



COMPUTER ASSISTED MASS APPRAISAL SYSTEMS

Application Manual

**OFFICE OF POLICY AND MANAGEMENT
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OFFICE OF POLICY AND MANAGEMENT

Marc Ryan
Secretary

W. David LeVasseur
Undersecretary
Intergovernmental Policy Division

COMPUTER ASSISTED MASS APPRAISAL SYSTEMS ADVISORY BOARD

Michael Bekech, Chair
Waterford
(860) 444-5822

Richard S. Buchanan
East Hartford
(860) 291-7268

Anthony Homicki
Newington
(860) 665-8530

Bruce Chaplinski
Bristol
(860) 584-7666

Robert Hartzell, Jr.
Hartford
(860) 543-8540

Joanne S. Ferraresso
West Hartford
(860) 523-3100

David L. Valente
Glastonbury
(860) 652-7600

**COMPUTER ASSISTED MASS APPRAISAL SYSTEM
(CAMA)
APPLICATION PACKAGE**

TABLE OF CONTENTS

<u>Page</u>	
1	Introduction
2	Questions and Answers Related to the CAMA Grant Program
3	Minimum Requirements for a Computer Assisted Mass Appraisal System
3	A. Data Management Module Administration Data Fields Property Characteristic Fields - All properties Property Characteristic Fields - Residential Property Characteristic Fields - Non-Residential Ownership and Sales Data Fields Tax Collection Data Fields Data Editing Requirements Optional Data Fields
5	B. Valuation Module Land Valuation Residential Valuation Apartment, Commercial, Industrial Valuation General Report Writer and Data Output Optional Features
7	C. Assessment Administration Module
8	D. Tax Collection Administration Module
9	Glossary of Computer Terminology for the CAMA Grant Program
10	Connecticut General Statute §12-62f, as amended by Public Act 95-283
11	Computer-Assisted Mass Appraisal Regulations
15	Statistical Revaluation Regulations
18	Application Form for CAMA Grant Program

INTRODUCTION

Section 12-62f of the Connecticut General Statutes provides for grants-in-aid to each municipality to develop or modify a Computer-Assisted Mass Appraisal and Property Tax Administration Computer system for the purpose of enhancing property tax administration. This package of materials has been compiled to assist prospective recipients in the application process.

Each municipality completing and implementing a revaluation for the assessment years of October 1987 through 1996 may apply for a grant-in-aid for developing a Computer-Assisted Mass Appraisal System (CAMA) and Property Tax Administration Computer system. Grants are provided for the purchase or development of computer hardware and software, modification (enhancement/expansion) of existing computer hardware and software, and training of municipal personnel in the proper use of the system. Applications may be submitted at any time, by the municipality, to the Office of Policy and Management after the implementation of the revaluation using the CAMA system. "Implemented revaluation" is defined as the establishment of a mill rate, rate book and the subsequent mailing of the rate bills based upon assessments generated by a CAMA system.

Approval of the Grant is contingent upon the CAMA System meeting the minimum requirements as provided for in Section 12-62f-1 to 12-62f-6 of the Regulations of Connecticut State Agencies. (See Section G of this manual) The CAMA System must ensure a more accurate revaluation as well as improving both assessment and tax collection practices in the municipality. Prior to any CAMA Grant payment a system must be in place, operational, and be reviewed and approved by a representative of the Office of Policy and Management or the CAMA Advisory Board.

The grant consists of two components. The new grant and an additional amount equal to ten percent (10%) of the basic grant.

Grant monies are paid on the basis of the following population table:

POPULATION	GRANT AMOUNT	
	New	Additional*
less than 20,000	\$27,500	\$2,500
20,000 to 49,999	\$38,500	\$3,500
50,000 to 99,999	\$55,000	\$5,000
100,000 or more	\$66,000	\$6,000

* For municipalities that received CAMA Grants prior to 1996 only.

QUESTIONS AND ANSWERS RELATED TO THE CAMA GRANT PROGRAM

1. What is a Computer Assisted Mass Appraisal System?

A Computer Assisted Mass Appraisal (CAMA) System is the process of using a computer to help assessors update property values and keep them up-to-date for ad valorem tax purposes. Basically, the computer can be seen as a device to store a massive file of current, accurate information about property characteristics, recent real estate transactions, cost, depreciation, and other economic factors for the real estate market. This information can be analyzed in a number of ways to generate value estimates for all properties and to produce a number of reports that aid the assessor.

2. What is a Property Tax Administration Computer system?

A Property Tax Administration Computer (PTA) system is the process of using a computer to produce the Grand List, Tax Rate Book, Tax Bills and other administrative reports including reimbursement claims for OPM. As of 1996 the PTA system is required in order to receive a grant.

3. Who may apply for funding?

Municipalities that have implemented a revaluation, effective between October 1, 1987, and October 1, 1996 in compliance with Section 12-62 of the general statutes.

4. What does "implemented revaluation" mean?

A revaluation is considered implemented in accordance with Section 12-62 of the Connecticut General Statutes, when a rate book and a mill rate have been established and tax bills mailed.

5. When can application be submitted?

The Office of Policy and Management will accept applications only after an implemented revaluation. The municipality should be prepared for an on-site inspection of the system at the time the application is submitted. Grant applications must be addressed to:

Office of Policy and Management
Intergovernmental Policy Division
450 Capitol Ave. - MS#54FOR
Hartford, Connecticut 06106-1301

6. If a municipality has already acquired a system is it eligible for a grant?

Yes, the Secretary of the Office of Policy and Management may reimburse municipalities; provided the CAMA system meets the current requirements.

7. Can a municipality apply if it implements a CAMA system in a year subsequent to the revaluation even if the CAMA system was not used for the revaluation?

Yes, the municipality can apply in any year subsequent to the year a revaluation was implemented as long as the system meets all the current requirements.

8. Are municipalities that received a grant prior to 1995 eligible for additional funding?

Yes, the municipality may receive the additional grant equal to 10% of the original grant that was previously approved and paid. The additional grant money is already included in the "New Grant" amount for new applicants.

9. What must a municipality do to receive the additional grant?

The municipality must have a CAMA system that meets the current requirements including the PTA system. The municipality must also file a new application. Municipality may apply at any time after meeting the current CAMA requirements.

10. How long must a municipality retain records of expenditures?

The municipality must retain all invoices, purchase orders and other evidence of expenditures related to the CAMA system for a period of 2 years following receipt of the grant.

11. How long will it take to receive payment?

After the application is submitted to OPM, a member of the CAMA Advisory Board makes an on-site inspection of the system. The CAMA Advisory Board will review the inspection report and they will forward their recommendation to the Secretary of OPM. Upon approval by the CAMA Advisory Board, the Secretary of the Office of Policy and Management will request funding from the State Bonding Commission.

11. How will payment be made?

Payment will be made within approximately thirty (30) days after approval of the State Bonding Commission.

12. Who can you contact for more information or program questions?

Paul LaBella
(860) 418-6313

or

any member of the
CAMA Advisory Board

A. DATA MANAGEMENT MODULE

This module is the foundation of the Computer Assisted Mass Appraisal System. The Valuation Module applications are organized around it. The Assessment Administration and Tax Collection Modules must interface with and be dependent upon this module. All items listed in sections 1 to 7 are required.

1. Administration Data Fields

- * Parcel identification number
- * Property type
- * OPM approved grand list abstract codes
- * Exemption codes
- * Land assessment
- * Building assessment
- * Total assessment
- * Prior assessment
- * Census tract
- * Value at 100%
- * Current property owner
- * Mailing address
- * Property location
- * Building permit
- * Number and building permit date

2. Property Characteristic Fields - All Properties

- * Acreage
- * Frontage
- * Square Feet
- * Zoning
- * Neighborhood code
- * Occupancy
- * Construction style
- * Construction quality grade
- * Condition
- * Total floor area
- * Number of stories
- * Basement finish type
- * Plumbing
- * Heating Type
- * Cooling Type
- * Exterior wall type
- * Sketch dimensions
- * Utilities
- * Year built
- * Last date of record update
- * Inspection date

3. Property Characteristic Fields - Residential

- * Occupancy
- * Attic
- * Number of bathrooms
- * Number of bedrooms
- * Number of rooms
- * Number of fireplaces

- * Garage (attached/detached)Out building(s)
- * Yard improvements

- * Pool

4. Property Characteristic Fields - Non-Residential

- * Number of stories
- * Story height
- * Elevator
- * Yard improvement(s)
- * Use type by percentage of total building area or square feet
- * Number of apartment units
- * Number of Units by type
- * Net operating income
- * Capitalization rate
- * Value by income approach

5. Ownership & Sales Data Fields

- * Unlimited property transfers
- * Transfer date
- * Deed Volume
- * Deed Page
- * Deed type
- * Property owner
- * Sale price
- * Sale date
- * Valid sale indicator
- * Validity code

6. Tax Collection Data Fields

- * Tax district codes
- * Mill rates
- * Escrow code
- * Total tax
- * Lien fee
- * Tax Paid
- * Delinquency code

7. Data Editing Requirements

- * Provide edits designed to detect the following:
- * Missing data
- * Invalid characters
- * Alpha or numeric values outside specific ranges
- * Illogical relationships (cross field edits)
- * User editing of data fields

8. Optional Data Fields

- * Insulation
- * Number of wood-burning stoves
- * Flood plain designation
- * Site elevation
- * Street condition
- * Site desirability
- * Access
- * View influence
- * Site compared to surrounding
- * Landscaping
- * Dimensions/lot size
- * Dockage
- * Date of last assessment change
- * Date of last inspection
- * Inspected by
- * Edited by
- * Edited date
- * Source of information
- * Foundation
- * Interior floors
- * Interior walls
- * Roof type and material
- * Fire protection
- * Tenant improvements
- * Certificate of Occupancy date
- * Perimeter
- * Passenger elevator
- * Freight elevator
- * Fire escape
- * Cold storage rooms
- * Number of parking spaces
- * Sprinkler system
- * Escalators
- * Loading docks
- * Crane runs
- * Conveyer system
- * Generator system
- * Tiling
- * Wiring
- * Dockage
- * Railroad siding
- * Foundation
- * Interior floors
- * Roof type and material
- * Dimensions/lot size
- * Geographic Information System (GIS) interface
- * Digital Photograph interface
- * Internet access

Optional features column items are intended to be illustrative and not all inclusive

B. VALUATION MODULE

The valuation module is used in the determination of the valuation of real property based upon accepted appraisal methodology. The module may use a formula or table driven system. This module is required to perform the tasks described below and allow for the editing of the data fields. While the market approach is considered an important feature of any appraisal system, it is considered optional for the CAMA grant and its utilization will depend upon individual municipal needs.

1. Land valuation requirements

Land values shall be computed for one or more of the following:

- * Square feet
- * Acreage
- * Standard lot size
- * Unit

Land value must be developed from market-derived adjustment factors using one or more of the following

- * Front foot adjusted for depth
- * Fractional acreage
- * Unit value

2. Residential valuation requirements

- * Compute replacement cost new, less depreciation
- * Provide user modifiable tables or formulas for various structure and building types
- * Provide user modifiable depreciation tables for age and condition variables
- * Compute the value of each yard improvement (such as swimming pool, tennis court, detached garage and shed)
- * Provide the ability to accept, reject or adjust value from the table or formula derived values
- * Allow for on-line sketch input
- * Provide for automatic computation of total square foot of living area
- * Provide for the automatic computation of gross living area
- * Provide for the computation of other area measurements defined by the user
- * Capacity to allow user-modifiable selection criteria to identify up to three properties that are most comparable to the subject property

3. Apartment /Commercial/ Industrial valuation requirements

- * Compute replacement cost new, less depreciation
- * Provide user modifiable tables or formulas for various structure and building types
- * Provide user modifiable depreciation tables for age and condition variables

- * Compute the value of each yard improvement, such as paving, fencing, sheds
- * Provide the ability to accept, reject or adjust value from the table or formula derived values
- * Provide for automatic computation of total square footage
- * Capacity to compute the value of the property using the income approach by the use of the direct capitalization method

4. General report writer and data output requirements

- * Print property record card with the appropriate fields listed in the Data Management Module
- * Allow flexibility of design of the record card based on the discretion of the assessor
- * Provide for random printing of property record cards
- * Provide for the printing of sketches showing dimensions
- * Ensure closure of sketches
- * Provide for the creation of multi-page property record cards for a parcel
- * Output data from Data Management Module to magnetic diskette
- * Produce statistical and comparable sales analysis reports based upon pre-defined and/or user-defined criteria
- * Calculate and output to printed report and standard analytical software programs the following information;

- sales/assessment ratios by property type
- sales/assessment ratios by neighborhood
- sales price
- assessments
- mean sales/assessment ratio
- median sales/assessment ratio
- coefficient of dispersion
- standard deviation
- coefficient of variation
- price-related differential

5. Optional Features

Land Valuation

- * Influence/condition modifiers by dollar or percentage adjustments, such as
 - Waterfront
 - Topography
 - Water view
 - Access
- * Allocation valuation methodology
- * Residual valuation methodology
- * Use value assessment

Income Approach

- * Residual techniques
- * Discounted cash flow analysis

Market Approach

- * Provide homogeneous neighborhood grouping for residential properties, where applicable
- * Supply user modifiable selection criteria
- * Make available user defined variables for comparable selection
- * Allow dollar or percentage adjustments for user defined variables for property variations: such as square feet, number of baths
- * Produce the indicated value estimate by market analysis
- * Provide parameters when computer predicted value is outside confidence limits
- * Predefined and user defined reports
- * Provide user modifiable selection criteria (at least ten) by each property or property grouping.
- * Make available user defined variables for comparison for comparable sales analysis
- * Allow dollar or percentage adjustments for user defined variables
- * Output document should display the most comparable properties for property variation, such as square feet, number of baths, and data, sale price, sale date

Optional feature items are intended to be illustrative and not all inclusive.

C. ASSESSMENT ADMINISTRATION MODULE

The Assessment Administrative Module must have the ability to interface with both the Valuation and Tax Collection Modules. The Assessment Administrative Module must contain the following functions:

- * Ability to produce grand lists in Office of Policy and Management approved format
- * Maintain sales history file for each property on file
- * Ability to provide multi-district coding for separate grand list(s)
- * Ability to inquire and update real estate, personal property and motor vehicle records
- * Ability to update files for prorated motor vehicle credits
- * Ability to update files for new construction and/or demolition
- * Ability to process and update appropriate fields with assessment changes as made by:
 - Board of Assessment Appeals
 - Certificates of Correction
 - and any other lawful corrections and adjustments
- * Calculate percentage of tax credit for Homeowners Program
- * Calculate phase-in assessment and exemption in accordance with §12-62a or 12-62c
- * Allow for multi-year processing
- * Provide for two-level password protection for file access
- * Provide interactive updating to the data management module
- * Provide multi-user capability to allow simultaneous file access for more than one user with record level lockout where applicable
- * Allow simultaneous use of other software applications, such as word processing or spreadsheet
- * Provide for audit file
- * Built-in editing routines to flag potential error conditions, such as,
 - total assessment not equal to item breakdowns
 - exemption amount larger than \$10,000
 - exemption codes not valid
 - exemption not greater than gross assessment
 - name missing
 - street address missing
 - city, state or zip code missing
- * Ability to generate in hard copy and provide the data to magnetic diskette or other removable computer media for the following required reports:
 - Grand List Assessment
 - Increase Notices
 - Top twenty taxpayer report for real estate and personal property
 - Reports required by Assessor such as, recent volume page, last sales price, and sales date
 - OPM Reports**
 - M-13 and M-13A (or M13d & M-13Ad) Grand List reports
 - M-35B Reimbursement of Revenue Loss-Homeowners
 - M-35P Reductions to Homeowners Reimbursement
 - M-36P Reductions to Freeze Reimbursement
 - M-37 State-Owned Property PILOT
 - M-37C&H College and Hospitals PILOT
 - M-59A Additional Veterans Exemptions
 - Other appropriate Office of Policy and Management reporting forms as applicable
- * Provide user defined reporting capability by the following owner information:
 - map, block, and lot
 - property location
 - districts
 - item codes
 - exemption codes
 - use value codes
 - building permit management
 - and any other user defined report based on data from the data management and valuation modules
- * Ability to restart any incomplete report at the point it was terminated

D. TAX COLLECTION ADMINISTRATION MODULE

The Tax Collection Module must have the ability to interface with both the Valuation and Assessment Administrative Modules. The Tax Collection Module must contain the following functions:

- * Ability to produce Ratebooks in OPM approved format
 - * Ability to produce Tax Bills in OPM approved format
 - * Ability to update tax billing file for:
 - pro-rates for motor vehicle credits
 - pro-rates for certificates of occupancy
 - certificates of correction
 - Board of Assessment Appeal changes
 - * Process new owner and address changes prior to billing. (October 1st owner must be retained and shown on Ratebook and Tax Bill)
 - * Process delinquent code to tax bill file indicating back taxes due
 - * Provide multi-digit code for identification of real estate escrow bank payments
 - * Print tax bills and/or listing of owners by bank in alphabetical order
 - * Ability to post refunds
 - * Ability to calculate interest and lien due
 - * Ability to store at least fifteen years of tax collection data
 - * Ability to review and audit file listings input data
 - * Ability to output ratebook and tax bill file to create tax collection/receivable file with total tax due and each installment
 - * Ability to produce monthly trial balance
 - * Ability to provide two-level password protection
 - * Ability integrate collection and posting functions
 - * Ability to provide sufficient security functions
 - * Ability to generate in hard copy and provide the data to magnetic diskette for the following required reports:
 - ratebook totals
 - total of tax bills
 - alias tax warrants
 - summary of certificates of correction by list year
 - suspended tax
 - monthly trial balance
- OPM Reports**
- M-36 - Reimbursement of Revenue Loss- Elderly Tax Freeze
 - M-42B - Totally Disabled Exemptions
 - M-65A - Newly Acquired Manufacturing Machinery and Equipment
- Delinquent Notices**
- tax reminder notices
 - demand notices
 - lien notice
 - real estate tax liens
 - Department of Motor Vehicles delinquent motor vehicle taxes reports

E. GLOSSARY OF COMPUTER TERMINOLOGY

ALPHA/NUMERIC: a generic term for alphabet letters, numerical digits and special characters, such as punctuation marks, which are machine processable.

DATA BASE: the aggregate body of all information stored in a computing system which is fundamental to the enterprise which owns or operates the system. Access to the data base may be limited to certain specific users and/or application programs.

EDITING: to modify, add, or delete to (data or text).

FIELD: a variable length data element within a record and is represented as a column in a table or file.

FILE: a set of items pertaining to one function arranged or classified in sequence for convenience or reference.

HARDWARE: a computer and the associated physical equipment directly involved in the performing of communication or data processing functions.

INTERFACE: means a shared connection or boundary between two devices or systems, or the point at which two devices or systems are linked.

INTEGRATED: the combination of processes which results in the introduction of data which need not be repeated as further allied or related data is also entered.

MAGNETIC TAPE: a plastic tape with a magnetic surface on which data can be stored in a code of magnetized spots.

MAIN FRAME: the central processing unit (CPU) of a computer exclusive of peripheral and remote devices.

MASTER FILE: a file that contains the main, permanent information used in a system.

MICRO COMPUTER: a very small computer built around a micro processor.

MODULE: part of a program that performs a distinct function or task.

ON-LINE SYSTEM: a system in which data to be input enters the computer directly from the point of origin and/or the out put data is transmitted directly to the location where it is to be used.

PASSWORD: a code word or group of characters a computer might require to allow an operator access to certain functions. A security provision.

PC COMPUTER: a desktop or laptop computer having more memory and higher execution speed than a micro computer.

SOFTWARE: the collection of written or printed data such as programs, routines, or instructions essential to the operation of a computer.

TABLE DRIVEN: an array of attributes and variables non hard coded which may be adjusted or updated by system user.

TERMINAL: any device capable of sending and/or receiving information over a communication channel including input to and output from the system of which it is a part.

UPDATING: the combination or processes which results in the introduction of data which need not be repeated as further allied or related data is also entered.

USE ASSESSMENT: means the value as defined in Section 12-107a to 12-107e

VALUE: means the fair market value as defined in Section 12-63 of the Connecticut General Statutes.

F. CONNECTICUT GENERAL STATUTE - SECTION 12-62f

Sec. 12-62f. State grants-in-aid to municipalities for development or modification of computer-assisted mass appraisal systems for use in revaluation. (a) Secretary of OPM to establish state-wide program assisting development of mass appraisal systems.

The secretary of the office of policy and management shall establish a state-wide program of financial assistance to municipalities to improve municipal assessment and tax collection practices. Such financial assistance, within the limits of funds made available for such purpose, shall be in the form of a grant-in-aid to each municipality to develop or modify a state certified computer-assisted mass appraisal system for the purpose of revaluation, as required in section 12-62, the training of municipal personnel in the proper use of such system, the acquisition of software packages and hardware upgrading. Whenever used in this section, "municipality" means any town, consolidated town and city or consolidated town and borough.

(b) Standards to be developed for certification of computer-assisted mass appraisal system. The secretary shall, after consultation with the board created by subsection (f) of this section, on or before December 1, 1988, develop minimum standards for the certification of a computer-assisted mass appraisal system and on or before December 1, 1995, adopt regulations, in accordance with the provisions of chapter 54, setting minimum computer-assisted mass appraisal standards and computerized administrative standards. A municipality which intends to develop or modify a computer-assisted mass appraisal system as provided in subsection (a) of this section, may apply to the secretary for a grant-in-aid, on or after January 1, 1989, in such form and manner as said secretary shall prescribe. The secretary shall review each such application, and shall, after consultation with the board created by subsection (f) of this section, approve the municipality's proposed use of the grant-in-aid, provided it has been shown to his satisfaction that the intended development or modification of a computer-assisted mass appraisal system will (1) meet the minimum computer-assisted mass appraisal standards and computerized administrative standard requirements as established by the secretary, (2) ensure a more accurate revaluation and (3) serve to improve both assessment and tax collection practices in the municipality.

(c) Grants-in-aid to municipalities. Determination of amount. Each municipality whose application for state financial assistance has been approved by the secretary shall receive a grant-in-aid on the basis of its population, as determined by the most recent estimates of the department of public health and addiction services. The amount of such grant-in-aid to any municipality with revaluation, as required in section 12-62, becoming effective in any of the years 1987 to 1996, inclusive, shall be as follows: (1) Twenty-five thousand dollars to each municipality with a population of less than twenty thousand; (2) thirty-five thousand dollars to each municipality with a population of at least twenty thousand but less than fifty thousand; (3) fifty thousand dollars to each municipality with a population of at least fifty thousand but less than one hundred thousand and (4) sixty thousand dollars to each municipality with a population of one hundred thousand or more. Each municipality that completed a revaluation which became effective in the years from 1987 to 1996, inclusive, and qualified for the grant-in-aid provided for in this section, shall be eligible for an additional grant-in-aid equal to an amount not to exceed ten per cent of the grant-in-aid limit of the grant for which they originally qualified provided the additional shall be used for training and for installations and modifications which are acquired and certified to be in compliance with the minimum computer-assisted mass appraisal standards and computerized administrative standards developed in accordance with subsection (b) of this section.

(d) Application for assistance. Upon approval of an application for state financial assistance, the secretary shall certify to the comptroller the amount due to the municipality. Not later than fifteen days after such certification, the comptroller shall draw his order on the treasurer, and not later than fifteen days thereafter, the treasurer shall pay the grant to the municipality.

(e) State assistance to be monitored. The secretary shall periodically monitor a municipality's use of such grant-in-aid, to ensure full compliance with the provisions of this section. Each municipality receiving a grant-in-aid under this section shall for a period of two years following receipt of such grant-in-aid maintain all invoices, purchase orders and other evidence of expenditures related to the grant-in-aid.

(f) Computer-assisted mass appraisal systems advisory board. There is created a computer-assisted mass appraisal systems advisory board. Said board shall consist of seven Connecticut municipal assessors, one each to be appointed by the governor, the president pro tempore, the majority leader and the minority leader of the senate and the speaker, the majority leader and the minority leader of the house of representatives. The members shall choose a chairman from the membership. Said board shall have such powers and duties as are set forth in subsection (b) of this section.

(g) Database access. Fee. Any municipality may by ordinance impose a reasonable fee for public access to its computer database developed pursuant to section 12-62f of the general statutes, for the purpose of revaluation.

G. REGULATIONS OF CONNECTICUT STATE AGENCIES

Minimum Standards for Computer Assisted Mass Appraisal

Effective July 26, 1996

Section 12-62f-1. Definitions.

As used in sections 12-62f-1 to 12-62f-6, inclusive, of the regulations of Connecticut State Agencies, the following terms have the meaning ascribed to them in this section, unless the context clearly indicates otherwise:

- (1) "Alpha/numeric" means a generic term for alphabet letters, numerical digits and special characters, such as punctuation marks, which are machine processable;
- (2) "Apartment" means a dwelling containing five or more living units;
- (3) "CAMA" means Computer-Assisted Mass Appraisal;
- (4) "Commercial property" means real property used for the sale of goods and/or services, including, but not limited to, non-residential living accommodations, dining establishments, motor vehicle services, warehouses and distribution facilities, retail services, bank and office buildings, and multi-purpose buildings, wherein more than one occupation is conducted, recreation and entertainment facilities, and airports;
- (5) "Committee" means the Computer Assisted Mass Appraisal Systems Advisory Board, the members of which are appointed in accordance with the provisions of subsection (f) of Section 12-62f of the Connecticut General Statutes;
- (6) "Condominiums" means real property with individual ownership of the occupied area plus a fractional ownership of the common elements.
- (7) "Data base" means the aggregate body of all information stored in a computing system which is fundamental to the enterprise which owns or operates the system, access to which may be limited to certain specific users and/or application programs;
- (8) "Editing" means to modify, add, or delete data or text;
- (9) "Field" means a variable length data element within a record and is represented as a column in a table or file;
- (10) "File", means a set of items pertaining to one function arranged or classified in sequence for convenience or reference;
- (11) "Hardware" means a computer and the associated physical equipment directly involved in the operation of the equipment that performs communication and/or data processing functions;
- (12) "Industrial property" means real property used for production and fabrication of durable and non-durable man-made goods from raw materials or compounded parts;
- (13) "Interface" means a shared connection or boundary between two devices or systems, or the point at which two devices or systems are linked;
- (14) "Integrated" means the process which results in the introduction of data which need not be repeated as further allied or related data is also entered;
- (15) "Module" means a part of a program that performs a distinct function or task;
- (16) "OPM" means the Office of Policy and Management;
- (17) "Password" means a code word or group of characters a computer might require to allow an operator access to certain functions as a security provision;
- (18) "Record" means a collection of data fields about an item within said file or table, and is represented as a row in a file or table;

- “Residential property” means real property used for human habitation, such as year-round residences, including buildings of one- to four-dwelling unit(s), rural residences, estates, seasonal residences, and individual mobile manufactured homes;
- (19) “Revaluation” means establishing the fair market value of all real property, by either physical observation or by a statistical method of adjusting the assessed value as provided by Section 12-62 of the Connecticut General Statutes;
- (20) “Sales/assessment ratio” means the relationship between the assessed value and the sales price of a property, calculated by dividing the assessed value by the sales price;
- (21) “Secretary” means the Secretary of the Office of Policy and Management;
- (22) “Software” means the collection of written or printed data such as programs, routines, or instructions essential to the operation of a computer;
- (23) “Table driven” means an array of non hard-coded attributes and variables which may be adjusted or updated by a system user;
- (24) “Updating” means the process which results in the introduction of data that need not be repeated as further allied or related data is also entered; and
- (25) “Value” means the fair market value as defined in Section 12-63 of the Connecticut General Statutes.

Section 12-62f-2. Grant-in-aid Eligibility.

Each municipality eligible for financial assistance pursuant to Section 12-62f of the Connecticut General Statutes, may make application for a grant-in-aid to the Secretary for the acquisition or modification of a CAMA system. Such application shall be approved by said Secretary upon a determination that said system meets the requirements of the data management, valuation, assessment administration and tax collection modules set forth in Sections 12-62f-3 through 12-62f-6, inclusive, of these regulations.

Section 12-62f-3. Data management module.

(a) The applications contained within the valuation, assessment administration and tax collection modules are dependent upon the data management module. As such, the valuation, assessment administration and tax collection modules shall be able to interface with the data management module. At a minimum, the data management module shall consist of the fields described in this subsection, provided such fields may be contained in multiple related files.

(1) With respect to all real property, the following assessment administration data fields shall be required: Parcel identification number; property type; OPM approved grand list abstract codes; exemption codes; land assessment; building assessment; total assessment; prior assessment; census tract; value; current property owner; mailing address; property location; building permit number and building permit date.

(2) With respect to all real property, the following property characteristic data fields shall be required: Neighborhood code; total acreage; frontage; square feet; zoning; construction style; construction quality grade; condition; total floor area; number of stories; basement finish type; plumbing; heating type; cooling type; exterior wall type; sketch dimensions, which may be in multiple fields; utilities; year built; date of last record update; inspection date; inspected by; inspection type; reviewed by; alpha/numeric comment field of at least 256 characters; and twenty user-defined fields.

(A) With respect to residential property, the following data fields shall also be required: Occupancy; attic; number of bathrooms; number of bedrooms; number of rooms; number of fireplaces; garage attached; garage detached; out building(s); yard improvement(s); and pool.

(B) With respect to non-residential property, the following data fields shall also be required: Number of stories; story height; elevator; yard improvement(s); use type by percentage of total building area or square feet; number of apartment units; number of such units by type; net operating income; capitalization rate; and value by the income approach.

(3) With respect to all real property, the following ownership and sales data for an unlimited number of property transfers shall be required: Date on which a property’s ownership was transferred; volume in which the deed related to such transfer is recorded; page of volume in which the deed related to such transfer is recorded; deed type; property owner; sales price; sale date; indicator of the validity of the sale; and validity code.

(4) With respect to all property, the following data for the tax collection process shall be required: Tax district codes; mill rates; real estate escrow code; total tax; lien fee; tax paid; and delinquency code.

(b) In addition to meeting the requirements of subsection (a) of this section, a CAMA system shall allow for the detection of the following: Missing data; invalid characters; alpha/numeric values outside specified ranges; and illogical relationships among or between fields. Said system shall also allow for the editing of the data fields described in this section.

Section 12-62f-4. Valuation module.

(a) The valuation module shall provide for the determination of the value of all real property based upon accepted appraisal methodology, using a table- or formula-driven system. At a minimum, the valuation module shall have the ability to perform the tasks described in this subsection and shall also allow for the editing of the data fields described in this section.

(1) With respect to land, the valuation module shall have the capacity to compute value based upon one or more of the following: Square feet; acreage; standard lot size; frontage/depth; and/or unit. In addition, said module shall allow for the editing of land values based upon market-derived adjustment factors, using at least two of the following: Unit value; fractional acreage; and front foot adjusted for depth.

(2) With respect to residential property, the valuation module shall have the capacity to: Compute replacement cost new, less depreciation; provide user-modifiable tables or formulas for various types of buildings; provide user-modifiable depreciation tables for age and condition variables; compute the value of each yard improvement (e.g., swimming pool, tennis court, detached garage, and shed); allow for the acceptance, rejection or adjustment of table- or formula-derived values; allow for on-line sketch input; provide for the automatic computation of total square footage; provide for the automatic computation of gross living area; and provide for the computation of other area measurement(s) as defined by the user. In addition, the valuation module shall have the capacity to allow user-modifiable selection criteria to identify up to three properties that are most comparable to the property for which a value is being determined.

(3) With respect to apartment, commercial and industrial properties, the valuation module shall have the capacity to: Compute replacement cost new, less depreciation; provide user-modifiable tables or formulas for various types of structures or buildings; provide user-modifiable depreciation tables for age and condition variables; compute the value of each yard improvement (e.g., paving, and fencing); allow for the acceptance, rejection or adjustment of table- or formula-derived values; and provide for the automatic computation of total square footage. In addition, said module shall have the capacity to compute the value of property using the income approach, by use of the direct capitalization method.

(b) The valuation module shall also have the capacity to: Print a property record card with the appropriate fields listed in the data management module; allow flexibility of design of the data printed on a property record card, based on the discretion of assessor; provide for the random printing of cards; provide for the printing of sketches showing dimensions; ensure the closure of such sketches; and provide for the creation of multi-page property record cards for a parcel.

(c) The valuation module shall include a general report writer capable of printing to screen and hard copy, and/or providing the data listed in the data management module to a magnetic diskette. In addition, such application shall have the capacity to produce reports for statistical and comparable sales analysis based upon pre-defined and user-defined criteria.

(d) The valuation module shall have the capacity to calculate, print reports and output to standard analytical software programs the following measurements and sales/assessment ratios by property type and neighborhood: Sales prices; assessments; the mean sales/assessment ratio; the median sales/assessment ratio; the coefficient of dispersion; the standard deviation; the coefficient of variation; and the price-related differential.

Section 12-62f-5. Assessment administration module.

(a) The assessment administration module shall have the ability to interface with the data management, valuation and tax collection modules. In addition, said module shall embody the following general functions: Ability to produce grand lists in OPM approved format; ability to maintain sales history file for each property; ability to provide multi-district coding for separate tax district grand list(s); ability to update files with respect to prorates for motor vehicle credits and new construction/demolition; ability to process assessment changes as made by the Board of Assessment Appeals, certificates of correction and any other lawful corrections and adjustments and update appropriate fields with such changes; calculate the percentage of tax credit with respect to the Elderly and Totally Disabled Homeowners Tax Relief Program; calculate the phase-in of assessments in accordance with subsection (e) of Sections 12-62a or 12-62c of the Connecticut General Statutes; allow for multi-year processing; provide two-level password protection; provide interactive updating to the data management module; provide multi-user capability to allow simultaneous file access for more than one user with record level lockout where applicable; with respect to systems having multiple terminals or personal computers, allow the simultaneous use of other software, such as word processing or spreadsheet applications; provide for an audit file; ability to allow inquiries and updating of real estate, personal property and motor vehicle records; and provide one or more built-in editing routines to

flag potential error conditions (e.g. a total assessment that is not equal to line item breakdown, an exemption in an amount greater than \$10,000, an invalid exemption code(s), and missing data related to owner's name, street address, city, state or zip code)

(b) Said module shall also be able to generate the following reports in hard copy and/or provide the required data to a magnetic diskette: Grand lists in the OPM approved format; assessment increase notices in accordance with Section 12-55 of the Connecticut General Statutes; a list of the twenty largest assessments for real estate and personal property; reports as required by assessor (e.g. volume and page of deed recording, last sales price, and sales date); and the following OPM reports: M-35B - Reimbursement of Revenue Loss-Owners, M-35P - Reductions to Owners Reimbursement, M-36P - Reductions to Freeze Reimbursement, M-59A - Additional Veterans Exemptions, M-37 - State-owned Property Payment-in-lieu of taxes, M-37 C&H - College and Hospitals Payment-in-lieu of taxes; and M-13 and M-13A - OPM Reports of Taxable and Tax Exempt Grand Lists. In addition, said module shall have the capacity of producing the following user-defined reports: Parcel owner information; map parcel identification; property location; district(s); item code(s); exemption code(s); use value code(s); census tract; building permit management; and any other user-definable reports based on data from the data management and valuation modules. Said module shall also have the capability to restart any incomplete report at the point where it was terminated.

Section 12-62f-6. Tax collection module.

(a) The tax collection module shall have the ability to interface with both the data management and assessment administration modules. The tax collection module shall have the following capabilities: Ability to produce rate books and tax bills in OPM approved format; ability to reflect assessment changes as made by the Board of Assessment Appeals and any other lawful corrections and adjustments on tax bills; ability to process new owner and address changes prior to tax billing, with the retention and reflection of the October 1 owner on the rate book and tax bill; ability to process a delinquency code(s) to tax bill file indicating back taxes due; ability to provide a multi-digit code(s) for the identification of real estate escrow bank payments; ability to post refunds; ability to calculate interest and lien amounts due; ability to store at least fifteen prior years worth of tax collection records; ability to audit file listings and to review all data input; ability to output rate book/tax bill files to create tax collection/tax receivable files including the amount of total tax due and each installment thereof; ability to produce monthly trial balance; provide two-level password protection; and ability to integrate collection and posting functions. Said module should also provide security sufficient for tax collector operations.

(b) Said module shall also be able to generate the following reports in hard copy and/or to provide the required data to a magnetic diskette: Rate Book total; total of tax bills; alias tax warrants; summary of certificates of correction by list year; suspended tax report; monthly trial balance report; and the following OPM reports: M-36A - Reimbursement of Revenue Loss-Elderly Freeze; M-42B - Totally Disabled Exemptions; and M-65 - Newly Acquired Manufacturing Machinery and Equipment. In addition, said module shall provide for the: Printing of tax bills and/or the listing of owners by bank in alphabetical order and the preparation of delinquency notices as follows: Tax reminder notices; demand notices; lien notice; real estate tax liens; and reports to the Department of Motor Vehicles of delinquent motor vehicle taxes.

H. REGULATIONS OF CONNECTICUT STATE AGENCIES

STATISTICAL REVALUATIONS

Effective June 21, 1990

For your information the Statistical Revaluation Regulations, which provides for acceptable measures for the completion of a statistical revaluation, are printed below. It would be in the best interest of the municipality to have the CAMA System conform to the Statistical Revaluation Regulations even though the grant is not contingent upon meeting the provisions of these Statistical Revaluation Regulations

§12-62-1

Definitions

The following words and terms shall have the meanings ascribed to them herein, unless the context clearly indicates otherwise.

- (1) 'Assessor' means the assessor or board of assessors of any Connecticut municipality.
- (2) 'Statistical revaluation' means a recomputation of the true and actual value of each parcel of land and any improvements thereon to reflect changes in market conditions since the previous revaluation effected pursuant to §12-62 of the General Statutes, effected in accordance with any of the methods delineated in §12-62-3 of these regulations, or any combination of such methods.
- (3) 'Ratio study' means a sales/assessment ratio study of fair market sales wherein the selling prices of real property in each property class are compared to their respective assessments for the purpose of determining the level of assessment for each such property class.
- (4) 'Fair market sale' means a sale for the most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which a property will sell within the competitive real estate market area for such property, under all conditions requisite to a fair sale with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither in under duress.
- (5) 'Property class' means any one of the following major classifications of real property: residential, commercial, industrial/public utility, agricultural and vacant land. 'Sub-class' means a stratification, or division into subsets of types of real property within any property class, delineated in regard to common characteristics which reasonably may be assumed to affect value. 'Sub-category' means a stratification of real property within any sub-class, delineated in regard to common characteristics which reasonably may be assumed to affect value.
- (6) 'Coefficient of dispersion' means the average absolute deviation of sales/assessment ratios from the median sales/assessment ratio in each property class, expressed as a percentage of such measure.
- (7) 'Median sales/assessment ratio' means the middle ratio when ratios are arrayed in ascending or descending order.

§12-62-2

General Provisions

- (a) The methods described in §12-62-3 shall constitute acceptable methods for conducting a statistical revaluation. The assessor shall utilize one of the methods so described, or any combination of such methods, provided the method or methods chosen are considered by the assessor to be the most appropriate of the methods provided for the recomputation of true and actual value for the various types of property in each property class, sub-class or sub-category. During the conduct of a statistical revaluation, all facts and circumstances relating to the value of real property which are known to the assessor shall be considered and used by him as deemed necessary in the determination of such true and actual value.
- (b) Regardless of the method or methods employed in effecting a statistical revaluation, the assessor shall conduct a ratio study which may encompass data from the three assessment years immediately preceding the October first effective date of the statistical revaluation, and for a period not exceeding three months following such effective date, and shall utilize the results of such study to test the validity of the true and actual value estimates for real property in each property class as derived from the statistical revaluation. Such ratio study shall be based upon a sufficient representative sample, as defined in subdivision (1) of this subsection, of fair market sales for each of the following property classes, as applicable: residential, commercial, industrial/public utility, agricultural and vacant land. Analysis of the ratio study shall include a coefficient of dispersion calculation for each such property class.
 - (1) A sample shall be deemed to be sufficient provided it is comprised of not less than thirty fair market sales in each property class.
 - (A) The assessor shall, when necessary, adjust the selling prices of fair market sales included in his ratio study for the purpose of correlating such sales data to the assessment date which is the effective date of a statistical revaluation.

- (B) Where there are insufficient numbers of fair market sales to constitute a sufficient sample within any property class, the assessor shall conduct fair market value appraisals of real property in such property class which shall be a part of such study.
 - (i) In the event that data included in the ratio study is refined in accordance with subparagraphs (A) or (B) of subdivision (1) of subsection (b) of this section, the coefficient of dispersion shall be calculated on the basis of such refined data.
- (C) Nothing contained herein shall prevent the assessor from utilizing sub-classes or sub-categories in his ratio study or from utilizing, in pertinent part, the ratio study conducted by the Office of Policy and Management for the purpose of annually determining a net equalized grand list for such municipality.

§12-62-3

Methods

- (a) The assessor may use the market trending or indexing approach as herein described, provided the coefficient of dispersion as calculated in accordance with the provisions of §12-62-2(b) shall be equal to or less than ten percent for any property class, sub-class or sub-category which is comprised of residential property, equal to or less than fifteen percent for any property class, sub-class or sub-category which is comprised of income producing property other than vacant land, and equal to or less than twenty percent for any property class, sub-class or sub-category which is comprised of vacant land. In the event the coefficient of dispersion for any property class, sub-class or sub-category is greater than the percentage herein specified, the assessor shall be prohibited from utilizing the market trending approach with respect to such property class, sub-class or sub-category.
 - (1) Following his analysis of the ratio study conducted in accordance with §12-62-2(b), the assessor shall determine a median sales/assessment ratio for each property class. If the assessor has stratified the ratio data into sub-classes or sub-categories, he shall, whenever possible, determine a median sales/assessment ratio for each such sub-class or sub-category. The median ratios so determined shall be applied to the respective assessments of real property, provided such assessments are based upon true and actual value estimates in such property classes, sub-classes or sub-categories on the grand list immediately preceding the effective date of a statistical revaluation, in accordance with the following equation:

$$\frac{\text{previous assessment}}{\text{median sales/assessment ratio}} = \text{recomputed true and actual value}$$

- (b) The assessor may use the updated market approach as herein described. Following an analysis of the real estate market in the municipality, the assessor shall update the value elements as utilized in the market approach to value in the last previous revaluation of real property, and recompute the true and actual value of real property in accordance with such updated value elements. The update shall include current market values for the various property elements which, in accordance with standard appraisal practice, are deemed to affect value. Such value element updates shall be tested against a select sample of real property parcels the fair market value of which is known or can be determined. If the sample tested indicates that adjustments to the updated value elements are warranted, such adjustments shall be made. The following analysis techniques may be used for the purpose of determining value element updates:
 - (1) comparative sales analysis, or
 - (2) multiple regression analysis, or
 - (3) any other technique which is generally recognized as accepted for such purpose in the mass appraisal or assessment field.
- (c) The assessor may use the updated cost approach, as herein described. The assessor shall update the cost schedule, table or model as utilized in the last previous revaluation of real property, and recompute the true and actual value of real property improvements in accordance with the updated/cost schedule. The cost schedule update shall include representative costs for the various building components which, in accordance with standard appraisal practice, are considered to affect value. Such updated cost schedule shall be tested against a select sample of new real property improvements for which the cost is known or can be determined, provided, whenever possible, the sample tested shall not include property improvements the data from which was used in the derivation of the updated cost table. If the sample tested indicates that adjustments to the cost schedule, table or model are warranted, such adjustments shall be made. The following analysis techniques may be used for the purpose of determining current representative costs:
 - (1) analysis of data derived from local building contractors and building material suppliers, or
 - (2) utilization of a national or regional cost service, provided, in the opinion of the assessor, such national or regional cost service data reasonably reflects current representative costs which are characteristic of real property improvement costs in his municipality, and further provided any adjustments to such national or regional costs as warranted, are made, or
 - (3) any other technique which is generally recognized as accepted for such purpose in the mass appraisal or assessment field.

- (d) The assessor may use the updated income approach as herein described. The assessor shall update the capitalization rate(s) as utilized in the last previous revaluation of real property, and recompute the true and actual value of income producing real property in accordance with the updated capitalization rate(s) and current income and expense data. Such updated capitalization rate(s) shall be tested against a select sample of income producing real property for which the fair market value is known or can be determined. If the sample tested indicates that adjustments to the capitalization rate(s) are warranted, such adjustments shall be made. The following analysis technique is deemed acceptable for the purpose of updating the capitalization rate(s):
- (1) analysis of income and expense data collected by the assessor pursuant to §12-63c of the general statutes as correlated to the fair market value of the income producing real property which is known or can be determined and converted to fair market value by:
 - (A) discounted cash flow analysis, or
 - (B) mortgage equity analysis, or
 - (C) overall capitalization rate analysis, or
 - (D) any other technique which is generally recognized as accepted in the mass appraisal or assessment field.

§12-62-4

Test of assessment level and uniformity

- (a) Prior to finalizing the recomputation of true and actual value of real property and forwarding notices of assessment increase pursuant to §12-55 of the general statutes, the assessor shall conduct the following tests regarding the assessments derived from the statistical revaluation, utilizing the procedures as set forth in §12-62-2(b): (1) an overall test of the level of assessment, (2) an inter-class test of uniformity, and (3) an intra-class test of uniformity. The assessments resulting from the statistical revaluation shall be deemed to be sufficient, provided the following criteria are met:
 - (1) the overall level of assessment for all property classes shall be within plus or minus ten percent of the required seventy percent assessment ratio, as measured by the overall median ratio, and
 - (2) the level of assessment for each property class shall be within plus or minus five percent of the median overall level of assessment for each such property class, and
 - (3) the coefficient of dispersion shall be equal to or less than ten percent for residential property, equal to or less than fifteen percent for income producing property and equal to or less than twenty percent for vacant land.
- (b) In the event that the criteria described in subdivisions (1), (2) or (3) of subsection (a) of this section are not met, the assessor shall be required to further analyze and refine the data elements or components used in the method or methods he has chosen in accordance with §12-62-3, to effect the statistical revaluation. The assessor shall then revalue the parcels of real property which comprise the property class or classes for which a deficiency in either the level of assessment or the uniformity of assessments has been identified.

**COMPUTER ASSISTED MASS APPRAISAL
(CAMA) SYSTEMS APPLICATION**



APPLICANT INFORMATION

Chief Executive Officer: _____
 Title: _____
 Municipality: _____
 Business Address: _____

 Grant Contact Person: _____
 Title: _____
 Telephone Number: _____
 FAX Number: _____

GRANT CATEGORY

POPULATION	GRANT AMOUNT			
		New		Additional
Population less than 20,000	<input type="checkbox"/>	\$27,500	<input type="checkbox"/>	\$2,500
Population at least 20,000 but less than 50,000	<input type="checkbox"/>	\$38,500	<input type="checkbox"/>	\$3,500
Population at least 50,000 but less than 100,000	<input type="checkbox"/>	\$55,000	<input type="checkbox"/>	\$5,000
Population of 100,000 or more	<input type="checkbox"/>	\$66,000	<input type="checkbox"/>	\$6,000

See reverse side of this application form for a list of items that MUST be submitted with this application

CERTIFICATION

Revaluation Date	Date Mill Rate Set Utilizing CAMA System produced Grant List and Tax Rate Book	Date Tax Bills Sent Utilizing CAMA System
_____	_____	_____

To the best of my knowledge and belief, all information, data and attachments in this application are true and correct, that municipality's CAMA system meets all requirements of Section 12-62f-1 to 12-62f-6 of Regulations of Connecticut Agencies, and that the applicants have been duly authorized by the municipality governing body to make this application.

_____ Signature of Chief Executive Officer	_____ Date
_____ Signature of Assessor	_____ Date
_____ Signature of Tax Collector	_____ Date

FOR OPM USE ONLY

Year of Revaluation	Grant Amount	Grant Number
_____	_____	_____
Action of CAMA Advisory Board:		
CAMA Chair	_____	Date _____
Approved By Secretary of OPM	_____	Date: _____

**COMPUTER ASSISTED MASS APPRAISAL
(CAMA) SYSTEMS APPLICATION**

List of Items that must be included with the Application

- Copy of all invoices, purchase orders, and other evidence of expenditures related to the CAMA system**
- Property Record Card - Residential**
- Property Record Card - Commercial**
- Property Record Card - Industrial**
- Grand List Sample**
- Tax Rate Book Sample**
- Tax Bill Sample**
- Copy of Document setting the Mill Rate Utilizing the CAMA System**
- Summary of Certificates of Correction**
- Alias Tax Warrants**
- Suspense List**
- Monthly Trial Balance**
- OPM REPORTS**
- M-13 & M-13A (or M-13d & M-13Ad) Grand List Reports both printed copy and computer file on disk**
- M-35B Assessor's Claim For Reimbursement of Revenue Loss - Homeowners**
- M-35P Reductions to Homeowners Reimbursement**
- M-36 Tax Collector's Claim For Reimbursement of Revenue Loss -Freeze Program**
- M-36P Reductions to Freeze Reimbursement**
- M-37 State-Owned PILOT**
- M-37C&H College and Hospital PILOT**
- M-42B Reimbursement of Revenue Loss - Totally Disabled Exemption**
- M-59A Reimbursement of Revenue Loss - Additional Veterans**
- M-65A New Machinery and Equipment Exemption**