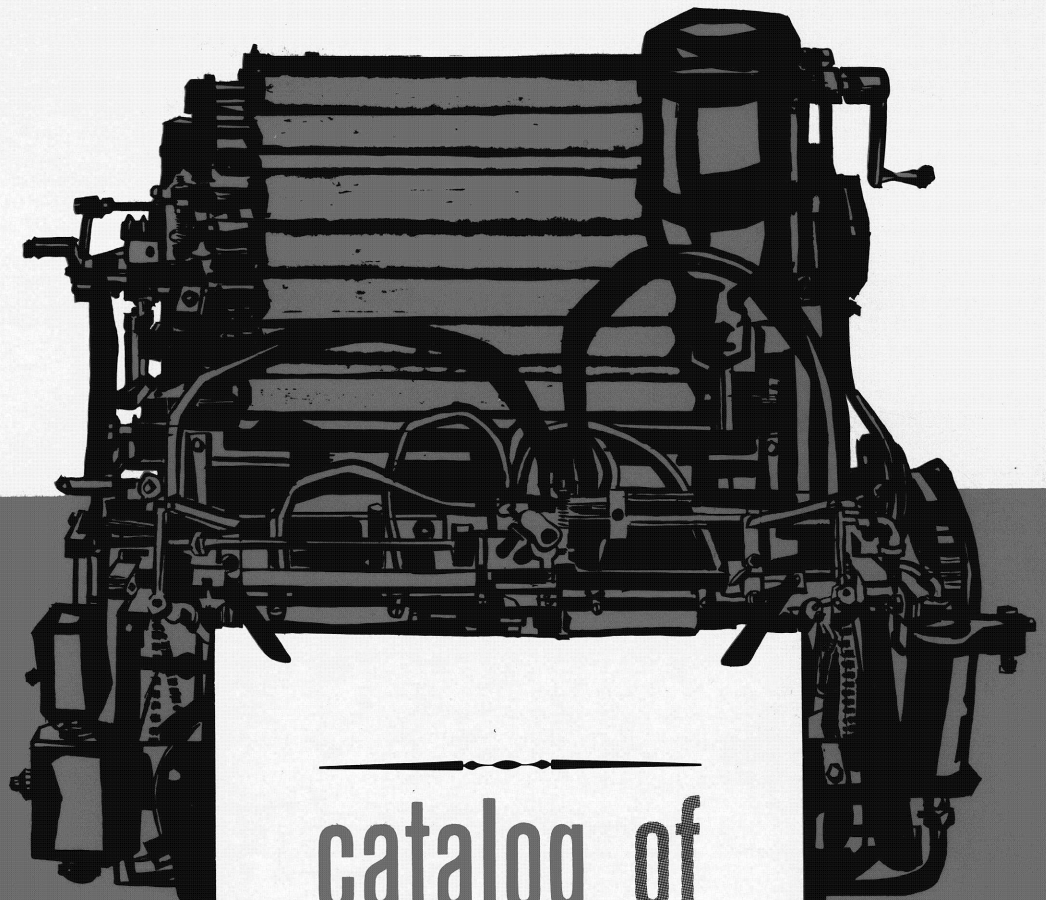


PHILCO ELECTRONIC DATA PROCESSING SYSTEMS

1963



— — — — —
catalog of

.....
**PRINTED
MATERIAL**

— — — — —

1963

preface

This catalog replaces the Catalog of Printed Material dated May 1962. All publications issued after that edition are indicated by an asterisk following the catalog number. Additions to this catalog are announced periodically in NEW LITERATURE ANNOUNCEMENTS which are numbered serially with reference to this edition of the catalog. The NEW LITERATURE ANNOUNCEMENTS may be inserted on the inside back cover of this catalog.

The program and subroutine descriptions listed in this catalog are for those programs and subroutines distributed and maintained by the Philco Computer Division Programming Department. TUG, the Philco 2000 Users' Group, distributes descriptions and programs contributed by the TUG membership. The TUG Program Abstract Listing contains all programs in the TUG Library. Copies of the TUG Abstract Listing and additional copies of this catalog are available on request.

Order forms are contained in this catalog, following the index, for the convenience of those who wish to order copies of documents listed herein.

1963

contents

	Page
TECHNICAL MANUALS (TM)	1
PROGRAM DESCRIPTIONS (PD)	5
PROGRAM REPORTS (PR)	7
PROGRAMMING R AND D NOTES (RD)	9
BROCHURES AND FACT SHEETS	11
TAC SUBROUTINES - MATHEMATICAL (SM)	13
Trigonometric (SMA)	13
Logarithm and Exponential (SMB)	14
Powers (SMC)	14
Integration (SMD)	14
Solution of Differential Equations (SME)	15
Special-Purpose Arithmetic (SMF)	15
Statistics (SMG)	16
Management Sciences (SMH)	17
Matrix Operations (SMI)	18
Interpolation (SMJ)	19
Random Numbers (SMK)	19
Solution of Equations (SML)	19
Special Functions (SMM)	19
 TAC SUBROUTINES - DATA	
CONVERSION (SDC)	21
 TAC SUBROUTINES - DATA	
PROCESSING (SDP)	23
 TAC SUBROUTINES - INPUT-OUTPUT (SIO)	25
 SYS SUBROUTINES (SSYS)	27
 TAC MACRO-INSTRUCTIONS (M)	29
 FORMS, CHARTS, AND CARDS (TF, GI)	31

TECHNICAL MANUALS

Technical manuals provide full documentation on the specifications and use of Philco electronic data processing system components and programming systems.

CAT. NO.	DATE	TITLE AND DESCRIPTION
TM-6A*	July 1962	<p>OPERATING CONTROLS MANUAL. Describes the functions and features of controls and indicators of units of Philco 2000 Computer Systems listed below:</p> <ul style="list-style-type: none"> Central Computer (Philco 210, Philco 211) Console Typewriter Input-Output Processor Magnetic Tape Punched-Card System Paper Tape System Magnetic Drum System Universal Buffer-Controller <p>Each of these sections is available separately.</p>
TM-7A*	July 1962	<p>LINEAR PROGRAMMING SYSTEM - LP-2000. Describes a comprehensive system for the solution of linear programming problems. Discusses the options available, the input formats required, and the outputs produced.</p>
TM-8	Nov. 1960	<p>PHILCO 2000 SYSTEMS DESCRIPTION. Describes the features of the Philco 2000 system, the Central Computer, input-output equipment, performance specifications, programming information, installation data, and an equipment list.</p>
TM-9	Dec. 1961	<p>PHILCO 2000 INSTALLATION GUIDE. A guide to the planning and preparation required for a Philco 2000 computer installation. Describes requirements for power and air conditioning, maintenance and service, installation timetable; illustrates typical layouts and provides an equipment specification table.</p>
TM-10	Jan. 1963	<p>PHILCO 210/211 PROGRAMMING MANUAL. Presents a detailed description of the Philco 210 and 211 and its programming. Areas discussed include coding, flowcharting, computer arithmetic, constants, data modification, subroutines, programming techniques, and many illustrative examples and exercises.</p>

TECHNICAL
MANUALS

CAT. NO.	DATE	TITLE AND DESCRIPTION
TMS-10*	July 1962	PHILCO 212 COMPUTER SYSTEM. A supplement to the Programming Manual TM-10, describing those aspects of the Philco 212 which are in addition to or different from those described for the Philco 210 or Philco 211.
TM-11	Aug. 1962	TAC MANUAL - TRANSLATOR-ASSEMBLER-COMPILER. Describes the Philco 2000 Translator-Assembler-Compiler system. Contains specifications and descriptions of instruction formats, control instructions, constants, and library routines.
TM-12C*	Jan. 1963	PHILCO 2000 TOTAL OPERATING AND PROGRAMMING SYSTEM - TOPS. Describes an automatic programming and integrated operating system which permits simplified programming of business applications.
TM-16B*	Nov. 1962	<p>PHILCO 2000 INPUT-OUTPUT SYSTEMS. Provides detailed descriptions of the below listed Philco 2000 input-output devices, their functions and input output orders.</p> <ul style="list-style-type: none"> Magnetic Tape (90KC) Input-Output Processor High-Performance Magnetic Tape (240KC) Universal Buffer-Controller Punched-Card System Paper Tape Systems Accounting Clock Printing Systems X-Y Plotter Magnetic Drum System Real-Time System Console Typewriter
		Each of these sections is available separately.
TM-17	Nov. 1961	PHILCO 2000 SORT GENERATOR MANUAL. Presents a detailed description of the Sort Program released November 1961 and its operation and use.
TM-18A*	July 1962	INPUT-OUTPUT PROGRAMMING SYSTEM - IOPS. Describes the use of IOPS, a series of TAC library generators which automatically generate all the coding necessary to perform specific input-output operations.

CAT. NO.	DATE	TITLE AND DESCRIPTION
TM-19A	Feb. 1963	PHILCO 2000 PERT SYSTEM. Describes the preparation of PERT programs using the Philco 2000 PERT System. It includes an introduction to PERT, input and output formats, initial and successive PERT runs, and associated diagnostic, service and error correcting routines.
TM-20*	July 1962	STATISTICAL SYSTEM - STAT. Describes an automatic programming system designed to perform statistical functions. The functions include: Mean, Variance, Standard Deviation, Median, Simple Regression, Multiple Regression, Polynomial Approximation, Exponential Approximation, Minimum Number, Maximum Number, and Range of Numbers.
TM-21*	Feb. 1963	PHILCO 2000 SORT SYSTEM. Contains a comprehensive description for the user of the Sort System released February 1963. Includes tape formats, parameter examples, and error recovery procedures.
TM-22*	Oct. 1962	PHILCO 1000 COMPUTER SERIES. Describes the Philco 1000 computer series, its instructions and input-output operations.
TM-23*	Jan. 1963	PHILCO 2000 OPERATING SYSTEM - SYS. Describes Version E of the Philco 2000 Operating System. Service routines and TAC Library routines included are listed below: <p style="margin-left: 40px;">Service Routines AIDE (SYSAIDE) ANALYZER BINDEL DATA RPLC (SYSRPLC) SYSTRACE TACLTC TACSERV (TACSERVS) SYSFLID</p> <p style="margin-left: 40px;">TAC Library Routines LOADGEN SNAPGEN</p>
TM-24*	Jan. 1963	PHILCO 2000 COBOL - This manual describes the Philco COBOL Programming System for use with any computer in the Philco 2000 Computer Series. Included are all elements of required COBOL-61. Philco COBOL electives are included and indicated by (★) in the manual.

TECHNICAL
MANUALS

CAT. NO.	DATE	TITLE AND DESCRIPTION
TM-26*	Nov. 1962	PHILCO 2000 CRITICAL PATH SCHEDULING SYSTEM - CPS. Describes a programming system designed to aid management in planning and evaluating project schedules.
TM-27*	Jan. 1963	ALTAC III. Describes ALTAC, a Philco 2000 Algebraic Language Translator which provides a machine language object program from an ALTAC or FORTRAN language source program.

PROGRAM DESCRIPTIONS

Program descriptions present final specifications of programs available to the general programmer, describing the features and use of the program. Service routines listed are designed primarily for those installations which do not use the Philco 2000 Operating System (SYS).

CAT. NO.	DATE	TITLE AND DESCRIPTION
SR-1	10/26/60	RPL LOCATOR. Service routine, provides a means of searching a machine language tape for a given program, and of reading that program into memory.
SR-2	12/15/60	RPL CORRECTOR. Service routine, provides a means for revising a machine language program tape by copying, deleting, adding, or correcting specified programs in running program language.
SR-3	2/1/61	AIDE. Service routine, provides a means of reading, writing, spacing, comparing, copying, and correcting magnetic tapes.
PD-2	Nov. 1961	DUMPCON. Edits dump data supplied by SYS on logical Magnetic Tape Unit 2 into off-line printer format.
PD-3	Apr. 1961	TAC II. Contains preliminary information on the TAC II compiler, the changes from TAC I, pseudo-operations, machine language outputs, error indications, operating instructions and other information. In addition, it includes information on the following: TAC II Loader IOPS II PROC Changes for TAC II ALTAC Changes for TAC II Bibliography
PD-10	May 1962	FLID - A PROGRAM TO FIND OR LIST ID'S. Finds or lists the identities of RPL, ABS, REL, and TACL programs in Code or Image Mode. FLID can also be used to position any tape following a specified sentinel block.
PD-IIA*	Oct. 1962	XORD. Describes the XORD subroutine for the execution of multi-block magnetic tape orders. Order checking and error correction functions are automatic. (Replaces PD-11 dated May, 1962.)

**PROGRAM
DESCRIPTIONS**

CAT. NO.	DATE	TITLE AND DESCRIPTION
PD-12*	Oct. 1962	THE FILE MACRO INSTRUCTIONS. Describes the macro-instructions, WRF, RDFF, and RDFB, used for writing, forward reading, and backward reading a file of information on magnetic tape.
PD-13*	Jan. 1963	ANALYZER. Describes a service routine which locates, analyzes, and lists all references made by a program, or a portion of the program to a specified area in memory.
PD-14*	Feb. 1963	TACSERV. TAC service routine, provides a means of revising a machine language program tape by adding, deleting, or replacing parts of a specified program.

PROGRAM REPORTS

Program reports describe details of Philco programs for the systems programmers, as well as specialized mathematical programs.

CAT. NO.	DATE	TITLE AND DESCRIPTION
PR-3a	2/5/62	MATRIX INVERSION. Describes a program for the inversion of matrices by the Gauss Elimination Method and the TAC Subroutine, FMAIN, which performs the inversion.
PR-4	6/24/59	EIGENVALUE COMPUTATION. Describes a program for the computation of the Eigenvalues and Eigenvectors of a real, symmetric matrix by the Jacobi Diagonalization Process. This report includes a standard description of TAC Subroutine FEIGTJ.
PR-5	8/1/59	LINEAR PROGRAMMING. Describes a program for the solution of linear programming problems by a composite simplex algorithm. This report includes a standard description of TAC Subroutine FLP.
PR-6	2/8/60	DIFFERENTIAL EQUATIONS. Describes a program for the solution of a system of N first order differential equations with error control using the Modified Euler Integration Technique. This report includes a standard description of TAC Subroutine FICE.
PR-7	7/1/60	ROOTS OF A POLYNOMIAL. Describes a program for the evaluation of the roots of a polynomial with real coefficients. This report includes a standard description of TAC Subroutine FPORC.
PR-8	4/13/60	L.P. EDIT ROUTINES. Describes an input edit, FLPI, and an output edit, FLPO, which are associated with linear programming routine, FLP. The FLP Routine is described in Program Report No. 5.
PR-9	10/12/60	RUNGE-KUTTA INTEGRATION. Describes a program for a solution of a system of N first order differential equations with error control using the Runge-Kutta Integration Technique.
PR-10	10/1/61	PLOTTING ON THE PRINTER. Describes a program which enables plotting to be performed on the Philco High-Speed Printer. Contains a description and coding for TAC Subroutine, PLOT.

PROGRAM
REPORTS

CAT. NO.	DATE	TITLE AND DESCRIPTION
PR-11	10/1/61	TRANSPORTATION PROBLEM. Presents two programs, a transportation problem routine (TRAN), and an associated input-output edit routine (TRANED). TRANED accepts data in units of one block, converts the data to a form required by TRAN, and leaves various tables stored in memory.
PR-12	1/2/62	TAPE TRANSLATOR EDIT ROUTINE. Describes TAC Subroutine, TUIGNR, which can be used to interpret a Philco tape produced from an IBM tape via the Philco Tape Translator, Model 231. Since IBM tape is composed of variable length records, and Philco tape contains fixed length blocks, the translator inserts control field information on the Philco tape.
PR-13	May 1962	PROGRAM FOR LIBRARY UPDATING AND MAINTENANCE (PLUM). Used to update library tapes, create a new library tape, or update an old tape. It enables the librarian to replace, delete, or add macros, generators, TACL subroutines or binary relocatable subroutines and produce an edited listing.
PR-14	3/27/62	TAPE ERROR ROUTINE. Describes TAPER, a subroutine designed to be used with PROC or IOPS. It analyzes tape errors and provides for possible recovery.
PR-16	12/1/62	PIOS. Describes a collection of input/output subroutines designed primarily for use with ALTAC.

PROGRAMMING R AND D NOTES

R and D Notes are the initial documentation of the most recent programming developments. They are prepared for immediate distribution to all interested parties.

CAT. NO.	DATE	TITLE AND DESCRIPTION
RD- 25	5/15/60	MAGNETIC TAPE MACRO-INSTRUCTIONS. Describes specifications for magnetic tape macro-instructions and their functions. Describes the Subroutine PROC and its method of storing and executing input-output orders. Appendix I contains a description of macro-instruction ERRORS, and error correcting routine for use with magnetic tape macro-instructions.
RD-34	3/2/62	CHECK8. Describes a new version of the SYS program which checks to see that card-to-tape transfer of data does not result in faulty transcription.
RD-37*	5/25/62	ADVANCE ITEM MACROS - Describes the macro-instructions, as listed below, which provide for writing, forward reading, and backward reading on magnetic tape. <div style="text-align: center;"> RFFILE RFITEM RFRUNOUT RBFIL RBITEM RBRUNOUT WRFILE WRITEM WRRUNOUT SENTFILE </div>
RD-40*	10/15/62	ALTAC III. Describes the version of ALTAC designed to implement "Input Hollerith" and tape definition and to provide for run time interpretation of format statements; indicates necessary changes for ALTAC II or FORTRAN source decks.

BROCHURES AND FACT SHEETS

Brochures and Fact Sheets provide summarized information on Philco computer systems, programming systems, and services to customers.

CAT. NO.	DATE	TITLE AND DESCRIPTION
AB-3		CUSTOMER TRAINING. Describes the various customer training programs, courses, and management seminars offered by Philco Computer Division.
AB-12A *	Feb 1963	CATALOG OF PRINTED MATERIAL. A complete listing and index of currently available Philco Computer publications.
1A*	Aug. 1962	Disc File System for the Philco 212
2*	May 1962	Philco High-Performance Magnetic Tape System
3D*	Jan. 1963	Philco 1000 Computer Series
4*	May 1962	New Philco 2000 Software
9A*	Jan. 1963	Philco 4000 Computer Series
10*	Dec. 1962	Philco 4000 Series Magnetic Tape Unit
11*	Dec. 1962	Philco 4000 Series Card Reader
12*	Dec. 1962	Philco 4000 Series Card Punch
13A*	Jan. 1963	Philco 4000 Series Printer
14A*	Jan. 1963	DMNI/DMNO — Device for Multiplexing Non-Synchronous Input/Output
16*	Dec. 1962	United Aircraft DIG II and DIG III
17A*	Jan. 1963	SPADATS CAD, Computer Access Device
18*	Dec. 1962	Philco 4000 Fact Facts

TAC SUBROUTINES

Subroutine descriptions describe the subroutines available on the Philco library tape.

MATHEMATICAL (SM)

TRIGONOMETRIC (SMA)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SMA-1a SMA-2a	7/9/59	FSC - Computes the sine or cosine of an angle x in radians, in floating-point, single-precision arithmetic.
SMA-3	6/1/61	FTANX - Computes the tangent of an angle x in radians in floating-point, single-precision arithmetic.
SMA-4	2/1/60	FASIN - Computes $y = \text{arc sin } x$ in floating-point, single-precision arithmetic.
SMA-5	4/20/59	FACOS - Computes $y = \text{arc cos } x$ in floating-point, single-precision arithmetic.
SMA-6	3/4/59	FATAN - Computes $y = \text{arc tan } x$ in floating-point, single-precision arithmetic.
SMA-7 SMA-8	11/9/59	FHSC - Computes the hyperbolic sine or hyperbolic cosine of an argument x in floating-point, single-precision arithmetic.
SMA-9a SMA-10a	3/2/62	XSC - Computes the sine or cosine of a scaled angle x (in radians) in fixed-point, single-precision arithmetic.
SMA-11	10/1/61	TANH - Computes the hyperbolic tangent of a floating-point number x .

**MATHEMATICAL
SUBROUTINES**

LOGARITHM AND EXPONENTIAL (SMB)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SMB-1	2/1/60	FLOGEX - Computes $y = \log_e x$ in floating-point, single-precision arithmetic.
SMB-2	2/1/60	FLOG10X - Computes $y = \log_{10} x$ in floating-point, single-precision arithmetic.
SMB-3 α	1/1/59	FLOG2X - Computes $y = \log_2 x$ in floating-point, single-precision arithmetic.
SMB-4 α	11/4/59	FEX - Computes $y = e^x$ in floating-point, single-precision arithmetic.
SMB-5	2/1/59	F2X - Computes $y = 2^x$ in floating-point, single-precision arithmetic.
SMB-6	6/16/59	FTENX - Computes $y = 10^x$ in floating-point, single-precision arithmetic.
SMB-7	6/7/61	FA2X - Computes $y = a^x$ in floating-point, single-precision arithmetic.
SMB-7.1	10/1/61	AEXPQ - Computes a^x for floating-point numbers a and x .
SMB-7.2	10/1/61	XAEXPQ - Computes m^n for fixed-point integers m and n , all integers at B15.
SMB-8	6/13/61	FLOGAX - Computes $y = \log_a x$ in floating-point, single-precision arithmetic.

POWERS (SMC)

SMC-1 b	3/28/60	FSQRT - Computes $y = \sqrt{x}$ in floating-point, single-precision arithmetic.
SMC-4	2/3/59	SQRT - Computes $y = \sqrt{x}$ in fixed-point, single-precision arithmetic.

INTEGRATION (SMD)

SMD-2	8/15/61	FSIMP - Evaluates an integral over a given interval by Simpson's rule, in single-precision, floating-point format. Interval of integration is automatically determined so as to satisfy a given tolerance.
-------	---------	--

SOLUTION OF
DIFFERENTIAL EQUATIONS (SME)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SME-1	2/8/60	FICE - Solves a system of N first order differential equations using the Modified Euler Integration Method in floating-point, single-precision arithmetic. (See PR-6.)
SME-2	10/12/60	FRKG - Solves a system of N first order differential equation using the Runge-Kutta-Gill method of integration in floating-point, single-precision arithmetic. (See PR-9.)

SPECIAL-PURPOSE
ARITHMETIC (SMF)

SMF-1	7/3/61	FCR - Performs complex arithmetic upon floating-point, single-precision numbers (A,B) and (C,D).
SMF-2	7/5/61	FCO - FCABS - Computes the absolute value and square root of a complex number, $x = a + bi$. FCSQRT - Computes square root of a complex number, $x + yi = a + bi$, in floating-point, single-precision arithmetic.
SMF-3	2/15/61	FDP - Performs double-precision, floating-point arithmetic operations.
SMF-4	10/1/61	ABS - Computes the absolute value of a floating-point number.
SMF-4.1	10/1/61	DIM - Computes x-min for two normalized floating-point numbers x and y.
SMF-4.2	10/1/61	INT - Computes an integral part of x, given a floating-point number x.
SMF-4.3	10/1/61	MOD - Computes $x \pmod r$ for floating-point numbers x and r.
SMF-4.4	10/1/61	SIGN - Transfers the sign of y to x, without changing x, given two floating-point numbers x and y.
SMF-4.5	10/1/61	XABS - Computes the absolute value of a fixed-point number.
SMF-4.6	10/1/61	XDIM - Computes m-min, (m,n), for two fixed-point numbers m and n.
SMF-4.7	10/1/61	XMOD - Computes $m \pmod n$ for fixed-point integers m and n at B15.

**MATHEMATICAL
SUBROUTINES**

CAT. NO.	DATE	TITLE AND DESCRIPTION
SMF-4.8	10/1/61	XSIGN - Given two fixed-point numbers m and n, transfer the sign of n to m.
SMF-5	10/1/61	DECADD - Edits the result of an addition of eight or fewer BCD digits.
SMF-5.1	10/1/61	DECADD2 - Edits the result of an addition of 16 or fewer BCD digits.
SMF-5.2	10/1/61	DECSUB - Edits the result of a subtraction of eight or fewer BCD digits.
STATISTICS (SMG)		
SMG-1	2/16/60	FMEVA - Computes the mean and variance of a set of numbers up to 4095 in floating-point, single-precision arithmetic.
SMG-1.1	8/25/61	FMNVR - Computes the mean and variance of a set of numbers limited only by the size of memory in floating-point, single-precision arithmetic.
SMG-2	2/15/61	FLSM - Computes the least squares polynomial approximation or an exponential approximation for a given set of co-ordinates.
SMG-3	10/1/61	FMLREG - Computes the n^{th} dimensional regression hyper plane on n variables using the least squares criterion in floating-point, single-precision arithmetic.
SMG-4	7/25/61	FCOR - Computes the correlation coefficient (r) of two variables given their respective means and variances in floating-point, single-precision arithmetic.
SMG-4.1	7/20/61	FCORMV - Computes the correlation coefficient and the respective means and variances of two variables in floating-point, single-precision arithmetic.
SMG-4.2	11/20/61	FCORMMV - Computes the correlation matrix of several variables in floating-point, single-precision arithmetic.

CAT. NO.	DATE	TITLE AND DESCRIPTION
SMG-5	7/20/61	FCORM - Computes the correlation matrix of n variables, where there are m observations per variable, in floating-point, single-precision arithmetic.
SMG-6	7/20/61	FNORM - Performs the statistical normalization of a given number of observations of a variable in floating-point, single-precision arithmetic.
SMG-7	8/25/61	FREG - Computes the regression line, the correlation coefficient (r), and the respective means and variances of two variables in floating-point, single-precision arithmetic.
SMG-9	2/9/62	FMDN - Determines the median of a set of N floating-point values.

MANAGEMENT SCIENCES (SMH)

SMH-1	8/1/59	FLP - Solves a linear programming problem by a composite Simplex Algorithm in floating-point, single-precision arithmetic. (See PR-5.)
SMH-1.1	4/13/60	FLPI - Performs an input edit preparatory to using routine FLP for solving a linear programming problem. (See PR-8.)
SMH-1.2	4/13/60	FLPO - Performs an output edit on the solution produced by the Linear Programming routine FLP. (See PR-8.)
SMH-2	10/1/61	TRAN - Solves a transportation problem by the "stepping stone" method. (See PR-11.)
SMH-2.1	10/1/61	TRANED - Performs an input-output edit to be used with routine TRAN for solving a transportation problem. (See PR-11.)

MATHEMATICAL
SUBROUTINES

MATRIX OPERATIONS (SMI)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SMI-1a	2/2/62	FMAIN - Computes the inverse and determinant of a matrix in floating-point, single-precision arithmetic.
SMI-2a	6/16/59	FMAMU - Forms the matrix product $C=AB$ in single-precision, floating-point arithmetic.
SMI-3.1	3/23/60	GTRP - Replaces a matrix in memory by its transpose.
SMI-3.2	4/11/60	TRP - Transposes a matrix A and stores the transpose in a separate area, B.
SMI-4	7/28/61	FLEJ - Solves a system of n linear equations in n variables in floating-point, single-precision arithmetic.
SMI-4.1	12/29/61	FLEC - Solves a system of n linear equations in n variables by Crout's Method in floating-point, single-precision arithmetic.
SMI-5	6/24/59	FEIGTJ - Computes the eigenvalues and eigenvectors of a real, symmetric matrix A by the threshold Jacobi Diagonalization Process. (See PR-4.)
SMI-6	4/11/60	FMAAD - Computes the sum of matrices A and B in floating-point, single-precision arithmetic. (See PR-4.)
SMI-7	4/11/60	FMASUB - Computes the difference of two matrices A and B in floating-point, single-precision arithmetic.
SMI-8	1/15/62	FDIAG - Forms the matrix product $C = AB$, where A, B, and C are diagonal matrices, in single-precision, floating-point arithmetic.
SMI-9	1/22/62	FDIMA - Forms the matrix product $C = AB$, where A is a diagonal matrix and B is any other matrix, in single-precision, floating-point arithmetic.
SMI-10	1/22/62	FMADI - Forms the matrix product $C = AB$, where A is any matrix and B is a diagonal matrix, in single-precision, floating-point arithmetic.

CAT. NO.	DATE	TITLE AND DESCRIPTION
SMI-11	2/5/62	FTRMA - Forms the matrix product $C = A^T B$, where A and B are any two matrices with an equal number of rows, in single-precision, floating-point arithmetic.
SMI-12	2/5/62	FMATR - Forms the matrix product $C = AB^T$, where A and B are any two matrices with an equal number of columns, in single-precision, floating-point arithmetic.
INTERPOLATION (SMJ)		
SMJ-1	9/8/61	FINTL - Interpolates by Lagrange's formula within a table of n points in floating-point, single-precision arithmetic.
RANDOM NUMBERS (SMK)		
SMK-1	5/8/59	RANDI - Generates sequences of pseudo-random numbers x_i in fixed-point, single-precision arithmetic.
SMK-2	4/19/60	FNRRAND - Generates a normally distributed pseudo-random number y of a set of numbers with given means and standard deviation in floating-point, single-precision arithmetic.
SOLUTION OF EQUATIONS (SML)		
SML-1	1/5/60	FBISCT - Computes a real root of a real-valued function of x in the interval (A,B) by the method of bisection in floating-point, single-precision arithmetic.
SML-2	2/15/60	FREFAL - Computes a real root of a real-valued function of x by the method of regula falsi in floating-point, single-precision arithmetic.
SML-3	4/7/60	FRTISO - Isolates the real roots of a function of x which occur in an interval (A,B) in floating-point, single-precision arithmetic.
SML-4	7/1/60	FPORC - Determines all roots (both real and complex) of the N th degree polynomial. (See PR-7.)
SPECIAL FUNCTIONS (SMM)		
SMM-1	12/4/61	FGAMMA - Computes $\Gamma(x)$ for an argument x in floating-point, single-precision arithmetic.

DATA CONVERSION (SDC)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SDC-3a	7/1/61	DEC2FLO - Converts a decimal quantity to its floating-point binary equivalent.
SDC-4	1/12/60	FBTD - Converts a floating-point binary number to its decimal equivalent.
SDC-5	3/18/60	BIDEC - Converts a fixed-point binary number x with a given scale factor b to its binary-coded decimal equivalent.
SDC-6a	2/9/62	BCD2BIN - Converts a binary-coded decimal integer to its binary equivalent.
SDC-7	6/14/61	OCT2BIN - Converts two binary-coded decimal words regarded as 16 BCD characters to their binary equivalent.
SDC-8	6/14/61	BIN2OCT - Converts a binary word regarded as 16 octal characters to its binary-coded representation.
SDC-9	6/30/61	BIN2HX - Converts a binary word considered as 12 hexadecimal characters to its binary-coded decimal equivalent.
SDC-10	7/3/61	HX2BIN - Converts a binary coded hexadecimal word composed of 12 BCD characters to its binary equivalent.
SDC-11	10/1/61	ENCODE - Converts an image mode card of 2n consecutive core memory locations into the corresponding code mode card of n consecutive core memory locations.
SDC-12	10/1/61	FENCODE - Same as ENCODE, except that FENCODE assumes floating-point hardware. (See SDC-11.)
SDC-13	10/1/61	XFIX - Converts a floating-point number x to a fixed-point integer, (mod 2^{15}) at B15.
SDC-14	10/1/61	FLOAT - Converts a fixed-point integer n at B15 to normalized floating-point.
SDC-15	10/1/61	BINCON - Converts a fixed-point binary number x to its binary-coded decimal equivalent, given its scale factor b and the number of decimal places desired to the right of the decimal point, d.

DATA
CONVERSION
SUBROUTINES

CAT. NO.	DATE	TITLE AND DESCRIPTION
SDC-16	10/1/61	FLO2FIX - Converts floating-point binary number to its fixed-point binary equivalent.
SDC-17	12/15/61	FIX2FLO - Converts a 48 bit, two's complement fixed-point number x at binary point n into a normalized floating-point value.
SDC-18	4/6/62	IMADDI - Adds 1 to a four-digit image mode number n (modulo 10000).
SDC-19	4/6/62	DECODE - Internal code to image conversion. Converts a code mode card of n consecutive core memory locations into the corresponding image mode card of 2n consecutive core memory locations.
SDC-20*	5/15/62	PREP - Edits a block of 12 code mode cards in core memory for off-line printing.

DATA PROCESSING (SDP)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SDP-1	7/9/59	BLKCK - Combines checksum from previous data with data in new block to form new checksum.
SDP-2	1/2/62	TUIGNR - A post conversion edit routine which functions only in conjunction with the output of the Tape Translator -- TUI. TUIGNR processes one full IBM record from the TUI output tape and leaves the record in memory. (See PR-12.)
SDP-3	10/1/61	PLOT - Given certain information about the coordinate system and the points to be plotted, PLOT produces a graphical representation in printer format. (See PR-10.)
SDP-4	10/1/61	ZSUPP - Suppresses leading zeros with spaces for a word of BCD characters.
SDP-5	3/27/62	TAPER - Provides a standard tape error response for PROC, IOPS and the SORT Generator. (See PR-14.)
SDP-6	12/4/61	TYPESUB - Types out a message on the Console Typewriter.

INPUT-OUTPUT (SIO)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SIO-1A*	10/15/62	XORD - Executes and checks single and multi-block read, write, space and rewind orders.
SIO-2*	11/21/62	SETAPES - Reassigns tapes in an ALTAC program, or any program using PIOS.

SYS (SSYS)

CAT. NO.	DATE	TITLE AND DESCRIPTION
SSYS-1	8/24/61	ERRDMP - Provides a convenient way of initiating error dumping by SYS within an ALTAC program. Applies only within programs run under SYS control.
SSYS-2	8/24/61	NXTCON - Provides a convenient means of returning to the 1NXTCON function of SYS from an ALTAC program. Applies only within programs run under SYS control.
SSYS-3	8/24/61	ENDJOB - Provides a convenient means of returning to the end of job function of SYS from an ALTAC program. Applies only within programs run under SYS control.
SSYS-4	2/28/62	SYSDEF - Provides a convenient way to assign the specific values to the more commonly used SYS symbols.
SSYS-5*	11/21/62	EXIT - Provides a return to SYS from an ALTAC program, or any program using PIOS, while providing for a runout of all tapes.

TAC MACRO-INSTRUCTIONS (M)

CAT. NO.	DATE	TITLE AND DESCRIPTION
M-1	2/1/59	TLUEQ - Table look-up for equality. Searches a list of n consecutive locations extracted according to a mask.
M-2	2/1/59	POLYVAL - Polynominal evaluation. Evaluates the polynomial $a_0x^n + a_1x^{n-1} + a_2x^{n-2} + \dots + a_{n-1}x + a_n$ where the coefficients a_0, a_1, \dots, a_n appear in consecutive words.
M-3	6/24/60	RDFF - Controls the reading of a single tape consisting of a label block or blocks and fixed-length records. Ending sentinels indicate the end of data and an index register is used to indicate the starting address of each record.

FORMS, CHARTS, AND CARDS

CAT. NO.	TYPE	TITLE
GI-419A	FORM	HIGH-SPEED PRINTER LAYOUT
GI-457-C	FORM	SYSTEMS PROCESS CHART
GI-458-C	FORM	RECORD LAYOUT
GI-459-C	FORM	RECORD DESCRIPTION
GI-515-C	FORM	SCALING WORK SHEET
GI-537-C	FORM	TAPE BLOCK LAYOUT
GI-558-C	FORM	CARD READ/PUNCH TIME AND VOLUME SUMMARY
TF-1A	FORM	TRAINING CODING FORM
TF-4C	CARD	PHILCO 2000 MNEMONIC AND QUATERNARY CODES
TF-5B	FORM	PRINTING TIME & VOLUME SUMMARY
TF-12D	CHART	INPUT-OUTPUT ORDERS
TF-17A	CHART	PHILCO 2000 CHARACTER CODE COMBINATIONS
TF-19	CHART	TABLE OF POWERS OF 2
TF-20	CHART	PHILCO 2000 INSTRUCTIONS
TF-21*	CARD	SKIP INSTRUCTIONS - INPUT-OUTPUT ORDERS
TF-24*	MANUAL	DECIMAL TO OCTAL INTEGER CONVERSION TABLES
TF-25*	FORM	PHILCO CODING FORM
TF-26*	FORM	ALTAC CODING FORM
TF-27*	FORM	TOPS CODING FORM
TF-28*	FORM	COBOL CODING FORM
TF-29*	FORM	STATISTICAL SYSTEM DATA FORM
TF-30*	FORM	CRITICAL PATH SCHEDULE DATA FORM

1963

index

A

ABS (see SMF-4), 15
AB3 - Customer Training, 11
Advance Item Macros (see RD-37), 9
AEXPQ (see SMB-7.1), 14
AIDE (SYSAIDE) (see TM-23; SR-3), 3,5
ALTAC -
 Changes for TAC II (see PD-3), 5
 Coding Form (see TF-26), 31
 III Manual (see TM-27), 4
 III (see RD-40), 9
ANALYZER (see TM-23; PD-13), 3,6
Auto-Control Unit (see TM-16), 2

B

BCD2BIN (see SDC-6a), 21
BIDEC (see SDC-5), 21
BINCON (see SDC-15), 21
BINDEL (see TM-23), 3
BIN2HX (see SDC-9), 21
BIN2OCT (see SDC-8), 21
BLKCK (see SDP-1), 23

C

Card Read/Punch Time and Volume Summary Form (see GI-558-C), 31
Character Code Combinations (see TF-17), 31
CHECK8 (see RD-34), 9
COBOL - 3
 Coding Form (see TF-28), 31
 Manual (see TM-24), 3
Coding Forms -
 ALTAC (see TF-26), 31
 COBOL (see TF-28), 31
 CPS (see TF-30), 31
 Philco (see TF-25), 31
 STAT (see TF-29), 31
 TOPS (see TF-27), 31
 Training (see TF-1A), 31
Console Typewriter (see TM-6; TM-16); 1,2
CPS (see TM-26), 4
Critical Path Scheduling System -
 Coding Form (see TF-30), 31
 Data Form (see TF-30), 31
 Manual (see TM-26), 4
Customer Training (see AB-3), 11

D

DATA (see TM-23), 3
Data Conversion Subroutines (see SDC), 21
Data Processing Subroutines (see SDP), 23
DECADD (see SMF-5), 16
DECADD2 (see SMF-5.1), 16
DECODE (see SDC-19), 22
DECSUB (see SMF-5.2), 16
DEC2FLO (see SDC-3a), 21
Differential Equations (see PR-6; SME-1; SME-2), 7,15,15
DIM (see SMF-4.1), 15
DUMPCON (see PD-2), 5

E

Eigenvalue Computation (see PR-4; SMI-5), 7,18
ENCODE (see SDC-11), 21
ENDJOB (see SSYS-3), 27
ERRDMP (see SSYS-1), 27
ERRORS (see RD-25), 9
EXIT (see SSYS-5), 27

F

FACOS (see SMA-5), 13
FASIN (see SMA-4), 13
FATAN (see SMA-6), 13
FA2X (see SMB-7), 14
FBISCT (see SML-1), 19
FBID (see SDC-4), 21
FCO (see SMF-2), 15
FCOR (see SMG-4), 16
FCORM (see SMG-5), 17
FCORMMV (see SMG-4.2), 16
FCORMV (see SMG-4.1), 16
FCR (see SMF-1), 15
FDIAG (see SMI-8), 18
FDIMA (see SMI-9), 18
FDP (see SMF-3), 15
FEIGTJ (see PR-4; SMI-5), 7,18
FENCODE (see SDC-12), 21
FEX (see SMB-4a), 14
FGAMMA (see SMM-1), 19
FHSC (see SMA-7; SMA-8), 13
FICE (see PR-6; SME-1), 7,15
File Macro-Instructions (see PD-12), 6
Find or List ID's (see PD-10), 5
FINTL (see SMJ-1), 19
FIX2FLO (see SDC-17), 22
FLEC (see SMI-4.1), 18
FLEJ (see SMI-4), 18
FLID (see PD-10), 5
FLOAT (see SDC-14), 21
FLOGAX (see SMB-8), 14
FLOGEX (see SMB-1), 14
FLOG2X (see SMB-3a), 14
FLOG10X (see SMB-2), 14
FLO2FIX (see SDC-16), 22
FLP (see PR-5; SMH-1), 7
FLPI (see PR-8; SMH-1.1), 7,17
FLPO (see PR-8; SMH-1.2), 7,17
FLSM (see SMG-2), 16
FMAAD (see SMI-6), 18
FMADI (see SMI-10), 18
FMAIN (see PR-3; SMI-1a), 7,18
FMAMU (see SMI-2a), 18
FMASUB (see SMI-7), 18
FMATR (see SMI-12), 19
FMDN (see SMG-9), 17
FMEVA (see SMG-1), 16
FMLREG (see SMG-3), 16
FMNVR (see SMG-1.1), 16
FNORM (see SMG-6), 17
FNRRAND (see SMK-2), 19
FPORC (see PR-7; SML-4), 7,19
FREFAL (see SML-2), 19
FREG (see SMG-7), 17
FRKG (see PR-9; SME-2), 7,15
FRTISO (see SML-3), 19
FSC (see SMA-1a; SMA-2a), 13,13
FSIMP (see SMD-2), 14
FSQRT (see SMC-1b), 14
FTANX (see SMA-3), 13
FTENX (see SMB-6), 14
FTRMA (see SMI-11), 19
F2X (see SMB-5), 14

G

GI-419-High-Speed Printer Layout Form, 31
GI-457-Systems Process Chart, 31
GI-458-C-Record Layout Form, 31
GI-459-C-Record Description Form, 31
GI-515-C-Scaling Work Sheet, 31
GI-537-C-Tape Block Layout Form, 31
GI-558-C-Card Read/Punch Time and Volume Summary Form, 31
GTRP (see SMI-3.1), 18

INDEX

H

High Speed Printer (see Printing Systems), 1,2,3
High Speed Printer Layout Form (see GI-419), 31
HX2BIN (see SDC-10), 21

I

IMADDI (see SDC-18), 22
Input-Output Orders (see TM-16; TF-12D), 2,31
Input-Output Processor (see TM-16; TM-6), 2,1
Input-Output Subroutines (see SIO), 25
Input-Output Systems Manual (TM-16), 2
Installation Guide (TM-9), 1
Instructions, Philco 2000 (see TF-20), 31
INT (see SMF-4.2), 15
Interpolation (see SMJ-1), 19
Interval Timer (see TM-16), 2
IOPS (see TM-18), 2
IOPS II (see PD-3), 5

L

Lagrange Interpolation (see SMJ-1), 19
Linear Programming -
Manual (TM-7), 1
Subroutines (SMH-1; SMH-1.1; SMH-1.2), 17,17,17
(see also PR-5; PR-8), 7,7
LOADGEN (see TM-23), 3
L.P. Edit Routine (see PR-5; PR-8; SMH-1.1; SMH-1.2), 7,7,17,17

M

Macro-Instructions (see M), 29
Magnetic Drum System (see TM-16; TM-6), 2,1
Magnetic Tape Macro-Instruction (see RD-25), 3
Magnetic Tape Systems -
Philco 1000 (see TM-22), 3
Philco 2000 (see TM-16; TM-6), 2,1
Mathematical Subroutines (see SMA thru SMM), 13 thru 19
Matrix Inversion (see PR-3a; SMI-1a), 7,18
Matrix Operations (see PR-3a; SMI; PR-4), 7,18,7
MOD (see SMF-4.3), 15
Mnemonic and Quaternary Codes, Philco 2000 (see TF-4C), 31
M-1, T LUEQ, 29
M-2, POLYVAL, 29
M-3, R D F F, 29

N

NXTCON (see SSYS-2), 27

O

OCT2BIN (see SDC-7), 21
Operating System Subroutines, 27

P

Paper Tape Systems (see TM-16; TM-6), 2,1
PD-2, DUMPCON, 5
PD-3, TACII, 5
PD-10, FLID, 5
PD-11, XORD, 5
PD-12, File Macro Instructions, 6
PD-13, ANALYZER, 6
PD-14, TACSERV, 6
PERT (see TM-19), 3
Philco Coding Forms (see TF-25), 31
Philco 212 Computer System (see TMS-10), 2
Philco 1000 Computer Series (see TM-22), 3
Philco 2000 Operating System (see TM-23), 3
PLOT (see PR-10; SDP-3), 7,23
Plotting on the Printer (see PR-10), 7
PLUM (see PR-13), 8
POLYVAL (see M-2), 29
PREP (see SDC-20), 22
Printing Systems (see TM-6; TM-16; TM-22), 1,2,3
Printing Time and Volume Summary Form (see TF-5B), 31
PROC (see RD-25), 9
Changes for TACII (see PD-3), 5
Program for Library Updating and Maintenance (see PR-13), 8
Programming Manual (TM-10), 1
Program Reports (PR), 7 and 8
PR-3a, Matrix Inversion, 7 (see also SM-1a), 13
PR-4-Eigenvalue Computation, 7 (see also SMI-5; SMI-6), 18,18
PR-5-Linear Programming, 7 (see also SMH-1), 17
PR-6-Differential Equations, 7 (see also SME-1; SME-2), 15,15
PR-7-Roots of a Polynomial, 7 (see also SML-4), 19
PR-8-L.P. Edit Routine, 7 (see also SMH-1.1; SMH-1.2), 17,17
PR-9-Runge-Kutta-Gill Integration, 7 (see also SME-2), 15
PR-10-Plotting on the Printer, 7 (see also SDP-3), 23
PR-11-Transportation Problem, 8 (see also SMH-2; SMH-2.1), 17,17
PR-12-Tape Translator Edit Routine, 8 (see also SDP-2), 23
PR-13-Program for Library Updating and Maintenance, 8
PR-14-Tape Error Routine, 8 (see also SDP-5), 23
PR-16-PIOS, 8
Punched-Card System (see TM-16; TM-6; TM-22), 2,1,3

Q

Quaternary Codes (see TF-4c), 31

R

R and D Notes, 9
Random Numbers (see SMK-1; SMK-2), 19,19
RAND1 (see SMK-1), 19
RDFF (see PD-12; M-3), 6,29
RD-25-Magnetic Tape Macro-Instructions, 9
RD-34-CHECK8, 9
RD-37-Advance Item Macros, 9
RD-40-ALTAC III, 9 (see also TM-27), 4
Real-Time System (see TM-16), 2
Record Description Form (see GI-459-C), 31
Record Layout Form (see GI-458-C), 31
Roots of a Polynomial (see PR-7; SML-4), 7,19
RPLC (SYSRPLC) (see TM-23), 3
RPL Corrector (see SR-2), 5
RPL Locator (see SR-1), 5
Runge-Kutta-Gill Integration (see PR-9; SME-2), 7,15

S

Scaling Work Sheet (see GI-515-C), 31
SDC-3a-DEC2FLO, 21
SDC-4-FBTD, 21
SDC-5-BIDEC, 21
SDC-6a-BCD2BIN, 21
SDC-7-OCT2BIN, 21
SDC-8-BIN2OCT, 21
SDC-9-BIN2HX, 21
SDC-10-HX2BIN, 21
SDC-11-ENCODE, 21
SDC-12-FENCODE, 21
SDC-13-XFIX, 21
SDC-14-FLOAT, 21
SDC-15-BINCON, 21
SDC-16-FLO2FIX, 21
SDC-17-FIX2FLO, 21
SDC-18-IMADDI, 21
SDC-19-DECODE, 21
SDC-20-PREP, 21
SDP-1-BLKCK, 23
SDP-2-TUIGNR, 23
SDP-3-PLOT, 23
SDP-4-ZSUPP, 24
SDP-5-TAPER, 23
SDP-6-TYPESUB, 25
Service Routines (see SR), 5
SETAPES (see SIO-2), 25
SIGN (see SMF-4.4), 15
SIO-1A-XORD, 25
SIO-2-SETAPES, 25
Skip Instructions, Input-Output Orders (see TF-21), 31
SMA-1a-FSC, 13
SMA-2a-FSC, 13
SMA-3-FTANX, 13
SMA-4-FASIN, 13
SMA-5-FACOS, 13
SMA-6-FATAN, 13
SMA-7-FHSC, 13
SMA-8-FHSC, 13
SMA-9a-XSC, 13
SMA-10a-XSC, 13
SMA-11-TANH, 13
SMB-1-FLOGEX, 14
SMB-2-FLOG10X, 14
SMB-3a-FLOG2X, 14
SMB-4a-FEX, 14
SMB-5-F2X, 14
SMB-6-FTENX, 14
SMB-7-FA2X, 14
SMB-7.1-AEXPQ, 14
SMB-7.2-XAEXPQ, 14
SMB-8-FLOGAX, 14
SMC-1b-FSQRT, 14
SMC-4-SQRT, 14
SMD-2-FSIMP, 14
SME-1-FICE, 15
SME-2-FRKG, 15
SMF-1-FCR, 15
SMF-2-FCO, 15
SMF-3-FDP, 15
SMF-4-ABS, 15
SMF-4.1-DIM, 15
SMF-4.2-INT, 15
SMF-4.3-MOD, 15
SMF-4.4-SIGN, 15
SMF-4.5-XABS, 15
SMF-4.6-XDIM, 15
SMF-4.7-XMOD, 15

SMF-4.8-XSIGN, 16
 SMF-5-DECADD, 16
 SMF-5.1-DECADD2, 16
 SMF-5.2-DECSUB, 16
 SMG-1-FMEVA, 16
 SMG-1.1-FMNV, 16
 SMG-2-FLSM, 16
 SMG-3-FMLREG, 16
 SMG-4-FCOR, 16
 SMG-4.1-FCORMV, 16
 SMG-4.2-FCORMMV, 16
 SMG-5-FCORM, 17
 SMG-6-FNORM, 17
 SMG-7-FREG, 10
 SMG-9-FMDN, 17
 SMH-1-FLP, 17
 SMH-1.1-FLPI, 17
 SMH-1.2-FLPO, 17
 SMH-2-TRAN, 17
 SMH-2.1-TRANED, 17
 SMI-1a-FMAIN, 18
 SMI-2a-FMAMU, 18
 SMI-3.1-GTRP, 18
 SMI-3.2-TRP, 18
 SMI-4-FLEJ, 18
 SMI-4.1-FLEC, 18
 SMI-5-FEIGTJ, 18
 SMI-6-FMAAD, 18
 SMI-7-FMASUB, 18
 SMI-8-FDIAG, 18
 SMI-9-FDIMA, 18
 SMI-10-FMADI, 18
 SMI-11-FTRMA, 19
 SMI-12-FMATR, 19
 SMJ-1-FINTL, 19
 SMK-1-RAND1, 19
 SMK-2-FNRAND, 19
 SML-1-FBISCT, 19
 SML-2-FREFAL, 19
 SML-3-FRTISO, 19
 SML-4-FPORC, 19
 SMM-1-FGAMMA, 19
 SNAPGEN (see TM-23), 3
 Sort Generator (see TM-17), 2
 Sort System (see TM-21), 3
 SQRT (see SMC-4), 4
 SR-1-RPL Locator, 5
 SR-2-RPL Corrector, 5
 SR-3-AIDE, 5
 SSYS-1-ERRDMP, 27
 SSYS-2-NXTCON, 27
 SSYS-3-ENDJOB, 27
 SSYS-4-SYSDEF, 27
 SSYS-5-EXIT, 27
 Statistical System (see TM-20), 3
 Subroutines -
 Data Conversion (see SDC), 21
 Data Processing (see SDP), 23
 Differential Equations (see SME), 15
 Input-Output (see SIO), 25
 Integration (see SMD), 14
 Interpolation (see SMJ), 19
 Logarithm and Exponential (see SMB), 14
 Management Sciences (see SMH), 17
 Matrix Operations (see SMI), 18
 Powers (see SMC), 14
 Random Number (see SMK), 19
 Special Functions (see SMM), 19
 Special Purpose Arithmetic (see SMF), 15
 Solutions of Equations (see SML), 19
 Statistics (see SMG), 16
 SYS (see SSYS), 27
 Trigonometric (see SMA), 13
 SYS (see TM-23), 3
 SYSDEF (see SSYS-4), 27
 SYS Subroutines (see SSYS), 27
 Systems Description (TM-8), 1
 Systems Process Chart (see GI-457), 31
 SYSTRACE (see TM-23), 3

T

Table of Powers of 2 (see TF-19), 31
 TAC Language Tape Comparison (TACLTC) (see TM-23), 3
 TACLTC (see TM-23), 3
 TAC (see TM-11), 2
 TACSERV (TACSERVS) (see PD-14; TM-23), 6,3
 TAC II (see PD-3), 5
 TAC Subroutines (see Subroutines), 13
 TAC II Loader (see PD-3), 5
 TANH (see SMA-11), 13
 Tape Block Layout Form (see GI-537-C), 31
 Tape Error Routine (see PR-14), 8
 TAPER (see PR-14, SDP-5), 8,23
 Tape Translator Edit Routine (see PR-12), 8
 Technical Manuals (see TM), 1
 TF-1a-Training Coding Form, 31
 TF-4C-Philco 2000 Mnemonic and Quaternary Codes, 31
 TF-5B-Printing Time and Volume Summary Form, 31
 TF-12D-Philco 2000 Input-Output Orders, 31
 TF-17-Philco 2000 Character Code Combinations, 31
 TF-19-Table of Powers of 2, 31
 TF-20-Philco 2000 Instructions, 31
 TF-21-Skip Instructions - Input-Output Orders, 31
 TLU EQ (see M-1), 29
 TMS-10-Philco 212 Computer System, 2
 TM-6A-Operating Controls Manual, 1
 TM-7A-Linear Programming System, 1
 TM-8-System Description, 1
 TM-9-Installation Guide
 TM-10-Programming Manual, 1
 TM-11-TAC Manual, 2
 TM-12C-TOPS Manual, 2
 TM-16B-Input-Output Manual, 2
 TM-17-Sort Generator Manual, 2
 TM-18A-IOPS Manual, 2
 TM-19-PERT Manual, 3
 TM-20-Statistical System Manual, 3
 TM-21-Sort System, 3
 TM-22-Philco 1000 Computer Series, 3
 TM-23-Philco 2000 Operating System, 3
 TM-24-COBOL Manual, 3
 TM-26-Critical Path Scheduling System, 4
 TM-27-ALTAC III Manual, 4
 TOPS Coding Form (see TF-27), 31
 Training Coding Form (see TF-1A), 31
 TRAN (see PR-11; SMH-2), 8,17
 TRANED (see PR-11; SMH-2.1), 8,17
 Transportation Problem (see PR-11; SMH-2; SMH-2.1), 8,17,17
 TRP (see SMI-3.2), 18
 TUIGNR (see PR012; SDP-2), 8,23
 TYPESUB (see SDP-6), 23

U

UBC (see Universal Buffer-Controller)
 Universal Buffer-Controller (see TM-16; TM-6), 2,1

W

WRF (see PD-12), 6

X

XABS (see SMF-4.5), 15
 XAEXPQ (see SMB-7.2), 14
 XDIM (see SMF-4.6), 15
 XFIX (see SDC-13), 21
 XMOD (see SMF-4.7), 15
 XORD (see PD-11; SIO-1A), 5,25
 XSC (see SMA-9a; SMA-10a), 13,13
 XSIGN (see SMF-4.8), 16
 X-Y Plotter (see TM-16), 2

Z

ZSUPP (see SDP-4), 23

**PUBLICATIONS
REQUEST
FORM**

Please detach and mail to:

**PHILCO CORPORATION COMPUTER DIVISION
3900 WELSH ROAD WILLOW GROVE PENNA.
Attn: MARKETING SERVICES**

Date

NAME

COMPANY

ADDRESS

CITY

ZONE

STATE

PHILCO
A SUBSIDIARY OF *Ford Motor Company*
COMPUTER DIVISION