



ANNOUNCEMENT

CREATED BY
MONTE J. DALRYMPLE

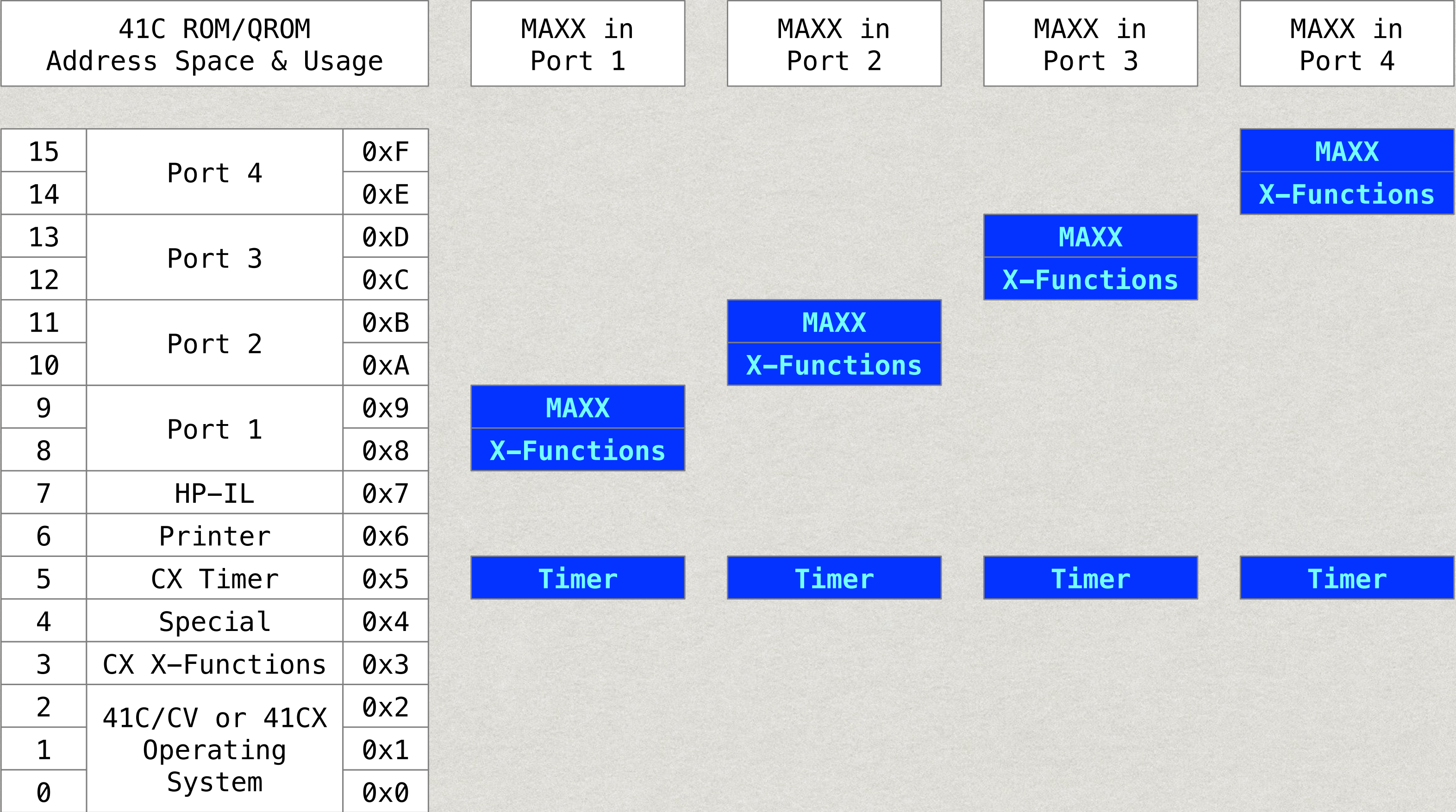
PRESENTATION BY
SYLVAIN CÔTÉ

²⁰²²
Allschwil

Bring 41CL technologies to all 41s

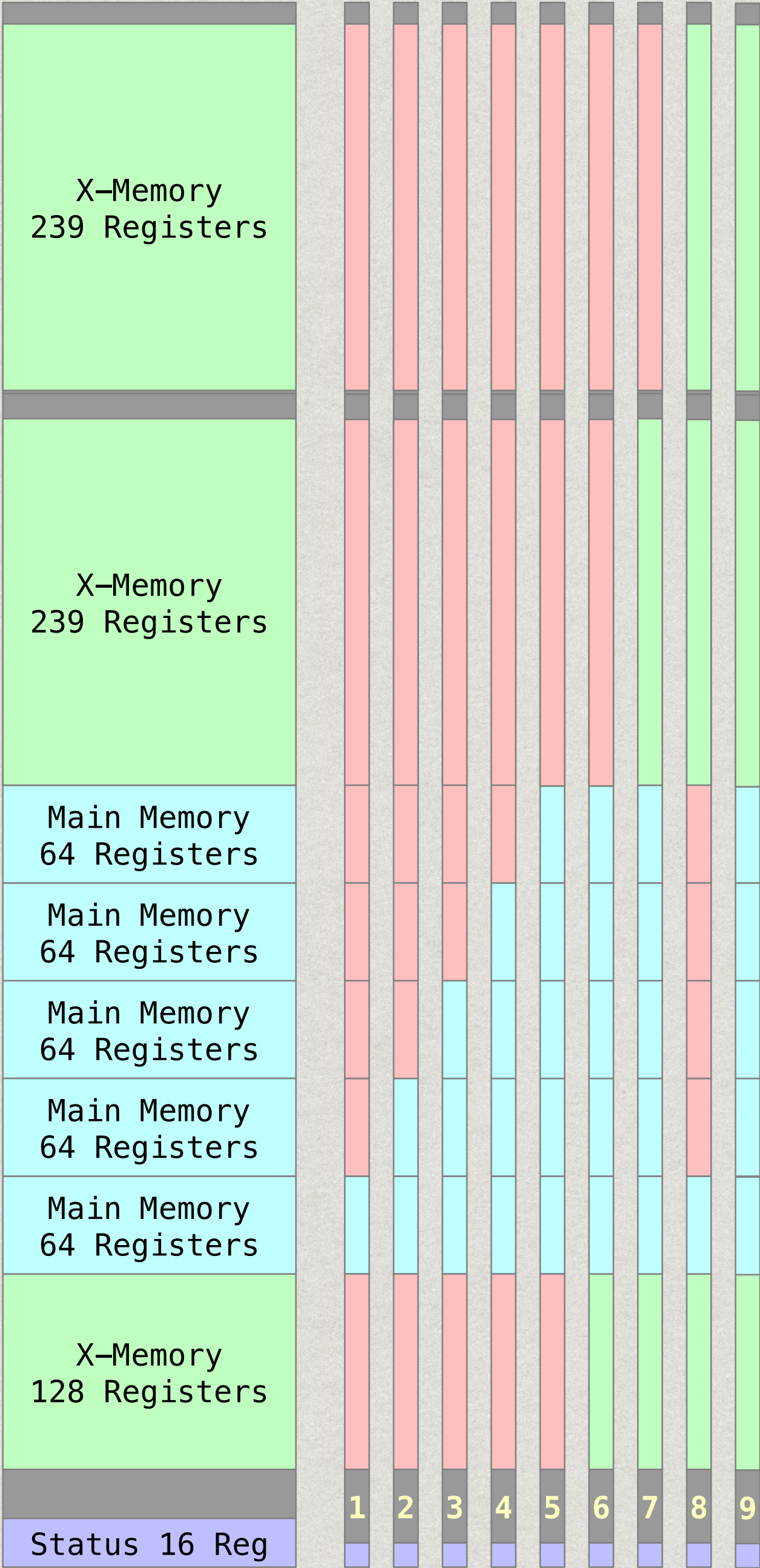
Feature	Target
* Add the MAXX ROM.	CX : CV : C
* If missing, add up to four memory modules.	C
* If missing, add a Time module.	CV : C
* If missing, add a X-Functions/Memory module.	CV : C
* If missing, add up to two X-Memory modules.	CX : CV : C
* Add three blocks of 1024 Expanded registers memory.	CX : CV : C
* Add up to eight 4K pages of 10 bits RAM (QROM).	CX : CV : C
* Add up to four 4K pages of banked 10 bits RAM. (banked QROM)	CX : CV : C

HP-41 MAXX ROM Images



If inserted into a CX or if there is a X-Functions module and/or a Timer module plugged in, the MAXX module will disable his own X-Functions and/or Timer ROM+hardware.

HP-41 MAXX RAM Registers



MAXX Module : RAM registers fill-in

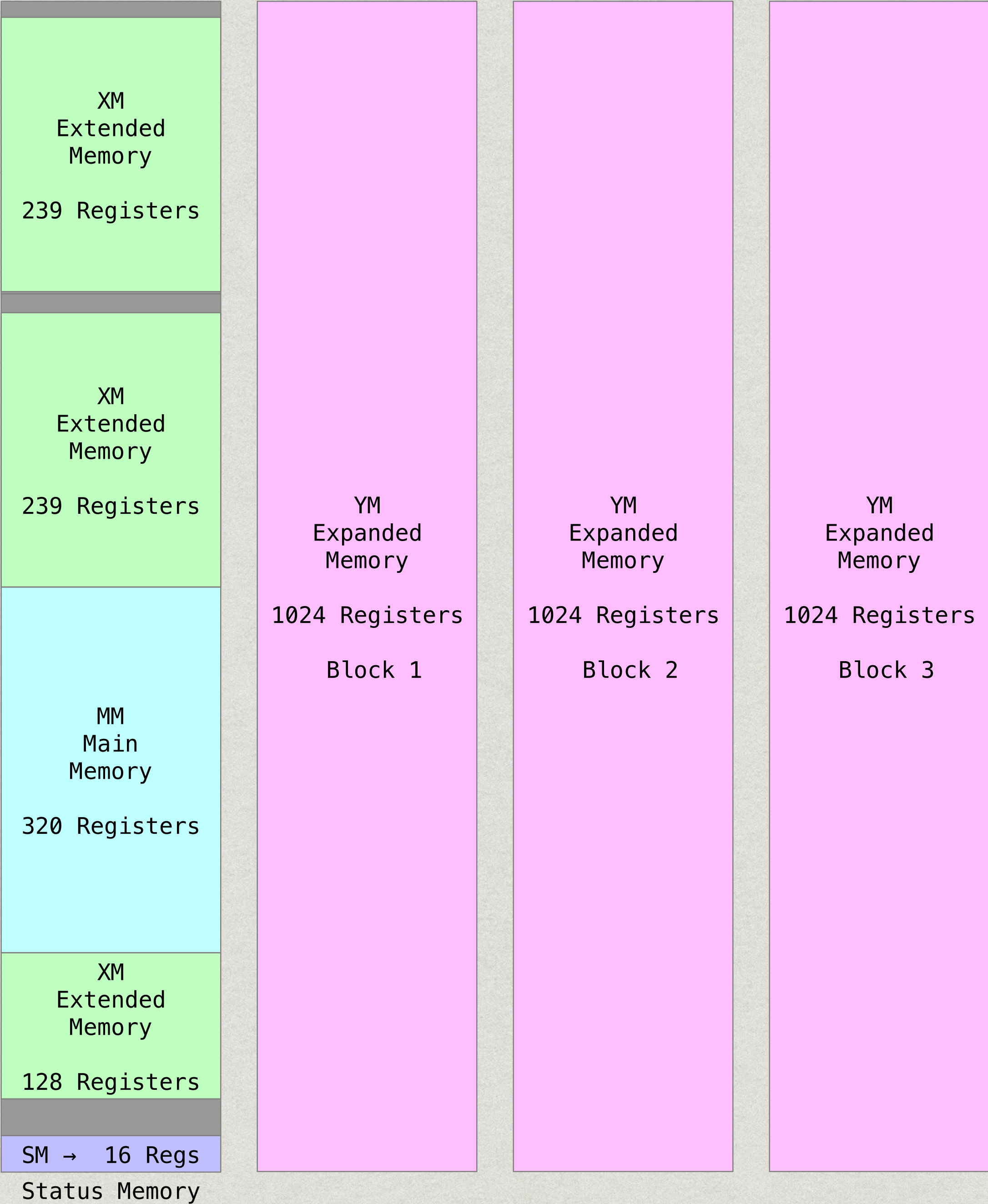
Memory Holes

Configurations			
1) 41C	+ MAXX		
2) 41C	+ MM	+ MAXX	
3) 41C	+ MM x2	+ MAXX	
4) 41C	+ MM x3	+ MAXX	
5) 41C	+ QM	+ MAXX	
5) 41CV		+ MAXX	
5) 41C	+ QM	+ MAXX	
5) 41CV		+ MAXX	
6) 41C	+ QM	+ XFM	+ MAXX
6) 41CV		+ XFM	+ MAXX
6) 41CX			+ MAXX
7) 41C	+ QM	+ XFM + XM	+ MAXX
7) 41CV		+ XFM + XM	+ MAXX
7) 41CX		+ XM	+ MAXX
8) 41C		+ XFM + XM x2	+ MAXX
9) 41CV		+ XFM + XM x2	+ MAXX
9) 41CX		+ XM x2	+ MAXX
...			

MM = 82106A Memory Module
QM = 82170A Quad Memory Module
XFM = 82180A X-Functions/Memory Module
XM = 82181A X-Memory Module
TM = 82182A Time Module

HP-41 MAXX

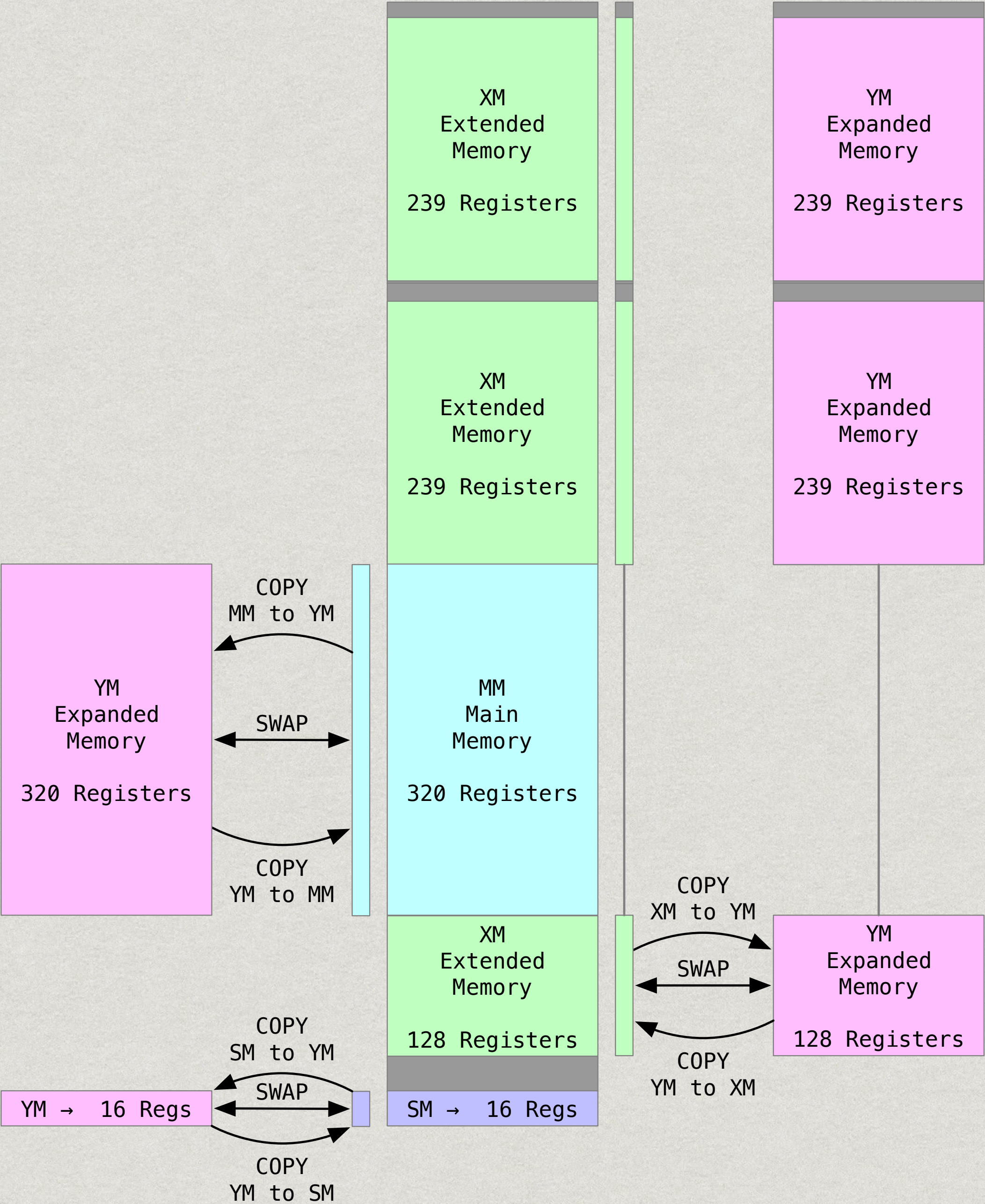
Expanded Memory



HP-41 MAXX

Expanded Memory Backup & Restore

Function	Description
ST>YM	Move Status Block to Expanded Memory
ST<>YM	Exchange Status Block with Expanded Memory
YM>ST	Move Expanded Memory to Status Block
MM>YM	Move Main Memory to Expanded Memory
MM<>YM	Exchange Main Memory with Expanded Memory
YM>MM	Move Expanded Memory to Main Memory
XM>YM	Move Extended Memory to Expanded Memory
XM<>YM	Exchange Extended Memory with Expanded Memory
YM>XM	Move Expanded Memory to Extended Memory
YM<>YM	Exchange Expanded Memory Blocks
YMCLR	Clear Expanded Memory

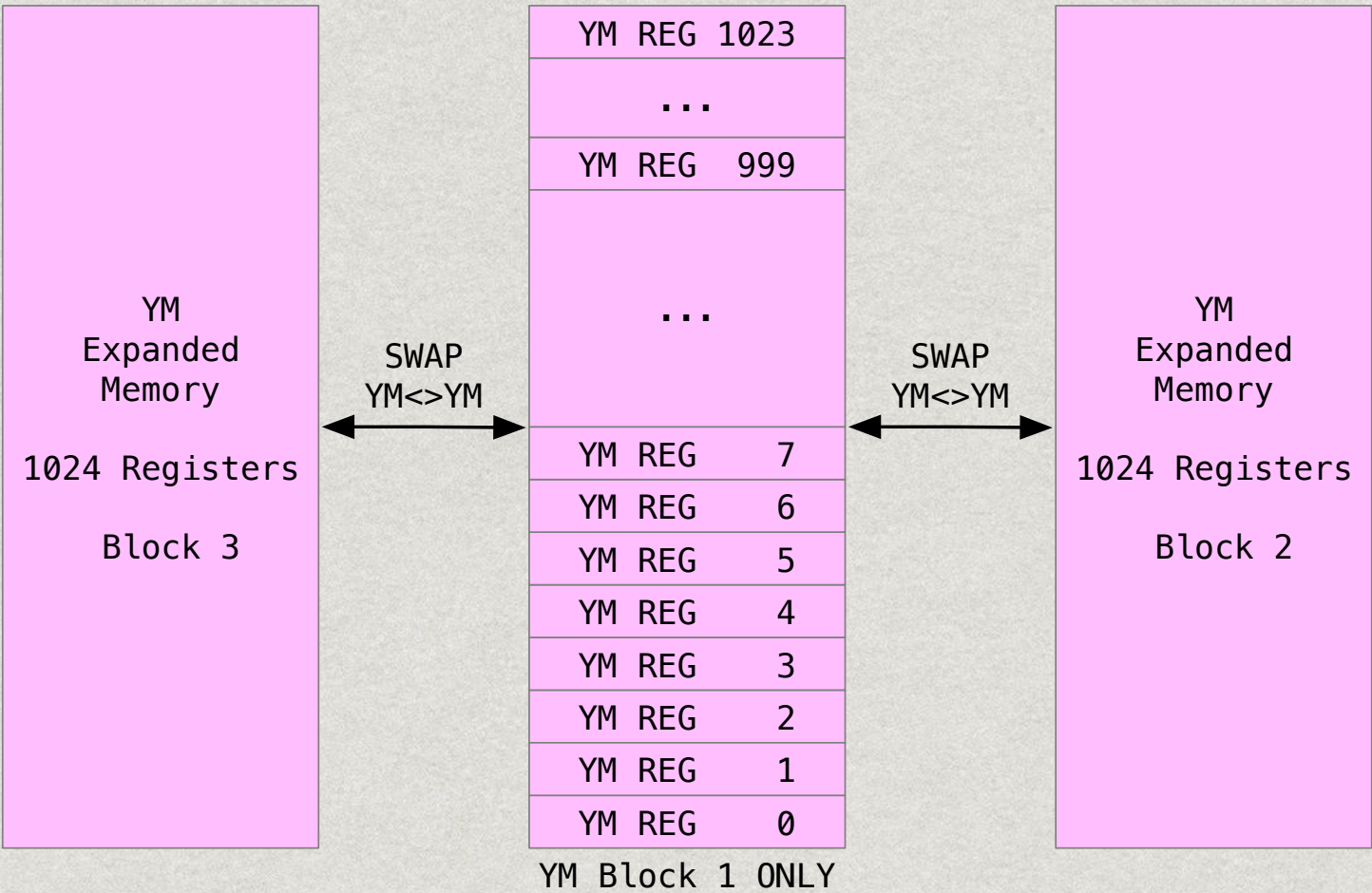


HP-41 MAXX

Expanded Memory

Data Registers

Function	Description	Function	Description
YARC	Expanded Register Alpha Recall	YRGMOV	Move Expanded Register Block
YAST	Expanded Register Alpha Store	YRGSWP	Exchange Expanded Register Blocks
YDSE	Expanded Register Decrement, Skip If Equal	CLYRG	Clear Expanded Register Block
YISG	Expanded Register Increment, Skip If Greater	CLYRGX	Clear Expanded Register Block by X-register
YRCL	Expanded Register Recall	A<>YRG	Exchange Alpha with Expanded Register Block
YRC+	Expanded Register Recall and Add	ST<>YRG	Exchange Stack with Expanded Register Block
YRC-	Expanded Register Recall and Subtract		
YRC*	Expanded Register Recall and Multiply		
YRC/	Expanded Register Recall and Divide		
YSTO	Expanded Register Store		
YST+	Expanded Register Store with Add		
YST-	Expanded Register Store with Subtract		
YST*	Expanded Register Store with Multiply		
YST/	Expanded Register Store with Divide		
YVEW	Expanded Register View		
YX<>	Expanded Register Exchange with X-register		



YM REG	1023
...	
YM REG	999
...	
YM REG	7
YM REG	6
YM REG	5
YM REG	4
YM REG	3
YM REG	2
YM REG	1
YM REG	0

YM Block 1 ONLY

HP-41 MAXX

Port Memory

Function	Description
PMINI	Port Memory Initialize
PMCLR	Port Memory Clear
PMDIS	Port Memory Read Disable
PMEN	Port Memory Read Enable
PMWE	Port Memory Write Enable
PMWP	Port Memory Write Protect

Port Memory
Bank 1 Only

PM Q-ROM
PM Q-ROM
PM Q-ROM
PM Q-ROM
PM Q-ROM
PM Q-ROM
PM Q-ROM
PM Q-ROM

↑
Each of
the above
Port Memory
Quasi-ROM can
be enabled
or disabled

41C ROM/QR0M
Address Space & Usage

15	Port 4	0xF
14		0xE
13	Port 3	0xD
12		0xC
11	Port 2	0xB
10		0xA
9	Port 1	0x9
8		0x8
7	HP-IL	0x7
6	Printer	0x6
5	CX Timer	0x5
4	Special	0x4
3	CX X-Functions	0x3
2	41C/CV or 41CX Operating System	0x2
1		0x1
0		0x0

HP-41 MAXX

Banked Memory

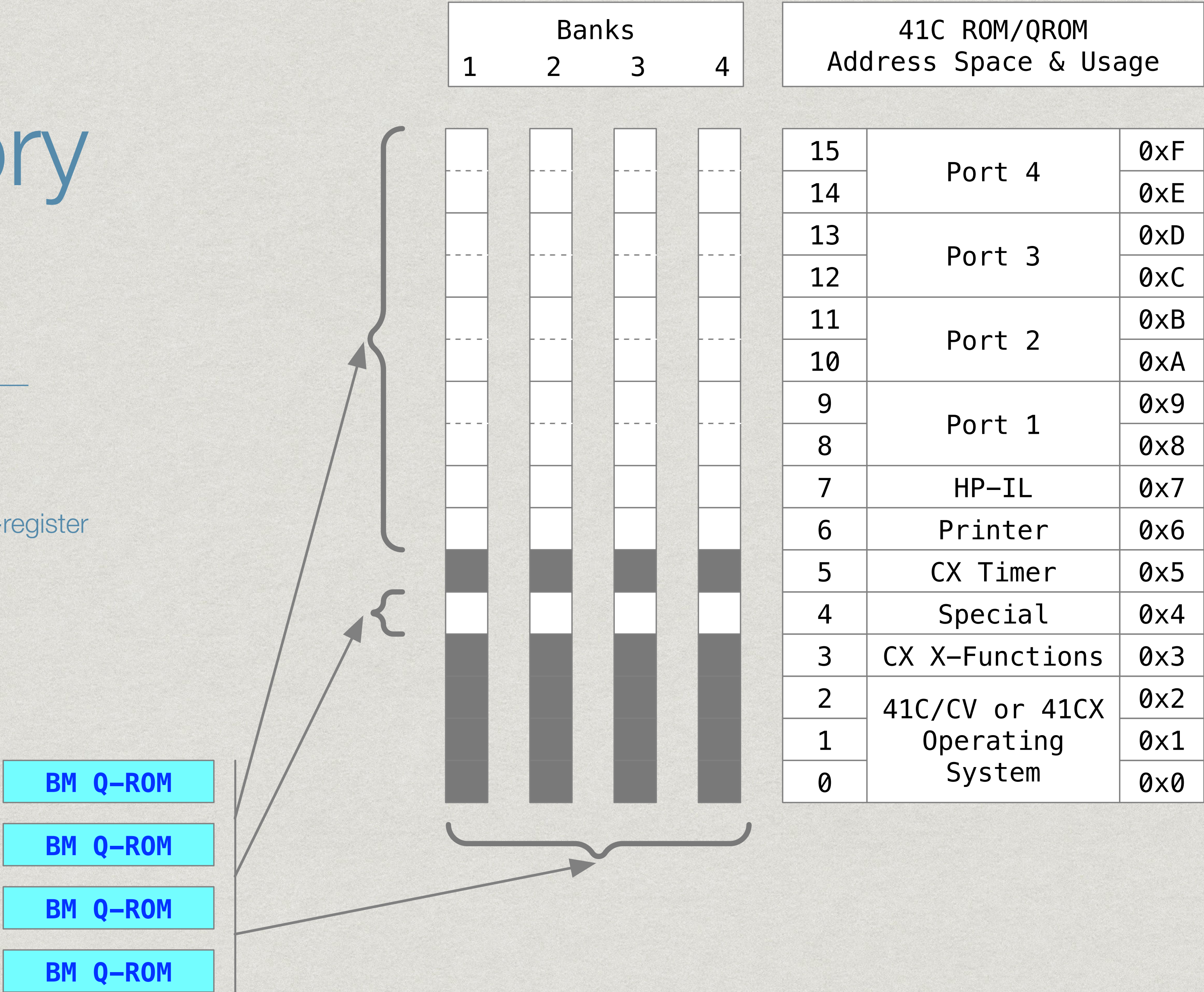
Function Description

BMINI Banked Memory Initialize
BMCLR Banked Memory Clear

BMABX Banked Memory Set Address/Bank by X-register

BMDIS Banked Memory Read Disable
BMEN Banked Memory Read Enable

BMWE Banked Memory Write Enable
BMWP Banked Memory Write Protect

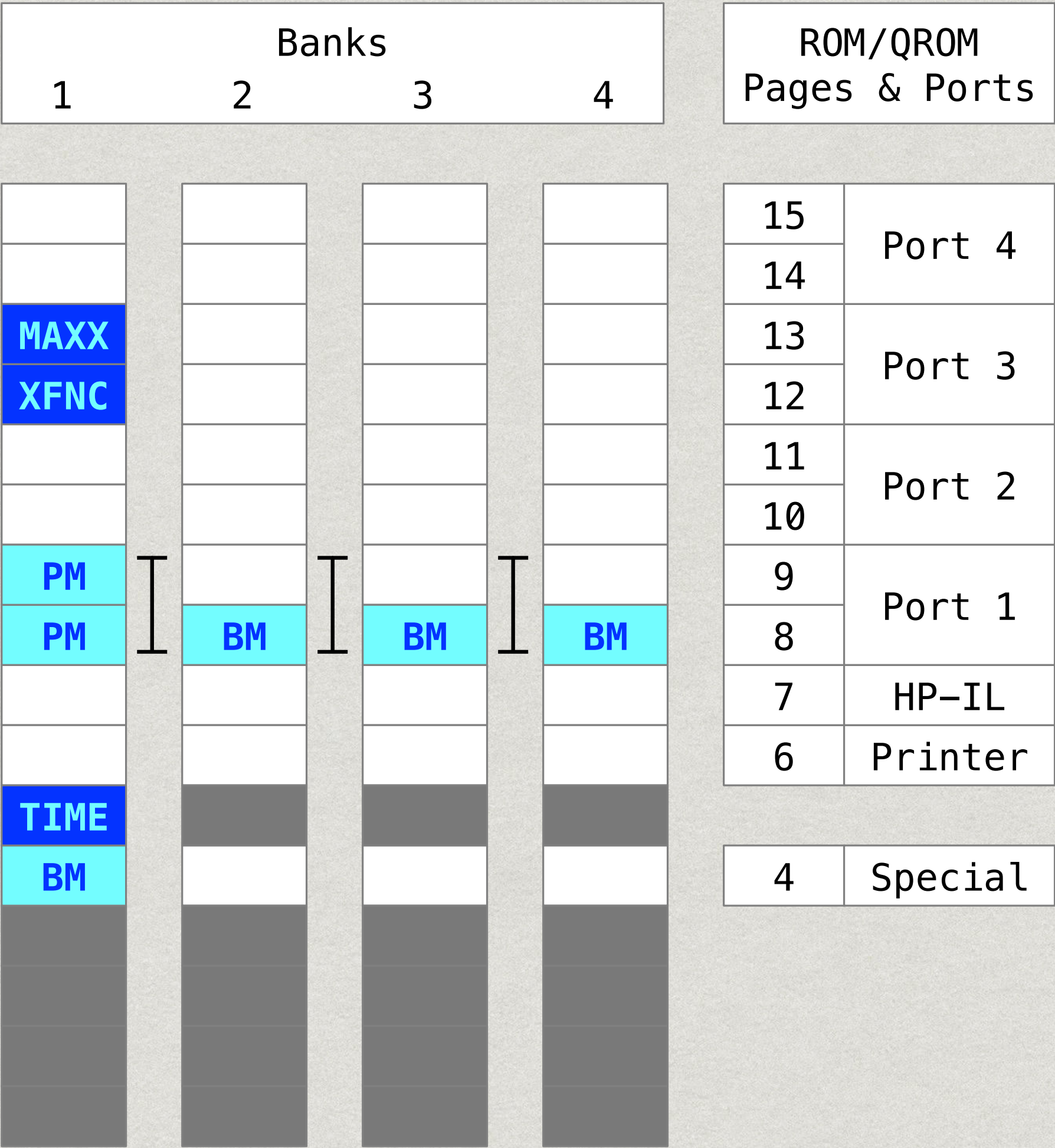
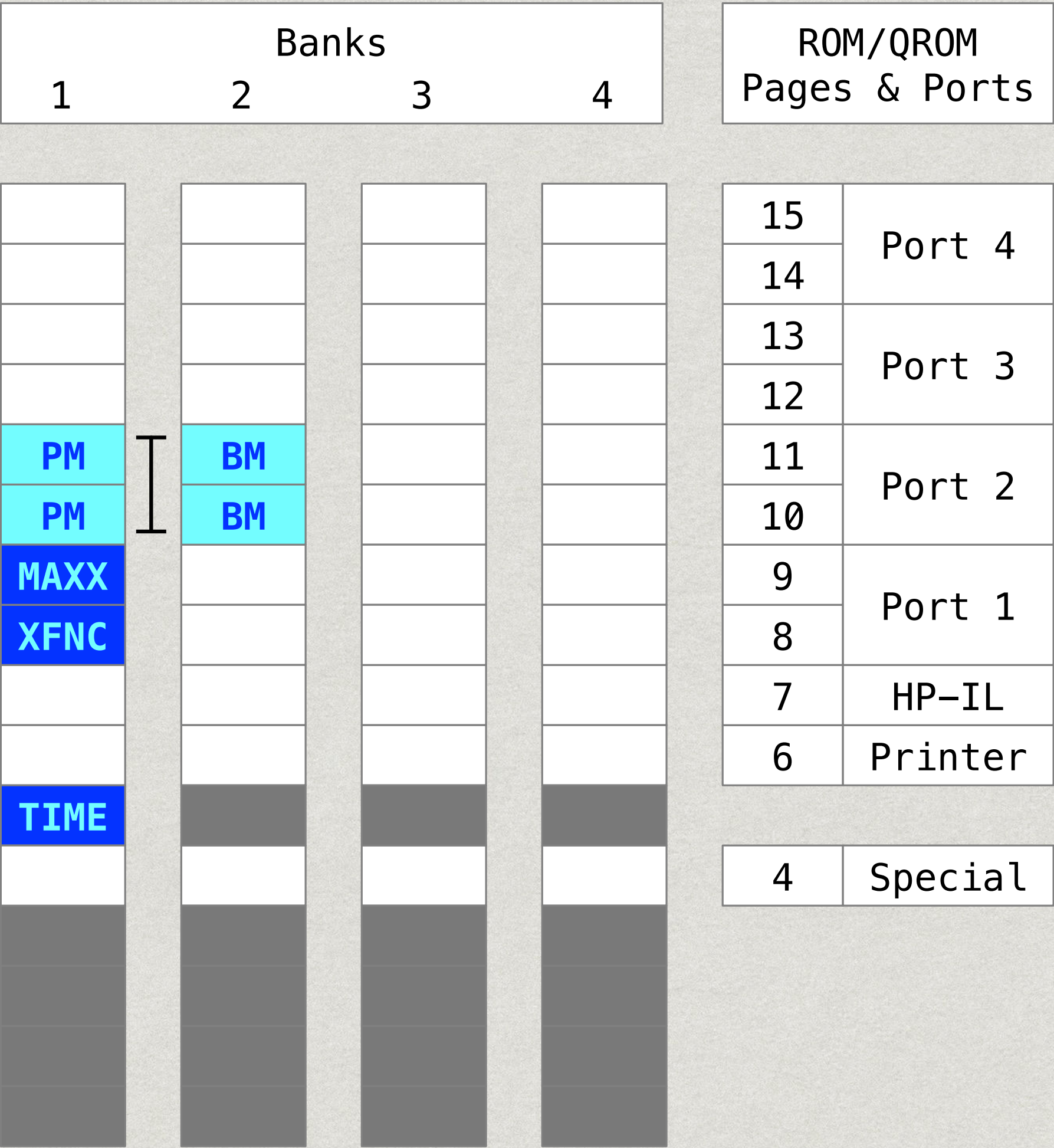


HP-41 MAXX

Port & Banked Memory

Config.

Samples



HP-41 MAXX

Misc. Functions

Function	Description
MXST?	MAXX Hardware Status?
PMST?	Port Memory Status?
BMST?	Banked Memory Status?
AH>XD	Hex Address/Data to Decimal Address/Data
XD>AH	Decimal Address/Data to Hex Address/Data
AHPEEK	Instruction Memory Read using Hex Address/Data
AHPOKE	Instruction Memory Write using Hex Address/Data
XDPEEK	Instruction Memory Read using Decimal Address/Data
XDPOKE	Instruction Memory Write using Decimal Address/Data
CPYBNK	CopyBank
IL>ROM	Load ROM page via HP-IL
ROM>IL	Store ROM page via HP-IL



Systemyde

QUESTIONS ?



How Much and When ?

- * The expected selling price is:
 - * TDB + shipping → with a donor module from the customer
 - * TDB + shipping → without a donor module
- * The expected production date is:
 - * A first batch is planned before April 2023
 - * Future batches will depend of parts availability
- * Website → <https://www.systemyde.com/hp41/>



THANK YOU!