

Mode: All

Left file: D:\Source\github\CSS422\_Hardware\Disassembler\UnitTests\Test\_002.X68

Right file: D:\Source\github\CSS422\_Hardware\Disassembler\Output.txt

```
*=====
» =====
» =====
* Title      : Test_002
* Written by : CSS 422 Best Group
*
*   The CSS 422 Best Group is:
*   - Howie Catlin
*   - Kyle Dukart
*   - Colton Sellers
*
*
* Date       : 10-Nov-2019
*
* Description:
*   Test input file used to perform software v
» erification
*   and validation (i.e.: validation that the
» disassembler
*   is capable of converting hexadecimal to En
» glish,
*   verification that the the strings being tr
» anslated are
*   in fact correct).
*
*   First parts of this file attempt to prove
» that each
*   operation code is capable of being transla
» ted. The
*   registers D0, D7, A0, & A7 and hex values
» '0', '1', '5',
*   'A', and 'F' as edge cases most likely to
» uncover early
*   programming errors. This method exercises
» all opcodes,
*   but performs less addressing.
*
*   Later in the file, a brute-force matrix of
» every-register
*   to-every-register is employed to verify th
» e Effective
*   Addressing code paths. This method uses fe
» wer op codes,
*   but performs more addressing.
*
*   Refer to the Test Plan and test matrix for
» more
*   information.
*=====
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```

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**TESTIO**

\* -----

» -----

**\* BCLR**

\* -----

» -----

```

BCLR      D0,D7
BCLR      D7,(A7)
BCLR      D0,(A0)+
BCLR      D7,-(A7)
BCLR      D0,$FFFF
BCLR      D7,$55555

```

```

00111112  BCLR      D0, D7
00111114  BCLR      D7, (A7)
00111116  BCLR      D0, (A0)+
00111118  BCLR      D7, -(A7)
0011111A  BCLR      D0, $0000FFFF
00111120  BCLR      D7, $00055555

```

\* -----

» -----

**\* ORI**

\* -----

» -----

```

ORI.W      #$1111,D0
ORI.W      $AAAA,(A0)+
ORI.W      $0000,-(A0)
ORI.L      $FFFFFF,D0
ORI.L      $55555,(A0)+
ORI.L      $AAAAA,-(A0)

```

```

00111126  ORI.W      #$1111, D0
0011112A  ORI.W      $AAAA, (A0)+
0011112E  ORI.W      $0000, -(A0)
00111132  ORI.L      $000FFFFFF, D0
00111138  ORI.L      $00055555, (A0)+
0011113E  ORI.L      $000AAAAA, -(A0)

```

\* -----

» -----

**\* CMPI**

\* -----

» -----

```

CMPI.W      #$1111,D0
CMPI.W      $AAAA,(A0)+
CMPI.W      $0000,-(A0)
CMPI.L      $FFFFFF,D0
CMPI.L      $55555,(A0)+
CMPI.L      $AAAAA,-(A0)

```

```

00111144  CMPI.W      #$1111, D0
00111148  CMPI.W      $AAAA, (A0)+
0011114C  CMPI.W      $0000, -(A0)
00111150  CMPI.L      $000FFFFFF, D0
00111156  CMPI.L      $00055555, (A0)+
0011115C  CMPI.L      $000AAAAA, -(A0)

```

\* -----

» -----

**\* MOVE.B**

\* -----

» -----

```

MOVE.B      #$0F,D0
MOVE.B      D7,(A7)
MOVE.B      D7,(A0)+
MOVE.B      D0,-(A7)
MOVE.B      $1000,D0
MOVE.B      $10000,D0

```

```

00111162  MOVE.B      #000F, D0
00111166  MOVE.B      D7, (A7)
00111168  MOVE.B      D7, (A0)+
0011116A  MOVE.B      D0, -(A7)
0011116C  MOVE.B      $1000, D0
00111170  MOVE.B      $00010000, D0

```

```

MOVE.W      $AA,D0
MOVE.W      D7,A0
MOVE.W      D7,(A7)
MOVE.W      D0,(A0)+
MOVE.W      D7,-(A7)

```

```

00111176  MOVE.W      $00AA, D0
0011117A  MOVE.W      D7, A0
0011117C  MOVE.W      D7, (A7)
0011117E  MOVE.W      D0, (A0)+
00111180  MOVE.W      D7, -(A7)

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```

MOVE.W    $5555,D0
MOVE.W    $AAAAA,D0
MOVE.L    #$AA,D0
MOVE.L    D0,A0
MOVE.L    D0,(A0)
MOVE.L    D0,(A0)+
MOVE.L    D0,-(A0)
MOVE.L    $1000,D0
MOVE.L    $10000,D0

```

```

* -----
» -----
* MOVEA.W
* -----
» -----

```

```

MOVEA.W    D7,A0
MOVEA.W    (A0),A7
MOVEA.W    (A0)+,A7
MOVEA.W    -(A7),A0
MOVEA.W    $AAAA,A0
MOVEA.W    $55555,A0
MOVEA.L    D0,A0
MOVEA.L    D7,A0
MOVEA.L    (A7),A0
MOVEA.L    (A0)+,A7
MOVEA.L    -(A7),A0
MOVEA.L    $FFAA,A7
MOVEA.L    $FFAA5,A0

```

```

* -----
» -----
* NOP, RTS, ILLEGAL
* -----
» -----
NOP

```

RTS

ILLEGAL

```

* -----
» -----
* LEA
* -----
» -----
LEA        (A7),A0
LEA        $FFAA,A0
LEA        $AA551,A7

```

```

* -----
» -----

```

```

00111182    MOVE.W    $5555, D0
00111186    MOVE.W    $000AAAAA, D0
0011118C    MOVE.L    #$00AA, D0
00111192    MOVEA.L    D0, A0
00111194    MOVE.L    D0, (A0)
00111196    MOVE.L    D0, (A0)+
00111198    MOVE.L    D0, -(A0)
0011119A    MOVE.L    $1000, D0
0011119E    MOVE.L    $00010000, D0

```

```

001111A4    MOVEA.W    D7, A0
001111A6    MOVEA.W    (A0), A7
001111A8    MOVEA.W    (A0)+, A7
001111AA    MOVEA.W    -(A7), A0
001111AC    MOVEA.W    $0000AAAA, A0
001111B2    MOVEA.W    $00055555, A0
001111B8    MOVEA.L    D0, A0
001111BA    MOVEA.L    D7, A0
001111BC    MOVEA.L    (A7), A0
001111BE    MOVEA.L    (A0)+, A7
001111C0    MOVEA.L    -(A7), A0
001111C2    MOVEA.L    $0000FFAA, A7
001111C8    MOVEA.L    $000FFAA5, A0
001111CE    NOP
001111D0    RTS

```

001111D2 ILLEGAL

```

001111D4    LEA        (A7), A0
001111D6    LEA        $0000FFAA, A0
001111DC    LEA        $000AA551, A7
001111E2    NEG.W      D0

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\* NEG

\* -----

» -----

```

NEG      D0
NEG      (A6)
NEG      (A0)+
NEG      -(A1)
NEG      $AAFF
NEG      $55FAA

```

\* -----

» -----

\* JSR

\* -----

» -----

```

JSR      (A6)
JSR      $AAFF
JSR      $55FAA

```

\* -----

» -----

\* MOVEM

\* -----

» -----

\* -----

» -----

\* SUBQ.x

\* -----

» -----

```

SUBQ.B   #1,D0
SUBQ.B   #3,(A7)
SUBQ.B   #4,(A0)+
SUBQ.B   #5,-(A0)
SUBQ.B   #6,$AAFF
SUBQ.B   #7,$AFAF5

```

```

SUBQ.W   #1,D0
SUBQ.W   #3,(A7)
SUBQ.W   #4,(A0)+
SUBQ.W   #5,-(A0)
SUBQ.W   #6,$AAFF
SUBQ.W   #7,$AFAF5
SUBQ.L   #1,D0
SUBQ.L   #3,(A7)
SUBQ.L   #4,(A0)+
SUBQ.L   #5,-(A0)
SUBQ.L   #6,$AAFF
SUBQ.L   #7,$AFAF5

```

\* -----

» -----

```

001111E4    NEG.W   (A6)
001111E6    NEG.W   (A0)+
001111E8    NEG.W   -(A1)
001111EA    NEG.W   $0000AAFF
001111F0    NEG.W   $00055FAA

```

```

001111F6    JSR      (A6)

```

```

001111F8    JSR      $0000AAFF
001111FE    JSR      $00055FAA

```

```

00111204    SUBQ.B   #1, D0
00111206    SUBQ.B   #3, (A7)
00111208    SUBQ.B   #4, (A0)+
0011120A    SUBQ.B   #5, -(A0)
0011120C    SUBQ.B   #6, $0000AAFF
00111212    SUBQ.B   #7, $000AFAF5

```

```

00111218    SUBQ.W   #1, D0
0011121A    SUBQ.W   #3, (A7)
0011121C    SUBQ.W   #4, (A0)+
0011121E    SUBQ.W   #5, -(A0)
00111220    SUBQ.W   #6, $0000AAFF
00111226    SUBQ.W   #7, $000AFAF5
0011122C    SUBQ.L   #1, D0
0011122E    SUBQ.L   #3, (A7)
00111230    SUBQ.L   #4, (A0)+
00111232    SUBQ.L   #5, -(A0)
00111234    SUBQ.L   #6, $0000AAFF
0011123A    SUBQ.L   #7, $000AFAF5

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## \* DIVS

\* -----

» -----

```

DIVS      D0,D1
DIVS      (A1)+,D1
DIVS      -(A2),D2
DIVS      #01,D1
DIVS      $AAFF,D1
DIVS      $FFAA5,D2

```

\* -----

» -----

## \* OR

\* -----

» -----

```

OR        D0,D1
OR        (A0),D0
OR        (A0)+,D7
OR        -(A7),D0
OR        #02,D1

```

\* -----

» -----

## \* SUB

\* -----

» -----

```

SUB       D0,D1
SUB       A0,D0
SUB       (A0),D0
SUB       (A0)+,D0
SUB       -(A7),D1
SUB       #02,D1
SUB       $AAFF,D0
SUB       $AFAF5,D1

```

\* -----

» -----

## \* CMP

\* -----

» -----

```

CMP       D0,D1
CMP       A0,D0
CMP       (A0),D0
CMP       (A0)+,D0
CMP       -(A7),D1
CMP       #02,D1
CMP       $AAFF,D0
CMP       $AFAF5,D1

```

\* -----

» -----

## \* EOR

\* -----

» -----

```

00111240      DIVS      D0, D1
00111242      DIVS      (A1)+, D1
00111244      DIVS      -(A2), D2
00111246      DIVS      #$0001, D1
0011124A      DIVS      $0000AAFF, D1
00111250      DIVS      $000FFAA5, D2
00111256      OR.W      D0, D1

```

```

00111258      OR.W      (A0), D0
0011125A      OR.W      (A0)+, D7
0011125C      OR.W      -(A7), D0

```

```

0011125E      OR.W      #$0002, D1

```

```

00111262      SUB.W      D0, D1
00111264      SUB.W      A0, D0
00111266      SUB.W      (A0), D0
00111268      SUB.W      (A0)+, D0
0011126A      SUB.W      -(A7), D1
0011126C      SUBQ.W     #2, D1
0011126E      SUB.W      $0000AAFF, D0
00111274      SUB.W      $000AFAF5, D1

```

```

0011127A      CMP.W      D0, D1
0011127C      CMP.W      A0, D0
0011127E      CMP.W      (A0), D0
00111280      CMP.W      (A0)+, D0
00111282      CMP.W      -(A7), D1
00111284      CMP.W      #$0002, D1
00111288      CMP.W      $0000AAFF, D0
0011128E      CMP.W      $000AFAF5, D1

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```

EOR      D0,D1
EOR      D0,(A0)
EOR      D0,(A0)+
EOR      D0,-(A7)
EOR.W    #0000, D0
EOR.L    #0000, D1

* -----
» -----
* MULS
* -----
» -----
MULS     D0,D1
MULS     (A0),D0
MULS     (A0)+,D0
MULS     -(A7),D1
MULS     #02,D1
MULS     $0000,D0
MULS     $0000,D1

* -----
» -----
* ADD
* -----
» -----
ADD      D0,D1
ADD      D0,A0
ADD      (A0),D0
ADD      (A0)+,D0
ADD      -(A7),D1
ADD      #02,D1
ADD      $0000,D0
ADD      $0000,D1

* -----
» -----
* ADDA
* -----
» -----
ADDA     D0,A0
ADDA     D0,A0
ADDA     (A0),A0
ADDA     (A0)+,A0
ADDA     -(A7),A1
ADDA     #02,A1
ADDA     $0000,A0
ADDA     $0000,A7

* -----
» -----
* ASR
* -----
» -----
ASR      (A0)
ASR      (A7)+

```

```

00111294  EOR.W  D0, D1
00111296  EOR.W  D0, (A0)
00111298  EOR.W  D0, (A0)+
0011129A  EOR.W  D0, -(A7)
0011129C  EORI.W #0000, D0
001112A0  BCLR   #0000A, D1
001112A4  DATA   FAF5

001112A6  MULS   D0, D1
001112A8  MULS   (A0), D0
001112AA  MULS   (A0)+, D0
001112AC  MULS   -(A7), D1
001112AE  MULS   #0002, D1
001112B2  MULS   $0000AAFF, D0
001112B8  MULS   $0000FAF5, D1

001112BE  ADD.W  D0, D1
001112C0  ADDA.W D0, A0
001112C2  ADD.W  (A0), D0
001112C4  ADD.W  (A0)+, D0
001112C6  ADD.W  -(A7), D1
001112C8  ADDQ.W #2, D1
001112CA  ADD.W  $0000AAFF, D0
001112D0  ADD.W  $0000FAF5, D1

001112D6  ADDA.W D0, A0
001112D8  ADDA.W D0, A0
001112DA  ADDA.W (A0), A0
001112DC  ADDA.W (A0)+, A0
001112DE  ADDA.W -(A7), A1
001112E0  ADDQ.W #2, A1
001112E2  ADDA.W $0000AAFF, A0
001112E8  ADDA.W $0000FAF5, A7

001112EE  ASR     (A0)
001112F0  ASR     (A7)+

```

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ASR	-(A0)	001112F2	ASR	-(A0)
ASR	\$AFAF	001112F4	ASR	\$0000AFAF
ASR	\$FFAA550	001112FA	ASR	\$0FFAA550
* -----				
» -----				
* ASL				
* -----				
» -----				
ASL	(A0)	00111300	ASL	(A0)
ASL	(A7)+	00111302	ASL	(A7)+
ASL	-(A0)	00111304	ASL	-(A0)
ASL	\$AFAF	00111306	ASL	\$0000AFAF
ASL	\$FFAA550	0011130C	ASL	\$0FFAA550
* -----				
» -----				
* LSR				
* -----				
» -----				
LSR	(A0)	00111312	LSR	(A0)
LSR	(A7)+	00111314	LSR	(A7)+
LSR	-(A0)	00111316	LSR	-(A0)
LSR	\$AFAF	00111318	LSR	\$0000AFAF
LSR	\$FFAA550	0011131E	LSR	\$0FFAA550
* -----				
» -----				
* LSL				
* -----				
» -----				
LSL	(A0)	00111324	LSL	(A0)
LSL	(A7)+	00111326	LSL	(A7)+
LSL	-(A0)	00111328	LSL	-(A0)
LSL	\$AFAF	0011132A	LSL	\$0000AFAF
LSL	\$FFAA550	00111330	LSL	\$0FFAA550
* -----				
» -----				
* ROL				
* -----				
» -----				
ROL	(A0)	00111336	ROL	(A0)
ROL	(A7)+	00111338	ROL	(A7)+
ROL	-(A0)	0011133A	ROL	-(A0)
ROL	\$AFAF	0011133C	ROL	\$0000AFAF
ROL	\$FFAA550	00111342	ROL	\$0FFAA550
* -----				
» -----				
* ROR				
* -----				
» -----				
ROR	(A0)	00111348	ROR	(A0)
ROR	(A7)+	0011134A	ROR	(A7)+
ROR	-(A0)	0011134C	ROR	-(A0)

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ROR	\$AF	0011134E	ROR	\$0000AF
ROR	\$FFAA550	00111354	ROR	\$0FFAA550
*-----				
»-----				
* BRUTE-FORCE VERIFICATION				
*-----				
»-----				
; D0 to all other data registers				
ADD	D0,D0	0011135A	ADD.W	D0, D0
ADD	D0,D1	0011135C	ADD.W	D0, D1
ADD	D0,D2	0011135E	ADD.W	D0, D2
ADD	D0,D3	00111360	ADD.W	D0, D3
ADD	D0,D4	00111362	ADD.W	D0, D4
ADD	D0,D5	00111364	ADD.W	D0, D5
ADD	D0,D6	00111366	ADD.W	D0, D6
ADD	D0,D7	00111368	ADD.W	D0, D7
; D1 to all other data registers				
ADD	D1,D0	0011136A	ADD.W	D1, D0
ADD	D1,D1	0011136C	ADD.W	D1, D1
ADD	D1,D2	0011136E	ADD.W	D1, D2
ADD	D1,D3	00111370	ADD.W	D1, D3
ADD	D1,D4	00111372	ADD.W	D1, D4
ADD	D1,D5	00111374	ADD.W	D1, D5
ADD	D1,D6	00111376	ADD.W	D1, D6
ADD	D1,D7	00111378	ADD.W	D1, D7
; D2 to all other data registers				
ADD	D2,D0	0011137A	ADD.W	D2, D0
ADD	D2,D1	0011137C	ADD.W	D2, D1
ADD	D2,D2	0011137E	ADD.W	D2, D2
ADD	D2,D3	00111380	ADD.W	D2, D3
ADD	D2,D4	00111382	ADD.W	D2, D4
ADD	D2,D5	00111384	ADD.W	D2, D5
ADD	D2,D6	00111386	ADD.W	D2, D6
ADD	D2,D7	00111388	ADD.W	D2, D7
; D3 to all other data registers				
ADD	D3,D0	0011138A	ADD.W	D3, D0
ADD	D3,D1	0011138C	ADD.W	D3, D1
ADD	D3,D2	0011138E	ADD.W	D3, D2
ADD	D3,D3	00111390	ADD.W	D3, D3
ADD	D3,D4	00111392	ADD.W	D3, D4
ADD	D3,D5	00111394	ADD.W	D3, D5
ADD	D3,D6	00111396	ADD.W	D3, D6
ADD	D3,D7	00111398	ADD.W	D3, D7
; D4 to all other data registers				
ADD	D4,D0	0011139A	ADD.W	D4, D0
ADD	D4,D1	0011139C	ADD.W	D4, D1
ADD	D4,D2	0011139E	ADD.W	D4, D2
ADD	D4,D3	001113A0	ADD.W	D4, D3
ADD	D4,D4	001113A2	ADD.W	D4, D4
ADD	D4,D5	001113A4	ADD.W	D4, D5
ADD	D4,D6	001113A6	ADD.W	D4, D6
ADD	D4,D7	001113A8	ADD.W	D4, D7



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; D5 to all other data registers

```

ADD    D5,D0
ADD    D5,D1
ADD    D5,D2
ADD    D5,D3
ADD    D5,D4
ADD    D5,D5
ADD    D5,D6
ADD    D5,D7

```

; D6 to all other data registers

```

ADD    D6,D0
ADD    D6,D1
ADD    D6,D2
ADD    D6,D3
ADD    D6,D4
ADD    D6,D5
ADD    D6,D6
ADD    D6,D7

```

; D7 to all other data registers

```

ADD    D7,D0
ADD    D7,D1
ADD    D7,D2
ADD    D7,D3
ADD    D7,D4
ADD    D7,D5
ADD    D7,D6
ADD    D7,D7

```

; D0 to all other address registers

```

ADD    D0,A0
ADD    D0,A1
ADD    D0,A2
ADD    D0,A3
ADD    D0,A4
ADD    D0,A5
ADD    D0,A6
ADD    D0,A7

```

; D1 to all other address registers

```

ADD    D1,A0
ADD    D1,A1
ADD    D1,A2
ADD    D1,A3
ADD    D1,A4
ADD    D1,A5
ADD    D1,A6
ADD    D1,A7

```

; D2 to all other address registers

```

ADD    D2,A0
ADD    D2,A1

```

```

001113AA  ADD.W  D5, D0
001113AC  ADD.W  D5, D1
001113AE  ADD.W  D5, D2
001113B0  ADD.W  D5, D3
001113B2  ADD.W  D5, D4
001113B4  ADD.W  D5, D5
001113B6  ADD.W  D5, D6
001113B8  ADD.W  D5, D7

```

```

001113BA  ADD.W  D6, D0
001113BC  ADD.W  D6, D1
001113BE  ADD.W  D6, D2
001113C0  ADD.W  D6, D3
001113C2  ADD.W  D6, D4
001113C4  ADD.W  D6, D5
001113C6  ADD.W  D6, D6
001113C8  ADD.W  D6, D7

```

```

001113CA  ADD.W  D7, D0
001113CC  ADD.W  D7, D1
001113CE  ADD.W  D7, D2
001113D0  ADD.W  D7, D3
001113D2  ADD.W  D7, D4
001113D4  ADD.W  D7, D5
001113D6  ADD.W  D7, D6
001113D8  ADD.W  D7, D7
001113DA  ADDA.W D0, A0

```

```

001113DC  ADDA.W D0, A1
001113DE  ADDA.W D0, A2

```

```

001113E0  ADDA.W D0, A3
001113E2  ADDA.W D0, A4
001113E4  ADDA.W D0, A5
001113E6  ADDA.W D0, A6
001113E8  ADDA.W D0, A7

```

```

001113EA  ADDA.W D1, A0
001113EC  ADDA.W D1, A1
001113EE  ADDA.W D1, A2
001113F0  ADDA.W D1, A3
001113F2  ADDA.W D1, A4
001113F4  ADDA.W D1, A5
001113F6  ADDA.W D1, A6
001113F8  ADDA.W D1, A7
001113FA  ADDA.W D2, A0

```

```

001113FC  ADDA.W D2, A1
001113FE  ADDA.W D2, A2

```

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(continued)

**ADD D2,A2**

ADD D2,A3

ADD D2,A4

ADD D2,A5

ADD D2,A6

ADD D2,A7

; D3 to all other address registers

ADD D3,A0

ADD D3,A1

**ADD D3,A2**

ADD D3,A3

ADD D3,A4

ADD D3,A5

ADD D3,A6

ADD D3,A7

; D4 to all other address registers

ADD D4,A0

ADD D4,A1

ADD D4,A2

**ADD D4,A3**

ADD D4,A4

ADD D4,A5

ADD D4,A6

ADD D4,A7

; D5 to all other address registers

ADD D5,A0

ADD D5,A1

**ADD D5,A2**

ADD D5,A3

ADD D5,A4

ADD D5,A5

ADD D5,A6

ADD D5,A7

; D6 to all other address registers

ADD D6,A0

ADD D6,A1

**ADD D6,A2**

ADD D6,A3

ADD D6,A4

ADD D6,A5

ADD D6,A6

ADD D6,A7

; D7 to all other address registers

ADD D7,A0

ADD D7,A1

**ADD D7,A2**

ADD D7,A3

00111400 ADDA.W D2, A3

00111402 ADDA.W D2, A4

00111404 ADDA.W D2, A5

00111406 ADDA.W D2, A6

00111408 ADDA.W D2, A7

0011140A ADDA.W D3, A0

0011140C ADDA.W D3, A1

0011140E ADDA.W D3, A2

00111410 ADDA.W D3, A3

00111412 ADDA.W D3, A4

00111414 ADDA.W D3, A5

00111416 ADDA.W D3, A6

00111418 ADDA.W D3, A7

0011141A ADDA.W D4, A0

0011141C ADDA.W D4, A1

0011141E ADDA.W D4, A2

00111420 ADDA.W D4, A3

00111422 ADDA.W D4, A4

00111424 ADDA.W D4, A5

00111426 ADDA.W D4, A6

00111428 ADDA.W D4, A7

0011142A ADDA.W D5, A0

0011142C ADDA.W D5, A1

0011142E ADDA.W D5, A2

00111430 ADDA.W D5, A3

00111432 ADDA.W D5, A4

00111434 ADDA.W D5, A5

00111436 ADDA.W D5, A6

00111438 ADDA.W D5, A7

0011143A ADDA.W D6, A0

0011143C ADDA.W D6, A1

0011143E ADDA.W D6, A2

00111440 ADDA.W D6, A3

00111442 ADDA.W D6, A4

00111444 ADDA.W D6, A5

00111446 ADDA.W D6, A6

00111448 ADDA.W D6, A7

0011144A ADDA.W D7, A0

0011144C ADDA.W D7, A1

0011144E ADDA.W D7, A2

00111450 ADDA.W D7, A3

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(continued)

ADD D7,A4	00111452 ADDA.W D7, A4
ADD D7,A5	00111454 ADDA.W D7, A5
ADD D7,A6	00111456 ADDA.W D7, A6
ADD D7,A7	00111458 ADDA.W D7, A7
; values from all address registers to	
» A0	
ADD (A0),A0	0011145A ADDA.W (A0), A0
ADD (A1),A0	0011145C ADDA.W (A1), A0
ADD (A2),A0	0011145E ADDA.W (A2), A0
ADD (A3),A0	00111460 ADDA.W (A3), A0
ADD (A4),A0	00111462 ADDA.W (A4), A0
ADD (A5),A0	00111464 ADDA.W (A5), A0
ADD (A6),A0	00111466 ADDA.W (A6), A0
ADD (A7),A0	00111468 ADDA.W (A7), A0
; values from all address registers to	
» A1	
ADD (A0),A1	0011146A ADDA.W (A0), A1
ADD (A1),A1	0011146C ADDA.W (A1), A1
ADD (A2),A1	0011146E ADDA.W (A2), A1
ADD (A3),A1	00111470 ADDA.W (A3), A1
ADD (A4),A1	00111472 ADDA.W (A4), A1
ADD (A5),A1	00111474 ADDA.W (A5), A1
ADD (A6),A1	00111476 ADDA.W (A6), A1
ADD (A7),A1	00111478 ADDA.W (A7), A1
; values from all address registers to	
» A2	
ADD (A0),A2	0011147A ADDA.W (A0), A2
ADD (A1),A2	0011147C ADDA.W (A1), A2
ADD (A2),A2	0011147E ADDA.W (A2), A2
ADD (A3),A2	00111480 ADDA.W (A3), A2
ADD (A4),A2	00111482 ADDA.W (A4), A2
ADD (A5),A2	00111484 ADDA.W (A5), A2
ADD (A6),A2	00111486 ADDA.W (A6), A2
ADD (A7),A2	00111488 ADDA.W (A7), A2
; values from all address registers to	
» A3	
ADD (A0),A3	0011148A ADDA.W (A0), A3
ADD (A1),A3	0011148C ADDA.W (A1), A3
ADD (A2),A3	0011148E ADDA.W (A2), A3
ADD (A3),A3	00111490 ADDA.W (A3), A3
ADD (A4),A3	00111492 ADDA.W (A4), A3
ADD (A5),A3	00111494 ADDA.W (A5), A3
ADD (A6),A3	00111496 ADDA.W (A6), A3
ADD (A7),A3	00111498 ADDA.W (A7), A3
; values from all address registers	
» to A4	
ADD (A0),A4	0011149A ADDA.W (A0), A4
ADD (A1),A4	0011149C ADDA.W (A1), A4
ADD (A2),A4	0011149E ADDA.W (A2), A4

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(continued)

ADD (A3),A4	001114A0 ADDA.W (A3), A4
ADD (A4),A4	001114A2 ADDA.W (A4), A4
ADD (A5),A4	001114A4 ADDA.W (A5), A4
ADD (A6),A4	001114A6 ADDA.W (A6), A4
ADD (A7),A4	001114A8 ADDA.W (A7), A4
; values from all address registers to	
» A5	
ADD (A0),A5	001114AA ADDA.W (A0), A5
ADD (A1),A5	001114AC ADDA.W (A1), A5
ADD (A2),A5	001114AE ADDA.W (A2), A5
ADD (A3),A5	001114B0 ADDA.W (A3), A5
ADD (A4),A5	001114B2 ADDA.W (A4), A5
ADD (A5),A5	001114B4 ADDA.W (A5), A5
ADD (A6),A5	001114B6 ADDA.W (A6), A5
ADD (A7),A5	001114B8 ADDA.W (A7), A5
; values from all address registers to	
» A6	
ADD (A0),A6	001114BA ADDA.W (A0), A6
ADD (A1),A6	001114BC ADDA.W (A1), A6
ADD (A2),A6	001114BE ADDA.W (A2), A6
ADD (A3),A6	001114C0 ADDA.W (A3), A6
ADD (A4),A6	001114C2 ADDA.W (A4), A6
ADD (A5),A6	001114C4 ADDA.W (A5), A6
ADD (A6),A6	001114C6 ADDA.W (A6), A6
ADD (A7),A6	001114C8 ADDA.W (A7), A6
; values from all address registers to	
» A7	
ADD (A0),A7	001114CA ADDA.W (A0), A7
ADD (A1),A7	001114CC ADDA.W (A1), A7
ADD (A2),A7	001114CE ADDA.W (A2), A7
ADD (A3),A7	001114D0 ADDA.W (A3), A7
ADD (A4),A7	001114D2 ADDA.W (A4), A7
ADD (A5),A7	001114D4 ADDA.W (A5), A7
ADD (A6),A7	001114D6 ADDA.W (A6), A7
ADD (A7),A7	001114D8 ADDA.W (A7), A7
; post-increment from all address regi	
» sters to A0	
ADD (A0)+,A0	001114DA ADDA.W (A0)+, A0
ADD (A1)+,A0	001114DC ADDA.W (A1)+, A0
ADD (A2)+,A0	001114DE ADDA.W (A2)+, A0
ADD (A3)+,A0	001114E0 ADDA.W (A3)+, A0
ADD (A4)+,A0	001114E2 ADDA.W (A4)+, A0
ADD (A5)+,A0	001114E4 ADDA.W (A5)+, A0
ADD (A6)+,A0	001114E6 ADDA.W (A6)+, A0
ADD (A7)+,A0	001114E8 ADDA.W (A7)+, A0
; post-increment from all address regi	
» sters to A1	

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(continued)

ADD (A0)+,A1	001114EA ADDA.W (A0)+, A1
ADD (A1)+,A1	001114EC ADDA.W (A1)+, A1
ADD (A2)+,A1	001114EE ADDA.W (A2)+, A1
ADD (A3)+,A1	001114F0 ADDA.W (A3)+, A1
ADD (A4)+,A1	001114F2 ADDA.W (A4)+, A1
ADD (A5)+,A1	001114F4 ADDA.W (A5)+, A1
ADD (A6)+,A1	001114F6 ADDA.W (A6)+, A1
ADD (A7)+,A1	001114F8 ADDA.W (A7)+, A1
; post-increment from all address regi	
» sters to A2	
ADD (A0)+,A2	001114FA ADDA.W (A0)+, A2
ADD (A1)+,A2	001114FC ADDA.W (A1)+, A2
ADD (A2)+,A2	001114FE ADDA.W (A2)+, A2
ADD (A3)+,A2	00111500 ADDA.W (A3)+, A2
ADD (A4)+,A2	00111502 ADDA.W (A4)+, A2
ADD (A5)+,A2	00111504 ADDA.W (A5)+, A2
ADD (A6)+,A2	00111506 ADDA.W (A6)+, A2
ADD (A7)+,A2	00111508 ADDA.W (A7)+, A2
; post-increment from all address regi	
» sters to A3	
ADD (A0)+,A3	0011150A ADDA.W (A0)+, A3
ADD (A1)+,A3	0011150C ADDA.W (A1)+, A3
ADD (A2)+,A3	0011150E ADDA.W (A2)+, A3
ADD (A3)+,A3	00111510 ADDA.W (A3)+, A3
ADD (A4)+,A3	00111512 ADDA.W (A4)+, A3
ADD (A5)+,A3	00111514 ADDA.W (A5)+, A3
ADD (A6)+,A3	00111516 ADDA.W (A6)+, A3
ADD (A7)+,A3	00111518 ADDA.W (A7)+, A3
; post-increment from all address regi	
» sters to A4	
ADD (A0)+,A4	0011151A ADDA.W (A0)+, A4
ADD (A1)+,A4	0011151C ADDA.W (A1)+, A4
ADD (A2)+,A4	0011151E ADDA.W (A2)+, A4
ADD (A3)+,A4	00111520 ADDA.W (A3)+, A4
ADD (A4)+,A4	00111522 ADDA.W (A4)+, A4
ADD (A5)+,A4	00111524 ADDA.W (A5)+, A4
ADD (A6)+,A4	00111526 ADDA.W (A6)+, A4
ADD (A7)+,A4	00111528 ADDA.W (A7)+, A4
; post-increment from all address regi	
» sters to A5	
ADD (A0)+,A5	0011152A ADDA.W (A0)+, A5
ADD (A1)+,A5	0011152C ADDA.W (A1)+, A5
ADD (A2)+,A5	0011152E ADDA.W (A2)+, A5
ADD (A3)+,A5	00111530 ADDA.W (A3)+, A5
ADD (A4)+,A5	00111532 ADDA.W (A4)+, A5
ADD (A5)+,A5	00111534 ADDA.W (A5)+, A5
ADD (A6)+,A5	00111536 ADDA.W (A6)+, A5
ADD (A7)+,A5	00111538 ADDA.W (A7)+, A5

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(continued)

; post-increment from all address regi  
» sters to A6

```
ADD      (A0)+,A6
ADD      (A1)+,A6
ADD      (A2)+,A6
ADD      (A3)+,A6
ADD      (A4)+,A6
ADD      (A5)+,A6
ADD      (A6)+,A6
ADD      (A7)+,A6
```

; post-increment from all address reg  
» isters to A7

```
ADD      (A0)+,A7
ADD      (A1)+,A7
ADD      (A2)+,A7
ADD      (A3)+,A7
ADD      (A4)+,A7
ADD      (A5)+,A7
ADD      (A6)+,A7
ADD      (A7)+,A7
```

; pre-decrement from all address regis  
» ters to A0

```
ADD      -(A0),A0
ADD      -(A1),A0
ADD      -(A2),A0
ADD      -(A3),A0
ADD      -(A4),A0
ADD      -(A5),A0
ADD      -(A6),A0
ADD      -(A7),A0
```

; pre-decrement from all address regis  
» ters to A1

```
ADD      -(A0),A1
ADD      -(A1),A1
ADD      -(A2),A1
ADD      -(A3),A1
ADD      -(A4),A1
ADD      -(A5),A1
ADD      -(A6),A1
ADD      -(A7),A1
```

; pre-decrement from all address regis  
» ters to A2

```
ADD      -(A0),A2
ADD      -(A1),A2
ADD      -(A2),A2
ADD      -(A3),A2
ADD      -(A4),A2
```

```
0011153A      ADDA.W  (A0)+, A6
0011153C      ADDA.W  (A1)+, A6
0011153E      ADDA.W  (A2)+, A6
00111540      ADDA.W  (A3)+, A6
00111542      ADDA.W  (A4)+, A6
00111544      ADDA.W  (A5)+, A6
00111546      ADDA.W  (A6)+, A6
00111548      ADDA.W  (A7)+, A6
```

```
0011154A      ADDA.W  (A0)+, A7
0011154C      ADDA.W  (A1)+, A7
0011154E      ADDA.W  (A2)+, A7
00111550      ADDA.W  (A3)+, A7
00111552      ADDA.W  (A4)+, A7
00111554      ADDA.W  (A5)+, A7
00111556      ADDA.W  (A6)+, A7
00111558      ADDA.W  (A7)+, A7
```

```
0011155A      ADDA.W  -(A0), A0
0011155C      ADDA.W  -(A1), A0
0011155E      ADDA.W  -(A2), A0
00111560      ADDA.W  -(A3), A0
00111562      ADDA.W  -(A4), A0
00111564      ADDA.W  -(A5), A0
00111566      ADDA.W  -(A6), A0
00111568      ADDA.W  -(A7), A0
```

```
0011156A      ADDA.W  -(A0), A1
0011156C      ADDA.W  -(A1), A1
0011156E      ADDA.W  -(A2), A1
00111570      ADDA.W  -(A3), A1
00111572      ADDA.W  -(A4), A1
00111574      ADDA.W  -(A5), A1
00111576      ADDA.W  -(A6), A1
00111578      ADDA.W  -(A7), A1
```

```
0011157A      ADDA.W  -(A0), A2
0011157C      ADDA.W  -(A1), A2
0011157E      ADDA.W  -(A2), A2
00111580      ADDA.W  -(A3), A2
00111582      ADDA.W  -(A4), A2
```

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(continued)

ADD	-(A5),A2	00111584	ADDA.W	-(A5), A2
ADD	-(A6),A2	00111586	ADDA.W	-(A6), A2
ADD	-(A7),A2	00111588	ADDA.W	-(A7), A2
; pre-decrement from all address regis				
» ters to A3				
ADD	-(A0),A3	0011158A	ADDA.W	-(A0), A3
ADD	-(A1),A3	0011158C	ADDA.W	-(A1), A3
ADD	-(A2),A3	0011158E	ADDA.W	-(A2), A3
ADD	-(A3),A3	00111590	ADDA.W	-(A3), A3
ADD	-(A4),A3	00111592	ADDA.W	-(A4), A3
ADD	-(A5),A3	00111594	ADDA.W	-(A5), A3
ADD	-(A6),A3	00111596	ADDA.W	-(A6), A3
ADD	-(A7),A3	00111598	ADDA.W	-(A7), A3
; pre-decrement from all address regis				
» ters to A4				
ADD	-(A0),A4	0011159A	ADDA.W	-(A0), A4
ADD	-(A1),A4	0011159C	ADDA.W	-(A1), A4
ADD	-(A2),A4	0011159E	ADDA.W	-(A2), A4
ADD	-(A3),A4	001115A0	ADDA.W	-(A3), A4
ADD	-(A4),A4	001115A2	ADDA.W	-(A4), A4
ADD	-(A5),A4	001115A4	ADDA.W	-(A5), A4
ADD	-(A6),A4	001115A6	ADDA.W	-(A6), A4
ADD	-(A7),A4	001115A8	ADDA.W	-(A7), A4
; pre-decrement from all address regis				
» ters to A5				
ADD	-(A0),A5	001115AA	ADDA.W	-(A0), A5
ADD	-(A1),A5	001115AC	ADDA.W	-(A1), A5
ADD	-(A2),A5	001115AE	ADDA.W	-(A2), A5
ADD	-(A3),A5	001115B0	ADDA.W	-(A3), A5
ADD	-(A4),A5	001115B2	ADDA.W	-(A4), A5
ADD	-(A5),A5	001115B4	ADDA.W	-(A5), A5
ADD	-(A6),A5	001115B6	ADDA.W	-(A6), A5
ADD	-(A7),A5	001115B8	ADDA.W	-(A7), A5
; pre-decrement from all address regis				
» ters to A6				
ADD	-(A0),A6	001115BA	ADDA.W	-(A0), A6
ADD	-(A1),A6	001115BC	ADDA.W	-(A1), A6
ADD	-(A2),A6	001115BE	ADDA.W	-(A2), A6
ADD	-(A3),A6	001115C0	ADDA.W	-(A3), A6
ADD	-(A4),A6	001115C2	ADDA.W	-(A4), A6
ADD	-(A5),A6	001115C4	ADDA.W	-(A5), A6
ADD	-(A6),A6	001115C6	ADDA.W	-(A6), A6
ADD	-(A7),A6	001115C8	ADDA.W	-(A7), A6
; pre-decrement from all address regis				
» ters to A7				
ADD	-(A0),A7	001115CA	ADDA.W	-(A0), A7
ADD	-(A1),A7	001115CC	ADDA.W	-(A1), A7

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(continued)

```

ADD      -(A2),A7
ADD      -(A3),A7
ADD      -(A4),A7
ADD      -(A5),A7
ADD      -(A6),A7
ADD      -(A7),A7

; immediate to all data registers
ADD      #01,D0
ADD      #01,D1
ADD      #01,D2
ADD      #01,D3
ADD      #01,D4
ADD      #01,D5
ADD      #01,D6
ADD      #01,D7

; immediate to all address register
ADD      #01,A0
ADD      #01,A1
ADD      #01,A2
ADD      #01,A3
ADD      #01,A4
ADD      #01,A5
ADD      #01,A6
ADD      #01,A7

; immediate to all address register via
» lues
ADD      #01,(A0)
ADD      #01,(A1)
ADD      #01,(A2)
ADD      #01,(A3)
ADD      #01,(A4)
ADD      #01,(A5)
ADD      #01,(A6)
ADD      #01,(A7)

; immediate to all address register via
» th post increment
ADD      #01,(A0)+
ADD      #01,(A1)+
ADD      #01,(A2)+
ADD      #01,(A3)+
ADD      #01,(A4)+
ADD      #01,(A5)+
ADD      #01,(A6)+
ADD      #01,(A7)+

; immediate to all address register via
» th pre-decrement
ADD      #01,-(A0)
ADD      #01,-(A1)
ADD      #01,-(A2)
ADD      #01,-(A3)
ADD      #01,-(A4)

```

```

001115CE  ADDA.W  -(A2), A7
001115D0  ADDA.W  -(A3), A7
001115D2  ADDA.W  -(A4), A7
001115D4  ADDA.W  -(A5), A7
001115D6  ADDA.W  -(A6), A7
001115D8  ADDA.W  -(A7), A7

001115DA  ADDQ.W  #1, D0
001115DC  ADDQ.W  #1, D1
001115DE  ADDQ.W  #1, D2
001115E0  ADDQ.W  #1, D3
001115E2  ADDQ.W  #1, D4
001115E4  ADDQ.W  #1, D5
001115E6  ADDQ.W  #1, D6
001115E8  ADDQ.W  #1, D7

001115EA  ADDQ.W  #1, A0
001115EC  ADDQ.W  #1, A1
001115EE  ADDQ.W  #1, A2
001115F0  ADDQ.W  #1, A3
001115F2  ADDQ.W  #1, A4
001115F4  ADDQ.W  #1, A5
001115F6  ADDQ.W  #1, A6
001115F8  ADDQ.W  #1, A7

001115FA  ADDQ.W  #1, (A0)
001115FC  ADDQ.W  #1, (A1)
001115FE  ADDQ.W  #1, (A2)
00111600  ADDQ.W  #1, (A3)
00111602  ADDQ.W  #1, (A4)
00111604  ADDQ.W  #1, (A5)
00111606  ADDQ.W  #1, (A6)
00111608  ADDQ.W  #1, (A7)

0011160A  ADDQ.W  #1, (A0)+
0011160C  ADDQ.W  #1, (A1)+
0011160E  ADDQ.W  #1, (A2)+
00111610  ADDQ.W  #1, (A3)+
00111612  ADDQ.W  #1, (A4)+
00111614  ADDQ.W  #1, (A5)+
00111616  ADDQ.W  #1, (A6)+
00111618  ADDQ.W  #1, (A7)+

0011161A  ADDQ.W  #1, -(A0)
0011161C  ADDQ.W  #1, -(A1)
0011161E  ADDQ.W  #1, -(A2)
00111620  ADDQ.W  #1, -(A3)
00111622  ADDQ.W  #1, -(A4)

```



Left file: D:\Source\github\CSS422\_Hardware\Disassembler\UnitTests\Test\_002.X68

Right file: D:\Source\github\CSS422\_Hardware\Disassembler\Output.txt

(continued)

ADD #01, -(A5)	00111624 ADDQ.W #1, -(A5)
ADD #01, -(A6)	00111626 ADDQ.W #1, -(A6)
ADD #01, -(A7)	00111628 ADDQ.W #1, -(A7)
	0011162A ADD.W \$0001, D0
; absolute short to all data registers	
ADD \$01,D0	0011162E ADD.W \$0001, D1
ADD \$01,D1	00111632 ADD.W \$0001, D2
ADD \$01,D2	
ADD \$01,D3	00111636 ADD.W \$0001, D3
ADD \$01,D4	0011163A ADD.W \$0001, D4
ADD \$01,D5	0011163E ADD.W \$0001, D5
ADD \$01,D6	00111642 ADD.W \$0001, D6
ADD \$01,D7	
	00111646 ADD.W \$0001, D7
; absolute long to all data registers	
ADD \$0A05,A0	0011164A ADDA.W \$0A05, A0
ADD \$0A05,A1	0011164E ADDA.W \$0A05, A1
ADD \$0A05,A2	00111652 ADDA.W \$0A05, A2
ADD \$0A05,A3	00111656 ADDA.W \$0A05, A3
ADD \$0A05,A4	0011165A ADDA.W \$0A05, A4
ADD \$0A05,A5	0011165E ADDA.W \$0A05, A5
ADD \$0A05,A6	00111662 ADDA.W \$0A05, A6
ADD \$0A05,A7	00111666 ADDA.W \$0A05, A7
	0011166A SIMHALT
	0011166C SIMHALT
	0011166E SIMHALT
	00111670 SIMHALT
*~Font name~Courier New~	
*~Font size~10~	
*~Tab type~1~	
*~Tab size~4~	