MOVE OPERATIONS

The move operations are for transferring data between registers of two different types. Examples are moves from a special register to an index register or from an index register to an arithmetic register. Most of the instructions involve movement of entire registers or register pairs. However there is a class of move instructions which move single bits to or from the condition register.

Movement of information to or from special registers involve certain interlock considerations which are treated in the section, "Interlocking".
Move Index to Arithmetic

\[ A^i \leftarrow X^j, k \]

Exceptions: none

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Move Arithmetic to Index

\[ X^i, j \leftarrow A^k \]

If \( i = j \), \( X^i \) will be set to \( A^k_{24, \ldots, 47} \).

Exceptions: none
Move Constant to Left Half Arithmetic \( MKL \)

\[
\begin{align*}
A_i^0, 1, 2, \ldots, 23 & \quad +h \\
A_i^{24, 25, 26, \ldots, 47} & \quad +0 [24]
\end{align*}
\]

Exceptions: none

Move Constant to Right Half Arithmetic \( MKR \)

\[
\begin{align*}
A_i^{24, 25, 26, \ldots, 47} & \quad +h \\
\end{align*}
\]

Note that bits \( A_i^{0, 1, 2, \ldots, 23} \) are unchanged.

Exceptions: none
Move Location to Index

MLX

\[ X^i + ia + jk \]

The value of ia is the 24-bit storage location of the MLX instruction. The 10-bit literal jk-field is extended to a 24-bit quantity before the addition by appending 14 high-order bits equal in value to the high order bit of the jk-field. The addition is performed modulo \(2^{24}\).

Exceptions: none

Move Index to Special

MXS

\[ S^i \cdot X^j \]

Exception bit

\[ PV \]

1 \(\geq\) 3 and in problem mode

Move Special to Index

MSX

\[ X^i \cdot S^j \]

Exception bit

\[ PV \]

\( j \geq 3 \) and in problem mode
**Move Special to Index and Zero**

\[ X^i + S^j \]
\[ S^j = 0 \text{ [24]} \]

Exceptions

\( j \geq 3 \) and in problem mode

**Exception bit**

\( PV \)

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**Move Index to Special by Oring**

\[ S^i - S^i \lor X^i \]

Exceptions

\( i \geq 3 \) and in problem mode

**Exception bit**

\( PV \)
Move Index Bit to Condition Bit

MXC

\[ n + x^k \]
\[ c_i + x^j_n \]

If \( n \) exceeds 23, \( c_i \) is set to 0.

Exception

\( c_{24} \) set to 0 or \( c_{25} \) set to 1

Exception bit

CC

Move Condition Bit to Index Bit

MCX

\[ n + x^k \]
\[ X^i_n + c_j \]

If \( n \) exceeds 23, no bit is set.

Exceptions: none

Move Arithmetic Bit to Condition Bit

MAC

\[ n + A^k \]
\[ c_i + A^j_n \]

If \( n \) exceeds 47, \( c_i \) is set to 0.

Exception

\( c_{24} \) set to 0 or \( c_{25} \) set to 1

Exception bit

CC