

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	
				2	*****
				3	*
				4	* Zvector E6 instruction tests for VRI-h encoded:
				5	*
				6	* E649 VLIP - VECTOR LOAD IMMEDIATE DECIMAL
				7	*
				8	* James Wekel June 2024
				9	*****
				10	
				11	*****
				12	*
				13	* basic instruction tests
				14	*
				15	*****
				16	* This program tests proper functioning of the z/arch E6 VRI-h vector
				17	* load immediate decimal. Exceptions are not tested.
				18	*
				19	* PLEASE NOTE that the tests are very SIMPLE TESTS designed to catch
				20	* obvious coding errors. None of the tests are thorough. They are
				21	* NOT designed to test all aspects of any of the instructions.
				22	*
				23	*****
				24	*
				25	* *Testcase zvector-e6-10-VLIP: VECTOR E6 VRI-h VLIP instruction
				26	* *
				27	* * Zvector E6 tests for VRI-h encoded instruction:
				28	* *
				29	* * E649 VLIP - VECTOR LOAD IMMEDIATE DECIMAL
				30	* *
				31	* * # -----
				32	* * # This tests only the basic function of the instruction.
				33	* * # Exceptions are NOT tested.
				34	* * # -----
				35	* *
				36	* main size 2
				37	* numcpu 1
				38	* sysclear
				39	* archlvl z/Arch
				40	*
				41	* diag8cmd enable # (needed for messages to Hercules console)
				42	* loadcore "zvector-e6-10-VLIP.core" 0x0
				43	* diag8cmd disable # (reset back to default)
				44	*
				45	* *Done
				46	*****
00000000		00000000	0000141F	48	ZVE6TST START 0
		00000000		49	USING ZVE6TST, R0
				50	
		00000140	00000000	51	SVOLDPSW EQU ZVE6TST+X' 140'
					z/Arch Supervisor call old PSW
00000000		00000000	000001A0	53	ORG ZVE6TST+X' 1A0'
000001A0	00000001 80000000			54	DC X' 0000000180000000'
000001A8	00000000 00000200			55	DC AD(BEGIN)
					z/Architecture RESTART PSW

[illegible]

LOC	OBJECT CODE			ADDR1	ADDR2	STMT	
						129	*****
						130	* result not as expected:
						131	* issue message with test number, instruction under test
						132	* and instruction l2
						133	*****
				00000258	00000001	134	FAILMSG EQU *
00000258	4820	5004			00000004	135	LH R2, TNUM get test number and convert
0000025C	4E20	8E7E			0000107E	136	CVD R2, DECNUM
00000260	D211	8E68 8E52		00001068	00001052	137	MVC PRT3, EDIT
00000266	DE11	8E68 8E7E		00001068	0000107E	138	ED PRT3, DECNUM
0000026C	D202	8E14 8E75		00001014	00001075	139	MVC PRTNUM(3), PRT3+13 fill in message with test #
						140	
00000272	D207	8E2F 500A		0000102F	0000000A	141	MVC PRTNAME, OPNAME fill in message with instruction
						142	
00000278	B982	0022				143	XGR R2, R2 get i2 as U16
0000027C	4820	5008			00000008	144	LH R2, I2
00000280	4E20	8E7E			0000107E	145	CVD R2, DECNUM and convert
00000284	D211	8E68 8E52		00001068	00001052	146	MVC PRT3, EDIT
0000028A	DE11	8E68 8E7E		00001068	0000107E	147	ED PRT3, DECNUM
00000290	D204	8E40 8E73		00001040	00001073	148	MVC PRTI2(5), PRT3+11 fill in message with i2 field
						149	
00000296	B982	0022				150	XGR R2, R2 get i3 as U8
0000029A	4320	5007			00000007	151	IC R2, I3 and convert
0000029E	4E20	8E7E			0000107E	152	CVD R2, DECNUM
000002A2	D211	8E68 8E52		00001068	00001052	153	MVC PRT3, EDIT
000002A8	DE11	8E68 8E7E		00001068	0000107E	154	ED PRT3, DECNUM
000002AE	D201	8E4F 8E76		0000104F	00001076	155	MVC PRTI3(2), PRT3+14 fill in message with i3 field
						156	
000002B4	4100	004E			0000004E	157	LA R0, PRTLNG message length
000002B8	4110	8E04			00001004	158	LA R1, PRTLNE messagfe address
000002BC	45F0	80DE			000002DE	159	BAL R15, RPTERROR
						161	*****
						162	* continue after a failed test
						163	*****
				000002C0	00000001	164	FAILCONT EQU *
000002C0	5800	8208			00000408	165	L R0, =F' 1' set GLOBAL failed test indicator
000002C4	5000	8E00			00001000	166	ST R0, FAILED
						167	
000002C8	41C0	C004			00000004	168	LA R12, 4(0, R12) next test address
000002CC	47F0	802A			0000022A	169	B NEXTE6
						171	*****
						172	* end of testing; set ending psw
						173	*****
				000002D0	00000001	174	ENDTEST EQU *
000002D0	5810	8E00			00001000	175	L R1, FAILED did a test fail?
000002D4	1211					176	LTR R1, R1
000002D6	4780	81E0			000003E0	177	BZ EOJ No, exit
000002DA	47F0	81F8			000003F8	178	B FAILTEST Yes, exit with BAD PSW
						179	

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	
				426 *****	
				427 *	E6 VRI_H tests
				428 *****	
00001120		00000000	0000141F	429 ZVE6TST	CSECT ,
				430	DS 0F
				432	PRINT DATA
				433 *	
				434 *	E649 VLIP - VECTOR LOAD IMMEDIATE DECIMAL
				435 *	
				436 *	VRI_H instr, i2, i3
				437 *	followed by
				438 *	v1 - 16 byte expected result
				439	
				440 *	-----
				441 *	VLIP - VECTOR LOAD IMMEDIATE DECIMAL
				442 *	-----
				443 *	VLIP simple
00001120				444	VRI_H VLIP, 22102, 2 i2=x'5656' sc=0, shamt=2
00001120		00001120		445+	DS 0FD
00001120	0000113C			446+	USING *, R5 base for test data and test routine
00001124	0001			447+T1	DC A(X1) address of test routine
00001126	00			448+	DC H' 1' test number
00001127	02			449+	DC XL1' 00'
00001128	5656			450+	DC HL1' 2' i3
0000112A	E5D3C9D7 40404040			451+	DC H' 22102' i2
00001134	00000010			452+	DC CL8' VLIP' instruction name
00001138	0000114C			453+	DC A(16) result length
				454+REA1	DC A(RE1) result address
				455+*	INSTRUCTION UNDER TEST ROUTINE
0000113C				456+X1	DS 0F
0000113C	E610 5656 2049			457+	VLIP V1, 22102, 2 test instruction
00001142	E710 8EB0 000E		000010B0	458+	VST V1, V10OUTPUT save
00001148	07FB			459+	BR R11 return
0000114C				460+RE1	DC 0F
0000114C				461+	DROP R5
0000114C	00000000 00000000			462	DC XL16' 0000000000000000000000000565600C' V1
00001154	00000000 0565600C				
				463	
				464	VRI_H VLIP, 22102, 10 i2=x'5656' sc=1, shamt=2
00001160				465+	DS 0FD
00001160		00001160		466+	USING *, R5 base for test data and test routine
00001160	0000117C			467+T2	DC A(X2) address of test routine
00001164	0002			468+	DC H' 2' test number
00001166	00			469+	DC XL1' 00'
00001167	0A			470+	DC HL1' 10' i3
00001168	5656			471+	DC H' 22102' i2
0000116A	E5D3C9D7 40404040			472+	DC CL8' VLIP' instruction name
00001174	00000010			473+	DC A(16) result length
00001178	0000118C			474+REA2	DC A(RE2) result address
				475+*	INSTRUCTION UNDER TEST ROUTINE
0000117C				476+X2	DS 0F
0000117C	E610 5656 A049			477+	VLIP V1, 22102, 10 test instruction
00001182	E710 8EB0 000E		000010B0	478+	VST V1, V10OUTPUT save
00001188	07FB			479+	BR R11 return

LOC	OBJECT CODE	ADDR1	ADDR2	STMT			
0000118C				480+RE2	DC	0F	
0000118C				481+	DROP	R5	
0000118C	00000000 00000000			482	DC	XL16' 0000000000000000000000000565600D'	V1
00001194	00000000 0565600D						
				483			
				484	VRI_H	VLIP, 22102, 7	i2=x'5656' sc=0, shamt=7
000011A0				485+	DS	0FD	
000011A0		000011A0		486+	USING	*, R5	base for test data and test routine
000011A0	000011BC			487+T3	DC	A(X3)	address of test routine
000011A4	0003			488+	DC	H' 3'	test number
000011A6	00			489+	DC	XL1' 00'	
000011A7	07			490+	DC	HL1' 7'	i3
000011A8	5656			491+	DC	H' 22102'	i2
000011AA	E5D3C9D7 40404040			492+	DC	CL8' VLIP'	instruction name
000011B4	00000010			493+	DC	A(16)	result length
000011B8	000011CC			494+REA3	DC	A(RE3)	result address
				495+*			INSTRUCTION UNDER TEST ROUTINE
000011BC				496+X3	DS	0F	
000011BC	E610 5656 7049			497+	VLIP	V1, 22102, 7	test instruction
000011C2	E710 8EB0 000E		000010B0	498+	VST	V1, V10OUTPUT	save
000011C8	07FB			499+	BR	R11	return
000011CC				500+RE3	DC	0F	
000011CC				501+	DROP	R5	
000011CC	00000000 00000000			502	DC	XL16' 000000000000000000000000056560000000C'	V1
000011D4	00005656 0000000C						
				503			
				504	VRI_H	VLIP, 1, 8	i2=x'0001' sc=1, shamt=0
000011E0				505+	DS	0FD	
000011E0		000011E0		506+	USING	*, R5	base for test data and test routine
000011E0	000011FC			507+T4	DC	A(X4)	address of test routine
000011E4	0004			508+	DC	H' 4'	test number
000011E6	00			509+	DC	XL1' 00'	
000011E7	08			510+	DC	HL1' 8'	i3
000011E8	0001			511+	DC	H' 1'	i2
000011EA	E5D3C9D7 40404040			512+	DC	CL8' VLIP'	instruction name
000011F4	00000010			513+	DC	A(16)	result length
000011F8	0000120C			514+REA4	DC	A(RE4)	result address
				515+*			INSTRUCTION UNDER TEST ROUTINE
000011FC				516+X4	DS	0F	
000011FC	E610 0001 8049			517+	VLIP	V1, 1, 8	test instruction
00001202	E710 8EB0 000E		000010B0	518+	VST	V1, V10OUTPUT	save
00001208	07FB			519+	BR	R11	return
0000120C				520+RE4	DC	0F	
0000120C				521+	DROP	R5	
0000120C	00000000 00000000			522	DC	XL16' 0000000000000000000000000000000000001D'	V1
00001214	00000000 0000001D						
				523			
				524	VRI_H	VLIP, 0, 8	i2=x'0001' sc=1, shamt=0
00001220				525+	DS	0FD	
00001220		00001220		526+	USING	*, R5	base for test data and test routine
00001220	0000123C			527+T5	DC	A(X5)	address of test routine
00001224	0005			528+	DC	H' 5'	test number
00001226	00			529+	DC	XL1' 00'	
00001227	08			530+	DC	HL1' 8'	i3
00001228	0000			531+	DC	H' 0'	i2
0000122A	E5D3C9D7 40404040			532+	DC	CL8' VLIP'	instruction name

LOC	OBJECT CODE	ADDR1	ADDR2	STMT			
00001234	00000010			533+	DC	A(16)	result length
00001238	0000124C			534+REA5	DC	A(RE5)	result address
				535+*			INSTRUCTION UNDER TEST ROUTINE
0000123C				536+X5	DS	0F	
0000123C	E610 0000 8049			537+	VLIP	V1, 0, 8	test instruction
00001242	E710 8EB0 000E		000010B0	538+	VST	V1, V10UTPUT	save
00001248	07FB			539+	BR	R11	return
0000124C				540+RE5	DC	0F	
0000124C				541+	DROP	R5	
0000124C	00000000 00000000			542	DC	XL16' 000000000000000000000000000000D'	V1
00001254	00000000 0000000D						
				543			
00001260				544	VRI_H	VLIP, 9, 0	i2=x'0009' sc=0, shamt=0
00001260		00001260		545+	DS	0FD	
00001260	0000127C			546+	USING	*, R5	base for test data and test routine
00001264	0006			547+T6	DC	A(X6)	address of test routine
00001266	00			548+	DC	H' 6'	test number
00001267	00			549+	DC	XL1' 00'	
00001268	0009			550+	DC	HL1' 0'	i3
0000126A	E5D3C9D7 40404040			551+	DC	H' 9'	i2
00001274	00000010			552+	DC	CL8' VLIP'	instruction name
00001278	0000128C			553+	DC	A(16)	result length
				554+REA6	DC	A(RE6)	result address
				555+*			INSTRUCTION UNDER TEST ROUTINE
0000127C				556+X6	DS	0F	
0000127C	E610 0009 0049			557+	VLIP	V1, 9, 0	test instruction
00001282	E710 8EB0 000E		000010B0	558+	VST	V1, V10UTPUT	save
00001288	07FB			559+	BR	R11	return
0000128C				560+RE6	DC	0F	
0000128C				561+	DROP	R5	
0000128C	00000000 00000000			562	DC	XL16' 000000000000000000000000000009C'	V1
00001294	00000000 0000009C						
				563			
000012A0				564	VRI_H	VLIP, 9, 1	i2=x'0009' sc=0, shamt=1
000012A0		000012A0		565+	DS	0FD	
000012A0	000012BC			566+	USING	*, R5	base for test data and test routine
000012A4	0007			567+T7	DC	A(X7)	address of test routine
000012A6	00			568+	DC	H' 7'	test number
000012A7	01			569+	DC	XL1' 00'	
000012A8	0009			570+	DC	HL1' 1'	i3
000012AA	E5D3C9D7 40404040			571+	DC	H' 9'	i2
000012B4	00000010			572+	DC	CL8' VLIP'	instruction name
000012B8	000012CC			573+	DC	A(16)	result length
				574+REA7	DC	A(RE7)	result address
				575+*			INSTRUCTION UNDER TEST ROUTINE
000012BC				576+X7	DS	0F	
000012BC	E610 0009 1049			577+	VLIP	V1, 9, 1	test instruction
000012C2	E710 8EB0 000E		000010B0	578+	VST	V1, V10UTPUT	save
000012C8	07FB			579+	BR	R11	return
000012CC				580+RE7	DC	0F	
000012CC				581+	DROP	R5	
000012CC	00000000 00000000			582	DC	XL16' 000000000000000000000000000090C'	V1
000012D4	00000000 0000090C						
				583			
000012E0				584	VRI_H	VLIP, 4660, 0	i2=x'1234' sc=0, shamt=0
				585+	DS	0FD	

LOC	OBJECT CODE	ADDR1	ADDR2	STMT			
				691	*****		
				692	*		
				693	*****		
					Register equates		

		00000000	00000001	695 R0	EQU	0	
		00000001	00000001	696 R1	EQU	1	
		00000002	00000001	697 R2	EQU	2	
		00000003	00000001	698 R3	EQU	3	
		00000004	00000001	699 R4	EQU	4	
		00000005	00000001	700 R5	EQU	5	
		00000006	00000001	701 R6	EQU	6	
		00000007	00000001	702 R7	EQU	7	
		00000008	00000001	703 R8	EQU	8	
		00000009	00000001	704 R9	EQU	9	
		0000000A	00000001	705 R10	EQU	10	
		0000000B	00000001	706 R11	EQU	11	
		0000000C	00000001	707 R12	EQU	12	
		0000000D	00000001	708 R13	EQU	13	
		0000000E	00000001	709 R14	EQU	14	
		0000000F	00000001	710 R15	EQU	15	
				712	*****		
				713	*		
				714	*****		
					Register equates		

		00000000	00000001	716 V0	EQU	0	
		00000001	00000001	717 V1	EQU	1	
		00000002	00000001	718 V2	EQU	2	
		00000003	00000001	719 V3	EQU	3	
		00000004	00000001	720 V4	EQU	4	
		00000005	00000001	721 V5	EQU	5	
		00000006	00000001	722 V6	EQU	6	
		00000007	00000001	723 V7	EQU	7	
		00000008	00000001	724 V8	EQU	8	
		00000009	00000001	725 V9	EQU	9	
		0000000A	00000001	726 V10	EQU	10	
		0000000B	00000001	727 V11	EQU	11	
		0000000C	00000001	728 V12	EQU	12	
		0000000D	00000001	729 V13	EQU	13	
		0000000E	00000001	730 V14	EQU	14	
		0000000F	00000001	731 V15	EQU	15	
		00000010	00000001	732 V16	EQU	16	
		00000011	00000001	733 V17	EQU	17	
		00000012	00000001	734 V18	EQU	18	
		00000013	00000001	735 V19	EQU	19	
		00000014	00000001	736 V20	EQU	20	
		00000015	00000001	737 V21	EQU	21	

DESC	SYMBOL	SIZE	POS	ADDR
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Entry: 0

Image	IMAGE	5152	0000- 141F	0000- 141F
Regi on		5152	0000- 141F	0000- 141F
CSECT	ZVE6TST	5152	0000- 141F	0000- 141F

STMT FILE NAME

```
1 /devstor/dev/tests/zvector-e6-10-VLIP.asm
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**** NO ERRORS FOUND ****