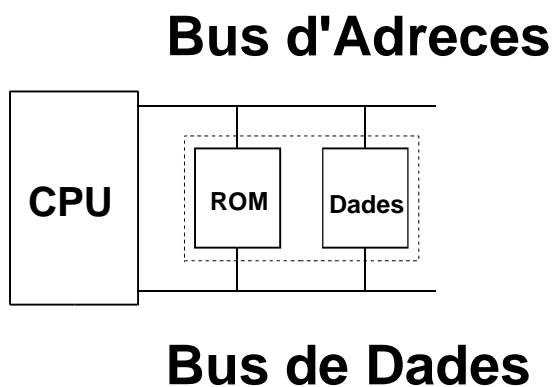
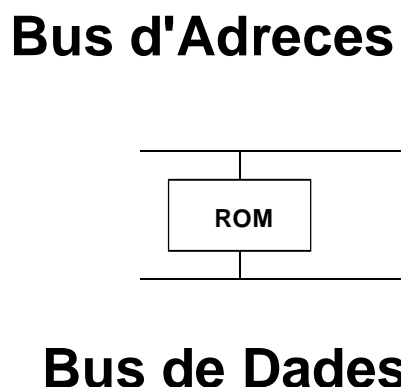


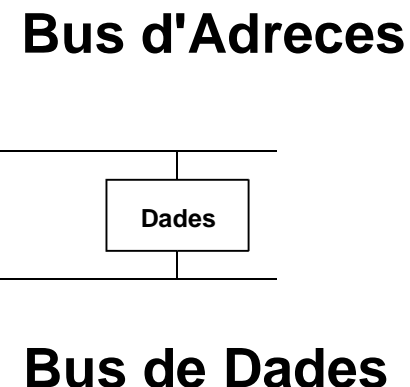
# VON NEUMANN & HARVARD

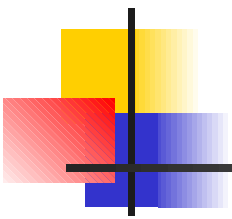


*Arquitectura  
Von Neumann*

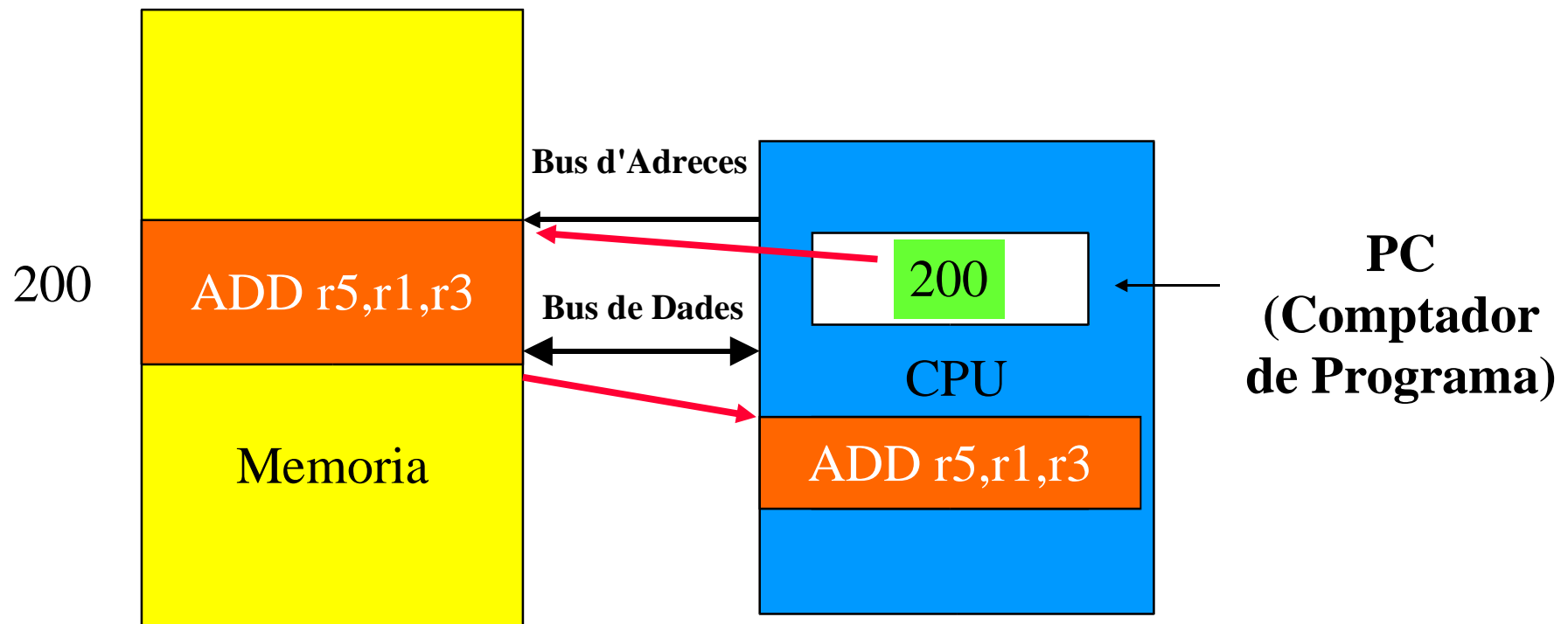


*Arquitectura  
Harvard*

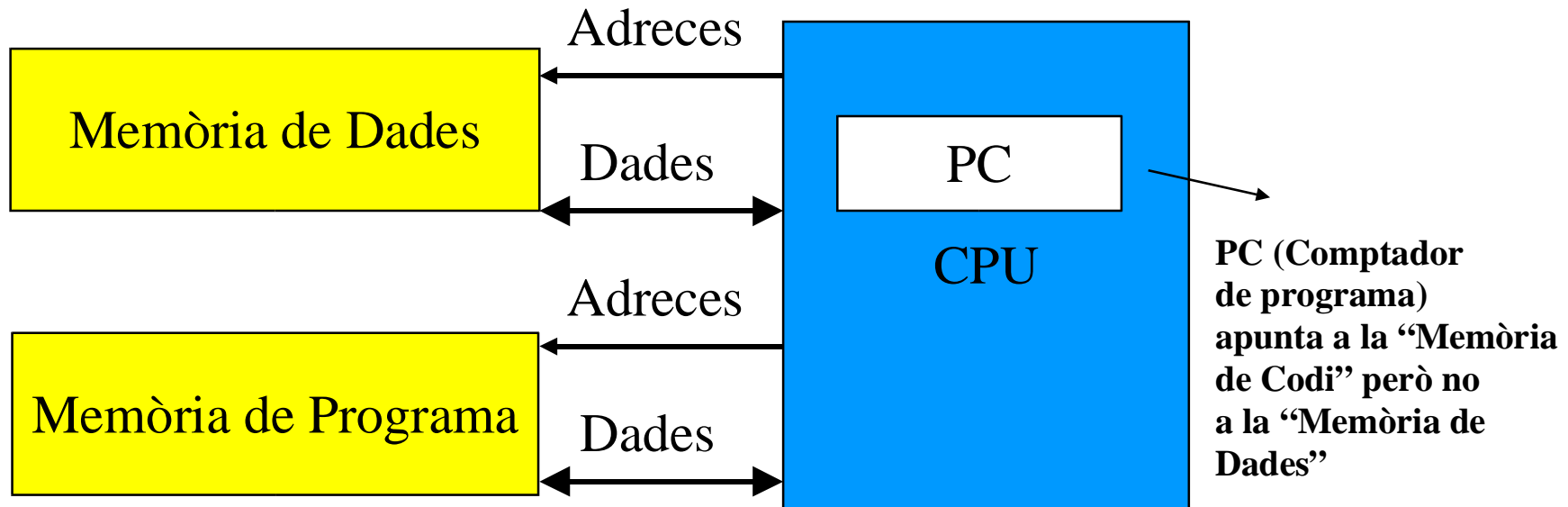




# Von Neumann: CPU + Memòria



# Arquitectura Harvard



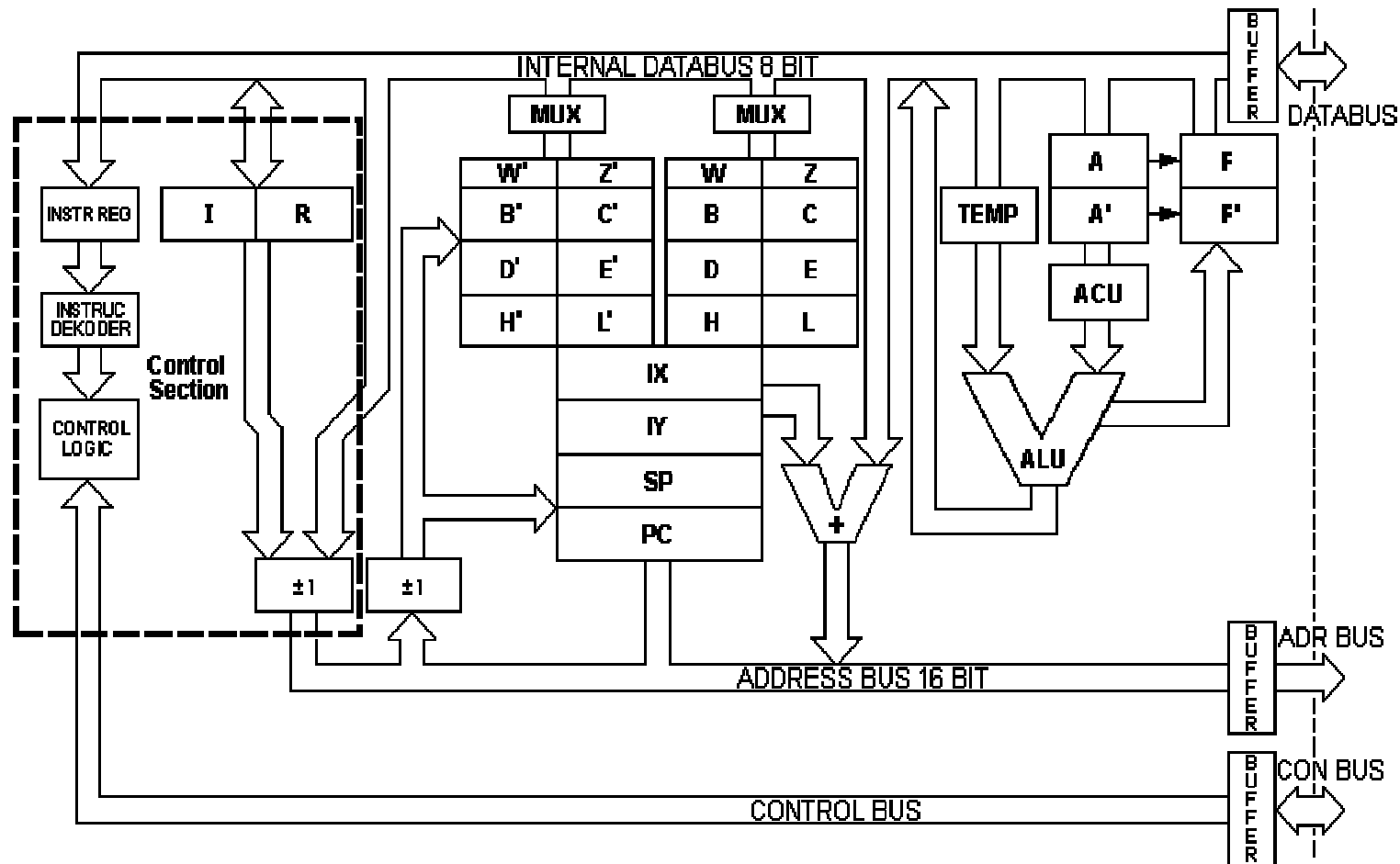


# VON NEUMANN vs. HARVARD

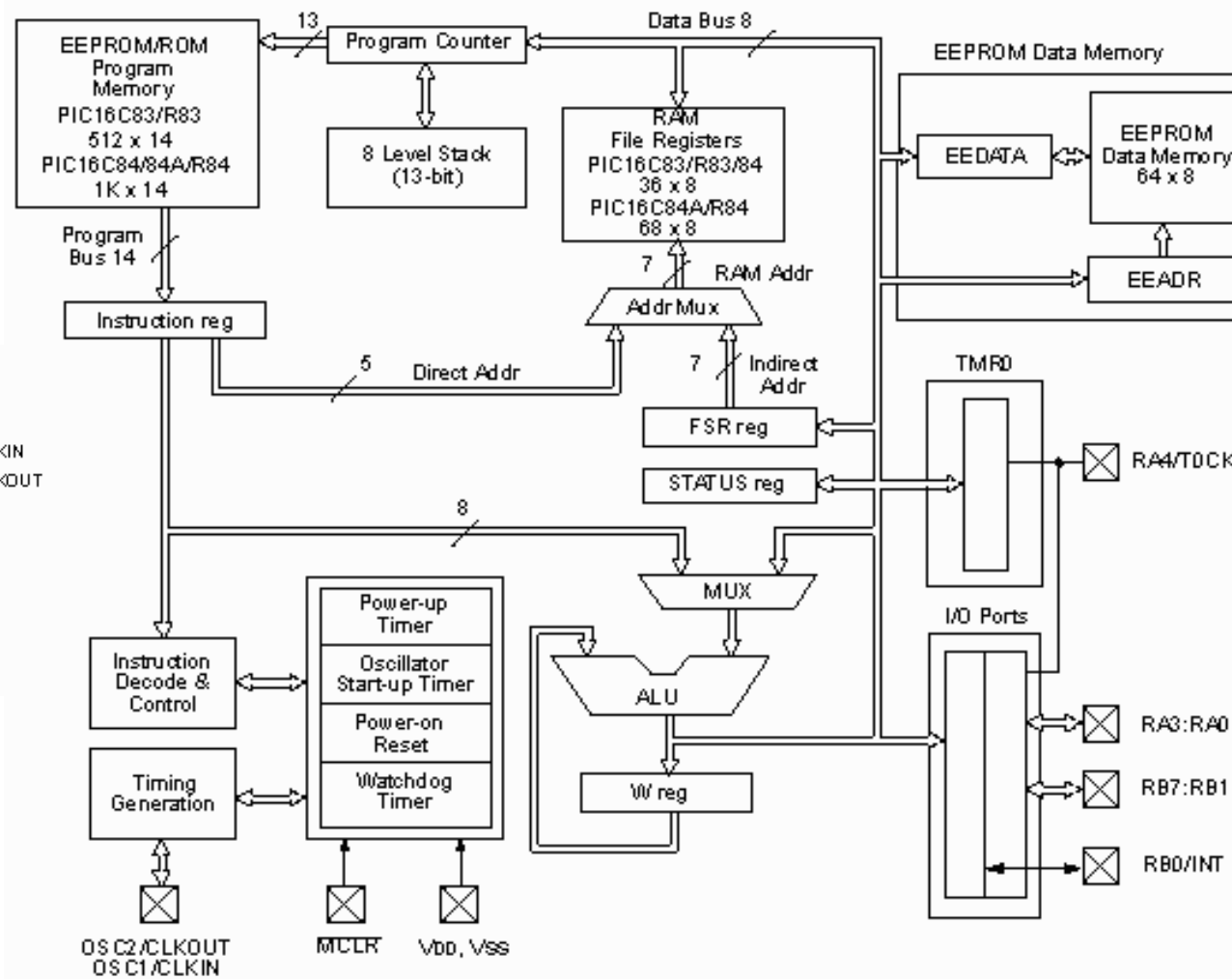
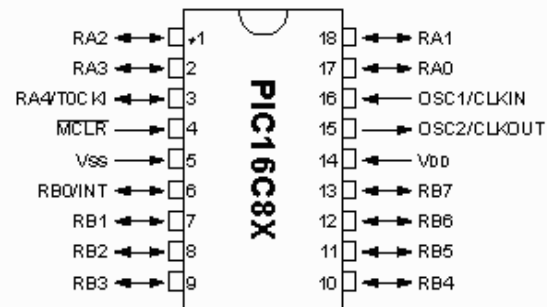
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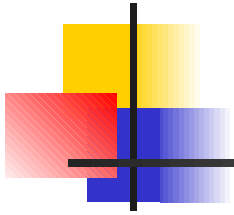
- HARVARD permet dos accessos simultanis a memòria: PROGRAMA & DADES
- HARVARD no pot fer “automodificació” de codi
- Els DSPs utilitzen arquitectura HARVARD per tractar senyals a temps real.

# VON NEUMAN: Zilog Z80



# HARVARD: Microchip PIC16C8x





# COMPARATIVA

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	<b>Von Neumann</b>	<b>Harvard</b>
<b>Format d'instrucció</b>	<b>Variable</b>	<b>Fixe</b>
<b>Memòria</b>	<b>Única</b>	<b>Diferenciada</b>
<b>La majoria</b>	<b>CISC</b>	<b>RISC</b>
<b>Exemples</b>	<b>VAX 11, MS1</b>	<b>PIC, DSP</b>