

X64000 Programming Manual
WestCo

Revision II.2

Addressing modes:

It has 3 instruction encoding: Register to Register, System call, Immediate.

They all start with the same format, opcode, funct3 and funct7, where these differ is after the (funct7), System call addressing takes its values from the stack, where as register to register addressing expects at least two registers within [0, 35], Immediate is quite different, for instance, use 'stw' to store a 64-bit word into a register. or 'lda' to load r0 from a register address. This helps to actually load useful stuff into registers.

The operating system is heavily encouraged to optimize labels at runtime (3:mld:foo).

There is also 'mh' (for machine halt) and is used to halt the cpu (if CL=0)

Figure 1: Register list of the X64000

Register name	Mnemonic
r0	Hardwired Zero
r1	Address 1
r2	Address 2
r3	Address 3
r4	Address 4
r5	Stack
r6	Data 1
r7	Data 2
r8	Data 3
r9	Data 4
r10	Temporary 1
r11	Temporary 2
r12	Temporary 3
r13	Temporary 4
r14	Temporary 5
r15	Temporary 6/Return Register
r16	Unused
r17	Stack Register
r18	Control Register