

Hardware and Circuit Components for a User-Constructed EQCM.

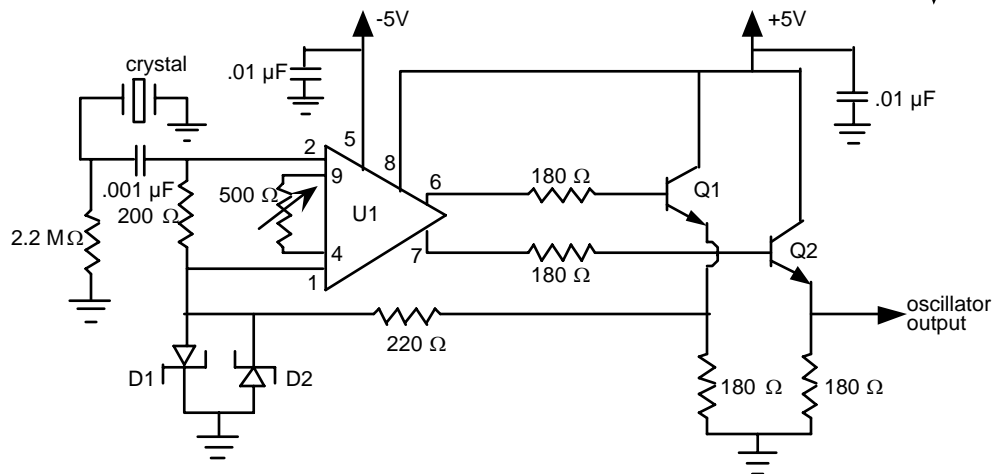
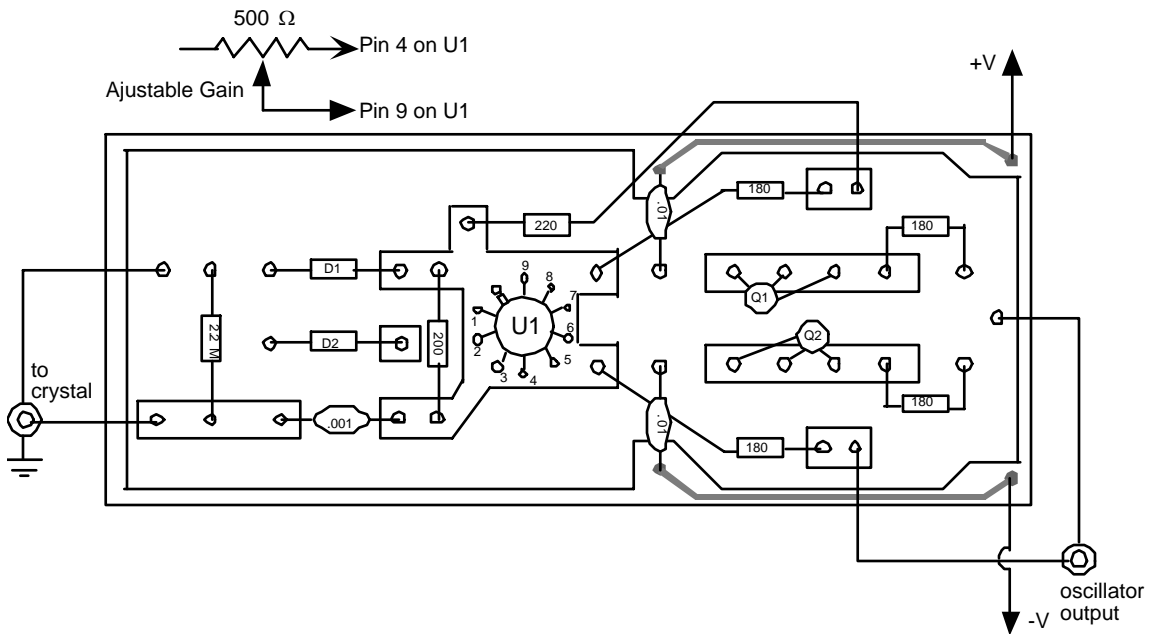
Hardware	Quantity	Vendor ^a	Part no.
Dual Output Power Supply	1	1	6234A
Frequency Counter	1	1 (2)	5384A ()
IEEE Interface Board (data acquisition)	1	3	Any compatible version
Cable (oscillator to crystal)	1	3	RG 58 A/U (with two BNC connectors)
Cable (oscillator to power supply)	1	3	RG 174/U coaxial (with BNC connector)
Shielded IEEE Cable	1	3	
Type 3302 Component Box	1	4	35F3515
H-90 Trimmer Tool (optional)	1	4	12F8866
5-pin Jack	1	5	126-218
Printed Circuit Board	1	Custom	

Circuit Components

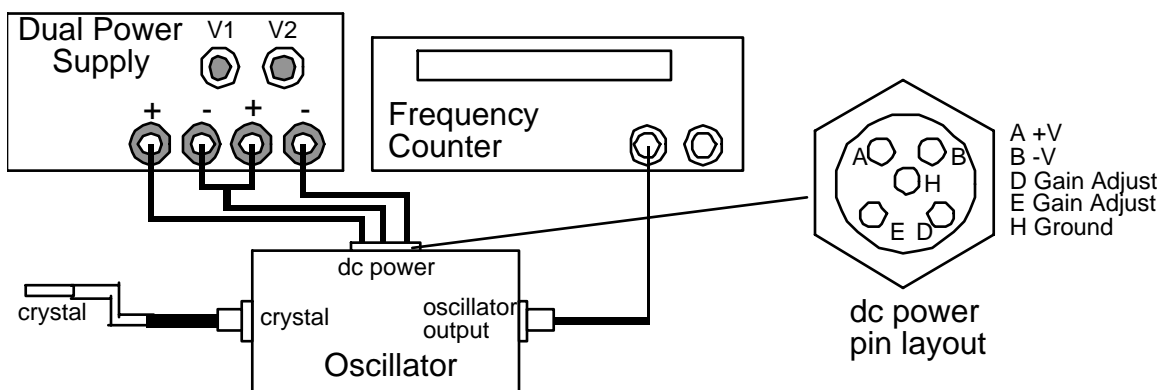
Cemet Trimmer 500 Ohms	1	4	12F9636
Panel Adapter Type 6-2-0	1	4	81F009
Differential Video Amplifier	1	6	NTE927
ULP-IC Socket	1	4	65F1881
RN-55D Type Resistor, 182 Ω , 1/8 Watt	4	4	58F001
RN-55D Type Resistor, 200 Ω , 1/8 Watt	1	4	58F001
RN-55D Type Resistor, 221 Ω , 1/8 Watt	1	4	58F001
YX Series Polyester Film Capacitor, 0.001 μ F	1	4	89F3228
YX Series Polyester Film Capacitors, 0.01 μ F	2	4	89F3232
RC07 Type CB Resistor, 2.2 $M\Omega$, 1/4 Watt		4	10F305
Schottky Diodes	2	6	HP5082-2811
NPN Transistors	2	3	2N3904

^aSuggested Vendors: (1) Hewlett-Packard, (2) Phillips Electronics, (3) Any vendor, (4) Newark Electronics, (5) Wire-Pro, Inc., (6) Allied Electronics.

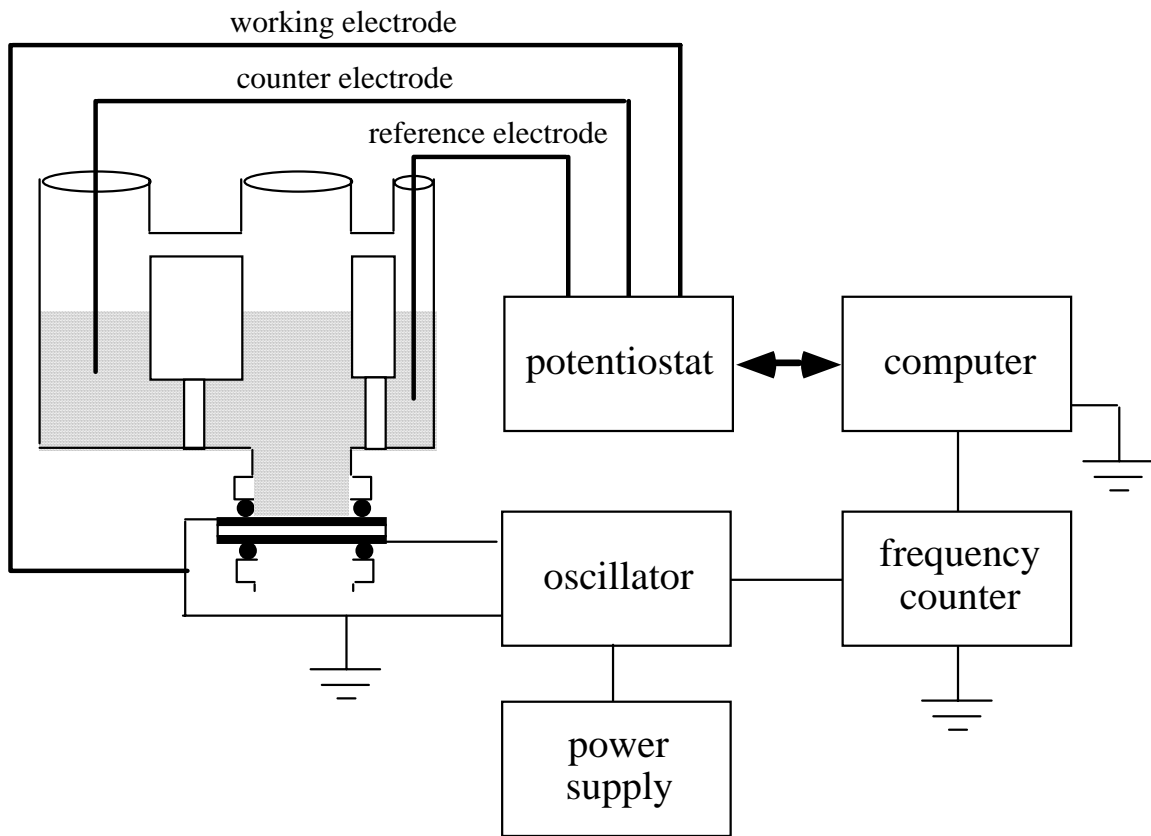
Schematic of the oscillator circuit



Apparatus for the Quartz Crystal Microbalance



Operating an EQCM with a Wenking potentiostat



Operating an EQCM with a conventional potentiostat (with working electrode at virtual ground)

