

# HD61700 INSTRUCTION SET

| Low | High                                  |  |  |  |                 |   |  |                                    |   |  |  |  |   |  |  |                      |
|-----|---------------------------------------|--|--|--|-----------------|---|--|------------------------------------|---|--|--|--|---|--|--|----------------------|
|     | 0                                     | 1  | 2  | 3  | 4               | 5   | 6  | 7                                  | 8                                       | 9  | A  | B  | C   | D  | E  | F                    |
| 0   | ADC \$\$ [JR]<br>ADC \$\$SIR [JR]     | ST \$(,\$) [JR]<br>ST \$(,\$SIR) [JR]                                | ST \$(IX+\$)<br>ST \$(IX-\$)<br>ST \$(IX+\$SIR)<br>ST \$(IX-\$SIR)     | JP Z.IM16  | ADC \$.IM8 [JR] | ST IM8,( \$SIR )  | ST \$(IX+IM8)<br>ST \$(IX-IM8)                                 | CAL Z.IM16                         | ADCW \$\$ [JR]<br>ADCW \$\$SIR [JR]     | STW \$(,\$) [JR]<br>STW \$(,\$SIR) [JR]                              | STW \$(IX+\$)<br>STW \$(IX-\$)<br>STW \$(IX+\$SIR)<br>STW \$(IX-\$SIR)     | JR Z,+IM7<br>JR Z,-IM7   | ADBCM \$.IM3 [JR]<br>ADBCM \$.SIRIM3 [JR] | STW IM16,( \$SIR )                                       | STM \$(IX+\$).IM3<br>STM \$(IX-\$).IM3<br>STM \$(IX+\$SIR ).IM3<br>STM \$(IX-\$SIR ).IM3     | RTN Z                |
| 1   | SBC \$\$ [JR]<br>SBC \$\$SIR [JR]     | LD \$(,\$) [JR]<br>LD \$(,\$SIR) [JR]                                | ST \$(IZ+\$)<br>ST \$(IZ-\$)<br>ST \$(IZ+\$SIR)<br>ST \$(IZ-\$SIR)     | JP NC.IM16   | SBC \$.IM8 [JR] | ST IM8,\$   | ST \$(IZ+IM8)<br>ST \$(IZ-IM8)                                 | CAL NC.IM16                        | SBCW \$\$ [JR]<br>SBCW \$\$SIR [JR]     | LDW \$(,\$) [JR]<br>LDW \$(,\$SIR) [JR]                              | STW \$(IZ+\$)<br>STW \$(IZ-\$)<br>STW \$(IZ+\$SIR)<br>STW \$(IZ-\$SIR)     | JR NC,+IM7<br>JR NC,-IM7   | SBBCM \$.IM3 [JR]<br>SBBCM \$.SIRIM3 [JR] | LDW \$.IM16  | STM \$(IZ+\$).IM3<br>STM \$(IZ-\$).IM3<br>STM \$(IZ+\$SIR ).IM3<br>STM \$(IZ-\$SIR ).IM3     | RTN NC               |
| 2   | LD \$. \$ [JR]<br>LD \$. \$SIR [JR]   | STL \$ [JR]  | STI \$(IX+\$)<br>STI \$(IX-\$)<br>STI \$(IX+\$SIR)<br>STI \$(IX-\$SIR) | JP LZ.IM16   | LD \$.IM8 [JR]  | STL IM8   | STI \$(IX+IM8)<br>STI \$(IX-IM8)                               | CAL LZ.IM16                        | LDW \$. \$ [JR]<br>LDW \$. \$SIR [JR]   | STLW \$ [JR]   | STIW \$(IX+\$)<br>STIW \$(IX-\$)<br>STIW \$(IX+\$SIR)<br>STIW \$(IX-\$SIR) | JR LZ,+IM7<br>JR LZ,-IM7   | LDM \$.IM3 [JR]<br>LDM \$.SIRIM3 [JR]     | STLM \$.IM3  | STIM \$(IX+\$).IM3<br>STIM \$(IX-\$).IM3<br>STIM \$(IX+\$SIR ).IM3<br>STIM \$(IX-\$SIR ).IM3 | RTN LZ               |
| 3   | LDC \$. \$ [JR]<br>LDC \$. \$SIR [JR] | LDL \$ [JR]  | STI \$(IZ+\$)<br>STI \$(IZ-\$)<br>STI \$(IZ+\$SIR)<br>STI \$(IZ-\$SIR) | JP UZ.IM16   | LDC \$.IM8 [JR] | ( Compatible with 13H<br>no jump extension )<br>( LDL \$ )          | STI \$(IZ+IM8)<br>STI \$(IZ-IM8)                               | CAL UZ.IM16                        | LDCW \$. \$ [JR]<br>LDCW \$. \$SIR [JR] | LDLW \$ [JR]   | STIW \$(IZ+\$)<br>STIW \$(IZ-\$)<br>STIW \$(IZ+\$SIR)<br>STIW \$(IZ-\$SIR) | JR UZ,+IM7<br>JR UZ,-IM7   | LDCM \$.IM3 [JR]<br>LDCM \$.SIRIM3 [JR]   | LDLM \$.IM3  | STIM \$(IZ+\$).IM3<br>STIM \$(IZ-\$).IM3<br>STIM \$(IZ+\$SIR ).IM3<br>STIM \$(IZ-\$SIR ).IM3 | RTN UZ               |
| 4   | ANC \$. \$ [JR]<br>ANC \$. \$SIR [JR] | PPO \$ [JR]<br>PFL \$ [JR]   | STD \$(IX+\$)<br>STD \$(IX-\$)<br>STD \$(IX+\$SIR)<br>STD \$(IX-\$SIR) | JP NZ.IM16   | ANC \$.IM8 [JR] | PPO IM8<br>PFL IM8  | STD \$(IX+IM8)<br>STD \$(IX-IM8)                               | CAL NZ.IM16                        | ANCW \$. \$ [JR]<br>ANCW \$. \$SIR [JR] | PPOW \$ [JR]   | STDW \$(IX+\$)<br>STDW \$(IX-\$)<br>STDW \$(IX+\$SIR)<br>STDW \$(IX-\$SIR) | JR NZ,+IM7<br>JR NZ,-IM7   | ANCM \$.IM3 [JR]<br>ANCM \$.SIRIM3 [JR]   | PPOM \$.IM3  | STDM \$(IX+\$).IM3<br>STDM \$(IX-\$).IM3<br>STDM \$(IX+\$SIR ).IM3<br>STDM \$(IX-\$SIR ).IM3 | RTN NZ               |
| 5   | NAC \$. \$ [JR]<br>NAC \$. \$SIR [JR] | PSR SX,\$ [JR]<br>PSR SY,\$ [JR]<br>PSR SZ,\$ [JR]                   | STD \$(IZ+\$)<br>STD \$(IZ-\$)<br>STD \$(IZ+\$SIR)<br>STD \$(IZ-\$SIR) | JP CJ.IM16   | NAC \$.IM8 [JR] | PSR SX.IM5<br>PSR SY.IM5<br>PSR SZ.IM5                              | STD \$(IZ+IM8)<br>STD \$(IZ-IM8)                               | CAL CJ.IM16                        | NACW \$. \$ [JR]<br>NACW \$. \$SIR [JR] | PSRW SX,\$ [JR]<br>PSRW SY,\$ [JR]<br>PSRW SZ,\$ [JR]                | STDW \$(IZ+\$)<br>STDW \$(IZ-\$)<br>STDW \$(IZ+\$SIR)<br>STDW \$(IZ-\$SIR) | JR C,+IM7<br>JR C,-IM7   | NACM \$.IM3 [JR]<br>NACM \$.SIRIM3 [JR]   | PSRM SX.IM3<br>PSRM SY.IM3<br>PSRM SZ.IM3                | STDM \$(IZ+\$).IM3<br>STDM \$(IZ-\$).IM3<br>STDM \$(IZ+\$SIR ).IM3<br>STDM \$(IZ-\$SIR ).IM3 | RTN C                |
| 6   | ORC \$. \$ [JR]<br>ORC \$. \$SIR [JR] | PST PE,\$ [JR]<br>PST PD,\$ [JR]<br>PST IB,\$ [JR]<br>PST UA,\$ [JR] | PHS \$   | JP NLZ.IM16<br>(JP LNZ.IM16)   | ORC \$.IM8 [JR] | PST PE.IM8<br>PST PD.IM8<br>PST IB.IM8<br>PST UA.IM8                | ( Compatible with 26H<br>but 3byte instruction )<br>( PHS \$ ) | CAL NLZ.IM16<br>(CAL LNZ.IM16)     | ORCW \$. \$ [JR]<br>ORCW \$. \$SIR [JR] | PRE IX,\$ [JR]<br>PRE IY,\$ [JR]<br>PRE IZ,\$ [JR]<br>PRE US,\$ [JR] | PHSW \$  | JR NLZ,+IM7<br>JR NLZ,-IM7<br>(JR LNZ,+IM7)<br>(JR LNZ,-IM7)                     | ORCM \$.IM3 [JR]<br>ORCM \$.SIRIM3 [JR]   | PRE IX.IM16<br>PRE IY.IM16<br>PRE IZ.IM16<br>PRE US.IM16 | PHSM \$.IM3  | RTN NLZ<br>(RTN LNZ) |
| 7   | XRC \$. \$ [JR]<br>XRC \$. \$SIR [JR] | PST IA,\$ [JR]<br>PST IE,\$ [JR]                                     | PHU \$   | JP IM16  | XRC \$.IM8 [JR] | PST IA.IM8<br>PST IE.IM8  | ( Compatible with 27H<br>but 3byte instruction )<br>( PHU \$ ) | CAL IM16                           | XRCW \$. \$ [JR]<br>XRCW \$. \$SIR [JR] | PRE SS,\$ [JR]   | PHUW \$  | JR +IM7<br>JR -IM7   | XRCM \$.IM3 [JR]<br>XRCM \$.SIRIM3 [JR]   | PRE SS.IM16  | PHUM \$.IM3  | RTN                  |
| 8   | AD \$. \$ [JR]<br>AD \$. \$SIR [JR]   | ROD \$ [JR]<br>ROU \$ [JR]<br>BID \$ [JR]<br>BIU \$ [JR]             | LD \$(IX+\$)<br>LD \$(IX-\$)<br>LD \$(IX+\$SIR)<br>LD \$(IX-\$SIR)     | ADC (IX+\$).\$<br>ADC (IX-\$).\$<br>ADC (IX+\$SIR ).\$<br>ADC (IX-\$SIR ).\$ | AD \$.IM8 [JR]  | BUPS IM8  | LD \$(IX+IM8)<br>LD \$(IX-IM8)                                 | ADC (IX+IM8).\$<br>ADC (IX-IM8).\$ | ADW \$. \$ [JR]<br>ADW \$. \$SIR [JR]   | RODW \$ [JR]<br>ROUW \$ [JR]<br>BIDW \$ [JR]<br>BIUW \$ [JR]         | LDW \$(IX+\$)<br>LDW \$(IX-\$)<br>LDW \$(IX+\$SIR)<br>LDW \$(IX-\$SIR)     | ADCW (IX+\$).\$<br>ADCW (IX-\$).\$<br>ADCW (IX+\$SIR ).\$<br>ADCW (IX-\$SIR ).\$ | ADBM \$.IM3 [JR]<br>ADBM \$.SIRIM3 [JR]   | BUP  | LDM \$(IX+\$).IM3<br>LDM \$(IX-\$).IM3<br>LDM \$(IX+\$SIR ).IM3<br>LDM \$(IX-\$SIR ).IM3     | NOP                  |
| 9   | SB \$. \$ [JR]<br>SB \$. \$SIR [JR]   | ( Compatible with 18H<br>( ROD/ROU/BID/BIU )                         | LD \$(IZ+\$)<br>LD \$(IZ-\$)<br>LD \$(IZ+\$SIR)<br>LD \$(IZ-\$SIR)     | ADC (IZ+\$).\$<br>ADC (IZ-\$).\$<br>ADC (IZ+\$SIR ).\$<br>ADC (IZ-\$SIR ).\$ | SB \$.IM8 [JR]  | BDNS IM8  | LD \$(IZ+IM8)<br>LD \$(IZ-IM8)                                 | ADC (IZ+IM8).\$<br>ADC (IZ-IM8).\$ | SBW \$. \$ [JR]<br>SBW \$. \$SIR [JR]   | ( Compatible with 98H<br>( RODW/ROUW/BIDW<br>/BIUW )                 | LDW \$(IZ+\$)<br>LDW \$(IZ-\$)<br>LDW \$(IZ+\$SIR)<br>LDW \$(IZ-\$SIR)     | ADCW (IZ+\$).\$<br>ADCW (IZ-\$).\$<br>ADCW (IZ+\$SIR ).\$<br>ADCW (IZ-\$SIR ).\$ | SBBM \$.IM3 [JR]<br>SBBM \$.SIRIM3 [JR]   | BDN  | LDM \$(IZ+\$).IM3<br>LDM \$(IZ-\$).IM3<br>LDM \$(IZ+\$SIR ).IM3<br>LDM \$(IZ-\$SIR ).IM3     | CLT                  |
| A   | ADB \$. \$ [JR]<br>ADB \$. \$SIR [JR] | DID \$ [JR]<br>DIU \$ [JR]<br>BYD \$ [JR]<br>BYU \$ [JR]             | LDI \$(IX+\$)<br>LDI \$(IX-\$)<br>LDI \$(IX+\$SIR)<br>LDI \$(IX-\$SIR) | SBC (IX+\$).\$<br>SBC (IX-\$).\$<br>SBC (IX+\$SIR ).\$<br>SBC (IX-\$SIR ).\$ | ADB \$.IM8 [JR] | ( Compatible with 1AH<br>no jump extension )<br>( DID/DIU/BYD/BIU ) | LDI \$(IX+IM8)<br>LDI \$(IX-IM8)                               | SBC (IX+IM8).\$<br>SBC (IX-IM8).\$ | ADBW \$. \$ [JR]<br>ADBW \$. \$SIR [JR] | DIDW \$ [JR]<br>DIUW \$ [JR]<br>BYDW \$ [JR]<br>BYUW \$ [JR]         | LDIW \$(IX+\$)<br>LDIW \$(IX-\$)<br>LDIW \$(IX+\$SIR)<br>LDIW \$(IX-\$SIR) | SBCW (IX+\$).\$<br>SBCW (IX-\$).\$<br>SBCW (IX+\$SIR ).\$<br>SBCW (IX-\$SIR ).\$ | ADBM \$.IM5.IM3 [JR]                      | DIDM \$.IM3<br>DIUM \$.IM3<br>BYDM \$.IM3<br>BYUM \$.IM3 | LDM \$(IX+\$).IM3<br>LDM \$(IX-\$).IM3<br>LDM \$(IX+\$SIR ).IM3<br>LDM \$(IX-\$SIR ).IM3     | FST                  |
| B   | SBB \$. \$ [JR]<br>SBB \$. \$SIR [JR] | CMP \$ [JR]<br>INV \$ [JR]   | LDI \$(IZ+\$)<br>LDI \$(IZ-\$)<br>LDI \$(IZ+\$SIR)<br>LDI \$(IZ-\$SIR) | SBC (IZ+\$).\$<br>SBC (IZ-\$).\$<br>SBC (IZ+\$SIR ).\$<br>SBC (IZ-\$SIR ).\$ | SBB \$.IM8 [JR] | ( Compatible with 1BH<br>no jump extension )<br>( CMP/INV )         | LDI \$(IZ+IM8)<br>LDI \$(IZ-IM8)                               | SBC (IZ+IM8).\$<br>SBC (IZ-IM8).\$ | SBBW \$. \$ [JR]<br>SBBW \$. \$SIR [JR] | CMPW \$ [JR]<br>INWV \$ [JR]   | LDIW \$(IZ+\$)<br>LDIW \$(IZ-\$)<br>LDIW \$(IZ+\$SIR)<br>LDIW \$(IZ-\$SIR) | SBCW (IZ+\$).\$<br>SBCW (IZ-\$).\$<br>SBCW (IZ+\$SIR ).\$<br>SBCW (IZ-\$SIR ).\$ | SBBM \$.IM5.IM3 [JR]                      | CMPM \$.IM3<br>INVM \$.IM3                               | LDM \$(IZ+\$).IM3<br>LDM \$(IZ-\$).IM3<br>LDM \$(IZ+\$SIR ).IM3<br>LDM \$(IZ-\$SIR ).IM3     | SLW                  |
| C   | AN \$. \$ [JR]<br>AN \$. \$SIR [JR]   | GPO \$ [JR]<br>GFL \$ [JR]   | LDD \$(IX+\$)<br>LDD \$(IX-\$)<br>LDD \$(IX+\$SIR)<br>LDD \$(IX-\$SIR) | AD (IX+\$).\$<br>AD (IX-\$).\$<br>AD (IX+\$SIR ).\$<br>AD (IX-\$SIR ).\$     | AN \$.IM8 [JR]  | SUP IM8   | LDD \$(IX+IM8)<br>LDD \$(IX-IM8)                               | AD (IX+IM8).\$<br>AD (IX-IM8).\$   | ANW \$. \$ [JR]<br>ANW \$. \$SIR [JR]   | GPOW \$ [JR]<br>GFLW \$ [JR]   | LDDW \$(IX+\$)<br>LDDW \$(IX-\$)<br>LDDW \$(IX+\$SIR)<br>LDDW \$(IX-\$SIR) | ADW (IX+\$).\$<br>ADW (IX-\$).\$<br>ADW (IX+\$SIR ).\$<br>ADW (IX-\$SIR ).\$     | ANM \$.IM3 [JR]<br>ANM \$.SIRIM3 [JR]     | SUP \$   | LDDM \$(IX+\$).IM3<br>LDDM \$(IX-\$).IM3<br>LDDM \$(IX+\$SIR ).IM3<br>LDDM \$(IX-\$SIR ).IM3 | CAN                  |
| D   | NA \$. \$ [JR]<br>NA \$. \$SIR [JR]   | GSR SX,\$ [JR]<br>GSR SY,\$ [JR]<br>GSR SZ,\$ [JR]                   | LDD \$(IZ+\$)<br>LDD \$(IZ-\$)<br>LDD \$(IZ+\$SIR)<br>LDD \$(IZ-\$SIR) | AD (IZ+\$).\$<br>AD (IZ-\$).\$<br>AD (IZ+\$SIR ).\$<br>AD (IZ-\$SIR ).\$     | NA \$.IM8 [JR]  | SDN IM8   | LDD \$(IZ+IM8)<br>LDD \$(IZ-IM8)                               | AD (IZ+IM8).\$<br>AD (IZ-IM8).\$   | NAW \$. \$ [JR]<br>NAW \$. \$SIR [JR]   | GSRW SX,\$ [JR]<br>GSRW SY,\$ [JR]<br>GSRW SZ,\$ [JR]                | LDDW \$(IZ+\$)<br>LDDW \$(IZ-\$)<br>LDDW \$(IZ+\$SIR)<br>LDDW \$(IZ-\$SIR) | ADW (IZ+\$).\$<br>ADW (IZ-\$).\$<br>ADW (IZ+\$SIR ).\$<br>ADW (IZ-\$SIR ).\$     | NAM \$.IM3 [JR]<br>NAM \$.SIRIM3 [JR]     | SDN \$   | LDDM \$(IZ+\$).IM3<br>LDDM \$(IZ-\$).IM3<br>LDDM \$(IZ+\$SIR ).IM3<br>LDDM \$(IZ-\$SIR ).IM3 | RTNI                 |
| E   | OR \$. \$ [JR]<br>OR \$. \$SIR [JR]   | GST PE,\$ [JR]<br>GST PD,\$ [JR]<br>GST IB,\$ [JR]<br>GST UA,\$ [JR] | PPS \$   | SB (IX+\$).\$<br>SB (IX-\$).\$<br>SB (IX+\$SIR ).\$<br>SB (IX-\$SIR ).\$     | OR \$.IM8 [JR]  | ( Compatible with 1EH<br>no jump extension )<br>( GST PE/PD/IB/UA ) | ( Compatible with 2EH<br>but 3byte instruction )<br>( PPS \$ ) | SB (IX+IM8).\$<br>SB (IX-IM8).\$   | ORW \$. \$ [JR]<br>ORW \$. \$SIR [JR]   | GRE IX,\$ [JR]<br>GRE IY,\$ [JR]<br>GRE IZ,\$ [JR]<br>GRE US,\$ [JR] | PPSW \$  | SBW (IX+\$).\$<br>SBW (IX-\$).\$<br>SBW (IX+\$SIR ).\$<br>SBW (IX-\$SIR ).\$     | ORM \$.IM3 [JR]<br>ORM \$.SIRIM3 [JR]     | JP \$  | PPSM \$.IM3  | OFF                  |
| F   | XR \$. \$ [JR]<br>XR \$. \$SIR [JR]   | GST IA,\$ [JR]<br>GST IE,\$ [JR]<br>GST TM,\$ [JR]                   | PPU \$   | SB (IZ+\$).\$<br>SB (IZ-\$).\$<br>SB (IZ+\$SIR ).\$<br>SB (IZ-\$SIR ).\$     | XR \$.IM8 [JR]  | ( Compatible with 1FH<br>no jump extension )<br>( GST IA/IE/TM )    | ( Compatible with 2FH<br>but 3byte instruction )<br>( PPU \$ ) | SB (IZ+IM8).\$<br>SB (IZ-IM8).\$   | XRW \$. \$ [JR]<br>XRW \$. \$SIR [JR]   | GRE SS,\$ [JR]<br>GRE KY,\$ [JR]                                     | PPUW \$  | SBW (IZ+\$).\$<br>SBW (IZ-\$).\$<br>SBW (IZ+\$SIR ).\$<br>SBW (IZ-\$SIR ).\$     | XRM \$.IM3 [JR]<br>XRM \$.SIRIM3 [JR]     | JP (\$)  | PPUM \$.IM3  | TRP                  |

| Symbol | Comment  |
|--------|--|
| \$     | MAIN Register ( \$0 - \$31 )   |
| SIR    | Specific Index Register. 'SX/SY/SZ' ( Casio's setting : SX=31 , SY=30 , SZ=0 ) |
| [JR]   | Jump Extension (This is possible omission)                                     |
| IM3    | 3bit Immediate (2 - 8)   |
| IM5    | 5bit Immediate (0 - 31)  |
| IM7    | 7bit Immediate (0 - 127)   |
| IM8    | 8bit Immediate (0 - 255)   |
| IM16   | 16bit Immediate (0 - 65535)  |