**ADC0804 Single Conversion Program**

**Read a conversion from ADC0804 interfaced with 8088 CPU through 8255 PPI. ADC is interfaced with PPI using Group B lines according to the following configuration.**

1. **ADC0804 data bus (D7…D0) with PortB (PB7…PB0), respectively**
2. **CS of ADC with PC0 of PPI**
3. **RD of ADC with PC1 of PPI**
4. **WR of ADC with PC2 of PPI**
5. **INTR of ADC with PC3 of PPI**

**PPI is interfaced with CPU at following addresses:**

**PORTB => 95H, PORTC => 96H and Control Word => 97H**

**Program:**

**;SUBROUTINE CONFIGURES PPI GROUPB LINES**

**CONFIG\_PPI:**

**MOV AL, 82H ;PORTB AS INPUT, PORTC AS OUTPUT**

**OUT 97H, AL**

**MOV AL, 0FH**

**OUT 96H, AL ;ALL PORTC LINES AT LOGIC 1**

**RET**

**;SUBROUTINE READS SINGLE CONVERSION**

**;AND LEAVES RESULT IN BH**

**ADC0804:**

**MOV AL, 0AH ;ADC CONTROL LINES VALUES**

**OUT 96H, AL**

**MOV AL, 07H ;PC3 ONLY IS INPUT**

**OUT 97, AL**

**POLL:**

**IN AL, 96H ;READ PORTC**

**AND AL, 08H ;MASK TO SEE IF PC3 IS LOGIC 0**

**CMP AL, 00H ;IS PC3 LOGIC 0?**

**JNE POLL ;CHECK UNTILL IT IS LOGIC 1**

**MOV AL, 82H ;PORTB AS INPUT, PORTC AS OUTPUT**

**OUT 97H, AL**

**MOV AL, 0CH**

**OUT 96H, AL ;RD and CS AT LOGIC 0**

**IN AL, 95H ;READ CONVERSION OTHERWISE**

**MOV BH, AL ;SAVE RESULT AT DESIRED LOCATION**

**RET**

**START:**

**CALL CONFIG\_PPI**

**CALL ADC0804**

**END**