

# Presentación TP PCSE:

## Driver para DDS AD9850

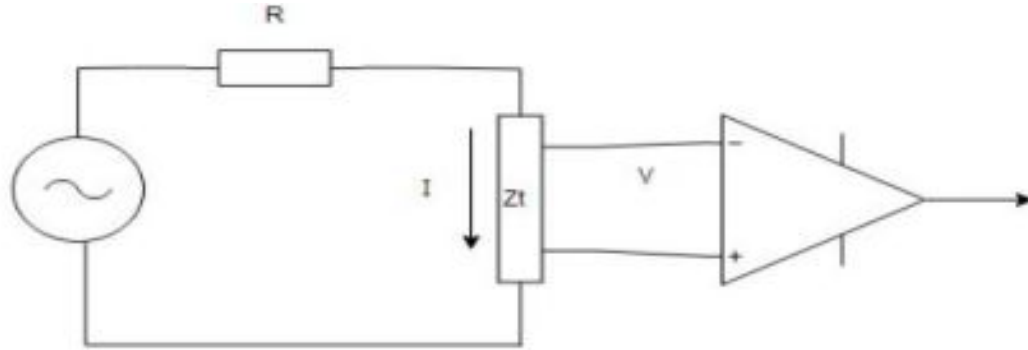
Parte del Proyecto:  
Medidor portátil de impedancia eléctrica para  
aplicaciones biológicas

**Responsable: Iván Szkrabko**

**Profesor: Pablo Gómez**

**Profesor: Eric Pernia**

# Esquema conceptual



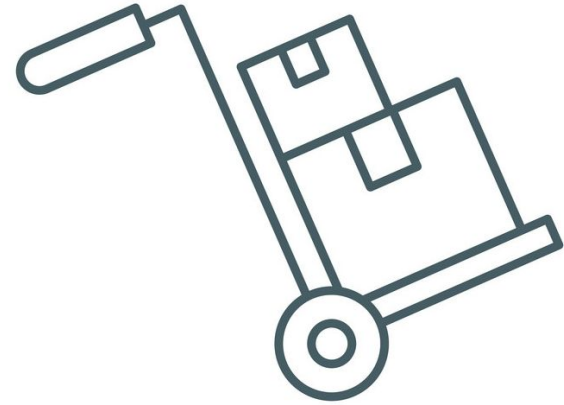
Esquema de conexión simplificado de una medición de impedancia tetrapolar

# Situación Actual

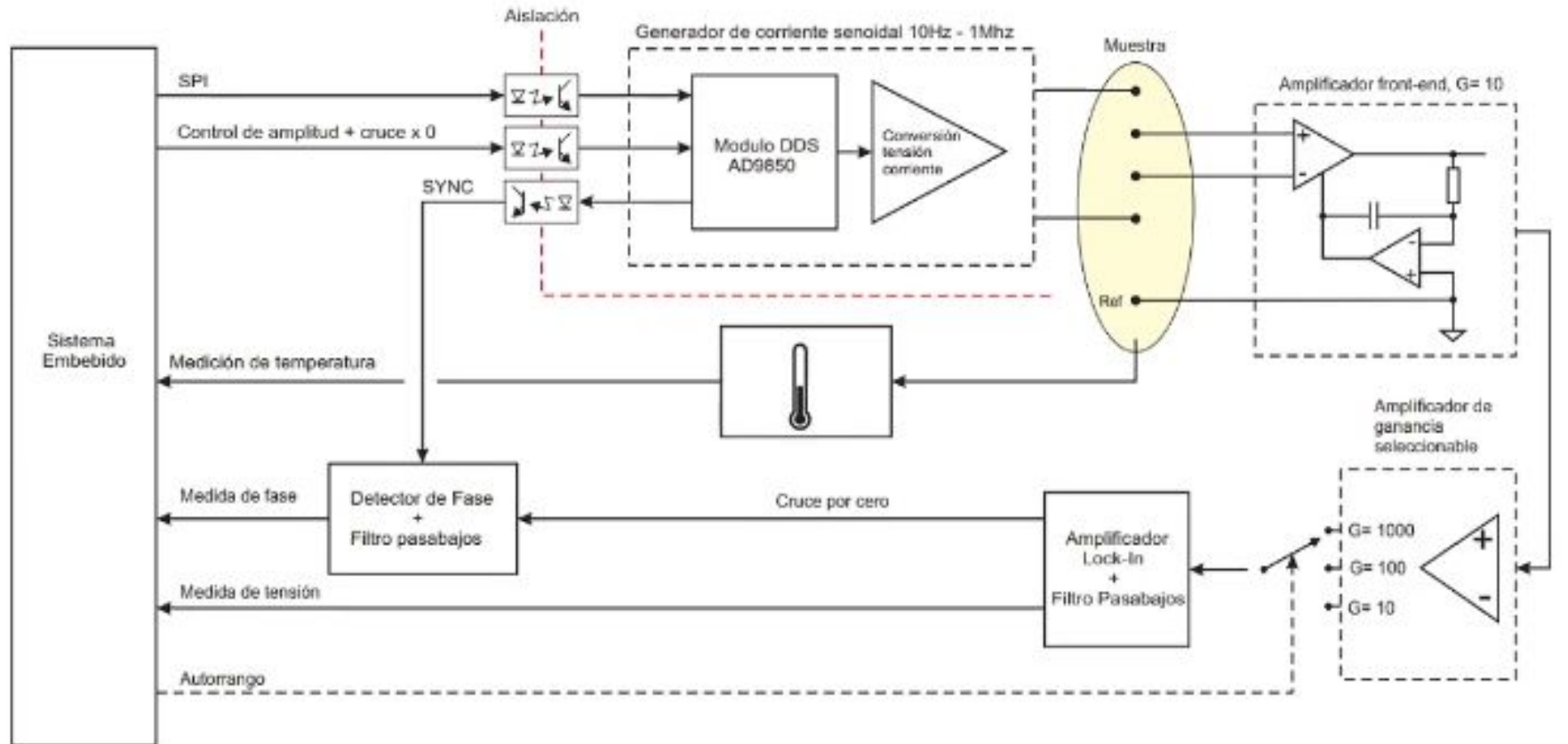
**Equipos costosos**



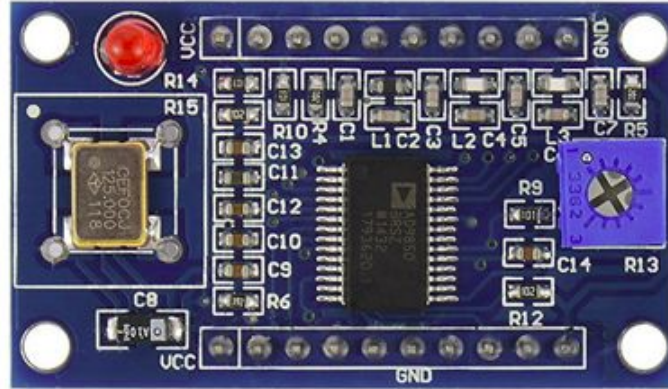
**No son portables**



# Diagrama en Bloques



# DDS: AD9850



Alimentación:  
5v / 3,3v

Frecuencia de Salida:  
62.5Mhz / 55Mhz

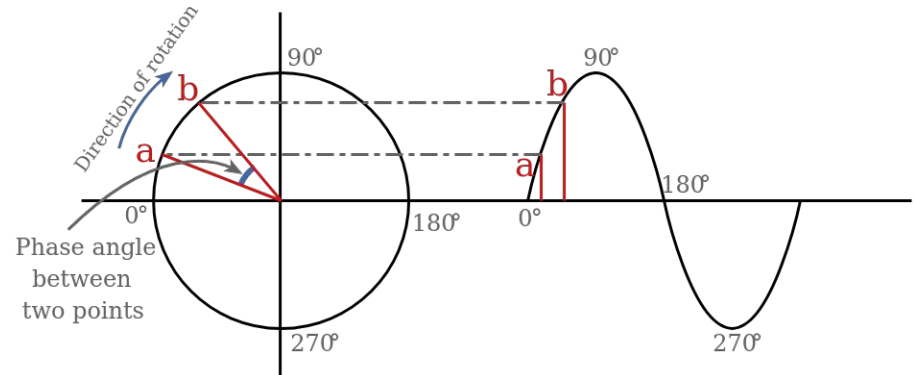
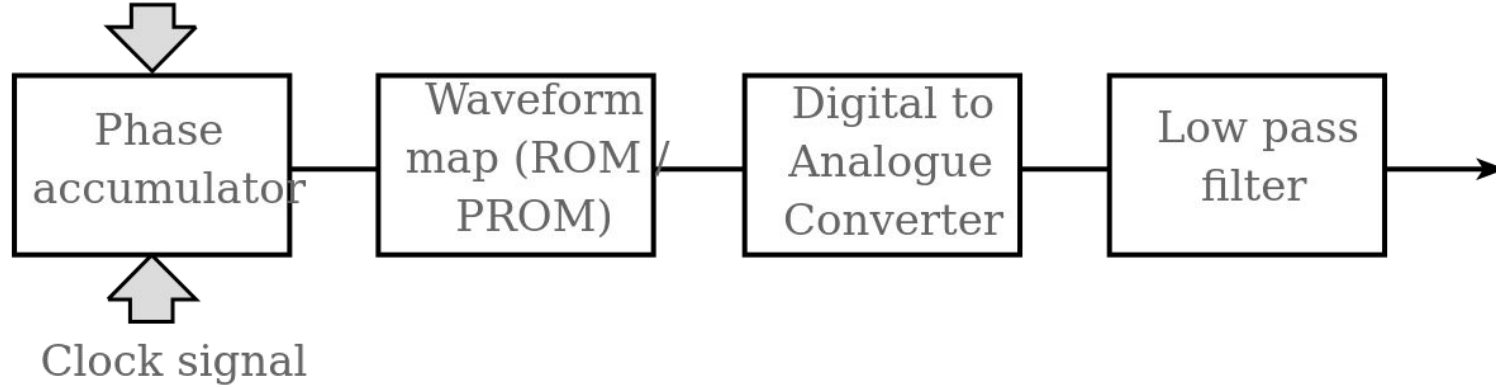
Clock:  
125Mhz



\*Direct Digital Synthesis

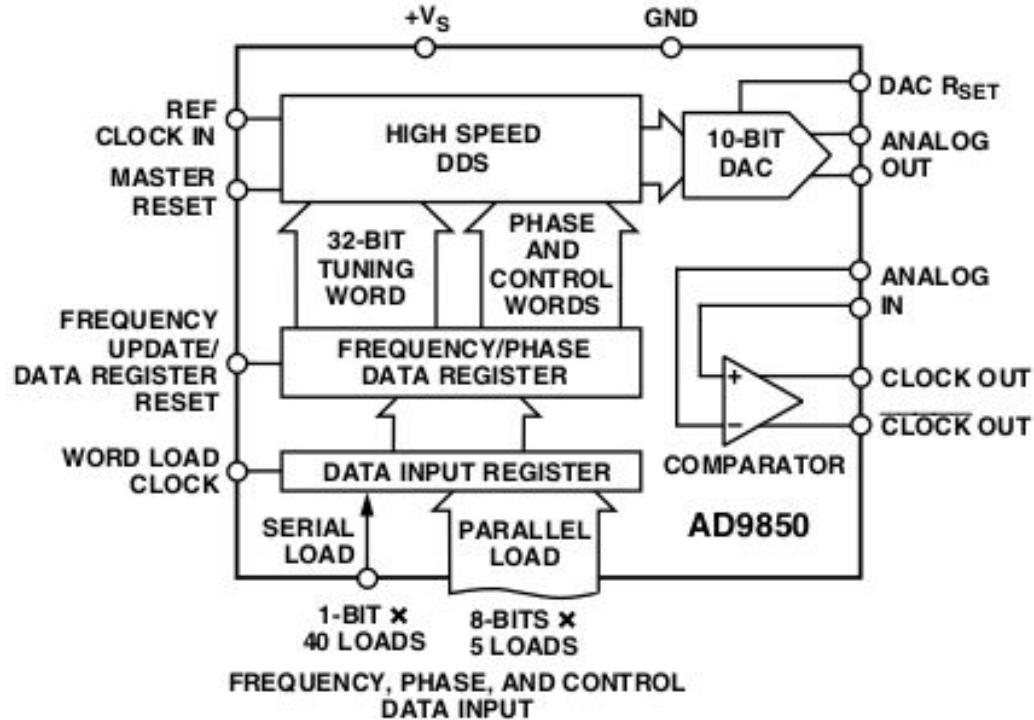
# DDS

Frequency information  
(Phase increment)

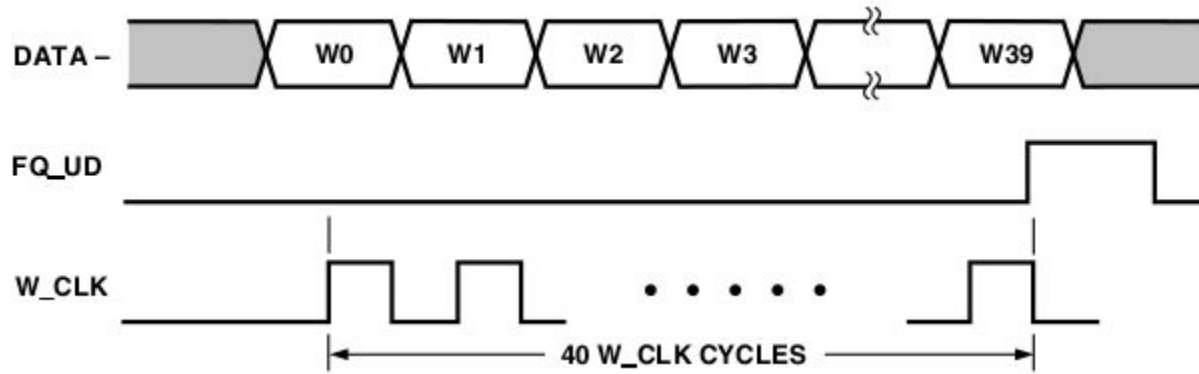


# DDS: AD9850

## FUNCTIONAL BLOCK DIAGRAM



# DDS: AD9850





# DDS: AD9850

W0	Freq-b0 (LSB)
W1	Freq-b1
W2	Freq-b2
W3	Freq-b3
W4	Freq-b4
W5	Freq-b5
W6	Freq-b6
W7	Freq-b7
W8	Freq-b8
W9	Freq-b9
W10	Freq-b10
W11	Freq-b11
W12	Freq-b12
W13	Freq-b13

W14	Freq-b14
W15	Freq-b15
W16	Freq-b16
W17	Freq-b17
W18	Freq-b18
W19	Freq-b19
W20	Freq-b20
W21	Freq-b21
W22	Freq-b22
W23	Freq-b23
W24	Freq-b24
W25	Freq-b25
W26	Freq-b26
W27	Freq-b27

W28	Freq-b28
W29	Freq-b29
W30	Freq-b30
W31	Freq-b31 (MSB)
W32	Control
W33	Control
W34	Power-Down
W35	Phase-b0 (LSB)
W36	Phase-b1
W37	Phase-b2
W38	Phase-b3
W39	Phase-b4 (MSB)

# DDS: AD9850

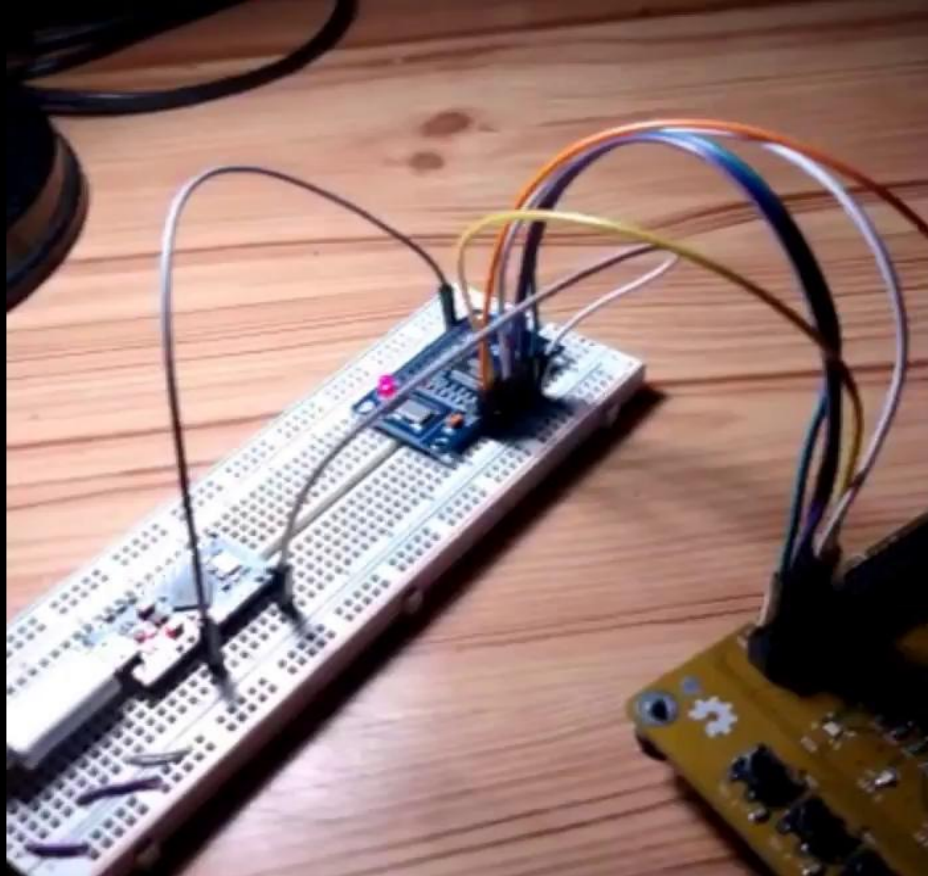
Loading Format	Factory Reserved Codes
Parallel	1) W0 = XXXXXX10 2) W0 = XXXXXX01
Serial	1) W32 = 1; W33 = 0 2) W32 = 0; W33 = 1 3) W32 = 1; W33 = 1



# DDS: AD9850

```
void DDS_setPins(void);  
void DDS_setFreq (uint32 t frecuencia, uint8 t fase);  
void DDS_shift (uint32 t word);  
uint32 t DDS_sweep (uint32 t f_inicio, uint32 t f_fin, uint32 t saltos);
```

# DDS: AD9850





¿Preguntas?