

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
-----	-------------	-------	-------	------

```

2 *****
3 *
4 *          CMPSC -- Compression Call instruction test
5 *
6 *****
7 *
8 *   PLEASE NOTE that this test only performs the simplest most basic
9 *   test of the CMPSC instruction.  It does NOT test all aspects of
10 *   the instruction.  We have a separate much more thorough and much
11 *   longer running test program for that.  This test only compresses
12 *   a small amount of data and then expands it and verifies that what
13 *   was expanded matches what it started with.  It does NOT check for
14 *   a valid condition code or anything else.  It's designed to be run
15 *   as part of "make test" after a build of Hercules and thus cannot
16 *   run for a very long time (and besides, as I said, we already have
17 *   a separate offline program that does a much better job of that).
18 *
19 *
20 *          -- Sample runtest script --
21 *
22 *
23 *   *Testcase CMPSC (Compression Call)
24 *   mainsize    2
25 *   numcpu      1
26 *   sysclear
27 *   archlvl     z/Arch
28 *   loadcore    "$(testpath)/CMPSC.core"
29 *   runtest     1
30 *   *Done
31 *
32 *
33 *****

```

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				35 PRINT OFF
				3416 PRINT ON
				3417 PRINT DATA
				3419 *****
				3420 * SATK prolog stuff...
				3421 *****
				3423 ARCHLVL MNOTE=NO
				3425+\$AL OPSYN AL
				3426+\$ALR OPSYN ALR
				3427+\$B OPSYN B
				3428+\$BAS OPSYN BAS
				3429+\$BASR OPSYN BASR
				3430+\$BC OPSYN BC
				3431+\$BCTR OPSYN BCTR
				3432+\$BE OPSYN BE
				3433+\$BH OPSYN BH
				3434+\$BL OPSYN BL
				3435+\$BM OPSYN BM
				3436+\$BNE OPSYN BNE
				3437+\$BNH OPSYN BNH
				3438+\$BNL OPSYN BNL
				3439+\$BNM OPSYN BNM
				3440+\$BNO OPSYN BNO
				3441+\$BNP OPSYN BNP
				3442+\$BNZ OPSYN BNZ
				3443+\$BO OPSYN BO
				3444+\$BP OPSYN BP
				3445+\$BXLE OPSYN BXLE
				3446+\$BZ OPSYN BZ
				3447+\$CH OPSYN CH
				3448+\$L OPSYN L
				3449+\$LH OPSYN LH
				3450+\$LM OPSYN LM
				3451+\$LPSW OPSYN LPSW
				3452+\$LR OPSYN LR
				3453+\$LTR OPSYN LTR
				3454+\$NR OPSYN NR
				3455+\$SL OPSYN SL
				3456+\$SLR OPSYN SLR
				3457+\$SR OPSYN SR
				3458+\$ST OPSYN ST
				3459+\$STM OPSYN STM
				3460+\$X OPSYN X
				3461+\$AHI OPSYN AHI
				3462+\$B OPSYN J
				3463+\$BC OPSYN BRC
				3464+\$BE OPSYN JE
				3465+\$BH OPSYN JH
				3466+\$BL OPSYN JL
				3467+\$BM OPSYN JM

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3501 *****
				3502 * Initiate the CMPSC CSECT in the CODE region
				3503 * with the location counter at 0
				3504 *****
				3506 CMPSC ASALOAD REGION=CODE
		00000000	0003FFFF	3507+CMPSC START 0,CODE
00000000	00020000	00000000		3509+ PSW 0,0,2,0,X'008' 64-bit Restart ISR Trap New PSW
00000008	00000000	00000008		
00000010			00000010 00000058	3510+ ORG CMPSC+X'058'
00000058	00020000	00000000		3512+ PSW 0,0,2,0,X'018' 64-bit External ISR Trap New PSW
00000060	00000000	00000018		
00000068	00020000	00000000		3513+ PSW 0,0,2,0,X'020' 64-bit Supervisor Call ISR Trap New PSW
00000070	00000000	00000020		
00000078	00020000	00000000		3514+ PSW 0,0,2,0,X'028' 64-bit Program ISR Trap New PSW
00000080	00000000	00000028		
00000088	00020000	00000000		3515+ PSW 0,0,2,0,X'030' 64-bit Machine Check Trap New PSW
00000090	00000000	00000030		
00000098	00020000	00000000		3516+ PSW 0,0,2,0,X'038' 64-bit Input/Output Trap New PSW
000000A0	00000000	00000038		
000000A8			000000A8 000001A0	3517+ ORG CMPSC+X'1A0'
000001A0	00020000	00000000		3519+ PSWZ 0,0,2,0,X'120' Restart ISR Trap New PSW
000001A8	00000000	00000120		
000001B0	00020000	00000000		3520+ PSWZ 0,0,2,0,X'130' External ISR Trap New PSW
000001B8	00000000	00000130		
000001C0	00020000	00000000		3521+ PSWZ 0,0,2,0,X'140' Supervisor Call ISR Trap New PSW
000001C8	00000000	00000140		
000001D0	00020000	00000000		3522+ PSWZ 0,0,2,0,X'150' Program ISR Trap New PSW
000001D8	00000000	00000150		
000001E0	00020000	00000000		3523+ PSWZ 0,0,2,0,X'160' Machine Check Trap New PSW
000001E8	00000000	00000160		
000001F0	00020000	00000000		3524+ PSWZ 0,0,2,0,X'170' Input/Output Trap New PSW
000001F8	00000000	00000170		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3547 *****
				3548 * The actual CMPSC program itself...
				3549 *****
00000200		00000000		3551 USING CMPSC,R0 No base registers needed
00000200				3553 BEGIN DS 0H
				3554 *
				3555 ** COMPRESS the data...
				3556 *
00000200	E300 02D0 0004		000002D0	3557 LG R0,CMP_R0 R0 <== Compress
00000206	E310 02E0 0004		000002E0	3558 LG R1,CMP_R1 R1 <== Compress
0000020C	E320 02A0 0004		000002A0	3559 LG R2,=AD(CMPADDR) R2 --> Compression buffer
00000212	E330 02A8 0004		000002A8	3560 LG R3,=AD(1024) R3 <== Compression buffer size
00000218	E340 02B0 0004		000002B0	3561 LG R4,=AD(INADDR) R4 --> Input data
0000021E	E350 02B8 0004		000002B8	3562 LG R5,=AD(INSIZE) R5 <== Input size
00000224	B263 0024			3563 CMPSC R2,R4 Compress data
				3564 *
				3565 ** Calculate length of compressed data
				3566 *
00000228	E360 02A8 0004		000002A8	3567 LG R6,=AD(1024) R6 <== Original R3 value
0000022E	B909 0063			3568 SGR R6,R3 Subtract ending R3 value
00000232	E360 02C0 0008		000002C0	3569 AG R6,=AD(1) Plus +1 to get true length
				3570 *
				3571 ** EXPAND what we compressed...
				3572 *
00000238	E300 02D8 0004		000002D8	3573 LG R0,EXP_R0 R0 <== Expand
0000023E	E310 02E8 0004		000002E8	3574 LG R1,EXP_R1 R0 <== Expand
00000244	E320 02C8 0004		000002C8	3575 LG R2,=AD(EXPADDR) R2 --> Expansion buffer
0000024A	E330 02A8 0004		000002A8	3576 LG R3,=AD(1024) R3 <== Expansion vuffer size
00000250	E340 02A0 0004		000002A0	3577 LG R4,=AD(CMPADDR) R4 --> Input data
00000256	B904 0056			3578 LGR R5,R6 R5 <== Input size
0000025A	B263 0024			3579 CMPSC R2,R4 Expand data
				3580 *
				3581 ** VERIFY it matches original input data...
				3582 *
0000025E	E320 02B0 0004		000002B0	3583 LG R2,=AD(INADDR) R2 --> Original input data
00000264	E330 02B8 0004		000002B8	3584 LG R3,=AD(INSIZE) R3 <== Original input size
0000026A	E340 02C8 0004		000002C8	3585 LG R4,=AD(EXPADDR) R4 --> Expanded data
00000270	E350 02B8 0004		000002B8	3586 LG R5,=AD(INSIZE) R5 <== R3 (same size)
00000276	0F24			3587 CLCL R2,R4 Compare expanded data with original
00000278	4780 0280		00000280	3588 BE GOODEOJ If it's identical then all is well
0000027C	47F0 0290		00000290	3589 B FAILEOJ Otherwise something is VERY WRONG!

LOC	OBJECT	CODE	ADDR1	ADDR2	STMT	
					3606 *****	
					3607 *	Working Storage
					3608 *****	
000002A0					3610	Literals pool
000002A0	00000000	00002000			3611	=AD(CMPADDR)
000002A8	00000000	00000400			3612	=AD(1024)
000002B0	00000000	00001000			3613	=AD(INADDR)
000002B8	00000000	00000140			3614	=AD(INSIZE)
000002C0	00000000	00000001			3615	=AD(1)
000002C8	00000000	00003000			3616	=AD(EXPADDR)
			00000500	00000001	3618 FLAGADDR EQU	X'500' Fixed address of test results flag
					3619	
			00001000	00000001	3620 INADDR EQU	X'1000' Address of input data
			00002000	00000001	3621 CMPADDR EQU	X'2000' Address of compression buffer
			00003000	00000001	3622 EXPADDR EQU	X'3000' Address of expansion buffer
			00020000	00000001	3623 CDICTADR EQU	X'20000' Address of 64K compression dictionary
			00030000	00000001	3624 EDICTADR EQU	X'30000' Address of 64K expansion dictionary
000002D0					3626	DC 0D'0' (alignment)
000002D0	00000000	00005200			3627 CMP_R0 DC	XL8'0000000000005200' R0 Compression options
000002D8	00000000	00005300			3628 EXP_R0 DC	XL8'0000000000005300' R0 Expansion options
000002E0	00000000	00020000			3629 CMP_R1 DC	AD(CDICTADR) R1 addr Compression dictionary
000002E8	00000000	00030000			3630 EXP_R1 DC	AD(EDICTADR) R1 addr Expansion dictionary
000002F0			000002F0	00000500	3632	ORG CMPSC+FLAGADDR Fixed address of result flag
00000500	00				3634 TESTFLAG DC	X'00' Failing test number or X'FF' = good

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3636 *****
				3637 * Input "File" (data)
				3638 *****
00000501		00000501	00001000	3640 ORG CMPSC+INADDR Fixed address of input buffer
		00001000	00000001	3642 INFILE EQU * Original input data
00001000	02C5E2C4	40404040		3643 DC X'02C5E2C4404040404040003040400001404040404040040000000000000'
00001008	40400030	40400001		
00001010	40404040	40404040		
00001018	04000000	00000000		
00001020	C9C7E6D3	C4E2E3C1		3644 DC X'C9C7E6D3C4E2E3C10000000006001B00C9C7E6D3D5D9C8C200001B0006000004'
00001028	00000000	06001B00		
00001030	C9C7E6D3	D5D9C8C2		
00001038	00001B00	06000004		
00001040	40404040	40404040		3645 DC X'4040404040404040F0F0F0F0F0F0F0F102E3E7E3400000004040003840400002'
00001048	F0F0F0F0	F0F0F0F1		
00001050	02E3E7E3	40000000		
00001058	40400038	40400002		
00001060	A7F40017	28C9C7E6		3646 DC X'A7F4001728C9C7E6D3C4E2E3C1F0F561F3F161F1F9C8C4E9F2F2F3F040E4C1F9'
00001068	D3C4E2E3	C1F0F561		
00001070	F3F161F1	F9C8C4E9		
00001078	F2F2F3F0	40E4C1F9		
00001080	F9F5F2F2	40F1F77A		3647 DC X'F9F5F2F240F1F77AF0F37AF1F0000BE0B24000E051C00000F0F0F0F0F0F0F2'
00001088	F0F37AF1	F0000BE0		
00001090	B24000E0	51C00000		
00001098	F0F0F0F0	F0F0F0F2		
000010A0	02E3E7E3	40000038		3648 DC X'02E3E7E340000038404000384040000218CFB91700CC51B0CFFFB91700BBC090'
000010A8	40400038	40400002		
000010B0	18CFB917	00CC51B0		
000010B8	CFFFB917	00BBC090		
000010C0	00000B75	B9170099		3649 DC X'00000B75B9170099B24D009C5800900441F00000B24D001C010D41100050010D'
000010C8	B24D009C	58009004		
000010D0	41F00000	B24D001C		
000010D8	010D4110	0050010D		
000010E0	18FD1BF1	58EF0040		3650 DC X'18FD1BF158EF0040F0F0F0F0F0F0F0F302C5D5C4404040404040404040404040'
000010E8	F0F0F0F0	F0F0F0F3		
000010F0	02C5D5C4	40404040		
000010F8	40404040	40404040		
00001100	40404040	40404040		3651 DC X'40404040404040404040404040404040F2F5F6F9F6F2F3F4F0F040F0F1F0F6F1'
00001108	40404040	40404040		
00001110	F2F5F6F9	F6F2F3F4		
00001118	F0F040F0	F1F0F6F1		
00001120	F9F1F5F1	D7D361E7		3652 DC X'F9F1F5F1D7D361E760F3F9F04040F0F2F0F4F1F9F1F5F140F0F0F0F0F0F1F3F6'
00001128	60F3F9F0	4040F0F2		
00001130	F0F4F1F9	F1F5F140		
00001138	F0F0F0F0	F0F1F3F6		
		00000140	00000001	3653 INSIZE EQU *-INFILE Size of input data

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3655 *****
				3656 * Compression dictionary
				3657 *****
00001140		00001140	00020000	3659 ORG CMPSC+CDICTADR Compression dictionary
		00020000	00000001	3661 CMPDICT EQU * Compression dictionary
00020000	DF810000	01385840		3662 DC X'DF81000001385840DF042A001C47500CDF847CE300C5D940DF4526D0D1D2D3F0'
00020008	DF042A00	1C47500C		
00020010	DF847CE3	00C5D940		
00020018	DF4526D0	D1D2D3F0		
00020020	DF057758	41500047		3663 DC X'DF05775841500047DC05B9EF00304B18D1061A40504160C5DC062400FF07D247'
00020028	DC05B9EF	00304B18		
00020030	D1061A40	504160C5		
00020038	DC062400	FF07D247		
00020040	DF064300	58474140		3664 DC X'DF0643005847414058067100FF000000B90675405000890520067B0000000000'
00020048	58067100	FF000000		
00020050	B9067540	50008905		
00020058	20067B00	00000000		
00020060	DF067C00	584147F0		3665 DC X'DF067C00584147F07C06AB0001040000B806C3400E004147D906D14010D05058'
00020068	7C06AB00	01040000		
00020070	B806C340	0E004147		
00020078	D906D140	10D05058		
00020080	DFC6DC00	D0F0D1D4		3666 DC X'DFC6DC00D0F0D1D47C07370043310000DB073C05FF9000440000000000000000'
00020088	7C073700	43310000		
00020090	DB073C05	FF900044		
00020098	00000000	00000000		
000200A0	DF075C18	12404100		3667 DC X'DF075C1812404100DD077C004B505818DA078A0547C94058D30797181258054B'
000200A8	DD077C00	4B505818		
000200B0	DA078A05	47C94058		
000200B8	D3079718	1258054B		
000200C0	DF079E12	581740D2		3668 DC X'DF079E12581740D26007F00058500000DC07F3F578F05875DF080600F0556678'
000200C8	6007F000	58500000		
000200D0	DC07F3F5	78F05875		
000200D8	DF080600	F0556678		
000200E0	DC082500	05475841		3669 DC X'DC0825000547584130083D0000000000AC083E47074041586008454B58FF0000'
000200E8	30083D00	00000000		
000200F0	AC083E47	07404158		
000200F8	6008454B	58FF0000		
				3670 PRINT OFF
				5710 PRINT ON
0002FFE0	00000000	00000000		5711 DC X'00000000000000000000000000000000201FFFF000000000000000000000000'
0002FFE8	00000000	00000000		
0002FFF0	201FFFF0	00000000		
0002FFF8	00000000	00000000		
		00010000	00000001	5712 CDICTSIZ EQU *-CMPDICT Compression dictionary size

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				5714 *****
				5715 * Expansion dictionary
				5716 *****
00030000		00030000	00030000	5718 ORG CMPSC+EDICTADR Expansion dictionary
		00030000	00000001	5720 EXPDICT EQU * Expansion dictionary
00030000	23700400	D3E9C4C8		5721 DC X'23700400D3E9C4C8000000000040000000200000001000FFFF000000001EDB'
00030008	00000000	00400000		
00030010	00020000	00010000		
00030018	FFFF0000	00001EDB		
00030020	00002000	00000020		5722 DC X'000020000000002000000000005300000052004654FD380000000000000000'
00030028	00000000	00005300		
00030030	00005200	4654FD38		
00030038	00000000	00000000		
00030040	00000000	00000000		5723 DC X'00'
00030048	00000000	00000000		
00030050	00000000	00000000		
00030058	00000000	00000000		
00030060	00000000	00000000		5724 DC X'00'
00030068	00000000	00000000		
00030070	00000000	00000000		
00030078	00000000	00000000		
00030080	00000000	00000000		5725 DC X'00'
00030088	00000000	00000000		
00030090	00000000	00000000		
00030098	00000000	00000000		
000300A0	00000000	00000000		5726 DC X'00'
000300A8	00000000	00000000		
000300B0	00000000	00000000		
000300B8	00000000	00000000		
000300C0	00000000	00000000		5727 DC X'00'
000300C8	00000000	00000000		
000300D0	00000000	00000000		
000300D8	00000000	00000000		
000300E0	00000000	00000000		5728 DC X'00'
000300E8	00000000	00000000		
000300F0	00000000	00000000		
000300F8	00000000	00000000		
				5729 PRINT OFF
				7769 PRINT ON
0003FFE0	03FF4780	00000000		7770 DC X'03FF4780000000000003FF47700000000003FFF0F0000000004FFF0F0F0000000'
0003FFE8	03FF4770	00000000		
0003FFF0	03FFF0F0	00000000		
0003FFF8	04FFF0F0	F0000000		
		00010000	00000001	7771 EDICTSIZ EQU *-EXPDICT Expansion dictionary size

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
BEGIN	H	000200	2	3553	3543
CDICTADR	U	020000	1	3623	3659 3629
CDICTSIZ	U	010000	1	5712	
CMPADDR	U	002000	1	3621	3559
CMPDICT	U	020000	1	3661	5712
CMPSC	J	000000	262144	3507	3510 3517 3531 3542 3544 3632 3640 3659 5718 3551
CMP_R0	X	0002D0	8	3627	3557
CMP_R1	A	0002E0	8	3629	3558
CODE	2	000000	262144	3507	
DWAT0009	3	000288	8	3599	3598
DWAT0010	3	000298	8	3604	3603
EDICTADR	U	030000	1	3624	5718 3630
EDICTSIZ	U	010000	1	7771	
EXPADDR	U	003000	1	3622	3575
EXPDICT	U	030000	1	5720	7771
EXP_R0	X	0002D8	8	3628	3573
EXP_R1	A	0002E8	8	3630	3574
FAILEOJ	H	000290	2	3602	3589
FLAGADDR	U	000500	1	3618	3632
GOODEOJ	I	000280	4	3595	3588
IMAGE	1	000000	262144	0	
INADDR	U	001000	1	3620	3640 3561
INFILE	U	001000	1	3642	3653
INSIZE	U	000140	1	3653	3562
PREVORG	U	000200	1	3530	3534
R0	U	000000	1	7774	3551 3557 3573
R1	U	000001	1	7775	3558 3574
R10	U	00000A	1	7784	
R11	U	00000B	1	7785	
R12	U	00000C	1	7786	
R13	U	00000D	1	7787	
R14	U	00000E	1	7788	
R15	U	00000F	1	7789	
R2	U	000002	1	7776	3559 3563 3575 3579 3583 3587
R3	U	000003	1	7777	3560 3568 3576 3584
R4	U	000004	1	7778	3561 3563 3577 3579 3585 3587
R5	U	000005	1	7779	3562 3578 3586
R6	U	000006	1	7780	3567 3568 3569 3578
R7	U	000007	1	7781	
R8	U	000008	1	7782	
R9	U	000009	1	7783	
TESTFLAG	X	000500	1	3634	3595
=AD(1)	A	0002C0	8	3615	3569
=AD(1024)	A	0002A8	8	3612	3560 3567 3576
=AD(CMPADDR)	A	0002A0	8	3611	3559 3577
=AD(EXPADDR)	A	0002C8	8	3616	3575 3585
=AD(INADDR)	A	0002B0	8	3613	3561 3583
=AD(INSIZE)	A	0002B8	8	3614	3562 3584 3586

DESC	SYMBOL	SIZE	POS	ADDR
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Entry: 0

Image	IMAGE	262144	00000-3FFFF	00000-3FFFF
Region	CODE	262144	00000-3FFFF	00000-3FFFF
CSECT	CMPSC	262144	00000-3FFFF	00000-3FFFF

STMT

FILE NAME

```
1 c:\Users\Fish\Documents\Visual Studio 2008\Projects\MyProjects\ASMA-0\CMPSC\CMPSC.asm
2 C:\Users\Fish\Documents\Visual Studio 2008\Projects\Hercules\_Git\_Harold\SATK-0\srcasm\satk.mac
```

```

** NO ERRORS FOUND **

```