In the example below, the PLC sets up a move of one of eight positions pre-programmed in the SLA. The wiring connections between the PLC and the SLA are as follows:

PLC	SLA	Signal name
X10	O0	SLA_READY
Y10	I1	TRIGGER_SLA
Y11	I2	POSBIT0
Y12	I3	POSBIT1
Y13	I4	POSBIT2

PLC Logic:

1. Wait for SLA_READY

2. Set up position code
   0 to 7. This can be done
   with the OUTF box. See
   p.286 of DL06UM1.pdf.

3. Turn on TRIGGER_SLA

4. Wait for SLA_READY
   to go low, then turn off
   TRIGGER_SLA.

5. Wait for SLA_READY to go
   high.

6. Go on with other logic

SLA Logic:

1. WHILE 1   Loop forever

2. O0=1   Signal PLC ready

3. WHILE I1==0 LOOP   Wait for PLC go signal

4. O0=0   Signal PLC we're moving

5. d=I2   Input position code
   e=I3*2
   f=I4*4
   g=d+e+f

6. IF g==1 h=....   set position value
   P=h

7. G   Go!

8. TWAIT   Wait for motion to end

9. WHILE I1==1 LOOP   Be sure PLC saw our sig

10. O1=1   Tell PLC we're ready

11. LOOP   End of forever loop

```
'Example program sla4.src  2009-05-27  Ralph Stirling
'I/O:
'     O1: output, READY signal to PLC
'     I1: input, TRIGGER from PLC
'     I2: input, POS1 from PLC
'     I3: input, POS2 from PLC
'     I4: input, POS3 from PLC

'I4 I3 I2
'0  0  0    move to pos#0
'0  0  1    move to pos#1
'0  1  0    move to pos#2
'0  1  1    move to pos#3
'1  0  0    move to pos#4
'1  0  1    move to pos#5
'1  1  0    move to pos#6
'1  1  1    move to pos#7

' Setup servo parameters
KP=400      ' proportional gain
KI=30 ' integral gain
KD=200      ' derivative gain
F     ' load parameters

BRKRLS        ' release brake

ZS    ' clear status word, including limit bits

WHILE 1      ' loop forever
     O1=1               ' let PLC know we're ready
     WHILE I1==0 LOOP   ' wait for trigger from PLC

     d=I2               'xx1 or xx0
     e=I3*2                 'x1x or x0x
     f=I4*4                 '1xx or 0xx
     g=d+e+f                'all bits together

     O1=0               ' not READY now

     IF g==0 h=1000 ENDIF    ' pos#0 is 1000 (200 cnts/mm * 5mm)
     IF g==1 h=2000 ENDIF    ' pos#1 is 2000
     IF g==2 h=2500 ENDIF    ' pos#2 is 2500
     IF g==3 h=4000 ENDIF    ' pos#3 is 4000
     IF g==4 h=3000 ENDIF    ' pos#4 is 3000
     IF g==5 h=5500 ENDIF    ' pos#5 is 5500
     IF g==6 h=6000 ENDIF    ' pos#6 is 6000
     IF g==7 h=7000 ENDIF    ' pos#7 is 7000

     ' do move now

     V=1*32212          ' 1 rev/sec (60 RPM)
     A=80               ' 10 rev/sec^2

     P=h
     G                  ' GO!
     TWAIT              ' wait for done

     WHILE I1==1 LOOP   ' be sure PLC saw our O1=0
     O1=1               ' back to READY
LOOP                    ' loop back to start
```