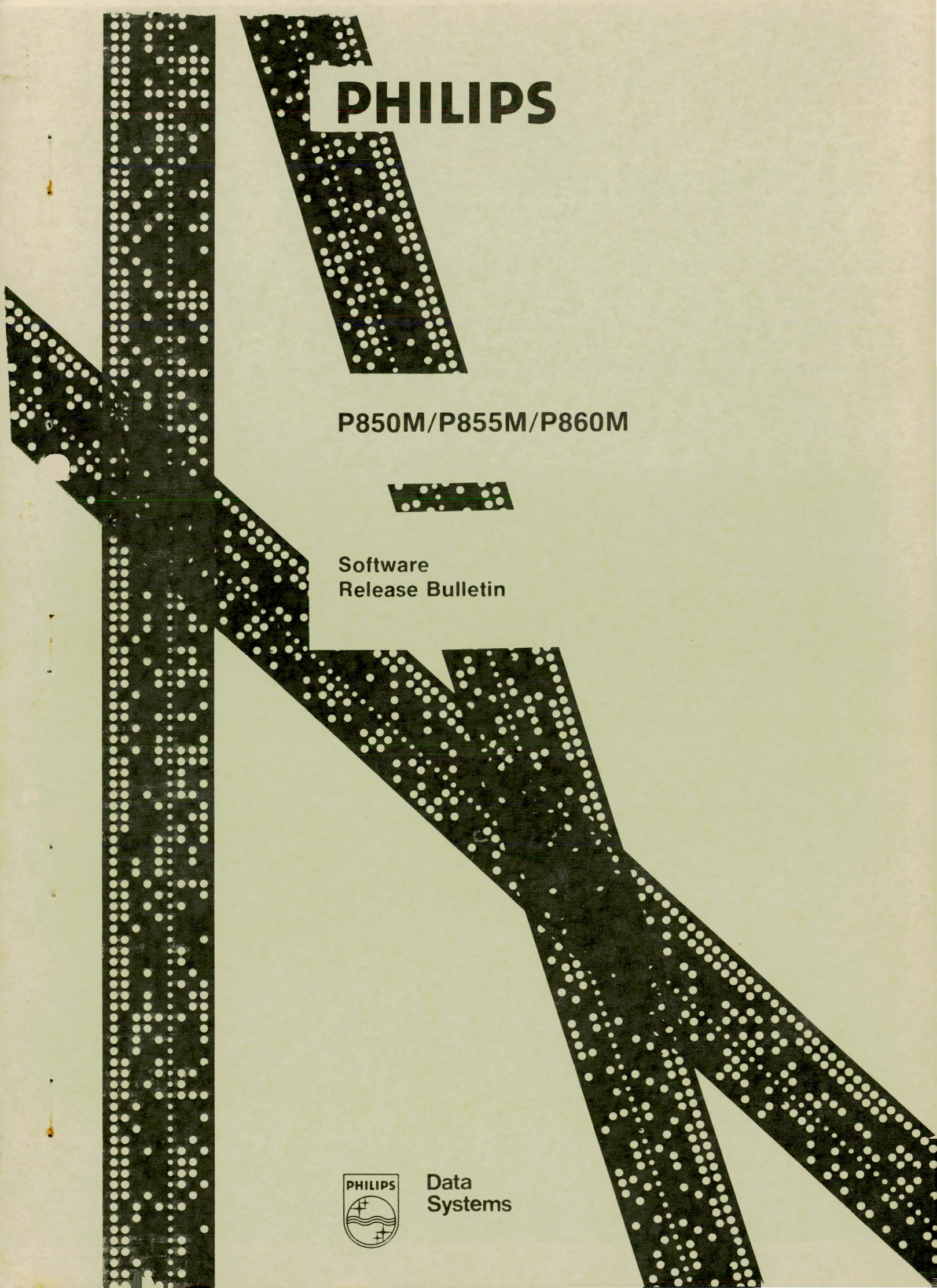

PHILIPS

P850M/P855M/P860M

Software Release Bulletin

PHILIPS Data Systems

P800 S O F T W A R E

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RELEASE N° 3 BULLETIN

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P850/P855/P860 S O F T W A R E R E L E A S E N° 3 B U L L E T I N

1.- TABLE OF CONTENTS

2.- INTRODUCTION

The Software Release Bulletin is published simultaneously with a Software Release and gives all supplementary information on the manuals so as to enable the user to generate a new system and note the changes and improvements with regard to the previous release. When user manuals are still not available, information how to use the concerning software is given by means of user notes. Information about software items unchanged in this release, is repeated from older P850/P855/P860 Software Release Bulletins, since the user has to consult this bulletin only for the whole P800 Software.

Each chapter is built with the following paragraphs :

I - Contents
II - Hardware Prerequisites
III- Documentation
IV - Remarks
V - Improvements on Release N° 2
VI - Contents of each system

3.- GENERAL

This Software Release number 3 Bulletin contains the following items :

1) For P850

PV170-001	P850 Software

2) For P855/P860

PV170-100	Stand Alone I
PV170-101	Stand Alone II
PV170-102	Basic Operating System I
PV170-103	Basic Operating System II
PV170-104	Basic Operating System III
PV170-105	Disc Operating System I
PV170-106	Disc Operating System II
PV170-107	Basic Real Time System
PV163-010	Small Real Time Monitor

For each system, this release bulletin describes :

- Contents
- Media used for software deliveries
- Hardware prerequisites
- List of available documentation to be used with the deviations.
- General remarks, restrictions in the use
- Improvements on release II

4.- PV170-001 P850 Software

I. Contents

Product Name :	Version :	Delivered on
°PV163-001 Executive System including - I/O Drivers for Typewriter Paper tape punch Paper tape reader (size : 560 words) - Interrupt Handler (size : 36 words) - Arithmetic Routines (size : 227 words = 35 (DA) + 43 (DS) + 65 (MUL) + 84 (DIV))	2	Paper tape in object 4x4 format and listings
°PV160-005 Assembler (size 1672 words)	1	Paper tape in binary 4 x 4 format.
°PV165-001 Update Package (size 1880 words)	1	Paper tape in binary 4 x 4 format
°PV161-003 Miniloader (size 310words)	2	Paper tape in binary and object 4 x 4 format and listing
°PV165-002 Binary Dump on paper tape punch (size 145 words)		Paper tape in object 4 x 4 format and listing
°PV165-003 ASCII Dump on I/O typewriter (size 238 words)	2	Paper tape in object 4 x 4 format and listing
Bootstraps (size 32 words)	2	Listings

R e m a r k s :

1) All listings are delivered in P855/P860 Assembly Language.

2) Sizes do not include that of the bootstrap.

II. Hardware Prerequisites

- 4K bytes memory
- No option is required
- One typewriter with paper tape equipment (P841-001 or P841-002)

R e m a r k s :

a) This software is capable of using together :
   - 1 typewriter (P841-001 or P841-002)
   - 1 punched tape reader (P801-001 or P802-001)
   - 1 tape punch (P803-001 or P804-001)

b) Device addresses must be

TY	10	(hexadecimal)
PTR	20	"
PTP	30	"

c) All I/O's are performed without interrupt handling.

III. Documentation

P850 User Manual

Pub N° 512299114535 (fifth edition)

Note to the Users :

N° 2 Update Processor

N° 4 Non ASCII Format on Taper Tape

N° 7 I/O Package

N° 17 Utilities

IV. Remarks :

1) In the manual suppress the parts concerning :
   - Main Loader P156-157
   - Interrupt Handler P159
   - Debugging Package P160-161

2) Loading of Binary Code from Paper Tape :
   On loading completion, the bootstrap stops at location /3E. The content of register A1 can be compared with the punched checksum on paper-tape (see note n° 4).

3) Starting of Program after Loading by the Bootstrap.
   Depress "Master Clear" button on loading completion.
   The processors must be started at address /40.

4) Assembler
   When the Assembler types out "O:", the user must enter options preceded by a "/" character.

V. Extension from Release N° 2

No change.

5.- PV170-100 PV170/101 P855/P860 Stand Alone Systems I and II

I. Contents

Product Name	Version	Delivered on
°PV160-001 Assembler (size 3611 words)	2	Paper tape in binary 8 x 8 format
°PV161-004 Linkage Editor (size 3437 words)	2	Paper tape in binary 8 x 8 format
°PV165-005 Update Package (size 1880 words)	1	Paper tape in binary 8 x 8 format
°PV161-003 Mini-loader (size 310 words)	2	Paper tape in binary and object 8 x 8 format and listing
°PV165-002 Binary Dump on paper tape punch (size 145 words)	2	Paper tape in object 8x 8 format and listing
°PV165-003 ASCII Dump on I/O typewriter (size 238 words)	2	Paper tape in object 8 x 8 format
°PV164-004 I/O Package ASR/PTR/PTP (size 560 words)	1	Paper tape in object 8 x 8 format
°Bootstraps (size 32 words)	2	Listing
°PV162-001 Stand Alone Fortran Compiler (size 4044 words)	1	Paper tape in binary 8 x 8 format
and		
°PV166-002 Stand Alone Fortran Library	1	Paper tape in object 8 x 8 format

Remarks :

1) Sizes do not include that of the boostrap.
2) Paper tape can be delivered in 4 x 4 format if explicitly requested on the order, only for Stand Alone I.
   For Stand Alone II it is always delivered in 8 x 8 format.
3) The Stand Alone Fortran Compiler is delivered on 2 tapes
   - tape T 1 : the root
   - tape T 2 : 3 modules that must never be separated

II. Hardware Prerequisites

a) For Stand Alone I
   - 4K words memory
   - One typewriter with paper tape equipment (P841-002)
   - No option is required

b) For Stand Alone II
   - 4K words memory
   - Wired arithmetic option (P860 M-028)
   - One typewriter with paper tape equipment (P841-002)
   - One punched tape reader (P801-001 or P802-001)
   - One tape punch (P803-001 or P804-001)

Remarks :

a) This software is capable of using together :
   - 1 typewriter (P841-001 or P841-002)
   - 1 punched tape reader (P801-001 or P802-001)
   - 1 tape punch (P803-001 or P804-001)

b) Device addresses must be

TY 10 (hexadecimal)
PTR 20 "
PTP 30 "

on programmed channel

c) All I/O's are performed without Interrupt Handling

III. Documentation

- P855/P860 System Software Manual Paper tape
  Pub N° 5122 991 11551 (first edition)
- P855/P860 Basic Fortran Reference Manual
  Pub N° 5122 991 11431
- Notes to the users :

  N° 4 Non ASCII Format on paper tape

  N° 7 I/O Package

  N° 17 Utilities

  N° 20 4K Basic Fortran

IV. Remarks

1) Loading of Binary Code from paper tape
   On loading completion, the bootstrap stops at location /3E.
   The content of register A1 can be compared with the punched checksum on paper tape (see note n° 4).

2) Starting of Programs after Loading by the Bootstrap.
   Depress "Master Clear" button on loading completion.
   The processors must be started at address /40.

3) On the end of processing, all processors perform a "halt instruction". They can be easily restarted just by depressing the "Start" button.

4) The Assembler and the Linkage Editor dynamically perform the determination of the available core for the storage of work tables.

5) In case of "end of tape" detection on the paper tape reader, the I/O package automatically restarts the exchange when the device becomes operable again.

V. Improvement on Release N° 2

No changes in Stand Alone System I

Stand Alone System II has been created from Stand Alone System I by adding Fortran Compiler with its library and its documentation.

VI. Contents of Stand Alone Systems

P r o d u c t s	System I	System II
Assembler	X	X
Linkage Eidtor	X	X
Update package	X	X
Mini loader	X	X
Binary Dump	X	X
ASCII Dump	X	X
I/O Package	X	X
Bootstraps	X	X
Fortran Compiler and Fortran Library		X

6.- PV170-102 PV170-103 PV170-104 P855/P860 Basic Operating Systems

I. Contents

Product Name	Version	Delivered on
°PV167-001 System Generator for Basic Monitor (size 4186 words)	1	Paper Tape in binary 8 x 8 format
°PV161-004 Stand Alone Linkage Editor (size 3437 words)	2	Paper Tape in binary 8 x 8 format
°PV163-002 B.O.M. Object Library and Paper Tape Initial Program Loader (size 318 words)	2 2	Paper Tape in object format (B O M library) and Paper Tape in binary 8 x 8 format and listing.
° PV160-002 Assembler (size 3451 words)	1	Paper Tape in object format
°PV161-005 Linkage Editor (size 3328 words minimum)	2	Paper Tape in object format
°PV165-006 Update Package (size 1434 words)	1	Paper Tape in object format
°PV160-003 Extended Assembler (size 4684 words)	1	Paper Tape in object format
°PV162-005 PV166-002 Basic Fortran Compiler and Library (size 4592 words)	1	Paper Tape in object format
°PV162-002 PV166-001 Full Fortran Compiler and Library (size 7979)	1	Paper Tape in object format

°PV162-010 Ful Fortran Transcoder (size 3006 words)	1	Paper tape in object format
°PV165-002 Binary Dump on paper tape punch (size 145 words)	2	Paper tape in object format and listing.
°PV165-003 ASCII Dump (On I/O typewriter or on line printer) (size 238 words)	2	Paper tape in object format and listing.

Remarks :

I) Monitor size plus the communication and save area of 64 words are not included in the sizes of programs working under monitor control.

2) Software is delivered exclusively in 8x8 format on paper tape.

3) Monitor Contents

This monitor version contains drivers for :

-I/O typewriter (P841-001, P841-002, P841-003 or P841-004 on programmed channel.

-Paper tape reader (P801-001 or P802-001 on programmed channel)

-Paper tape punch (P803-001 or P804-001 on programmed channel)

-Card reader (P806-001 on multiplex channel)

-Line printer (P810-001, P811-001 or P812-001 on multiplex channel)

-Magnetic tape (P831-002 or P841-004 on multiplex channel)

II. Hardware Prerequisites

1) BOS I

-8K word memory

-One typewriter

-One combined punched tape equipment

2) BOS II

Same as BOS I plus

- either 4K word memory
- or high speed arithmetic option

3) BOS III

Same as BOS II plus

- 4K word memory

R e m a r k :

Only the Fortran compilers and the code they generate make use of optional Arithmetic Instructions.
These instructions can be :
-either performed by hardware
-or simulated by software at monitor level (via an unknown operation code interrupt).

It must be mentioned that the arithmetic simulation increases Monitor size (around 500 words) and decreases system performances (Simulation takes around 30 times longer than the hardware option).

Consequently, the High Speed Arithmetic Option is highly recommended for BOS II and BOS III.

III. Documentation

P855/P860 Basic Operating Monitor
Pub N° 5122 991 11352 (second edition).

P855/P860 System Software Manual Paper tape
Pub N° 5122 991 11551 (first edition).

P855/P860 Basic Fortran Reference Manual
Pub N° 5122 991 11431 (first edition).

P855/P860 Full Fortran Reference Manual
Pub N° 5122 991 11401 (first edition).

Notes to the Users :

N° 4 Non ASCII Format on paper tape
N° 11 Bootstrap and IPL for paper tape
N° 14 Full Fortran Transcoder
N° 17 Utilities
N° 21 System Generation for Basic Monitor

IV. Remarks

1) The tabulation feature is managed at Monitor level only for paper tape and typewriter.
The Extended Assembler and the Full Fortran Compiler themselves manage the tabulation feature in case of input from magnetic tape.

2) The assembler (PV160-002) cannot work on configurations of over 16K words.

3) The content of returned status and the error recovery action undertaken by the Monitor in case of basic I/O with or without the retry bit is unpredictable.

4) The-Extended Assembler
-Linkage Editor
-Update
-Full Fortran Compiler
-System Loader
accept source / object input or output from to magnetic tape.

5) The Full Fortran Transcoder cannot work in relation with the Basic Fortran Compiler.

6) In case of a Write attempt on a Write Protected magnetic tape, the message PU MT04,0000,RY is output instead of PU, MT04,2000,RY.

7) Any BOS problem Report must contain a copy of the listing output on typewriter during the monitor generation process (Tables definition and Link edit).

V.- Improvements on Release N° 2

1) Due to the implementation of the Monitor Generation Package some changes from release n° 2 have occurred, in delivered products.
   The programs to be used in the Monitor Generation process are :
   - The Sysgen Package
   - The Stand Alone Linkage Editor

   The BOM Library has to be used as data input for the Linkage Editor during generation process.
   (See note n° 21)

2) The Linkage Editor under BOS has been modified so that an absolute address in core can be given to the blank COMMON.

   This is especially useful when programming under BRTM in FORTRAN. The BOS Linkage Editor syntax is as follows :

   a) Link-Edit Option

   E : mnp, AAAAAA,q [,/XXXX] [,SSSSSS] (LF) (CR)

   m = Object Output file Code
   n = Listing File Code for map
   p = Input File Code

   AAAAAA : One to six characters for Ident Name of the produced module

   [q = 4 if code is output in 4x4x4x4 format
   [q = 8 if code is output in 8x8 format

   /XXXX : (Optional) 4 hexadecimal digits preceded by a slash as the Absolute base address for the Blank Common.

SSSSSS : name of the Entry Point which will be used as the Start Address in the produced module. (optional)

There is no option by default in Link-Edit.

b) Link-Load Option

L : np [,/XXXX] [,SSSSSS] (LF) (CR)

n = Listing File Code for map (n=2 for Standard Listing)

p = Input File Code (p=8 for paper tape reader)

default option : Link-Load from Standard Object Input (High Speed Tape Reader) with Standard Listing.

Syntax : either L : (LF) (CR)

or (LF) (CR)

If one parameter is erroneous the message L ? is output and the option must be typed in again immediately after.

When the Option has been accepted, the message

L : is output again, on the ASR keyboard, to request a Control Command.

3) The manual control (MC command) feature has been extended. The new syntax is the as follows :

MC ␣ <file code> ␣ ␣ <soft. order> ␣ <rept. factor>

Giving a repetition factor allows for instance to skip 10 tape marks using only one command.

The possible software orders have been extended by the following :

- Write EOF Mark 26
- Write EOS Mark 22

4) Various Monitor functions have been improved without modification of the external interface. Those are :

- Memory Dynamic Allocation and Deallocation
- Dump Memory (DM command)
- Driver for magnetic tape
- Arithmetic Simulation routines

VI.- Contents of Basic Operating Systems

Products	BOS I	BOS II	BOS III
SYSGEN	X	X	X
Stand Alone LKE	X	X	X
Object Library	X	X	X
Assembler	X		
Linkage Editor	X	X	X
Update Package	X	X	X
Extended Assembler		X	X
Basic Fortran Compiler + Library		X	
Full Fortran Compiler + Library			X
Full Fortran Transcoder			X
Binary Dump	X	X	X
ASCII Dump	X	X	X

7.- PV170-105 P855/P860
PV170-106 Disc Operating Systems

I. Contents

Product Name	Version	Delivered on
PV163-004 Disc Operating Monitor and Control Commands Interpreter (CCI size 5900 words)	1	Disc and listing for Monitor
PV160-006 Disc Assembler (size 4530 words)	1	Disc
PV161-007 Disc Linkage Editor (size 3077 words)	2	Disc
PV162-006 PV166-002 Disc Basic Fortran Compiler and Library (size 4572 words)	1	Disc
PV162-004 PV166-001 Disc Full Fortran Compiler and Library (size 7939 words)	2	Disc
PV162-010 Disc Full Fortran Transcoder (size 3002 words)	2	Disc
PV165-007 Disc Premark (size 2116 words)	1	Paper tape in binary 8x8 format and listing
Bootstrap for disc	1	Listing
Bootstrap for paper tape	1	Listing

Papertape IPL	1	Paper tape in binary 8x8 format and listing
PV165-002 Binary dump	2	Paper tape in object format and listing
PV165-003 ASCII dump	2	Paper tape in object format and listing

R e m a r k s

1) The monitor size plus the save area are not included in the sizes of programs working under monitor control.

2) Due to non availability of sysgen, a first DOS delivery can be made exclusively on disc.

3) The delivered DOS can work only on configurations having the device addresses set and the interrupt wired according to the standard (see Appendix A and B).

4) Basic Fortran Library and Full Fortran Library cannot exist on the same system pack.

5) Updating of a system pack can be performed from paper tape (Note N° 12). In case of changes in one Fortran compiler, the corresponding library must be updated too.

6) Monitor contents

This Monitor version contains drivers for :

- I/O typewriter (P841-001, P841-002, P841-003 or P841-004 on programmed channel).
- Paper tape reader (P801-001 or P802-001 on programmed channel).
- Paper tape punch (P803-001 or P804-001 on programmed channel).
- Card reader (P806-001 on multiplex channel).
- Line printer (P810-001, P811-001 or P812-001 on multiplex channel)
- Magnetic tape (P831-002 or P831-004 on multiplex channel)
- Moving head disc (P822-001 on multiplex channel)

7) For most of configurations, a standard DOM will be delivered. The size of this Monitor is 6K.

It includes drivers for :

- One Typewriter
- One Punched Tape Reader
- One Tape Punch
- One Card Reader
- One Line Printer
- Two disc units on the same controller
- The hardware arithmetic option is assumed to be present.

If another monitor generation is needed, please contact your nearest Philips Sales Office.

8) Source can be delivered on disc or magnetic tape.

II. Hardware Prerequisites

DOS I

- 12K word memory
- One typewriter
- One combined punched tape equipment
- One disc unit
- High speed arithmetic option or 4 more Kwords of memory.

DOS II

Same as DOS I plus 4K words memory

III. Documentation

P855/P860 Disc Operating Monitor
Pub N° 51122 991 11361 (first edition)

P855/P860 System Software Manual Disc
Pub N° 51122 991 11621 (first edition)

P855/P860 Basic Fortran Reference Manual
Pub N° 51122 991 11431 (first edition)

P855/P860 Full Fortran Reference Manual
Pub N° 51122 991 11401 (first edition)

Notes to Users

N° 11 Bootstrap and IPL for Paper Tape

N° 12 Updating of a System Pack

N° 13 Loading from Disc

N° 14 Ful Fortran Transcoder

N° 15 DOS Extension

N° 18 Disc Premark

IV. Remarks

1) The tabulation feature is managed at processors level for the Disc Assembler and the Full Fortran Compiler.

2) Premark utility remains the same as in release n° 2. So do not apply errata sheet n° 1, line 121, relative to new premark, in Disc Operating Monitor Manual.

3) The CCI accepts all inputs and outputs from / to magnetic tape (except for CCI commands).

4) The content of returned status and the error recovery action undertaken by the monitor in case of basic I/O with or without the retry bit is unpredictable.

5) When filling up the /O file, no RDO, ASM, FRT nor FOR command should appear after ON INC command.
Only an INC command can follow another INC command.

V. Improvements on Release N° 2

1) The DOS Linkage Editor has been modified so as it no longer makes use of the arithmetic instructions. Consequently, the arithmétic option is no longer a prerequisite.

In case the DOS would be used only for processing of Assembly Language, the core size prerequisite is 12K words without the arithmetic option (Only the FORTRAN Compilers and the code they generate make use of the arithmetic instructions).

2) The Manual Control feature has been extended (See BOS V-3). Please notice that the same functions can be performed using CCI commands.

3) Various Monitor functions have been improved without modification of the external interface; those are :
   - Memory Dynamic Allocation and Deallocation.
   - Dump Memory (DM command)
   - Driver for magnetic tape
   - Arithmetic simulation routines

4) Some CCI functions have been improved. Those are :
   - Delete User
   - Keep file object
   - Update

5) The Full FORTRAN Compiler has been slightly modified. The Full FORTRAN Transcoder no longer outputs unexpected characters on the print file.

6) At generation time, it is no longer necessary to initialize, the memory size (CVTMSZ), the monitor size (CVTBKA) and the memory protect masks.

   This function is performed by the INIMON module at monitor loading time. This implies that INIMON must be the last selected module at generation time.

VI. Contents of Disc Operating Systems

Products	DOS I	DOS II
DOM + CCI	X	X
Disc Assembler	X	X
Disc Linkage Editor	X	X
Disc Basic Fortran Compiler+Library	X	
Disc Full Fortran Compiler + Library		X
Disc Full Fortran Transcoder		X
Disc Premark	X	X
Bootstrap for disc	X	X
Bootstrap for Paper Tape	X	X

8.- PV163-010

Small Real Time Monitor

I. Contents

Product Name	Version	Delivered on
SRTM PV163-010	1	Paper tape in source format

Remarks

1) Monitor Content

- I/O drivers for ASR, PTR, PTP exclusively.

2) It is delivered in source format. The user has to generate his system from this source tape.

II. Hardware Prerequisites

4K words memory

1 Typewriter with its paper tape equipment

III. Documentation

- Manual P.I.T.

9.- PV170-107

Basic Real Time System

I. Contents

Product Name	Version	Delivered on
°PV163-003 BRTM and BRTM IPL (size 806 words) and BRTM Debugging Program (size 703 words)	1	Paper Tape in source and listing. Paper Tape in object format and listing. Paper tape in object format and listing
°PV166-003 Real Time Full FORTRAN Library		Paper Tape in object format
°PV165-002 Binary Dump on paper tape (size 145 words)		Paper Tape in object format
°PV165-003 ASCII Dump (size 238 words)		Paper Tape in object format
°Paper Tape IPL		Paper Tape in Binary format.

Remarks

1) This software is delivered in 8 + 8 format exclusively.

2) This system is paper tape oriented.

3) Monitor content

This Monitor contains drivers for :

- I/O Typewriter (P841/001, P841-002, P841-003 or P841-004 on programmed channel)
- Paper tape reader (P801-001 or P802-001 on programmed channel)
- Paper tape punch (P803-001 or P804-001 on programmed channel)

- Card reader (P806-001 on multiplex channel)
- Line Printer (P810-001, P811-001 or P812-001 on multiplex channel)

II. Hardware Prerequisites

- 8K word memory
- One Typewriter
- One combined punched tape equipment.

III. Documentation

- P855/P860 Real Time Monitors
  Pub N° 5122 991 11581
- Real Time Full Fortran Library EPS
  Element 62-9 (delivered with the software)

Remark : In this document, ignore the functions :

. Assign

. Define File

. Close

Concerning the use of bootstrap, Paper Tape IPL, Binary dump, ASCII Dump, the user should refer to BOS or DOS documentation.

IV. R e m a r k s

1) Basic Real Time System users are expected to develop their application under BOS or DOS.

2) Loading Procedure
   The BRTM IPL has to be loaded by the Paper Tape IPL and not by the bootstrap.

Consequently, the loading procedure is the following :

- Enter the paper tape bootstrap in core or load the paper tape bootstrap program from disc (for DOS users only).
- Load the Paper Tape IPL in the lower memory locations.
- Specify in A9 the base address for the loading of the BRTM IPL in the upper memory locations.
- Load the BRTM IPL in core.

The relevant information about Paper Tape bootstrap, Disc Bootstrap,Paper Tape IPL can be found in notes n° 11 and n° 13 delivered with BOS or DOS.

3) BRTM Generation Process.

The BRTM has to be generated from source paper tape using BOS or DOS.

The definition of generation parameters can be found in the BRTM manual and in the listings delivered with the tapes.

Please note the following :

- At link edit time, the various modules belonging to the BRTM must have a given order.

  First Module : I : LOCA
  Any intermediate module
  Last Module : T : SYS

- At link edit time, some external references can remain unsatisfied without generating an error.

  Exemple : M : DCK3 can remain unsatified. For the system this will imply that the corresponding function is not available.

- It is highly recommended to use Release n° 3 BOS or DOS for application development under BRTM and BRTM generation.

4) Any BRTM problem report must contain the listing of modified source modules and the generation map.

5) BRTM Debugging Program

This package is a debugging aid program enabling.

The user to : Start a program
: Connect disconnect a program to/from a timer
: Set and start the real time clock
: Stop the real time clock
: Get the time
: Dump a core memory area
: Write onto memory

The package is considered by BRTM as a user program and therefore has to be loaded at IPL time as any user program. It can be connected to any level (except 49). Please note that it has to be activated at IPL time in order to set the interrupt control panel location. This implies that the level of the control panel interrupt is predetermined in the package (standard level = level 7).

Command Language System :

a) START a Program

ST PRNAME Where PRNAME is up to alphanumeric characters corresponding to the name of the program to be activated.

b) Connect a program to a timer :

1- Format 0 - CT ␣ <PRNAME> , <NTIM> , <NC> , <PR>

Where <PRNAME> is the name of the program to be connected
<NTIM> is the timer number
<NC> is the number of cycles before the first activation
<PR> is the pulse rate

2- Format 1 - CT ␣ <PRNAME> , <NTIM> <HH␣MM␣SS> , <PR>

Where <PRNAME> is the name of the program to be connected

<NTIM> is the timer number

<HH ␣ MM ␣ SS> is the absolute time for the first activation.

<PR> is the pulse rate

c) Disconnect a program from the timer

DT ␣ <PRNAME> , <NTIM>

Where <PRNAME> is the program name to be disconnected

<NTIM> the timer number

d) Set and start the clock

SC ␣ < HH . ␣MM ␣ SS>

e) Stop the clock

HC

f) Dump a core memory area

DM ␣ <ADDR1> ␣ < ADDR2>

Same syntax a for Basic Operating Monitor.

Not that it is not possible to stop a core dump.

g) Write onto Memory

WM ␣ <ADDR> ␣ <VAL 1 > ␣ <VAL2 > ␣<VAL n >

Same syntax as for Basic Operating Monitor

10.- General Remarks

Source deliveries

1) In case of source delivery (either on paper tape or magnetic tape or disc), only PV160-003 (BOS Extended Assembler) or PV160-006 (DOS Assembler) can be used for the assembling of the delivered source.

   However, the source tapes of the SRTM can be assembled using the Stand Alone Assembler (PV160-001) or the BOS Assembler (PV160-002).

2) Basic and Full FORTRAN compilers are coded in a special language. Consequently a source delivery of such products is of no use.

User Notes

This release bulletin refers to the user notes, these will be delivered with the software.

11.- A P P E N D I X A

Standard P855/P860 Interrupt Connections.

1. The problem of device addressing is solved by using Appendix B rules, taking into account the break signal priorities of devices connected on the multiplex or DMAC channels.

2. Standard Interrupt Connections :

   On these computers 8 hierarchized interrupt levels are available in standard; one of these eight levels can be connected to the maskable line on which 16 signals are available.

   This common line has been chosen to connect standard devices of program development. This makes the 7 (at least) remaining levels free for internal interrupt connections.

   Three successive options allow an extension up to 48 interrupt levels : (9-16), (17-32) and (33-48).

   In order to process device interrupts during program development each Monitor contains a new Interrupt Handler able to serve any interrupt after a time maximum of 23 microseconds spent in inhibit mode. It scans the interrupt register from RIGHT TO LEFT.

   The standard eight levels have the following assignments :

Level 0 = POWER FAILURE (option)
1 = LKM - Steack Overflow
2 = REAL TIME CLOCK (option)
3 = MEMORY INCREMENT DATA BREAK (option)
4 = Reserved
5 = Common line for 16 signals
6 = MEMORY PROTECTION (option)
7 = Control Panel

3. Common Line (level 5) Interrupt Connection :

Number gives the bit order in the interrupt register, consequently the BMSKIL signal number is connected to each control unit PIL.

BMSKIL	0	Reserved	free	Lowest priority
	1	Plotter	PL0E	
	2	Line Printer	LP0D	
	3	MHD =##=2	DK03	
	4	MHD =##= 1	DK02	
	5	FHD	FD01	
	6	MT	MT04	
	7	ASR =##= 2	TY15	
	8	ASR =##= 1	TY10	
	9	PTP =##= 2	PP32	
	10	PTP =##= 1	PP30	
	11	Tape Cassette	TC06	
	12	PTR =##= 2	PR22	
	13	PTR =##= 1	PR20	
	14	Card Reader	CR05	
BMSKIL	15	Reserved	free	Highest priority

12.- Appendix B

Table of control unit addresses (4 bits) on multiplex or DMAC channels and device addresses (6 bits)

Unit Number or address (2 bits) Extension		0	1	2	3
		00	01	10	11
0	0000		TY1	PTR1	PTP1
1	0001	FHD — Disc		drives →	
2	0010	MHD — drive →		PTR2	PTP2
3	0011	MHD — drive →		*	*
4	0100	MT — Tape		drives →	
5	0101	CR	TY2	*	*
6	0110	TC — Cassette		drives →	
7	0111	* * *	* *	* *	* *
8	1000	* * *	* *	* *	* *
9	1001	* * *	* *	* *	* *
A	1010	Dioc (example) — word		numbers →	
B	1011	* * *	* *	* *	* *
C	1100	* * *	* *	* *	* *
D	1101	LP	*	*	*
E	1110	PL	*	*	*
F	1111	Adapter	DMAC	MXDB	RTC

means unusable

means mandatory address for software reasons

means mandatory address for hardware reasons

means only usable for another identical device connected to the same control unit

means free for any single device control unit on programmed channel.

means free for any device on multiplex or like [*]

means free for any control unit on multiplex or programmed channel.

For a single device control unit on multiplex, replace on the same line each [* *] by [*]

For a multi device control unit on multiplex, keep on the same line as many [* *] as 'possible extra devices' to be connected on the same control unit, then replace each remaining [* *] if any, by [*]

12.- A P P E N D I X C

Aspect of delivered Software.

Starting on release n° 3, the standard software on paper tape is delivered in the following way :

Each software system is delivered on one or several great tape reels.

Each tape reel contains several software components.

Each of these components will be identified by a header of directly readable characters punched on the tape.

This header contains :

- Product Code number
- Product identification
- (Object (8 - 8))4 - 4 (Binary (8 - 8)) 4 - 4 (base value

  (Loadable by bootstrap
-) Object Loadable

  (Object Library

At the beginning of the tape reels the system software identification is punched it consists of :

- Code number
- System Identification
- Format (8 - 8 or 4 - 4)
- Reel number

When getting the software delivered,it is up to the user to cut these tape reels into the various components before each product identification.

Remark : When reading paper tape, the text-header must be positioned after the read-head.

Description of the various systems :

P850 Soft	- PV170-001	1 Tape Reel
SA1	- PV170-100	1 Tape Reel
SA2	- PV170-101	1 Tape Reel
BOS1	- PV170-102	1 Tape Reel
BOS2	- PV170-103	2 Tape Reels
BOS3	- PV170-104	2 Tape Reels
BRTM	- PV170-107	3 Tape Reels
SRTM	- PV163-010	1 Tape Reel

Remarks :

1) For BOS2 and BOS3 the first reel is common to both systems.
   Consequently, in case BOS2 and BOS3 would be ordered, only 3 tape reels would be delivered.

2) The source of BRTM and SRTM is made of a set of modules separated by : EOS'es - The last module is followed by : EOS and : EOF.