NEXT 2B	QRG / Version 1.0 / 17.03.2013	Sebastian Toelg			
Function	Description	Inputs	Outputs Stack	Messages/Errors	Author/Source
	NoV-64 Flash-ROM block				
NROM	Prompts (function is not programmable) for Flash-ROM block of NoV-64 module: 0: disable Flash-ROM (no Flash-ROM block enabled, enables 32K RAM operation)) 1: enable Flash-ROM block 1 (disables 32K RAM operation) 2: enable Flash-ROM block 2 (disables 32K RAM operation) Only numeric keys 0 - 2 and corresponding keys in upper two rows are	none	none -	TURN OFF/ON (message) - power cycle to activate new Flash-ROM block RAM - MCODE is running in NoV-RAM block and user tries to switch off that block. Enter "OK" in ALPHA and redo if you want to switch anyway. Be sure that you know what you are doing!	Sebastian Toelg
PNROM	Enables Flash-ROM block specified by decimal numbers 0, 1 or 2. 0 disables Flash-ROM. If the message TURN OFF/ON is displayed, any running user program will be stopped.	X: Flash-ROM block	none -	ALPHA DATA - X contains alpha data DATA ERROR - value in X has wrong format NONEXISTENT - specified block does not exist (value is not 0 - 2) see also above (NROM)	Sebastian Toelg
NROM?	Returns the active Flash-ROM block specified by decimal number: 0, 1 or 2.	none	X: Flash-ROM block U	none	Sebastian Toelg
	NoV-64 lower and upper RAM block				
NRAM	Prompts (function is not programmable) for lower NoV-RAM block in pages #8-#B to be enabled: 0-3: enable lower NoV-RAM block, respectively Only numeric keys 0 - 3 and corresponding keys in upper two rows are accepted.	none	none -	RAM - MCODE is running in NoV-RAM block and user tries to switch off that block. Enter "OK" in ALPHA and redo if you want to switch anyway. Be sure that you know what you are doing! RAM REVERSED - lower RAM block > upper RAM block RAM USED - specified RAM block is already being used	Sebastian Toelg
NRAMU	Prompts (function is not programmable) for upper NoV-RAM block in pages #C-#F to be enabled:         0: disable upper NoV-RAM block (enables 16K RAM operation)         1-3: enable upper NoV-RAM block, respectively (enables 32K RAM operation)         Only numeric keys 0 - 3 and corresponding keys in upper two rows are accepted.	none	none -	TURN OFF/ON (message) - power cycle to deactivate Flash-ROM block see also above (NRAM)	Sebastian Toelg

PNRAM	Enables NoV-ROM block specified by decimal number:	X: NoV-RAM block	none	- ALPHA DATA	Sebastian Toelg
	a) 0, 1, 2, 3 (positive single-digit) to enable lower NoV-RAM block,			- X contains alpha data	-
	respectively				
	b) -1, -2, -3 (negative single-digit) to enable upper NoV-RAM block,			DATA ERROR	
	respectively (to disable upper NoV-RAM block, a small negative value > -			- value in X has wrong format	
	1 may be given, e.g0.1)			Ũ	
	c) UL positive double-digit where U specifies upper NoV-RAM block and L			NONEXISTENT	
	specifies lower NoV-RAM block simultaneously			- specified block does not exist (value is not 0 - 3)	
	d) LL positive double-digits with identical digit values, e.g. 11, 22 or 33 to			· · · · · · · · · · · · · · · · · · ·	
	enable specified lower NoV-RAM block and to disable upper NoV-RAM			see also above (NRAMU)	
	block at the same time				
	If the message TURN OFF/ON is displayed, any running user program will				
	be stopped.				
NRAM?	Returns the active NoV-RAM block specified by decimal number:	none	X: NoV-RAM block	U none	Sebastian Toelg
	a) single-digit for lower NoV-RAM (16K RAM operation)				-
	b) double-digit UL where U and L specify upper and lower NoV-RAM				
	block, respectively (32K RAM operation)				
	NoV-64 control word				
NOV?	Displays and prints (in NORM & TRACE mode) current configuration of	none	none	<ul> <li>message showing ROM block (if active), upper</li> </ul>	Sebastian Toelg
	NoV-64 module. Flash-ROM and upper NoV-RAM block are only shown if			RAM block (if 32K operation), and lower RAM	
	they are enabled, i.e. not 0.			block	
NOVCW	Prompts (function is not programmable) for control word of NoV-64	none	none	- none	Sebastian Toelg
	module given as 3-digit number with format RUL where:				
	- R is Flash-ROM block				
	- U is upper NoV-RAM block				
	- L is lower NoV-RAM block				
	See NoV-64 User Manual for details about control word and				
	normalization.				
	The 4th digit that can be activated by pressing EEX is ignored, i.e. only				
	the 3 rightmost digits are considered.				
PNOVCW	Sets control word of NoV-64 module given as 3-digit number with format	X: control word in format RUL	none	- ALPHA DATA	Sebastian Toelg
	RUL where:			- X contains alpha data	
	- R is Flash-ROM block				
	- U is upper NoV-RAM block			DATA ERROR	
	- L is lower NoV-RAM block			<ul> <li>value in X has wrong format</li> </ul>	
	Leading zeros are inserted, i.e. the rightmost integer digit is always L. U				
	and R are 0 if only rightmost integer digit is given. The values are passed				
	trough to the NoV module. See NoV-64 User Manual for details about				
	control word and normalization.				
NOVCW?	Returns control word of NoV-64 module as 3-digit number with format	none	X: control word in format RUL	U none	Sebastian Toelg
	RUL where:				
	- R is active Flash-ROM block				
	- U is active upper NoV-RAM block				
	- L is active lower NoV-RAM block				
	NoV-64 Flash-ROM page #F of block 2				

NCLFF	Does clear (erase) page #F of Flash-ROM block 2. If this page does not	none	none -	WAIT A SEC (message)	Sebastian Toelg
	contain any ROM image, then no action is taken.			- do not press any key for about 1 second !!!	
	The clearing process is started by the NoV-64 processor (PIC) when the				
	calculator goes to standby mode. The PIC processor takes about 1				
	second to clear the Flash-ROM. The message WAIT A SEC will be				
	displayed. You MUST NOT press any key before this time is elapsed.				
	Otherwise, the calculator will be reset and the memory will be lost!!!				
	Any running user program will be stopped. It can be continued by				
	pressing the R/S key after the waiting time is over.				
NDUMPFF	Dumps page given as R,P (or R.P) into the page #F of Flash-ROM block 2:	X: page to dump in format R,P (or	none -	WAIT 3 SECS (message)	Sebastian Toelg
	<ul> <li>integer part R (0 - 3) is the NoV-RAM block</li> </ul>	R.P)		- do not press any key for about 3 seconds !!!	
	- decimal part P is the page within that block (0 - 3)				
				ALPHA DATA	
	Page #F of Flash-ROM block 2 must to be erased before dumping a NoV-			<ul> <li>X contains alpha data</li> </ul>	
	RAM page, e.g. by means of NCLFF function.				
				DATA ERROR	
	The dumping process is started by the NoV-64 processor (PIC) when the			<ul> <li>value in X has wrong format</li> </ul>	
	calculator goes to standby mode. It takes the PIC processor about 3				
	seconds to complete the dumping routine. (For more details see NoV-64			FLASH USED	
	User Manual.) The message WAIT 3 SECS will be displayed. You MUST			<ul> <li>page #F of Flash-ROM block 2 is already being</li> </ul>	
	NOT press any key before this time is elapsed. Otherwise, the calculator			used	
	will be reset and the memory will be lost!!!				
				NONEXISTENT	
	Any running user program will be stopped. It can be continued by			- if R or P are not 0 - 3	
	pressing the R/S key after the waiting time is over.				
				RAM	
				- MCODE is running in lower NoV-RAM block and	
				this is not the same NoV-RAM block that contains	
				the image to be dumped or MCODE is running in	
				upper NoV-RAM block	
	HEPAX file system				

HEPCHN	Configures the chain of NoV-RAM pages in the HEPAX file system as ALPHA: characters as described	none	-	DATA ERROR	Sebastian Toelg
	specified by the characters in ALPHA.			- character in ALPHA is not 8, 9, A - F	-
	WARNING: this is a very powerful but also potentially harmful function!			NULL	
				- 0 occurs in the middle (not leftmost or rightmost	
	Each page in the HEPAX file system chain is specified as a hexadecimal			character)	
	digit (8 - F). The leftmost digit is the 1st link in the chain (start of chain).				
	The rightmost digit is the last link in the chain. A 0 on the left indicates				
	that the pointer to the previous page in the next link to the right (1st link)				
	is set to NIL/NULL. A 0 on the right indicates that the pointer to next				
	page in the previous link to the left (last link) is set to NIL/NULL.				
	EXAMPLES:				
	- "0890" initializes file system with pages #8 and #9				
	- "8A9" inserts page #A to the above configuration => "08A90"				
	- "9B0" appends page #B to the above configuration => "08A9B0"				
	- "8" resets (marks) page #8 as a link in the HEPAX file system chain, but				
	does not affect the pointers to previous and next page				
	If lower NoV-RAM block has pages #9 and #A in the HEPAX file system				
	("09A0") and you want to append pages #E and #F in the upper NoV-				
	RAM block, you have to enter ("AEF0") and the chain will be "09AEF0".				
	However, always make sure that you know what you are doing !!!				
HEPCHN?	Returns the configuration of NoV-RAM pages in the chain of the HEPAX	ALPHA: characters as described	-	CHAIN BROKEN	Sebastian Toelg
THE CHIN.	file system as characters in ALPHA. If executed interactively (not from			- last page in ALPHA has wrong pointer to previous	Sebustian rocig
	running program) the returned configuration in ALPHA is also displayed			link i.e. backward pointer does not match	
	and printed				
	una princea.			NO START	
	Fach nage in the HEPAX file system chain is specified as a hexadecimal			- start (1st link) of HEPAX file system chain not	
	digit (8 - E). The leftmost digit is the 1st link in the chain (start of chain)			found	
	The rightmost digit is the last link in the chain A 0 on the left indicates				
	that the nointer to the nevious page in the next link to the right (1st link)			NOT IN CHAIN	
	is set to NIL/NULL A 0 on the right indicates that the pointer to pext			- last nage in ALPHA is not marked as a link in the	
	nage in the previous link to the left (last link) is set to NII /NIII The 0 on			HEPAX file system chain	
	the left and on the right should always be present for an intact chain of				
	HEPAX file system			OUT OF BANGE	
	ne vo ne system.			- last page in ALPHA does not have valid pointer to	
				nevious or next page	
RLSRAM	Does release specified page from HEPAX file system chain to use it for X: page number (8 - 15)	none	-	ALPHA DATA	Sebastian Toelg
	other purposes. The page to be released does not need to be the last			- X contains alpha data	
	one in the chain since the gap will be closed automatically.				
				DATA ERROR	
	EXAMPLE:			- page number is not valid (not 8 - 15)	
	If the HEPAX file system is "089A0" and 9 RLSRAM is executed, this will				
	result in "08A0".				
	ROM. XROM-ID and page	,	1		

CHKRIDS	Checks ROM-IDs for multiple (double or more) occurrence.	none	none -	DUP RID id (message)	Sebastian Toelg
				- shows ROM-ID that is been used multiple times	(motivated by Angel
	ROM-IDs that have been assigned to pages within the HEPAX file system				Martin's CHKCFG)
	and that have still an empty FAT (no entries in the Function Address			ROM-IDS OK (message)	
	Table) are also taken into account.			- all installed ROMs have different IDs	
	Multiple ROM-IDs will cause a ROM-IDS BAD error. Flag 25 is handled			ROM-IDS BAD	
	correctly and will be cleared if it was set before.			- at least one ROM-ID is used multiple times	
	If executed interactively (not within running program), the messages are				
	displayed and printed in NORM & TRACE mode.				
CHKSPG	Calculates checksum of a specified ROM page or zeroes checksum if	X: page number (8 - 15)	none -	CHKSUM RESET (message)	Sebastian Toelg
	page number has negative sign (i.e. < 0).			- checksum of ROM page was wrong and has been	(motivated by PGSUM
				reset to correct value	in RAMBOX, W&W)
	If the checksum is wrong, then it will be reset to the correct value				
	automatically. In this case a message "CHKSUM RESET" will be displayed			CHKSUM ZERO (message)	
	and printed. While the checksum is being calculated, the ROM label (L)			- checksum of ROM page has been set to zero	
	and version (V) will be displayed as LL-VV.				
				ALPHA DATA	
	If checksum is set to zero, then "CHKSUM ZERO" will be displayed and			<ul> <li>X contains alpha data</li> </ul>	
	printed.				
				DATA ERROR	
	These messages can be suppressed by setting flag 25. It will be cleared			<ul> <li>page number is not valid (not 8 - 15)</li> </ul>	
	and the checksum will be reset or set to zero anyway.				
DCODY	Programmable version of mainframe function CODY Brogram name		nono	NONEVISTENT	Sobactian Toolg
FCOFT	must be given in ALDHA. If ALDHA is empty, then current ROM program is		lione	- no program with that name found	Sebastian Toelg
	conied	5			
	copied.			RAM	
	This function is useful to automatically conv (several) programs from			- program is in RAM	
	ROM nage (e.g. from ROM modules Elash-ROM or HEPAX memory) to			program is in term	
	main memory RAM.				
ROMID	Returns ROM-ID (XROM number, 1 - 31) for a given page number, A 0	X: page number (3 - 15)	X: BOM-ID	ALPHA DATA	Sebastian Toelg
nomb	indicates that there is no ROM at that page.	n page namber (5° 15)		- X contains alpha data	bebustian rocig
				DATA ERROR	
				- page number is not valid (not 3 - 15)	
ROMPG	Returns page number (3 - 15) of a given ROM-ID (XROM number). A 0	X: ROM-ID (1 - 31)	X: page number L	ALPHA DATA	Sebastian Toelg
	indicates that there is no ROM with that ID found in the calculator.			- X contains alpha data	Ŭ
				DATA ERROR	
				- ROM-ID is not valid (not 1 - 31)	
	main memory & partitioning				
CLMM	Clears main memory. As a safeguard "OK" is required in ALPHA.	ALPHA: OK	none -	MM CLEARED (message)	Sebastian Toelg
				- displayed after execution	(extended from CLXM
					in Zengrange Ltd.,
				DATA ERROR	ZENROM 3B)
				- "OK" is missing in ALPHA	

MMROOM	Returns number of free registers in main memory (same as shown in PRGM mode).	none	X: free registers	U	none	Sebastian Toelg (adopted from MCODE for Beginners p. 71)
GTOEND	Positions the user program counter to the permanent .END. and stops there if executed within a user program. This is a convenient alternative to using CAT 1 to get to the end of the user program memory.	none	none	-	none	MCODE for Beginners p. 42
END?	Returns absolute address of .END. as decimal number (192 - 511).	none	X: absolute address	U	none	Sebastian Toelg
RO?	Returns absolute address of first user data register (0) as decimal number (192 - 511).	none	X: absolute address	U	none	Sebastian Toelg
ΣR?	Returns absolute address of first statistics register as decimal number (192 - 511).	none	X: absolute address	U	none	Sebastian Toelg
TPRV	Toggles private status (function is not programmable) of user program in main memory (RAM) or ROM page. Prompts for program name. If nothing is entered (i.e. 2x ALPHA-key), then private status of current use program in RAM or ROM is toggled. WARNING: checksum of ROM page will turn wrong! Use CHKSPG to	none r	none	-	NONEXISTENT - no user program with that name found	Sebastian Toelg
PTPRV	reset. Programmable version of TPRV. Program name must be given in ALPHA. If ALPHA is empty, then private status of current user program in RAM or ROM is toggled.	ALPHA: program name	none	-	see above (TPRV)	Sebastian Toelg
	extended memory					
	* should work with all ROM-versions 1A, 1B, 1C & 2D (CX)					
CLEM	Clears extended memory. As a safeguard "OK" is required in ALPHA.	ALPHA: OK	none	-	EM CLEARED (message) - displayed only after execution from keyboard (not from running program) DATA ERROR	Sebastian Toelg (extended from CLXM in Zengrange Ltd., ZENROM 3B)
					- "OK" is missing in ALPHA	
CHKSEMP*	Calculates checksum of program file in extended memory. If the checksum is wrong, then it will be reset to the correct value automatically. In this case a message "CHKSUM RESET" will be displayed and printed. This message can be suppressed by setting flag 25. It will be cleared and the checksum will be reset anyway. The named file becomes the working file.	ALPHA: file name	none	-	CHKSUM RESET (message) - checksum of program file was wrong and has been reset to correct value FL NOT FOUND - no file with that name found FL TYPE ERR - file is not a program file NAME ERR - ALPHA is empty NO YE/M	Sebastian Toelg (motivated by RSTCHK from RAMPAGE and PPCJ V13 N2 p14)
					- no extended function/memory installed	
FLHD*	Returns absolute address of register containing the file header, i.e. 2nd register of file after the register containing the file name.	ALPHA: file name	X: address of file header	U	FL NOT FOUND - no file with that name found	Sebastian Toelg (motivated by RAMPAGE)
	current working file will be used.				- no extended function/memory installed	

Rescue 1     For some of the socies the working file. If ALPHA is engrap, there the inner file way is used.     ALPHA file rank     For Signal and the socies of the working file. If ALPHA is engrap, there the inner file back socies of the working file.     ALPHA file rank     For Signal and the socies of the working file.     ALPHA file rank     For Signal and the inner file back socies of the working file.     ALPHA file rank     For Signal and the inner file back socies of the working file.     ALPHA file rank     For Signal and the inner file back socies of the working file.     ALPHA file rank     For Signal and the inner file back socies of the working file.     ALPHA file rank     For Signal and the inner file back socies of the working file.     ALPHA file rank     For Signal and the inner file back socies of the working file.     ALPHA file rank, new same     For Signal and the inner file back socies of the working file.     ALPHA file rank, new same     For Signal and the inner file back socies of the working file.     ALPHA file rank, new same     For Signal and the inner file back socies of the working file.     ALPHA file rank, new same     For Signal and the inner file back socies of the working file.     ALPHA file rank, new same     For Signal and the inner file back socies of the inner socies of the working file.     For Signal and the inner file back socies of the working file.     For Signal and the inner file back socies of the inner socies of t	FLTP*	Returns code for file type.	ALPHA: file name	X: file type	U	FL NOT FOUND	Sebastian Toelg
Image:         The name of the second by working file if work is period; the number of the working file is working file.         APMA file name second file type code         None         APMA Code         APMA file name second file type code						<ul> <li>no file with that name found</li> </ul>	(motivated by
Image:         Current working file will be used.         AUPAA file name         AupAPAA file name		The named file becomes the working file. If ALPHA is empty, then the					RAMPAGE)
Interpretation         Interpr		current working file will be used.				NO XF/M	
RETPIT*       Retype flip, i.e. change file type to specified ode.       A.PHA: file name       none       -       DATA EBDOR       Setation Tedg individual (10 - 13) indininte (10 - 13) individual (10 - 13) individual						<ul> <li>no extended function/memory installed</li> </ul>	
Results	RETPFL*	Retype file, i.e. change file type to specified code.	ALPHA: file name	none	-	DATA ERROR	Sebastian Toelg
RAMPA CF1       The name file becomes the working file.       ALPHA: old name, new name       Image: ALPHA: old name			X: new file type code			<ul> <li>code for new file type is not valid (not 0 - 15)</li> </ul>	(motivated by
RAME Results       Results for construction of constru		The named file becomes the working file.					RAMPAGE)
REMUT*       Rename file. The old file name and the new file name are separated by a ALP4A: old name, new name are s						FL NOT FOUND	
READER       Reader the complete extended memory from mass storage file.       ALPHA.16 in names on mass storage file.       ALPHA.16 in names on mass storage file.       ALPHA.16 in names on mass storage file.       ALPHA.16 in name on mass storage file.       ALP						<ul> <li>no file with that name found</li> </ul>	
Remain file. The old file name and the new file name are separated by a LPHA: old name, new name common.       none       -       -       ND XF/M is sempty installed       Sebastian Toely (notify the new name becomes the working file. The old file name are separated by a LPHA: old name, new name working file. The old file name are separated by a LPHA: old name, new name working file. The old file name are separated by a LPHA: old name, new name working file. The new name becomes the working file. The new file name becomes the working file.       none       -       -       DUF FL       -       Sebastian Toely (not common), then the file with the old name becomes the working file. The new file name becomes the working file.       NAME ERR       NAME ERR       NAME ERR       NAME ERR       NAME ERR       NAME ERR       Sebastian Toely (not common), then the file with the old name becomes the working file.       NAME ERR       Sebastian Toely (not common), installed       Sebastian Toely (n							
READER       Reserve file. The old file name and the new file name are separated by a LPHA: old name, new name       no.0e       -AUPHA is empty       Selection         RENMET       Rename file. The old file name and the new file name are separated by a LPHA: old name, new name       no.0e						NAME ERR	
Image: Section of the sectin of the section of the section of the section of the						- ALPHA is empty	
Image: Set in the same file. The old file name and the new file name are separated by a MPA- old name, new name comma.       none       Image: Set in the same file. The old file name and the new file name are separated by a MPA- old name, new name comma.       none       Image: Set in the same file. The old file name and the new file name are separated by a MPA- old name, new name comma.       none       Image: Set in the same file. The old file name and the new file name are separated by a MPA- old name, new name comma.       none       Image: Set in the same fule.       Set in the same fund.       Set in the same fund. </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
REMME       Rename file. The old file name and the new file name are separated by ALPHA: old name, new name comma.       none       a       DUP FL       Section Toelg (multiple section)						NO XF/M	
RENUFL*       Rename file. The old file name and the new file name are separated by a LPHA: old name, new name comma.       none       DUP FL       Sebastian Toelg       Individe by function of the comma is given (new name are separated by a sebastian Toelg)       ALPHA: old name, new name       none       Pumper are separated by a sebastian Toelg       Sebastian Toelg       Individe by function of the comma is given (new name are separated by a sebastian Toelg)       Sebastian Toelg       Individe by function of the comma is given (new name are separated by a sebastian Toelg)       Sebastian Toelg       Individe by function of the comma is given (new name are separated by a sebastian Toelg)       Sebastian Toelg       Individe by function of the commany is the the file with the old name becomes the working file of LPHA:       Sebastian Toelg       Individe by function of the commany is the name of the working file to ALPHA:       None       ALPHA: with filename appended       Pint FUNCTION on commany is the name of the working file to ALPHA:       Sebastian Toelg       Sebastia						- no extended function/memory installed	
Retwork       Returner, the out in traine and the new mine name are separated by a ALPPA. Do handle, new name       in the field with the same (new) name already exists in fuel mane already exists in fuel mane is given (no comma), then the file with the old name becomes the working file. If no new file name is given (no comma), then the file with the old name becomes the working file to ALPHA.       in the file with the name of the working file to ALPHA.       in the file with filename appended       if NO XF/M       in the file with filename appended       if NO XF/M       in the file working file to ALPHA.       in the file name on mass storage       in the file name		Denome file. The old file name and the new file name are concreted by					Cobaction Tools
READEM       Reader the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       ALPHA: file name on mass storage       none       NO XF/M       NO XF/M       Readered function/memory installed       Readered function/memory installed </td <td>REINIVIEL</td> <td>commo</td> <td>a ALPHA. Old Hame, new hame</td> <td>lione</td> <td>-</td> <td>a file with the same (new) name already exists</td> <td>(motivated by</td>	REINIVIEL	commo	a ALPHA. Old Hame, new hame	lione	-	a file with the same (new) name already exists	(motivated by
Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma), then the file with the old name becomes the working file.       Image: Signed in comma in the working file.       Image: Signed		comma.				- a file with the same (new) hame alleady exists	
Image: Section Control is in order Control is in the		The file with the new name becomes the working file. If no new file					NAMIFAGE)
Improve proving file.       Note that has been bound on the bound of bo		name is given (no comma) then the file with the old name becomes the				- no file with that name found	
Image: Inclusion in the second sec		working file				no me with that hame found	
Image: Section of the section of the working file to ALPHA.       none       ALPHA: with filename appended       image: Section of the working file to ALPHA.       section of the working file to ALPHA.       none       ALPHA: with filename appended       image: Section of the working file defined       section		working net				NAME ERR	
Image: Section of the sectin of the section of the section of the section of the						- ALPHA is empty	
Image: Section of the sectin of the section of the section of the section of the							
Image: series of the series of the working file to ALPHA.       none       APPA: with filename appended       image: series of the working file to ALPHA.       none       APPA: with filename appended       image: series of the working file to ALPHA.       Sebastian Toelg       NO XF/M       none xetended function/memory installed       Sebastian Toelg       NO XF/M       none xetended function/memory installed       READEM       Reads the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       none       set HP-L Module       set HP-L Module       set HP-L Module       set HP-L Module       none       set HP-L Module       set						NO XF/M	
Image: Note of the second s						- no extended function/memory installed	
WORKFL*       Appends the name of the working file to ALPHA.       none       ALPHA: with filename appended       -       FLNOT FOUND - no working file defined       Sebastian Toelg         READEM       Reads the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       -       NO XF/M - no extended function/memory installed       READEM       READEM       Reads the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       -       NO XF/M - no extended function/memory installed       READIM       READEM       Writes the complete extended memory to mass storage file.       ALPHA: file name on mass storage       none       -       DIR EMPTY - no files in extended memory - no extended function/memory installed       READIM from Extended IL ROM         WRTEM       Writes the complete extended memory to mass storage file.       ALPHA: file name on mass storage - no extended function/memory installed       NO XF/M - no extended function/memory installed       WRTXM from Extended IL ROM         V       Madware configuration       - NO XFM       - NO XF/M - no extended function/memory installed       Sebastian Toelg         VIMMM       Returns number (1 - 5) of installed memory modules. For 41C with QUAD MEMORY module, CV or CX the number of 5 will be returned always.       none       X: number of memory modules       U       none       Sebastian Toelg         VIMMM       Returns number (0 - 2) of installed							
Image: A state of the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       none       NO XF/M       READEM       NO XF/M	WORKFL*	Appends the name of the working file to ALPHA.	none	ALPHA: with filename appended	-	FL NOT FOUND	Sebastian Toelg
Image: A state in the state of the complete extended memory from mass storage file.       ALPHA: file name on mass storage file.       No XF/M       No XF/M       No XF/M       Readed function/memory installed       ReADXM from Extended Iu ROM         Image: W state in the complete extended memory from mass storage file.       ALPHA: file name on mass storage       No Net in the state in the s						- no working file defined	
Image: A state of the complete extended memory from mass storage file.       ALPHA: file name on mass storage file.       No PFM       No PFM       No PFM       READEM       READEM       READEM       READEM       No PFM       No PFM       No PFM       No PFM       READEM       READEM       READEM       No PFM       No PF							
Image: Constraint of the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       - no extended function/memory installed       READXM from Extended IL ROM         Vertice       Vertice       NO XFM       - no extended function/memory installed       READXM from Extended IL ROM         Vertice       Vertice       Vertice       No XFM       - no extended function/memory installed       No XFM         Vertice       Vertice       Vertice       Vertice       No XFM       - no extended function/memory installed       Vertice         Vertice       Vertice       Vertice       Vertice       ALPHA: file name on mass storage       none       No.       PIR EMPTY       Vertice       Vertice <td></td> <td></td> <td></td> <td></td> <td></td> <td>NO XF/M</td> <td></td>						NO XF/M	
READEM       Reads the complete extended memory from mass storage file.       ALPHA: file name on mass storage       none       -       NO XFM       READXM from         Image: none       -       No XFM       -       -       No XFM       -       No XFM       -         Image: none       -       No XFM       -       -       No XFM       -       -       -       No XFM       -       -       -       -       No XFM       -						<ul> <li>no extended function/memory installed</li> </ul>	
Image: see HP-IL Module       Fxtended IL ROM         Image: see HP-IL Module       Image: see HP-IL Module         Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module         Image: see HP-IL Module       Image	READEM	Reads the complete extended memory from mass storage file.	ALPHA: file name on mass storage	none	-	NO XFM	READXM from
Image: see HP-IL Module       see HP-IL Module       see HP-IL Module         WRTEM       Writes the complete extended memory to mass storage file.       ALPHA: file name on mass storage       none       DIR EMPTY - no files in extended memory       WRTXM from Extended IL ROM         NO XFM - no extended function/memory installed       none       See HP-IL Module       NO XFM - no extended function/memory installed       See HP-IL Module         Image: see HP-IL Module       Image: see HP-IL Module       NO XFM - no extended function/memory installed       See HP-IL Module         Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module       See HP-IL Module         Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module       See HP-IL Module         Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module       See HP-IL Module         Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module         Image: see HP-IL Module, CV or CX the number of 5 will be returned always.       Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module         Image: see HP-IL Module, CV or CX the number of 5 will be returned always.       Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module       Image: see HP-IL Module <td></td> <td></td> <td></td> <td></td> <td></td> <td><ul> <li>no extended function/memory installed</li> </ul></td> <td>Extended IL ROM</td>						<ul> <li>no extended function/memory installed</li> </ul>	Extended IL ROM
Image: Constraint of the complete extended memory to mass storage file.       ALPHA: file name on mass storage       none       file REMPTY       DIR EMPTY       WRTXM from         NO XFM       - no files in extended memory installed       NO XFM       - no extended function/memory installed       NO XFM       - no extended function/memory installed       See HP-IL Module         VETEND       Vertended function/memory installed       NO XFM       - no extended function/memory installed       See HP-IL Module         Vertended function/memory installed       NO XFM       - no extended function/memory installed       See HP-IL Module         Vertended function/memory installed       NO XFM       - no extended function/memory installed       See HP-IL Module         Vertended function/memory modules. For 41C with QUAD       none       X: number of memory modules       V       none       Sebastian Toelg         Vertended function/memory installed extended memory modules (X       none       X: number of extended memory modules       V       NO XF/M       Sebastian Toelg         Vertended function/memory installed       None       X: number of extended memory modules       V       NO XF/M       Sebastian Toelg       Sebastian Toelg							
WRTEM       Writes the complete extended memory to mass storage file.       ALPHA: file name on mass storage       none       -       DIR EMPTY       WRTXM from         NO XFM       - no files in extended memory       NO XFM       - no extended function/memory installed       Extended IL ROM         VIII MMM       Returns number (1 - 5) of installed memory modules. For 41C with QUAD MEMORY module, CV or CX the number of 5 will be returned always.       none       X: number of extended memory modules       U       none       Sebastian Toelg         41EM       Returns number (0 - 2) of installed extended memory modules (X MEMORY).       none       X: number of extended memory modules       U       NO XF/M       Sebastian Toelg						see HP-IL Module	
Image: Second	WRTEM	Writes the complete extended memory to mass storage file.	ALPHA: file name on mass storage	none	-	DIREMPTY	WRTXM from
Image: Separation of the set of the						- no files in extended memory	Extended IL ROM
Image: Section of the section of th							
Image: Section of the section of th						NO XFM	
Image: Note of the state o						- no extended function/memory installed	
hardware configuration       hardware configuration       bit with quark       hardware configuration         41MM       Returns number (1 - 5) of installed memory modules. For 41C with QUAD       none       X: number of memory modules       U       none       Sebastian Toelg         41MM       Returns number (0 - 2) of installed extended memory modules (X       none       X: number of extended memory modules       U       NO XF/M       Sebastian Toelg         41EM       Returns number (0 - 2) of installed extended memory modules (X       none       X: number of extended memory modules       U       NO XF/M       Sebastian Toelg						see HP II Medule	
41MM       Returns number (1 - 5) of installed memory modules. For 41C with QUAD none       X: number of memory modules       U       none       Sebastian Toelg         41EM       Returns number (0 - 2) of installed extended memory modules (X       none       X: number of extended memory modules       U       NO XF/M       Sebastian Toelg         MEMORY).       MEMORY).       No XF/M       Sebastian Toelg       Sebastian Toelg       Sebastian Toelg		hardware configuration			1		
ALEM       Network Number of 2 with being interaction of the number of 1 with quote interaction of the number of num	41MM	Returns number (1 - 5) of installed memory modules. For 410 with OUA	Dinone	X: number of memory modules	11	none	Sebastian Toelg
41EM       Returns number (0 - 2) of installed extended memory modules (X       none       X: number of extended memory modules       U       NO XF/M       Sebastian Toelg         MEMORY).       MEMORY).       - no extended function/memory installed       Sebastian Toelg       Sebastian Toelg	410101	MEMORY module CV or CX the number of 5 will be returned always		A number of memory modules			Sebastian TUCIE
41EM Returns number (0 - 2) of installed extended memory modules (X none X: number of extended memory modules U NO XF/M Sebastian Toelg		memory module, ev or ex the humber of 5 win be returned diways.					
MEMORY).	41FM	Returns number (0 - 2) of installed extended memory modules (X	none	X: number of extended memory modules	U	NO XE/M	Sebastian Toelg
		MEMORY).		in the second of	Ĭ	- no extended function/memory installed	- Southan I beig

41NUT Returns C	code:	none	X: code	U	none	Sebastian Toelg
1 for ful	ullnut (like ver. 1 or 1/1) or					
2 for na	althut (like ver. 2 or 1/2)	none	none		POM pages and their revision codes (message)	Sebastian Toolg
system R	ROMs (0 1 2)	none	none	-	Now pages and their revision codes (message)	Sebastian Toelg
display						
DSP Sets displ	play to number of specified decimal digits.	X: number of decimal digits (0 - 9)	none	-	ALPHA DATA	Sebastian Toelg
					- X contains alpha data	
					DATA ERROR	
DCD2 Deturner	number (0, 0) of desired disits being displayed				- number in X is not 0 - 9	Coloration Toolo
DSP? Returns n	number (0 - 9) of decimal digits being displayed.	none	X: number of decimal digits	U	none	MCODE for Boginnors
segment	ts	none	none	-	an display segments on	n 112
VMANT View (dis	isplay and print in NORM & TRACE mode) mantissa with all 10	X: numeric value	none	-	all 10 digits of mantissa (message)	Sebastian Toelg
digits.						(extended from
						MCODE for Beginners
						p. 93)
key assig	gnments					
KAPACK Packs key	ey assignments.	none	none	-	none	PPC Journal V12N4 p.
KASIZE Poturos r	number of registers used for key assignments	none	Y: number of registers		none	24 W&W.CmbH
KASIZE Keturiis II	number of registers used for key assignments.	none	A. humber of registers	0	lione	RAMBOX
LKAOFF Switch of	off local key assignments, i.e. key assignment of A-J and of a-e in	none	none	-	none	Sebastian Toelg
upper tw	wo rows are deactivated.					(inspired by PPC
						Journal V10N5 p. 9)
LKAON Switch or	on local key assignments, i.e. key assignment of A-J and of a-e in	none	none	-	none	Sebastian Toelg
upper two	wo rows are reactivated.					(inspired by PPC
hufford						Journal V10N5 p. 9)
BHD Beturns a	absolute address of buffer head for a given buffer ID 1 - 14 are	X: buffer ID	X: huffer head address	1		Sebastian Toelg
valid buff	ffer IDs.	X. Burler ID		-	- X contains alpha data	Sebastian rocig
If input is	is 0, then the address of the <u>1st</u> buffer (regardless of its ID) will				DATA ERROR	
be return	ned. If input is 15, then the absolute address of the last key				- input is not valid (not 0 - 15 )	
assignme	ent register will be returned.					
A retuned	ed U indicates that specified buffer does not exist or that there					
BSIZE Returns k	huffer size (number of registers) for a given huffer ID 1 - 14 are	X: buffer ID	X: huffer size	1	ΔΙ ΡΗΔ ΠΔΤΔ	Sebastian Toelg
valid buff	ffer IDs.		A. Burter Size	-	- X contains alpha data	Jebustian roels
					·····	
If input is	is 0 then, the cumulated size of <u>all</u> buffers (without key				DATA ERROR	
assignme	ent registers) will be returned. If input is 15, then the number of				<ul> <li>input is not valid (not 0 - 15)</li> </ul>	
registers	s used for key assignments will be returned.					
A	ad 0 indicates that enseified buffer does not wist on the table					
A retuned	eu o muicates that specified puffer does not exist or that there					
user flag						

FLAGX	Sets or clears specified user flag. Flag number may be 0 - 55. If value is	X: flag number with sign	none	- ALPHA DATA Seba	bastian Toelg
	positive, then flag will be set. If value is negative, then flag will be cleared			- X contains alpha data	-
	(flag 0 can also be cleared using a small negative value > -1, e.g0,1).				
				NONEXISTENT	
				<ul> <li>flag does not exist ( X  &gt; 55)</li> </ul>	
	non-normalized recall				
NRCLX	Recall specified user data register without normalization	X: user data register	X: non-normalized value stored in user	L ALPHA DATA Seba	bastian Toelg
	(works with any number of memory modules, i.e. also with 41C).		data register	- X contains alpha data (mo	notivated by
				Zen	ngrange Ltd.,
				NONEXISTENT ZEN	NROM 3B and
				- user register does not exist (exceeding current MCC	CODE for Beginners
				SIZE setting) p. 84	84)
	ALPHA and STACK with statistics registers				
ΑSTOΣ	Stores ALPHA register (registers M, N, O, P) into statistics registers.	ALPHA	none	- NONEXISTENT Seba	bastian Toelg
	Location of statistics registers must be set before.			<ul> <li>some or all required statistics registers do not</li> </ul>	
				exist (exceeding current SIZE setting)	
ARCLΣ	Recalls ALPHA register (registers M, N, O, P) from statistics registers.	none	recalled ALPHA	- see above Seba	bastian Toelg
Α<>Σ	Exchanges ALPHA register (registers M, N, O, P) and statistics registers.	ALPHA	recalled ALPHA	- see above Seba	bastian Toelg
STSTOΣ	Stores stack registers (T, Z, Y, X & LastX) into statistics registers. Location	X, Y, Z, T, LastX values	none	- see above Seba	bastian Toelg
	of statistics registers must be set before.				
STRCLΣ	Recalls stack registers (T, Z, Y, X, LastX) from statistics registers.	none	recalled X, Y, Z, T, LastX values	NA see above Seba	bastian Toelg
ST<>Σ	Exchanges stack registers (T, Z, Y, X, LastX) and statistics registers.	X, Y, Z, T, LastX values	recalled X, Y, Z, T, LastX values	NA see above Seba	bastian Toelg
	CCD module				
TLC	Toggles lower case mode of CCD module.	none	none	- none Seba	bastian Toelg
WSIZE?	Returns code for word size and sign mode (i.e. UNS, 1CMP or 2CMP) of	none	X: word size code	U none Seba	bastian Toelg
	CCD module. Valid word size can be 1 - 32. A returned value of 0				
	indicates, that no buffer exists, and the default word size of 8 will be				
	used.				
	If 1CMP mode is active, then 64 is added to the word size. If 2CMP mode	2			
	is active, then 128 is added to the word size. If unsigned mode (UNS) is				
	active, then nothing is added.				
<b>├</b> ──					
<b>├</b> ──					
L				- stack is not changed	
<b></b>				U stack is moved up, returned value is in X	
				L old X value is stored in LastX register, returned	
				Value is in X	
1				NA not applicable	