacturing employees are shown, but all counties are shown.

File MA-2 DETAILED STATISTICS
Matrices 209 and 210 described below.

Number of data cells: 39
Characters per record: 430
Number of records:

Areas:
Industries:
Source:

} See descriptions of individual matrices below.

Record Contents

Identification fields which vary: Characters 1-9, 22-28, 37. See page 11.

Data fields (Characters 41 to 430): See page 10 for discussion of flags and character locations.

		Unit
1	Establishments, Total Number	
2	With 1 to 19 Employees	
3	With 20 to 99 Employees	
4	With 100 Employees or More	
5	All Employees, Average for Year	100
6	Payroll for Year, All Employees	$100,000
	Production Workers:	
7	Average for Year	100
8	March	"
9	May	"
10	August	"
11	November	"
12	Man-hours	100,000
13	January-March	"
14	April-June	"
15	July-September	"
16	October-December	"
17	Wages	$100,000
18	Cost of Materials, etc., Total[1/]	$100,000
19	Materials, Parts, Containers, etc., Consumed	"
20	Cost of Resales	"
21	Fuels Consumed	"
22	Purchased Electric Energy	"
23	Contract Work	"
24	Value of Shipments, Including Resales [1/]	$100,000
25	Value of Resales	"
26	Value Added by Manufacture [2/]	$100,000

[1/] See footnote 3 on page 15

[2/] See footnote 2 on page 15

	Manufacturers' Inventories	
27	Beginning of Year, Total	$100,000
28	Finished Products	"
29	Work in Process	"
30	Materials, Supplies, Fuel, Etc.	"
31	End of Year, Total	"
32	Finished Products	"
33	Work in Process	"
34	Materials, Supplies, Fuel, Etc.	"
35	Expenditures for Plant and Equipment, Total	$100,000
36	New Plant and Equipment, Total	"
37	New Structures and Additions to Plant	"
38	New Machinery and Equipment	"
39	Used Plant and Equipment	"

Applicable Flags. Flag 2 (rounds to zero) may appear for any field 5-39. Flag 4 may appear only in fields 20, 23, or 25.

Subunits within File MA-2

Matrix 209 U.S. by Industry (2, 3, 4 digit)
Sort: SIC
Source: General Summary Tables 3, 5; Industry Series Table 3

Matrix 210 States and ADM Components
Sort: State (geographic) by Total, ADM
ADM (imputation) records: The payroll and sales data for small establishments (generally single-unit companies with less than 10 employees) were obtained from administrative records of other government agencies instead of from a census report form. These data were then used in conjunction with industry averages to estimate the balance of the items shown in the table for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time the data were tabulated. Contents of ADM (imputation) records (as identified by a "1" in character 37) indicate the magnitude of imputed data for each statistic.
Source: Area Series Table 3

File MA-3 General Statistics by Employment Size of Establishment
Matrix 211 U.S. by Industry (2, 3, 4 digit)

Number of data cells: 144
Characters per record: 1480

Areas: U.S. only
Industries: 2, 3, 4 digit
Source: Industry Series table 4

Record Contents

Identification fields which vary: Characters 22-28. See page 11.

Data fields (Characters 41 to 1250): See page 10 for discussion of flags and character location.

Field numbers are given in the cells of the table below, note that these "general statistics" differ from those of file MA-1 in the omission of number of establishments with 20 or more employees and the addition of end-of-year inventories and the imputation indicator as a data cell.

FIELD NUMBERS	Imputation Indicator 2/	Establishments	All Employees		Production Workers			Value added by 3/ Manufacture ($100,000)	Cost of Materials 4/ ($100,000)	Value of Shipments 3/ 4/ ($100,000)	Capital Expenditures, New ($100,000)	End-of-Year Inventories ($100,000)
			Number (100)	Payroll ($100,000)	Number (100)	Man-Hours (100,000)	Wages ($100,000)					
Establishments, total	1	2	3	4	5	6	7	8	9	10	11	12
Establishements with an average of -												
1 to 4 employees	13	14	15	16	17	18	19	20	21	22	23	24
5 to 9 "	25	26	27	28	29	30	31	32	33	34	35	36
10 to 19 "	37	38	39	40	41	42	43	44	45	46	47	48
20 to 49 "	49	50	51	52	53	54	55	56	57	58	59	60
50 to 99 "	61	62	63	64	65	66	67	68	69	70	71	72
100 to 249 "	73	74	75	76	77	78	79	80	81	82	83	84
250 to 499 "	85	86	87	88	89	90	91	92	93	94	95	96
500 to 999 "	97	98	99	100	101	102	103	104	105	106	107	108
1000 to 2499 "	109	110	111	112	113	114	115	116	117	118	119	120
2500 employees or more	121	122	123	124	125	126	127	128	129	130	131	132
Establishments covered by Admin. Record 3/ 5/	133	134	135	136	137	138	139	140	141	142	143	144

2/ See note on the ADM (imputation) record for Matrix 210, page 18.

3/ See footnote 2 on page 14.

4/ See footnote 3 on page 14.

5/ Summary data for the establishments for which data was imputed. Data for these establishments are also included in the respective size classes shown for the same industry.

Applicable Flags. Where it was necessary to withhold data to avoid disclosure, the figures for two or more size classes were combined. Where "8" appears in the flag field, the data field contains a total for that cell and one or more corresponding cells in subsequent size classes (each physically 12 cells later). Those subsequent cumulated cells have flags of "9" and zeroed data fields. The combination represented ends before the next corresponding cell having a flag other than "9."

Sort Sequence of Records

By SIC

File MA-4 Materials Consumed
Matrix 212 U.S. by Industry (4) by Materials Consumed

Number of Data Cells: 4
Characters per Record: 80
Number of Records:

Areas: U.S. only
Industries: 4 digit SIC
Sources: Industry Series Table 7A

Note: Certain auxiliary materials are required for the use of this file which are not routinely distributed as part of the documentation package, but are provided if interest is expressed in this particular file: report MC72(1)-5, Selected Materials Consumed, and a 24-page listing of applicable footnotes. These items may be requested from the Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233.
Variable Identification Fields: Characters 21-36, 38. See page 12.

Data Fields:

Field Number	Description
1	Quantity (Unit of measure is given only in the above mentioned report or corresponding report. It is consistent for any one material across industries. One decimal place is implied)
2	Delivered cost ($100,000)
3	Number of head - applies only to SIC 2011 or Quantity made and consumed in the same plant - applies only to SIC major group 28 Not applicable for all other industries
4	Key for "bracketed" materials.[1/]

Applicable Flags:

All flags 1-7 may appear in fields 1-3. In field 4 flag 6 appears in all cases except subsequent records in bracketed groups, as per footnote 1.

[1/] Where two or more materials cannot be shown separately, whether because they could not be reported separately by the respondent or to prevent disclosure, they are bracketed together in the published reports and shown with a single line of data. In this file bracketed items are given a flag 1 or 2 in Character 38. The record with flag 1 contains data representing the combination of the data for this material and for the one or more materials identified on following records with flag 2 in character 38. Records with flag 2 contain no data in fields 1, 2, and 3, but field 4 contains the material code for the record containing the combined summary data.

Sort Sequence of Records: 4-digit SIC by material code, except that where 2 or more materials have been bracketed (as per footnote 1), the sequence keeps bracketed materials together. Within a given industry, this sequence may vary somewhat from that used in the published industry series reports. Within each industry the first record, with material code blank, is the total materials consumed for the industry.

Appendix A

Technical Characteristics of the Magnetic Tape Recording

Characteristics	IBM Compatible Tape	
	7-Track Tape	9-Track Tape
Width	.5 inch	.5 inch
Reel Size	10.5 inch diameter; maximum 2400 foot length	10.5 inch diameter maximum 2400 foot length
Recording Mode	NRZI (nonreturn to zero)	NRZI (nonreturn to zero)
Number of Recording Tracks	7 (6 data, 1 parity)	9 (8 data, 1 parity)
Density (characters or bytes per inch)	556/800	800
Language	Binary Coded Decimal (BCD)	Extended Binary Coded Decimal Interchange Code (EBCDIC) USA Standard Code for Information Interchange (USASCII or ASCII)
Error Controls	Character - even parity Track - longitudinal redundancy check	Character (byte) - odd parity Block-Cyclical code check based on an 8-bit character which is computed from data characters during write operation and recorded at end of tape block as hardware function
Recorded Tape Representation	One 6-bit character per tape frame	One 8-bit character (byte) per tape frame
Interblock Spacing	.75 inch	.6 inch (nominal)
Block size	fixed length - within each file. See listing shipped with tape.	fixed length - within each file. See listing shipped with tape.

Tape Labels

The internal tape labels used are essentially similar to IBM OS labels. Each label consists of one or more 80-character records. There are three types of labels as illustrated on page 25.

1) a volume header appearing only as the first record on the tape
2) file header labels preceding each file on the tape
3) end-of-file labels following each file on the tape

No user header or end-of-volume labels are employed. Tape marks separate label records from data records, and separate end-of-file records for one file from the header records for the next file as illustrated on page 12. Two consecutive tape marks indicate the end of the tape.

Significant fields on the label record are listed below. All remaining fields do not vary, and may be inferred from the illustration.

Tape Identifier

(VOL 1, Char. 5-10) This designation should agree with the written label on the outside of the tape.

File Set Identifier

(HDR1 and EOF1, Char. 22-27) Identifies the normal unit of issue, usually consisting of one tape, sometimes two. The following file sets are used in the 1972 Economic Censuses program:

MINA72	Mineral Industries
MFRA72	Manufactures (Published data)
MFRL72	Location of Manufacturing Plants
CONA72	Construction Industries
WHSA72	Wholesale Trade, Area Series and Size
WCLS72	Commodity Line Sales
RETA72	Retail Trade, Area Series and Size
RMRC72	Major Retail Centers
RMLS72	Merchandise Line Sales
SRVA72	Selected Service Industries
REFS72	Economic Censuses Reference Files

File Identifier

(HDR1 and EOF1, Char. 5-21) Unique alphanumeric name for the file. First three characters are the same as the file designation in the documentation, but without the hyphen (e.g., MI1, ML2, RA5).

Illustration of Label Sequence on 1972 Economic Censuses Tapes

volume header

VOL1TE14452
(tape id.)

file sequence number

HDR1MA1 MFRA7200010001 73293 99365 000000CENSUS

(file identifier; file set; file section; creation date)

headers for first file

HDR2F036000015020 ET

(characters per block; characters per logical record; density)

TAPE MARK

Data on First File

TAPE MARK

EOF1MA1 MFRA7200010001 73293 99365 004658CENSUS

(block count)

end-of-file labels

EOF2F036000015020 ET

TAPE MARK

HDR1MA2 MFRA7200010001 73293 99365 000000CENSUS

headers for second file

HDR2F034400043020 ET

TAPE MARK

And so forth for the second file through the last file

TAPE MARK

EOF1MA4 MFRA7200010001 73293 99365 004658CENSUS

end-of-file labels

EOF2F036000080020 ET

TAPE MARK

TAPE MARK

File Section

(HDR1 and EOF1, Char. 30-33) "0001" for all single tape files and for the first reel of multi-tape files; subsequent reels numbered sequentially.

File Sequence Number

(HDR1 and EOF1, Char. 34-37) Denotes the sequence (i.e., 0001, 0002, 0003, etc.) of files within a file set.

Creation Date

(HDR1 and EOF1, Char. 43-47) This refers to the date of creation of the original master tape; not relevant for a copy. The form is XX YYY where XX is the year and YYY is the day within the year.

Block Length

(HDR2 and EOF2, Char. 6-10) Number of characters per block, i.e., between interblock gaps.

Record Length

(HDR2 and EOF2, Char. 11-15) Number of characters per logical record. The block length is always an even multiple of the record length.

Recording Density

(HDR2 and EOF2, Char. 16) "1": 556 characters per inch, "2": 800 characters per inch.

Mode

(HDR2 and EOF2, Char. 35-36) "ET": Even parity (7-track tape only) blank: 9-track tape

Block Count

(EOF1, Char. 55-60) Number of data blocks in file (i.e., number of blocks since the preceding HDR label group).

If your computer does not use this type of label, but uses tape marks only as file separators, labels may easily be bypassed by reading the label groups as dummy files, of which there would be one at the beginning of the tape and two between subsequent data files.

Appendix C

"Geographic" codes for States, Regions, and Divisions and FIPS codes for States

	Geo[1]	FIPS[2]
United States	00	
Northeast Region	09	
New England Division	10	
Maine	11	23
New Hampshire	12	33
Vermont	13	50
Massachusetts	14	25
Rhode Island	15	44
Connecticut	16	09
Middle Atlantic Division	20	
New York	21	36
New Jersey	22	34
Pennsylvania	23	42
North Central Region	29	
East North Central Division	30	
Ohio	31	39
Indiana	32	18
Illinois	33	17
Michigan	34	26
Wisconsin	35	55
West North Central Division	40	
Minnesota	41	27
Iowa	42	19
Missouri	43	29
North Dakota	44	38
South Dakota	45	46
Nebraska	46	31
Kansas	47	20
South Region	49	
South Atlantic Division	50	
Delaware	51	10
Maryland	52	24
District of Columbia	53	11
Virginia	54	51
West Virginia	55	54
North Carolina	56	37
South Carolina	57	45
Georgia	58	13
Florida	59	12
East South Central Division	60	
Kentucky	61	21
Tennessee	62	47
Alabama	63	01
Mississippi	64	28
West South Central Division	70	
Arkansas	71	05
Louisiana	72	22
Oklahoma	73	40
Texas	74	48
West Region	79	
Mountain Division	80	
Montana	81	30
Idaho	82	16
Wyoming	83	56
Colorado	84	08
New Mexico	85	35
Arizona	86	04
Utah	87	49
Nevada	88	32
Pacific Division	90	
Washington	91	53
Oregon	92	41
California	93	06
Alaska	94	02
Hawaii	95	15

1/ Geographic codes for States, divisions, and regions have been referred to in other publications as "1960 State codes"

2/ Federal Information Processing Standards codes.

Appendix D

MATERIALS CONSUMED - UNITS OF MEASURE CODES
File MA-4

Code	Unit of Measure
01	Million pounds
02	1,000 bales
03	1,000 short tons
04	Million bushes
05	1,000 cwt
06	Live weight, million pounds
07	Million cwt
08	1,000 cases (30 dozen)
09	1,000 gross
10	1,000 long tons
11	Gross weight (1,000 short tons)
12	Million barrels
13	Million cubic feet
14	Dressed weight (million pounds)
15	1,000 gallons
16	Million wine gallons
17	Million taxable gallons
18	Million gallons
19	1,000 barrels
20	Million linear yards
21	1,000 linear yards
22	Million linear feet
23	Million square yards
24	Million bags
25	1,000
26	Million feet (log scale)
27	Million board feet
28	1,000 units
29	Million square feet (3/8" basis)
30	Million square feet (surface measure)
31	" " " " "
32	Million square feet (3/4" basis)
33	Million square feet (1/8" basis)
34	Million units
35	Not used
36	1,000 kilograms
37	Million ounces
38	Kilograms
39	42 gallon barrels
40	1,000 sales squares
41	Million tires
42	1,000 carats
43	1,000 pounds
00	No Quantity

NOTE: Unit of measure codes have been assigned to some materials for which no quantity is provided and for all material codes where quantity data has been provided in one or more industries.

1967 Census of Manufactures Data on the 1972 County and City Data Book Tape

The following items appear on CCDB tape records for the United States, States, counties, SMSA's, and incorporated cities of 25,000 inhabitants or more. There is no differentiation by kind-of-industry The number in parentheses indicates implied unit of measure, e.g., (100) indicates data in hundreds.

Field No.

158 Total manufacturing establishments, 1967
159 Percent with 20 or more employees (.1%) 1/
160 Percent with 20 to 99 employees (.1%) 2/
161 Percent with 100 or more employees (.1%) 2/
Total employees of manufacturing establishments
162 Annual average employment (100)
163 Percent change in employment, 1963 to 1967 (.1%) 1/
164 Total payroll ($100,000)
Production Workers:
165 Annual average employment (100)
166 Total man-hours (100,000)
167 Wages ($100,000)
168 Value added by manufacture ($100,000)
169 Percent change in value added, 1963 to 1967 (.1%)
170 New capital expenditures ($100,000)

1/ Items 159 and 163 are not on records for the United States, States, counties and SMSA's

2/ Items 160 and 161 are not on records for cities.