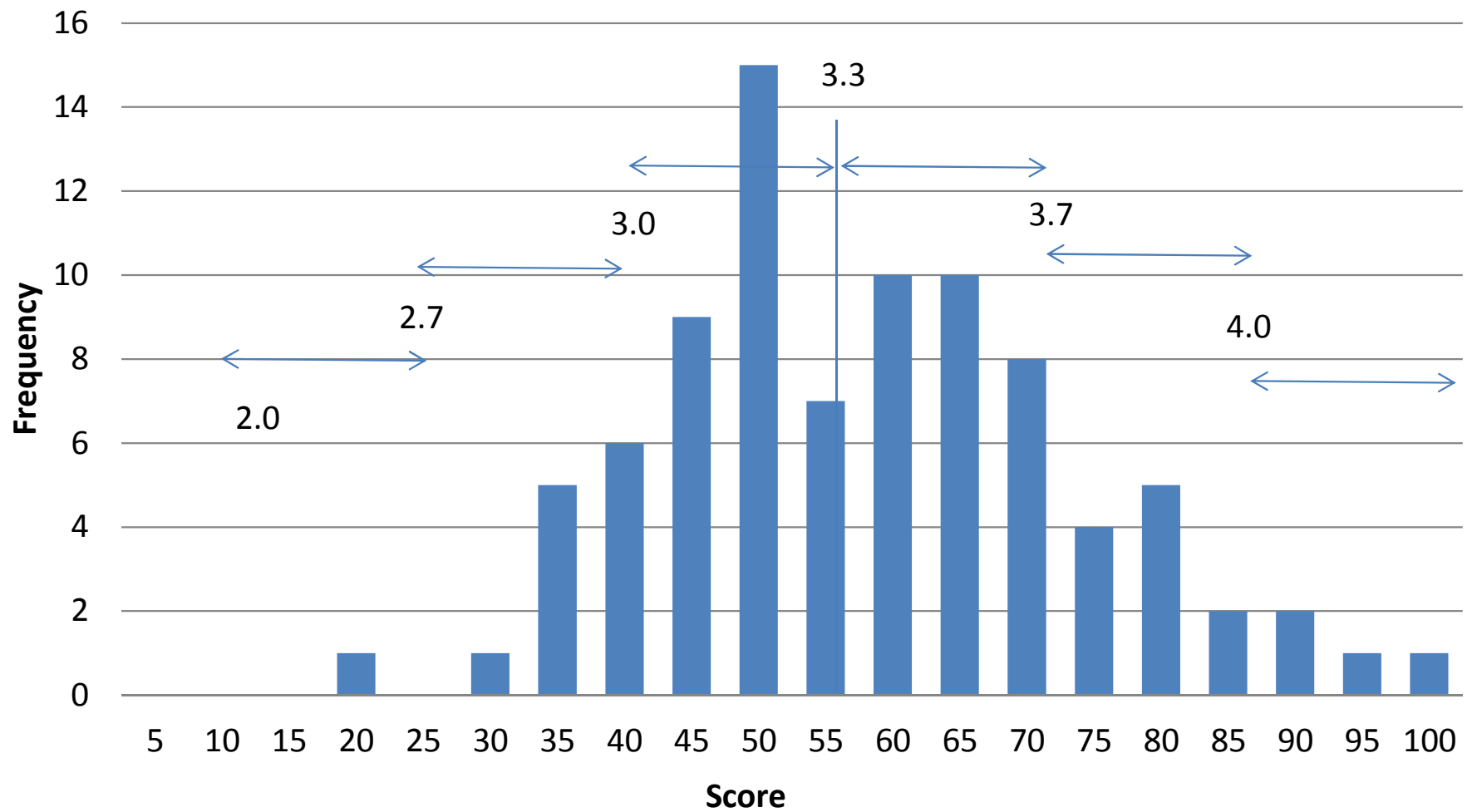


Physics 335 Exam Scores, Spring 2014



I MADE A MISTAKE ...



I FORGOT ABOUT THE DEBUGGER.

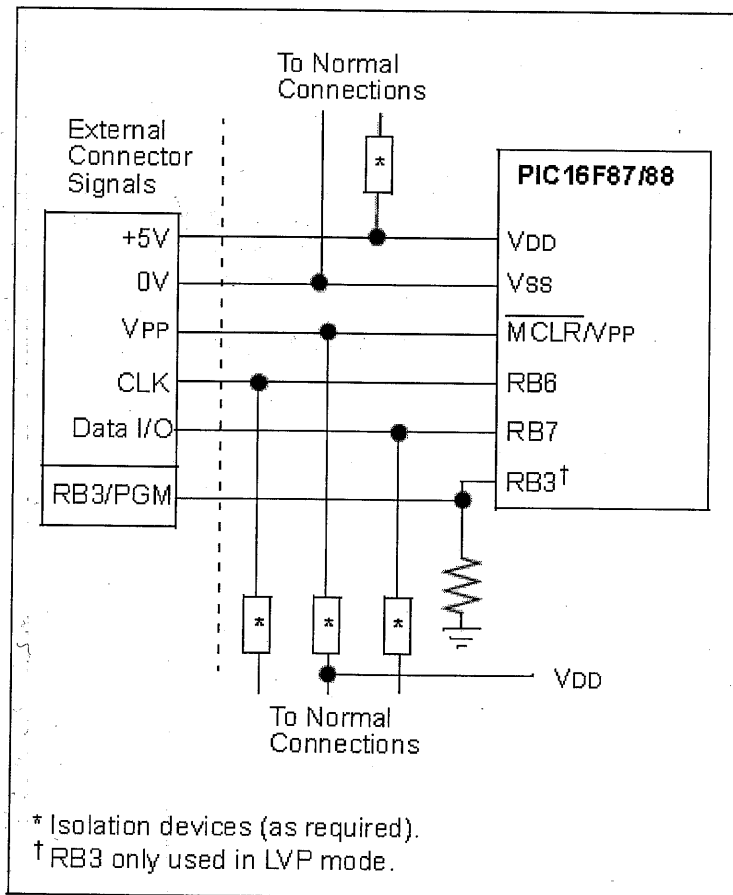
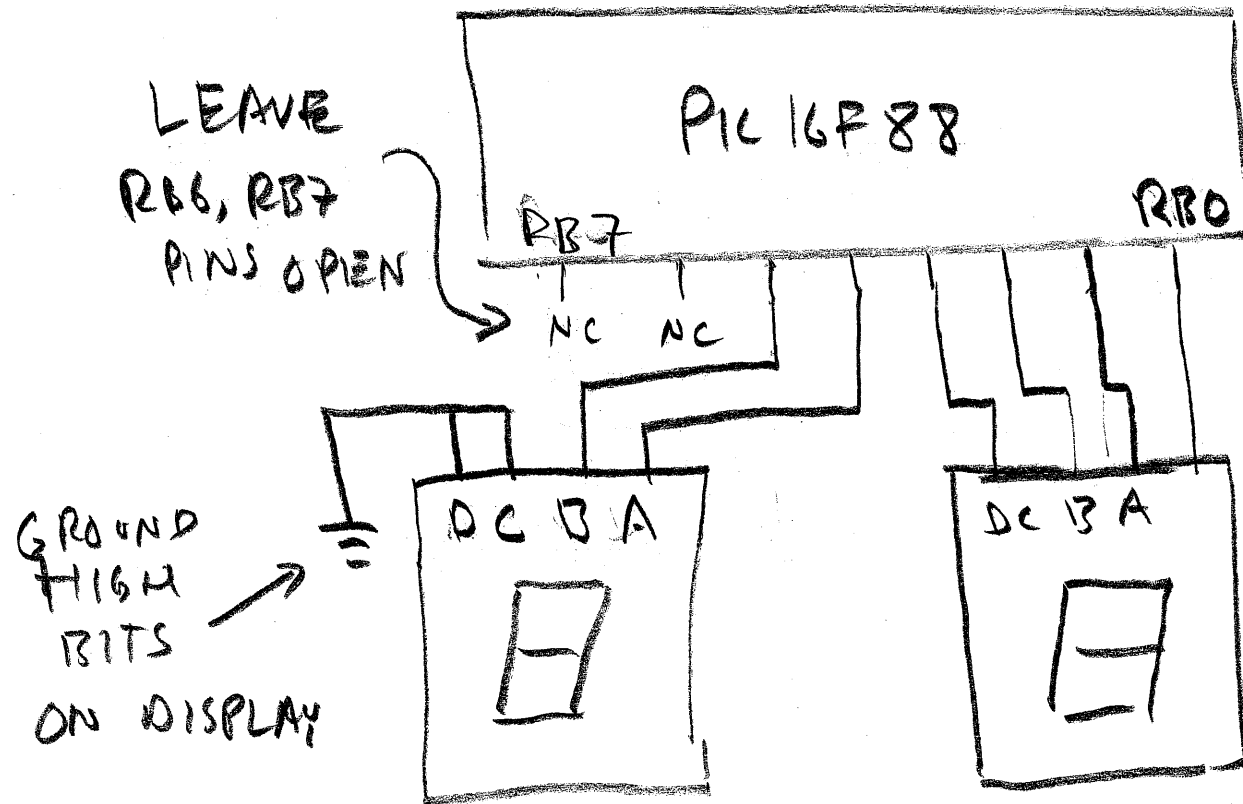


TABLE 15-7: DEBUGGER RESOURCES

I/O pins	RB6, RB7
Stack	1 level
Program Memory	Address 0000h must be NOP Last 100h words
Data Memory	0x070-0x0F0, 0x170-0x1F0 0x1EB-0x1EF

HIGH DIGIT
HP-DISPLAY
VS
PICKIT3!

FOR DISPLAY CONNECTIONS IN
SONIC RANGER LAB, MAKE THIS
CHANGE:



MAX
NUMBER
NOW
39
==

PICS - A BRIEF LOOK BACK

NOW YOU'VE HAD A CHANCE TO
WRESTLE WITH (AND PIN!) A PIC

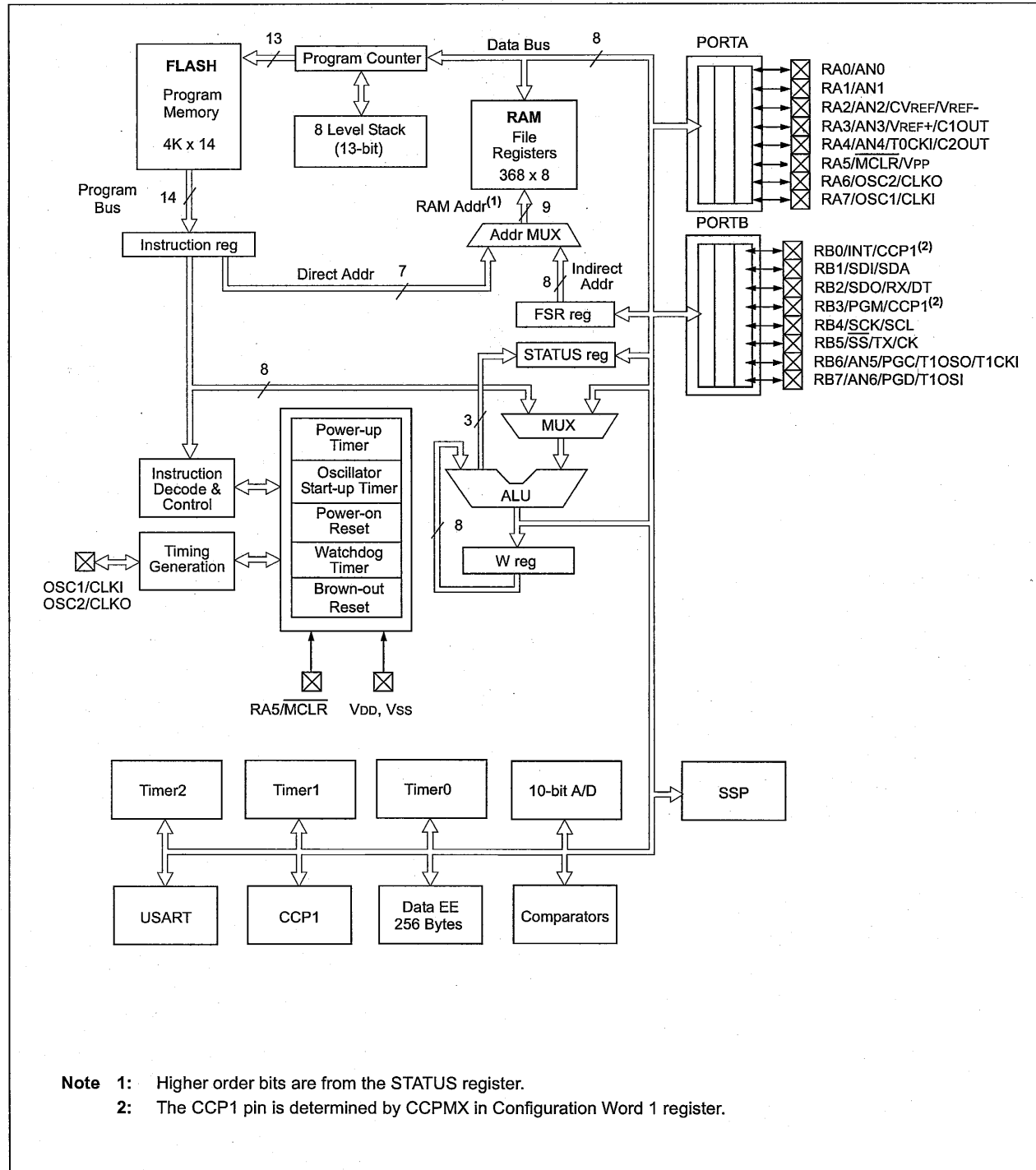
LET'S REVIEW SOME OF THE BASICS,

WHERE WE'VE BEEN, WHAT WE'VE

DISCUSSED, AND WHAT IS YET TO

EXPLORE...

FIGURE 1-2: PIC16F88 DEVICE BLOCK DIAGRAM



- ARCHITECTURE - MEMORY VS PROGRAM
 - PROGRAM SIZE VS MEMORY SIZE
 - ↳ HOW IT RELATES TO INSTRUCTION CODING

(W) REGISTER VS. MEMORY (FILE)

- SPECIAL FUNCTION REGISTERS
- OSCILLATOR CONTROLS & CONFIG
- CALL VS GOTO & STACK
- I/O - DIGITAL MAINLY
- PERIPHERALS - TIMER 0, TIMER 2, CCP

YET TO EXPLORE ? HARDWARE

- SERIAL COMMUNICATIONS

USART, SSP

↑
LIKE "RS-232"

↑ SYNCHRONOUS - SIMPLER
BUT MORE
RESTRICTIVE

- EEPROM — SAVING DATA
EVEN WHEN POWER IS OFF

- A/D — 10 bit CONVERSION
USES TIMERS

- SLEEP / WAKEUP OPERATION

- "WATCH DOG" TIMER

- EXTERNAL OSCILLATOR SOURCES

YET TO EXPLORE ? SOFTWARE

- "INDIRECT" ADDRESSING - USING A VARIABLE AS A MEMORY LOCATION
NOT AS MEMORY CONTENTS
- "MACROS" - MAKING THE ASSEMBLY PROCESS EASIER BY REUSING CODE CHUNKS
- "RELOCATABLE" CODE - ALLOWING LINKER TO DETERMINE LOCATION OF PROGRAM CODE

SO, WHERE TO GO FROM HERE?

YOU DECIDE — WHAT SHOULD
WE LOOK AT?

LET'S EXPLORE DEVICE
TOGETHER ...