STRAPPING THE CMV-1000 1024K-BYTE MEMORY MODULE

GENERAL. These instructions cover the strapping of up to two CMV-1000 1024KB memory modules. Refer to Figure 4-5. For each board, both the board parameters and the corresponding strapping instructions are given.

PARAMETERS FOR FIRST CMV-1000

Starting memory address = 0
Ending memory address = 1024K
CSR address = 17772100 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR FIRST CMV-1000

Note that jumper pairs A & B, C & D, F & G, H & J, K & L, and W1 & W2 are each located on the board with a common pin between them. Installing a jumper on pin A, for example, means making a connection, either by a shorting plug or by wire wrapping, between pin A and the common pin (with no connection to pin B). In the same way, installing a jumper on pin B means making a connection between pin B and the common pin (with no connection to pin A). To strap the first CMV-1000, proceed as follows:

1. Install the following jumpers:
   B, L, C, W1, R, P, N, M

2. Make the following settings on switch SW1. To make these settings use a fine-pointed tool such as the tip of a ball point pen to press directly down on the OFF or the ON side of each switch section. The SW1 settings are:

   Section 1: ON
   Section 2: ON
   Section 3: ON
   Section 4: ON
   Section 5: ON
   Section 6: not used

3. Make the following settings on switch SW2:

   Section 1: ON
   Section 2: ON

Section 3: ON
Section 4: OFF
Section 5: OFF
Section 6: ON

PARAMETERS FOR SECOND CMV-1000

Starting memory address = 1024K
Ending memory address = 2048K
CSR address = 17772102 octal
CSR parity enabled
22 bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING INSTRUCTIONS FOR SECOND CMV-1000

Proceed as follows:

1. Install the following jumpers:
   B, L, C, W1, P, N, M

2. Make the following settings on Switch SW1:

   Section 1: ON
   Section 2: ON
   Section 3: ON
   Section 4: OFF
   Section 5: OFF
   Section 6: not used

3. Make the following settings on Switch SW2:

   Section 1: ON
   Section 2: ON
   Section 3: ON
   Section 4: ON
   Section 5: OFF
   Section 6: OFF

STRAPPING THE CMV-504 2048K-BYTE MEMORY MODULE

GENERAL. These instructions cover the strapping of up to two CMV-504 2048KB memory modules. Refer to Figure 4-6. For each board, both the board parameters and the corresponding strapping instructions are given. NOTE: THESE STRAPPING INSTRUCTIONS ARE THE SMS AS-SHIPPED CONFIGURATIONS FOR FIRST AND SECOND CMV-504 BOARDS.

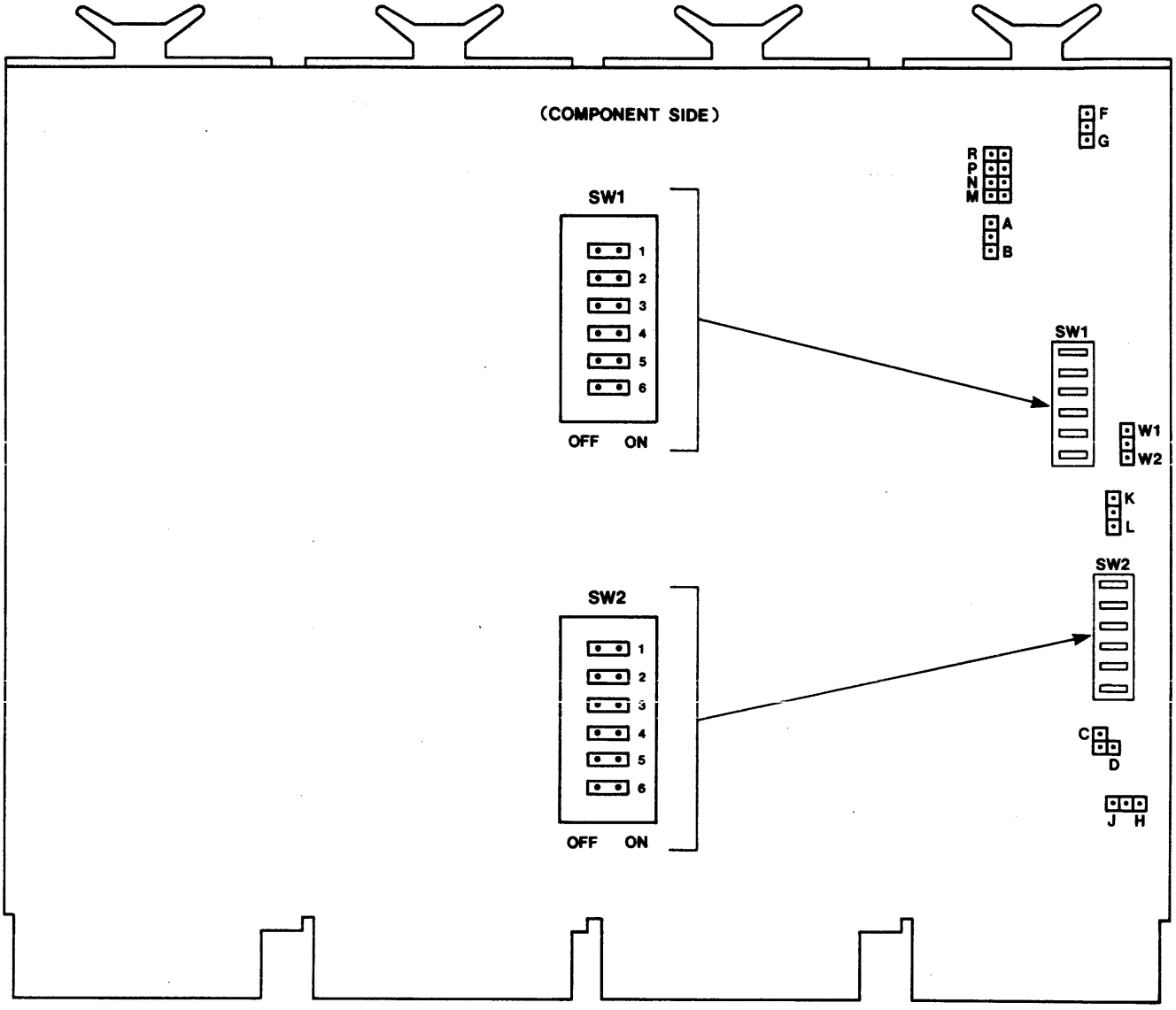

Fig. 4-5 Location of jumper pins on CMV-1000

FUNCTIONS OF JUMPERS

The following table describes the functions of the CMV-504 jumpers.

TABLE 4-15

FUNCTIONS OF CMV-504 JUMPERS

JUMPER DESIGNATIONS	JUMPER FUNCTIONS
+5V & +5VB	Set +5 volt mode
C and D	Set CSR parity
A and B	Select 18/22 bit CSR
M, N, P, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	Set starting and ending address boundary
G, H, J	CSR register address selection
K, L	2K/4K I/O page size
S and T	Block mode/non-block mode

PARAMETERS FOR FIRST CMV-504

Starting memory address = 0
Ending memory address = 2048K
CSR address = 17772100 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR FIRST CMV-504

Note that jumper pairs A & B, C & D, K & L, S & T, 15 & 16 and +5V & +5VB are each located on the board with a common pin between them. Installing a jumper on pin A, for example, means making a connection, either by a shorting plug or by wire wrapping, between pin A and the common pin (with no connection to pin B). In the same way, installing a jumper on pin B means making a connection between pin B and the common pin (with no connection to pin A). To strap the first CMV-504, proceed as follows:

1. INSTALL the following jumpers:

B, C, K, T, J, H, G, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15

2. The following jumpers are REMOVED:

A, D, L, S, 14, 16

PARAMETERS FOR SECOND CMV-504

Starting memory address = 2048K
Ending memory address = 4096K
CSR address = 17772102 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR SECOND CMV-504

1. INSTALL the following jumpers:

B, C, K, T, H, G, 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 16

2. The following jumpers are REMOVED:

A, D, L, S, J, 9, 15

JUMPER SETTINGS FOR ALTERNATE STARTING AND ENDING MEMORY ADDRESSES FOR CMV-504 AND CMV-254.

NOTE: This table applies to both the CMV-504 and the CMV-254. For the CMV-254 strapping instructions, see below.

The following tables list the jumper settings for starting and ending memory addresses that differ from the SMS factory-shipped default values.

STARTING AND ENDING ADDRESS JUMPER CONNECTIONS
IN 512K-BYTE INCREMENTS (CMV-504 and CMV-254)

DESIRED STARTING ADDRESS (K BYTES)	STARTING ADDRESS JUMPER CONNECTIONS (SEE FIGURE 4-6)										
	1	2	3	4	5	6	7	8	9	15	16
0	I	I	I	I	I	I	I	I	I	I	R
512	I	I	I	I	I	I	R	R	R	R	I
1024	I	I	I	I	I	I	I	R	R	R	I
1536	I	I	I	I	I	I	R	I	R	R	I
2048	I	I	I	I	I	I	I	I	R	R	I
2560	I	I	I	I	I	I	R	R	I	R	I
3072	I	I	I	I	I	I	I	R	I	R	I
3584	I	I	I	I	I	I	R	I	I	R	I

DESIRED ENDING ADDRESS (K BYTES)	ENDING ADDRESS JUMPER CONNECTIONS (SEE FIGURE 4-6)				
	10	11	12	13	14
512	I	I	R	R	R
1024	I	I	I	R	R
1536	I	I	R	I	R
2048	I	I	I	I	R
2560	I	I	R	R	I
3072	I	I	I	R	I
3584	I	I	R	I	I
4096	I	I	I	I	I

LEGEND: I = INSTALLED
R = REMOVED
NOTE: The above tables apply to both the CMV-504 and the CMV-254.

STRAPPING THE CMV-254 1024K-BYTE MEMORY MODULE

These instructions cover the strapping of up to two CMV-254 1024K-byte memory modules. Refer to Figure 4-6 for the location

of jumper pins. For each board, both the default (i.e. as-shipped) parameters and the corresponding strapping instructions are given. Note that the functions of these jumpers are the same as those of the CMV-504 memory module.

PARAMETERS FOR FIRST CMV-254

Starting memory address = 0
Ending memory address = 1024K
CSR address = 17772100 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR FIRST CMV-254

Note that jumper pairs A & B, C & D, K & L, S & T, 15 & 16 and +5V & +5VB are each located on the board with a common pin between them. Installing a jumper on pin A, for example, means making a connection, either by a shorting plug or by wire wrapping, between pin A and the common pin (with no connection to pin B). In the same way, installing a jumper on pin B means making a connection between pin B and the common pin (with no connection to pin A). To strap the first CMV-254, proceed as follows:

1. INSTALL the following jumpers:

B, C, K, T, J, H, G, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15

2. The following jumpers are REMOVED:
A, D, L, S, 13, 14, 16

PARAMETERS FOR SECOND CMV-254

Starting memory address = 1024K
Ending memory address = 2048K
CSR address = 17772102 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR SECOND CMV-254

1. INSTALL the following jumpers:

B, C, K, T, H, G, 1, 2, 3, 3, 5, 6, 7, 10, 11 12, 13, 16

2. The following jumpers are REMOVED:

A, D, L, S, J, 8, 9, 14, 15

ALTERNATE STARTING AND ENDING ADDRESS JUMPER CONNECTIONS

The jumper connections for alternate starting and ending addresses are the same as those for the CMV-504 module (see above).

STRAPPING THE CMV-500 512K-BYTE MEMORY MODULE

These instructions cover the strapping of up to two CMV-500 512K-byte memory modules. Refer to Figure 4-6 for the location of jumper pins. For each board, both the default (i.e. as-shipped) parameters and the corresponding strapping instructions are given. Note that the functions of these jumpers are the same as those of the CMV-504 memory module.

PARAMETERS FOR FIRST CMV-500

Starting memory address = 0
Ending memory address = 512K
CSR address = 17772100 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR FIRST CMV-500

Note that jumper pairs A & B, C & D, K & L, S & T, 15 & 16 and +5V & +5VB are each located on the board with a common pin between them. Installing a jumper on pin A, for example, means making a connection, either by a shorting plug or by wire wrapping, between pin A and the common pin (with no connection to pin B). In the same way, installing a jumper on pin B means making a connection between pin B and the common pin (with no connection to pin A). To strap the first CMV-500, proceed as follows:

1. INSTALL the following jumpers:

B, C, K, T, J, H, G, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15

2. The following jumpers are REMOVED:

A, D, L, S, 12, 13, 14, 16

PARAMETERS FOR SECOND CMV-500

Starting memory address = 500K
Ending memory address = 1024K
CSR address = 17772102 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR SECOND CMV-500

1. INSTALL the following jumpers:

B, C, K, T, H, G, 1, 2, 3, 4, 5, 6, 10, 11
12, 16

2. The following jumpers are REMOVED:

A, D, L, S, J, 7, 8, 9, 13, 14, 15

JUMPER SETTINGS FOR ALTERNATE STARTING AND ENDING MEMORY ADDRESSES FOR CMV-500 AND CMV-250.

NOTE: The following tables apply to both the CMV-500 and the CMV-250. For the CMV-250 strapping instructions, see below.

The following tables list the jumper settings for starting and ending memory addresses that differ from the SMS factory-shipped default values.

STARTING AND ENDING ADDRESS JUMPER CONNECTIONS
IN 128K-BYTE INCREMENTS (CMV-500 and CMV-250)

DESIRED STARTING ADDRESS (K BYTES)	STARTING ADDRESS JUMPER CONNECTIONS (SEE FIGURE 4-6)										
	1	2	3	4	5	6	7	8	9	15	16
0	I	I	I	I	I	I	I	I	I	I	R
128	I	I	I	I	R	R	R	R	R	R	I
256	I	I	I	I	I	R	R	R	R	R	I
384	I	I	I	I	R	I	R	R	R	R	I
512	I	I	I	I	I	I	R	R	R	R	I
640	I	I	I	I	R	R	I	R	R	R	I
768	I	I	I	I	I	R	I	R	R	R	I

16	I	R	R	R	R	R	R	R	R	R	I
24	R	I	R	R	R	R	R	R	R	R	I
32	I	I	R	R	R	R	R	R	R	R	I
40	R	R	I	R	R	R	I	R	R	R	I
48	I	R	I	R	R	R	R	R	R	R	I
56	R	I	I	R	R	R	R	R	R	R	I
64	I	I	I	R	R	R	R	R	R	R	I
72	R	R	R	I	R	R	R	R	R	R	I
80	I	R	R	I	R	R	R	R	R	R	I
88	R	I	R	I	R	R	R	R	R	R	I
96	I	I	R	I	R	R	R	R	R	R	I
104	R	R	I	I	R	R	R	R	R	R	I
112	I	R	I	I	R	R	R	R	R	R	I
120	R	I	I	I	R	R	R	R	R	R	I
128	I	I	I	I	R	R	R	R	R	R	I
136	R	R	R	R	I	R	R	R	R	R	I
144	I	R	R	R	I	R	R	R	R	R	I
152	R	I	R	R	I	R	R	R	R	R	I
160	I	I	R	R	I	R	R	R	R	R	I
168	R	R	I	R	I	R	R	R	R	R	I
176	I	R	I	R	I	R	R	R	R	R	I
184	R	I	I	R	I	R	R	R	R	R	I
192	I	I	I	R	I	R	R	R	R	R	I
200	R	R	R	I	I	R	R	R	R	R	I
208	I	R	R	I	I	R	R	R	R	R	I
216	R	I	R	I	I	R	R	R	R	R	I
224	I	I	R	I	I	R	R	R	R	R	I
232	R	R	I	I	I	R	R	R	R	R	I
240	I	R	I	I	I	R	R	R	R	R	I
248	R	I	I	I	I	R	R	R	R	R	I
256	I	I	I	I	I	R	R	R	R	R	I

LEGEND: I = INSTALLED
R = REMOVED

NOTE: The above tables apply to both the CMV-500 and the CMV-250.

STRAPPING THE CMV-250 256K-BYTE MEMORY MODULE

These instructions cover the strapping of up to two CMV-250 256K-byte memory modules. Refer to Figure 4-6 for the location of jumper pins. For each board, both the default (i.e. as-shipped) parameters and the corresponding strapping instructions are given. Note that the functions of these jumpers are the same as those of the CMV-504 memory module.

PARAMETERS FOR FIRST CMV-250

Starting memory address = 0
Ending memory address = 256K
CSR address = 17772100 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

STRAPPING PROCEDURE FOR FIRST CMV-250

Note that jumper pairs A & B, C & D, K & L, S & T, 15 & 16 and +5V & +5VB are each located on the board with a common pin between them. Installing a jumper on pin A, for example, means making a connection, either by a shorting plug or by wire wrapping, between pin A and the common pin (with no connection to pin B). In the same way, installing a jumper on pin B means making a connection between pin B and the common pin (with no connection to pin A). To strap the first CMV-250, proceed as follows:

1. INSTALL the following jumpers:

   B, C, G, H, J, K, T, 1, 2, 3, 4, 5,
   6, 7, 8, 9, 10, 15

2. The following jumpers are REMOVED:

   A, D, L, S, 11, 12, 13, 14, 16

PARAMETERS FOR SECOND CMV-250

Starting memory address = 256K
Ending memory address = 512K
CSR address = 17772102 (octal)
CSR parity enabled
22-bit CSR address
I/O page size = 4K words
Block mode enabled

channels as 1, 2, 3 and 4. Later versions use the DEC designations. Throughout this documentation of the DLV11-J the four channels are referred to as 0, 1, 2 and 3.

The following table describes the default jumper configuration for DLV11-J boards as shipped by Scientific Micro Systems. Refer to Figures 4-7A (DEC) and 4-7B (Camintonn) for jumper locations. Also included is a discussion of alternate jumper connections in order to produce other configurations.

TABLE 4-16A (DEC)

DLV11-J (DEC)

SMS-SHIPPED JUMPER CONFIGURATIONS
FOR FIRST AND SECOND DLV11-J's (see Figure 4-7A)

JUMPER DESIGNATION	SMS-SHIPPED CONFIGURATION	REMARKS
ADDRESS AND VECTOR JUMPERS FOR FIRST DLV11-J		
A/5 (bit 5)	X to 0	This connection of jumpers A/5 through A/12 implements the (octal) device base-address assignment of 176500 for the RCSR register of channel 0 (first DLV11-J). For a complete list of the register base-addresses for each channel see Table 4-17 at the end of this table.
A/6 (bit 6)	I	
A/7 (bit 7)	R	
A/8 (bit 8)	X to 1	
A/9 (bit 9)	X to 0	
A/10 (bit 10)	X to 1	
A/11 (bit 11)	X to 1	
A/12 (bit 12)	X to 1	
V5 (First DLV11-J)	NONE	Remove jumper to implement an interrupt base vector of 300 (combination of V5, V6, and V7) for FIRST DLV11-J used. See Table 4-17.
V6	I	V6 and V7 set high-order bits in octal base-vector format.
V7	I	
ADDRESS AND VECTOR JUMPERS FOR SECOND DLV11-J		

NOTE: For address and vector jumpers, an installed jumper ("I") produces a bit value of 1; a jumper NOT installed ("R") produces a bit value of 0. Also, an "X to 0" connection produces a bit value of 0, and an "X to 1" connection produces a bit value of 1.