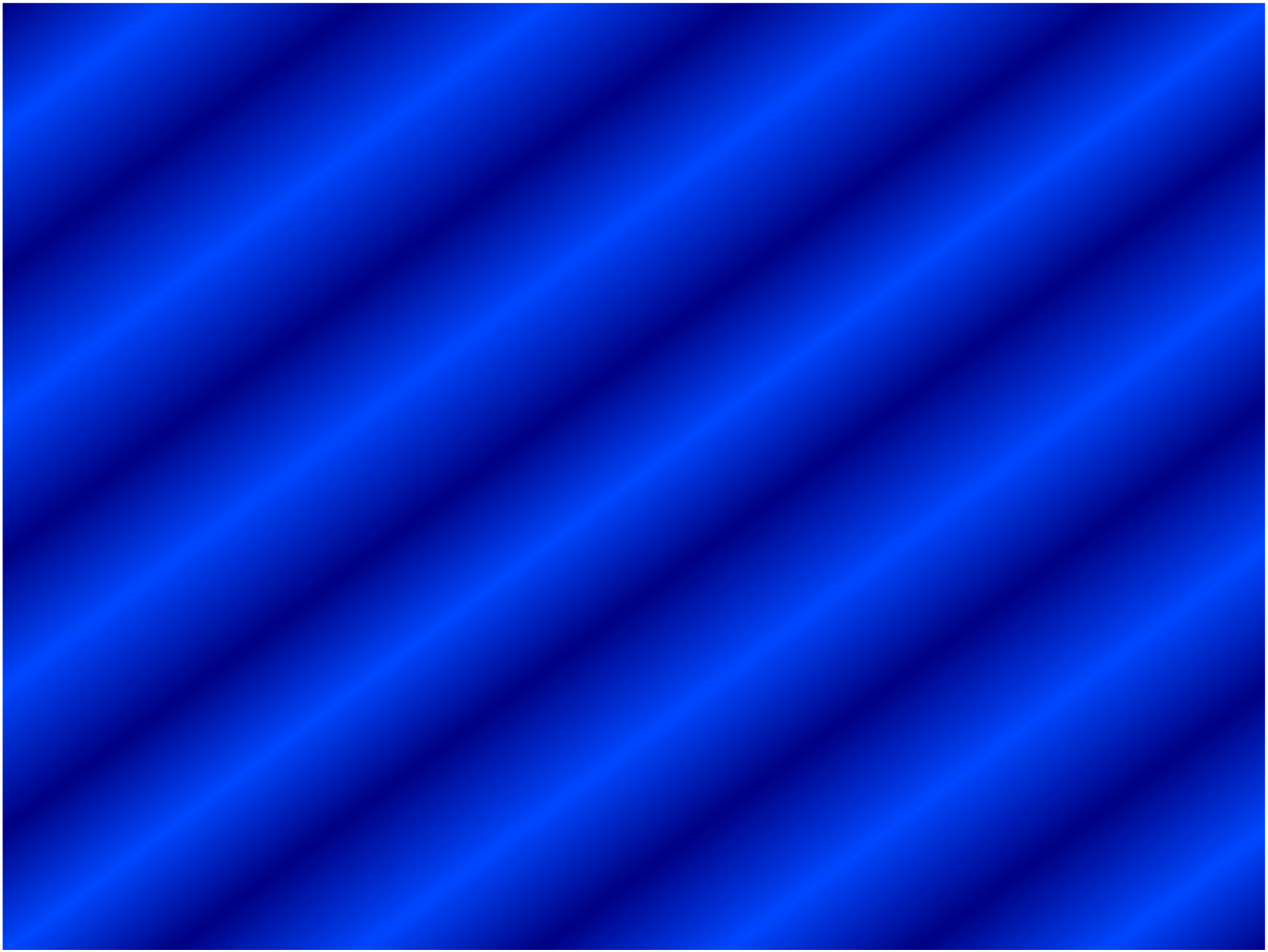
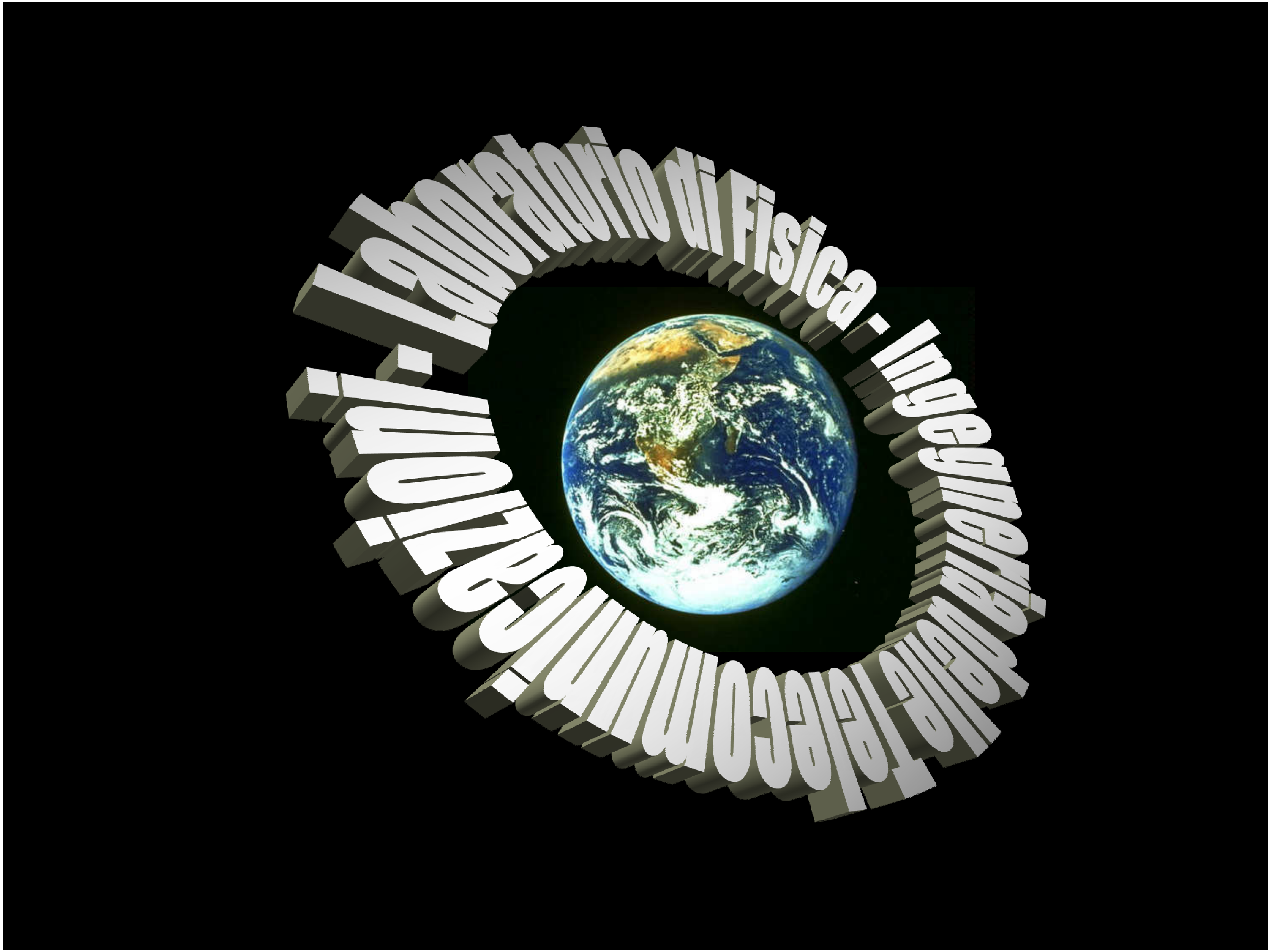


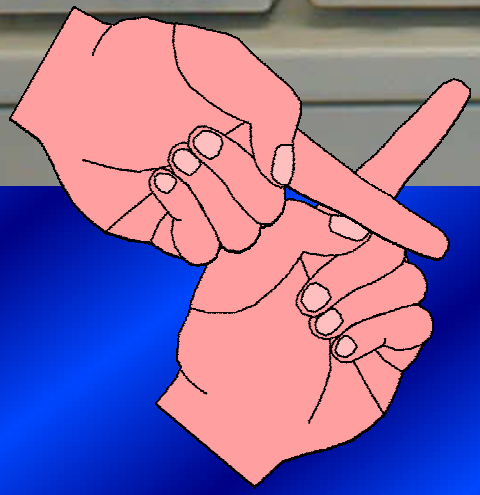

Laboratorio di Fisica - Ingegneria delle Telecomunicazioni -

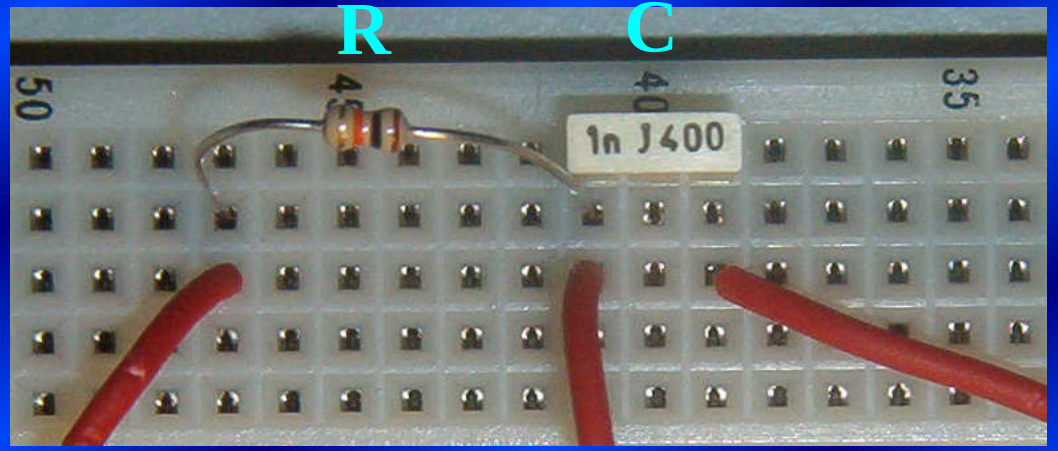
In condizioni di massima sensibilità:

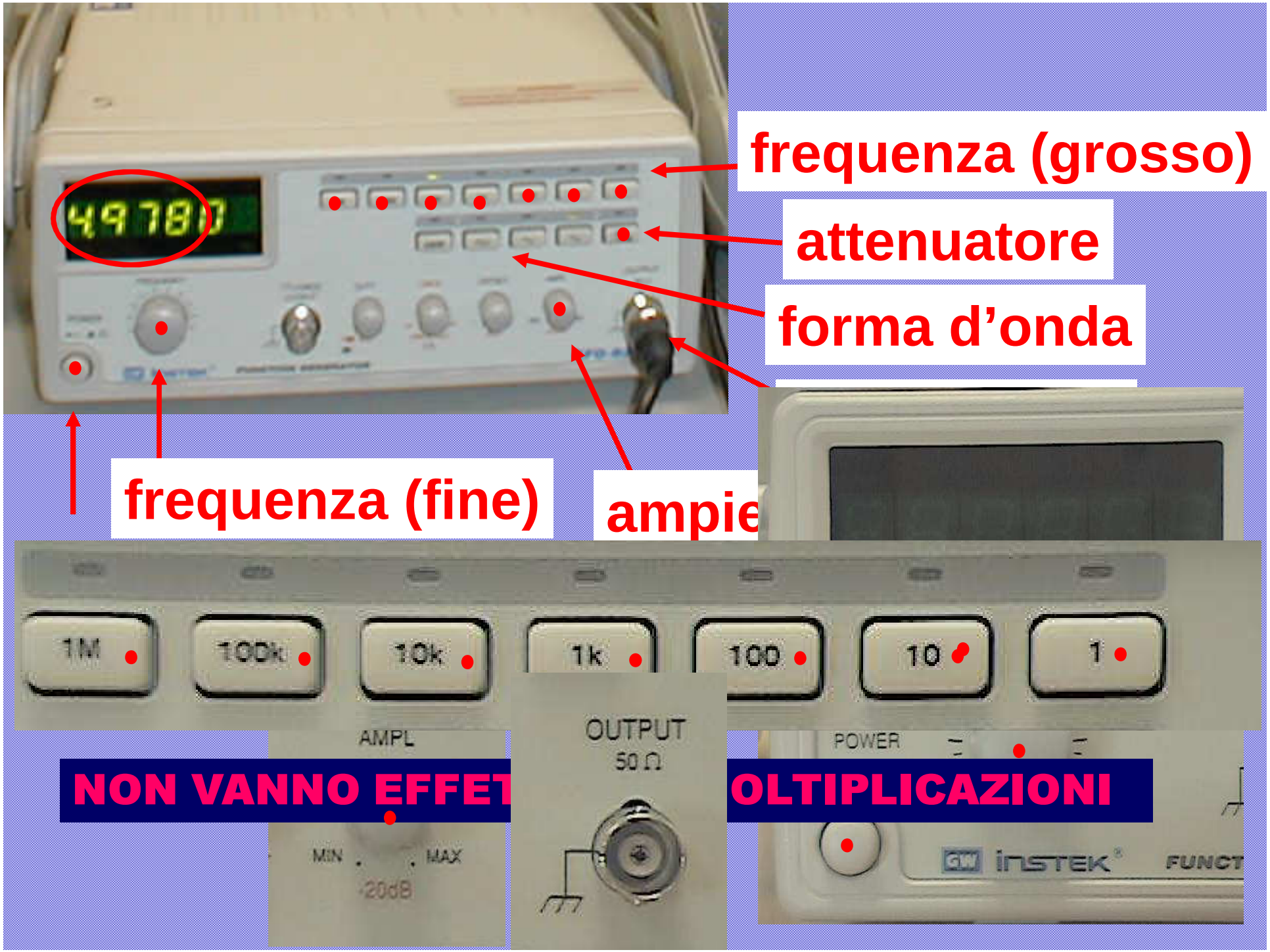
1) misurare la resistenza dei 2 resistori e dell'induttore (blu) σ_R = 0,5% + 2 digit
2) misurare la capacità del condensatore (giallo) σ_C = 2,0% + 4 digit
3) misurare l'induttanza dell'induttore σ_L = 3,0% + 10 digit

Accendere generatore di funzioni e oscilloscopio; provare a produrre e visualizzare un segnale rettangolare ampio 4 Vpp (da -2 V a + 2 V) alla frequenza di 5 kHz ...


generatore
oscilloscopio




R
C
50
40
35
1n J400


frequenza (grosso)
attenuatore
forma d’onda
frequenza (fine)
ampie
1M
100k
10k
1k
100
10
1
AMPL
OUTPUT
50 Ω
POWER
MIN
MAX
20dB
GW INSTEK
FUNCT
NON VANNO EFFET
OLTIPLICAZIONI

potenziale di riferimento (massa o terra)

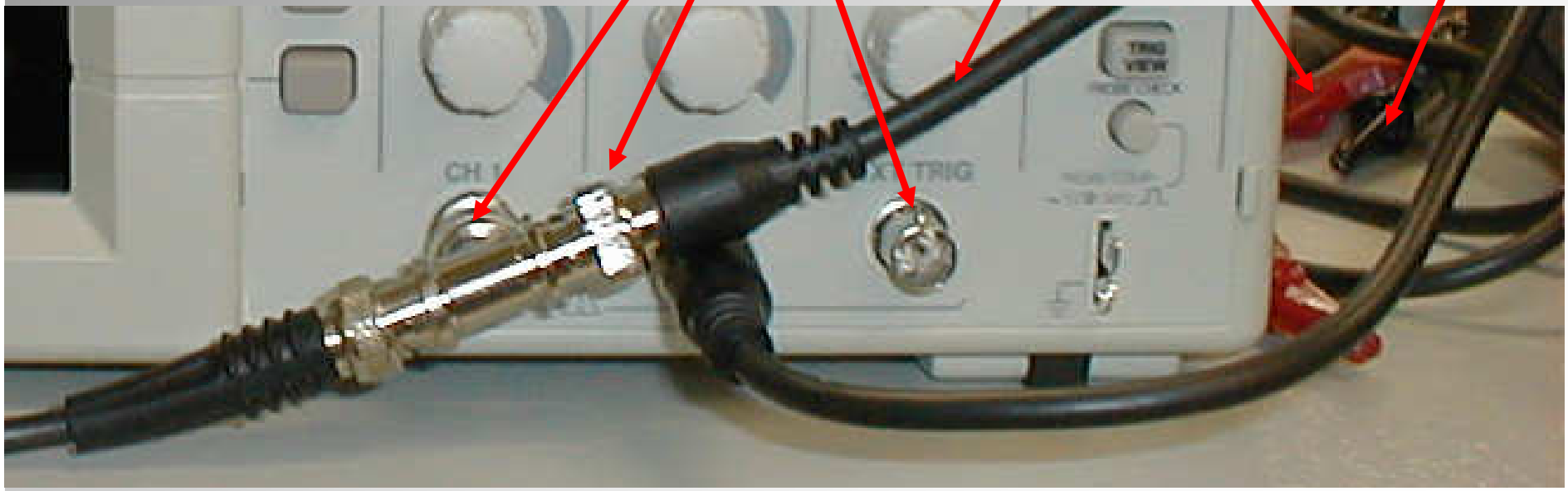
resistenza 50 Ω

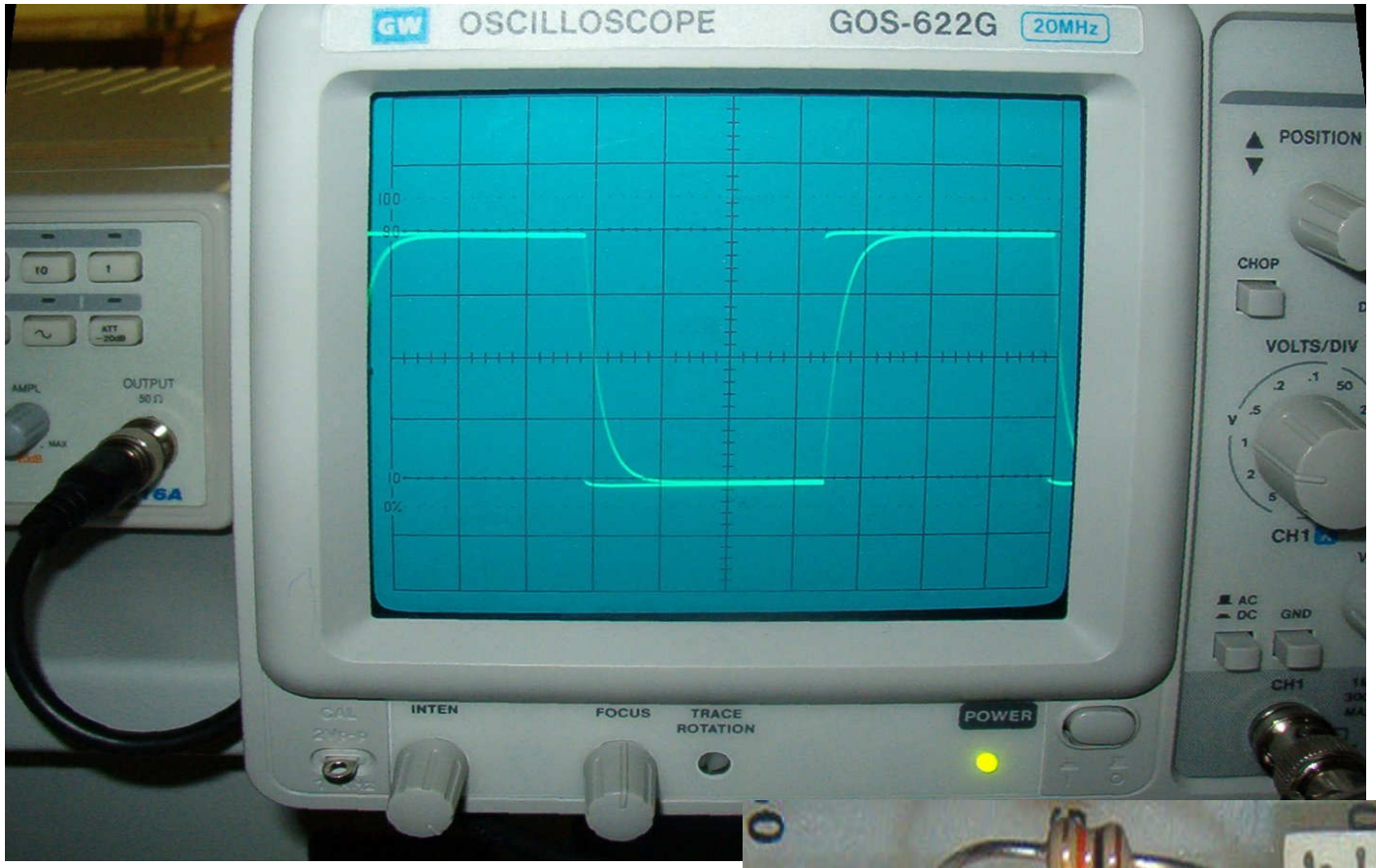
potenziale di ingresso/uscita

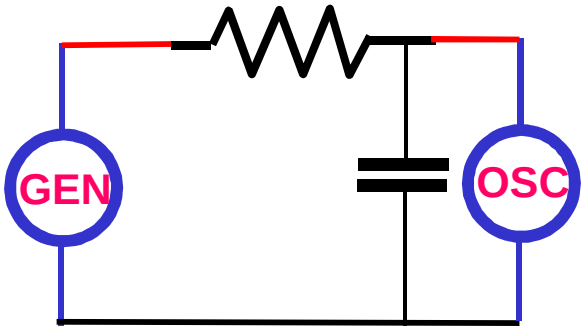
connettore BNC per cavi coassiali

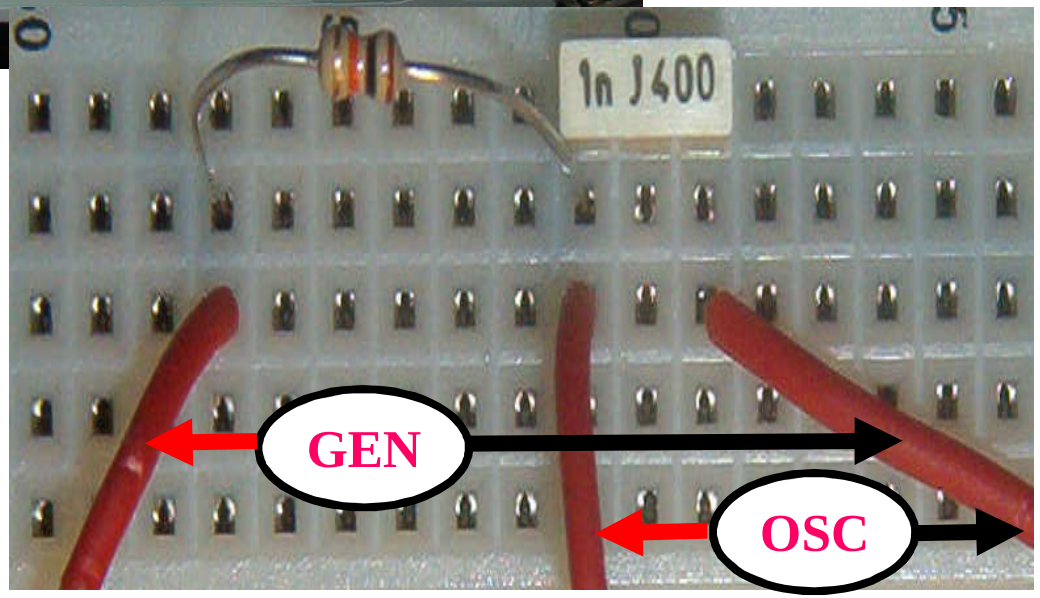
ROSSO:SEGNALE

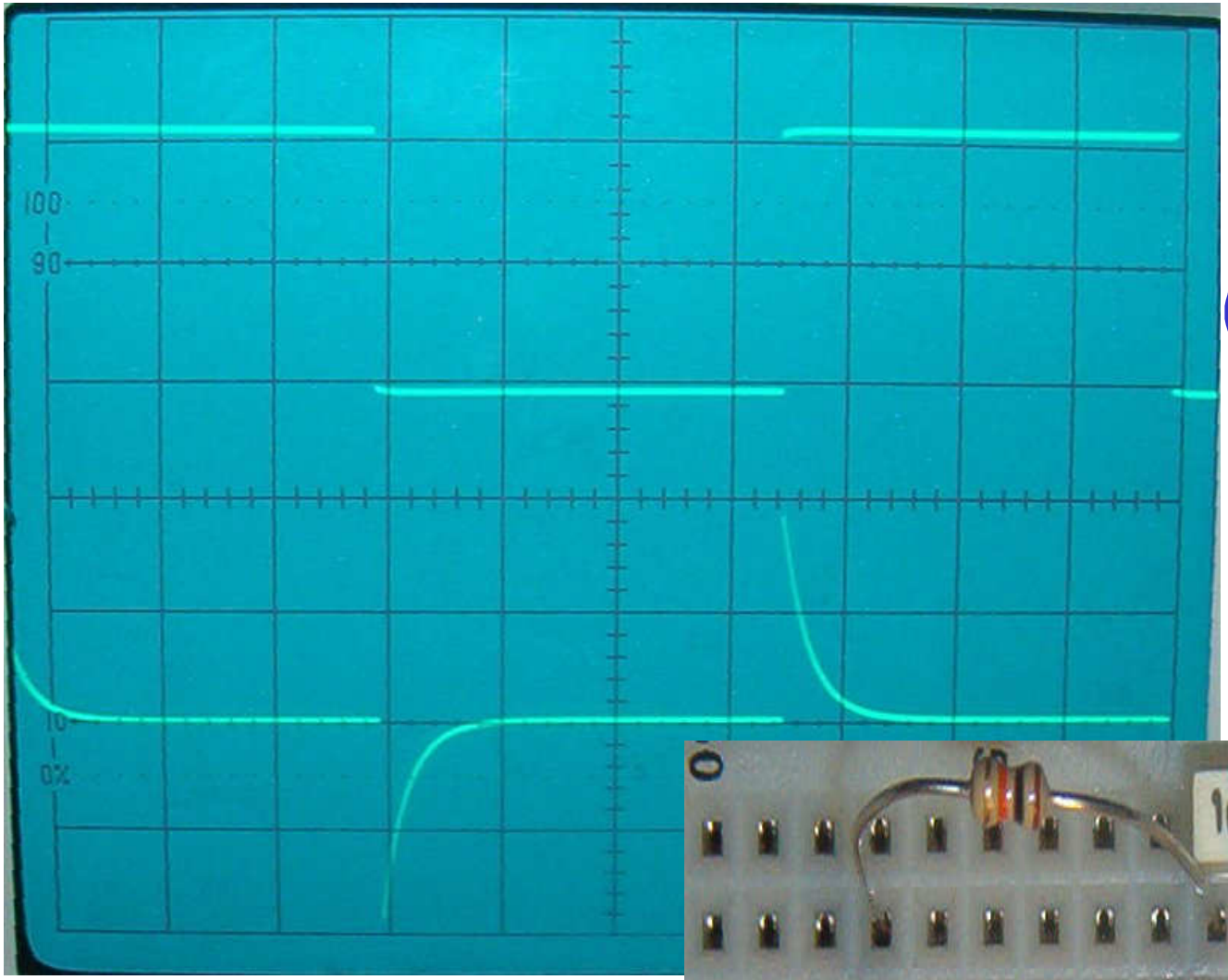
NERO:MASSA

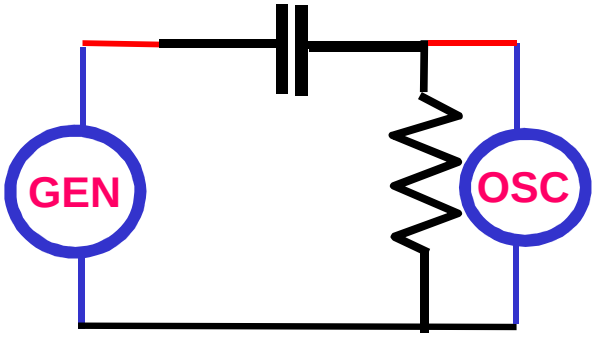


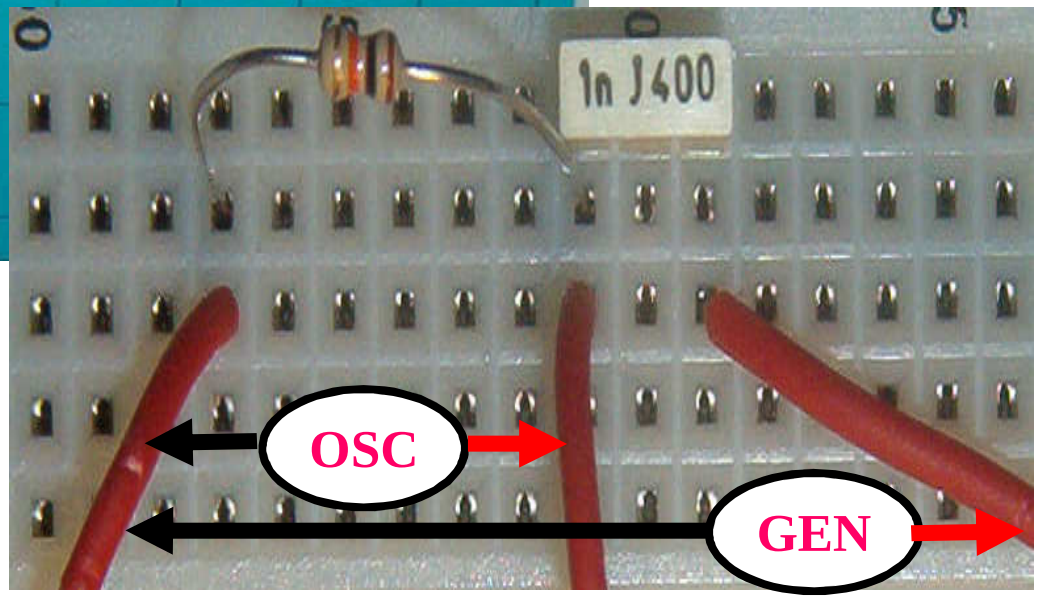

GW
OSCILLOSCOPE
GOS-622G
20MHz
POSITION
CHOP
VOLTS/DIV
CH1
AC
DC
GND
INTEN
FOCUS
TRACE
ROTATION
POWER

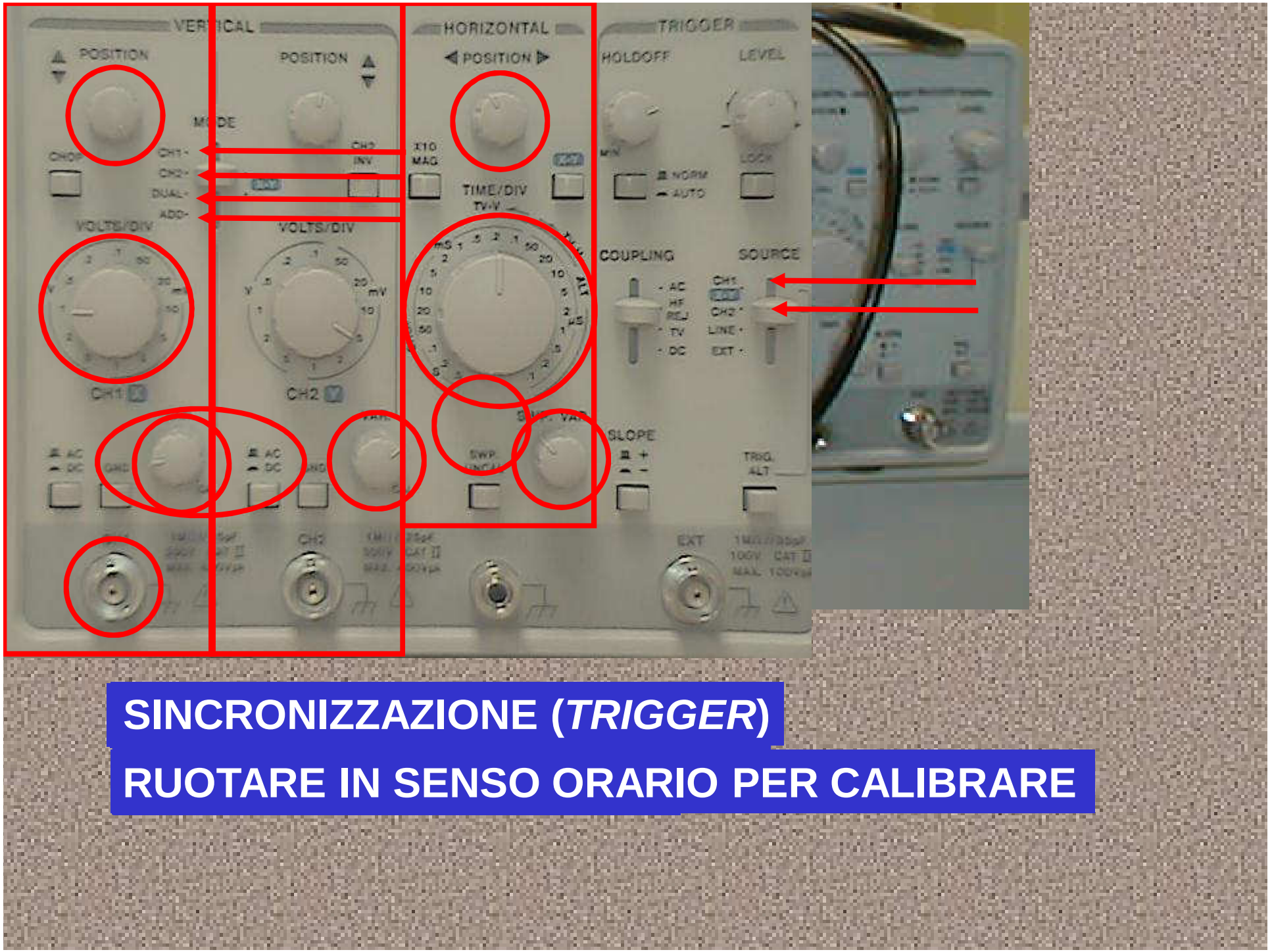

GEN
OSC

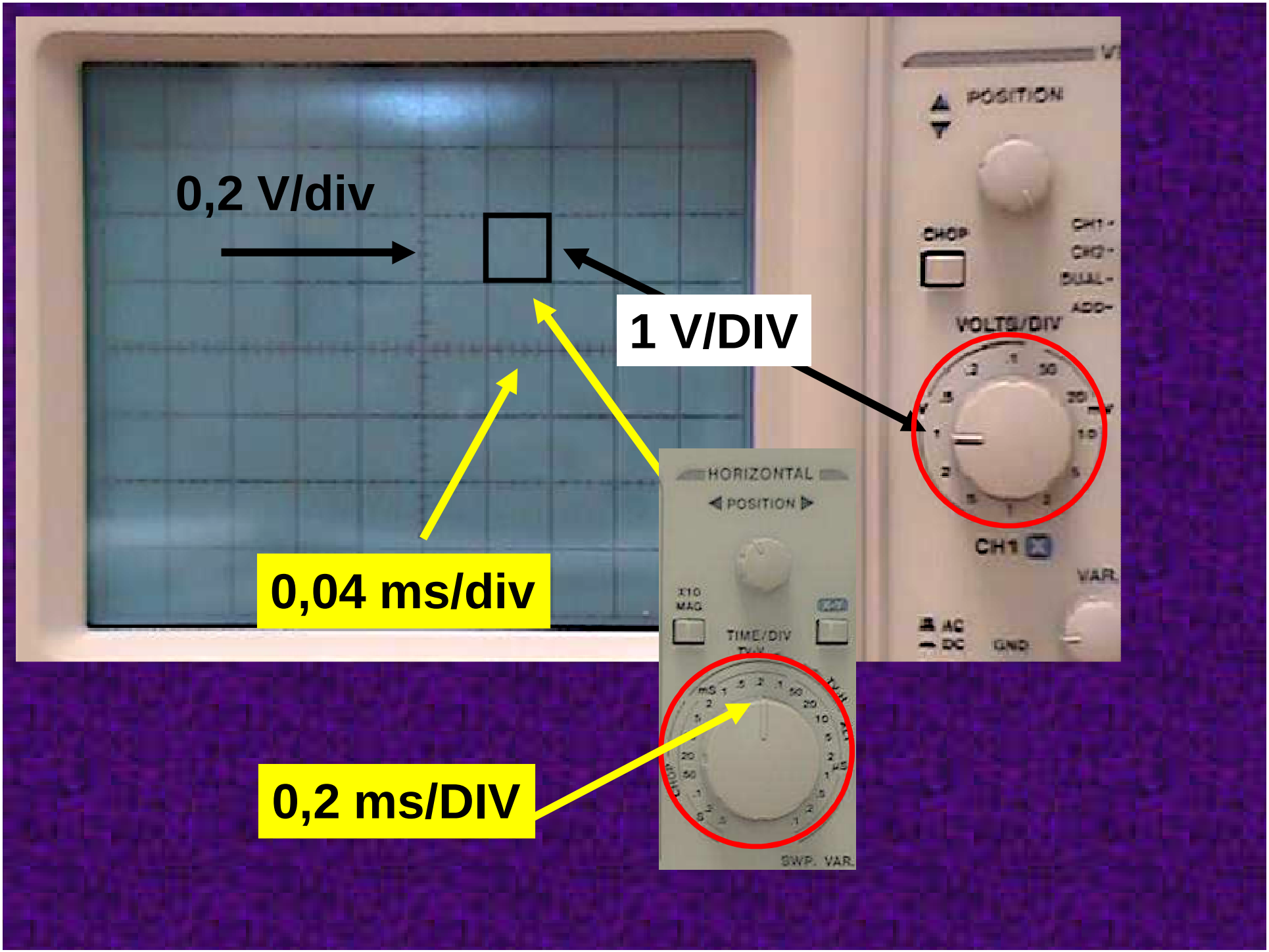

1n J400
GEN
OSC

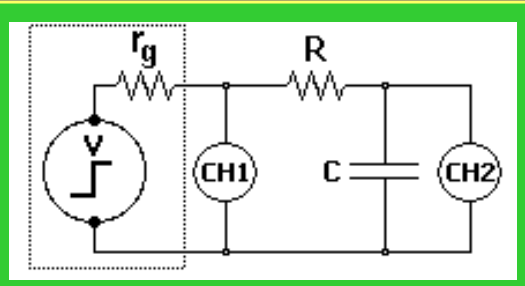

100
90
10
0%


GEN
OSC


1n J400
OSC
GEN

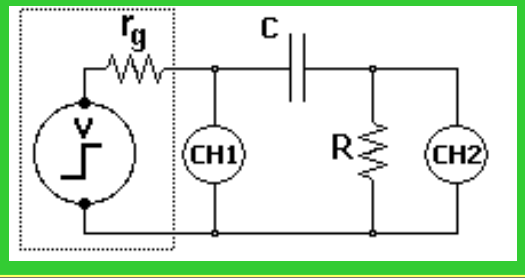

VERTICAL
POSITION
POSITION
MODE
CH1
CH2
DUAL
ADD
VOLTS/DIV
VOLTS/DIV
CH1
CH2
HORIZONTAL
POSITION
TIME/DIV
TRIGGER
HOLDOFF
LEVEL
COUPLING
SOURCE
SLOPE
EXT
SINCRONIZZAZIONE (TRIGGER)
RUOTARE IN SENSO ORARIO PER CALIBRARE


0,2 V/div
1 V/DIV
0,04 ms/div
0,2 ms/DIV
POSITION
CHOP
VOLTS/DIV
CH1
VAR
HORIZONTAL
POSITION
TIME/DIV
SWP. VAR

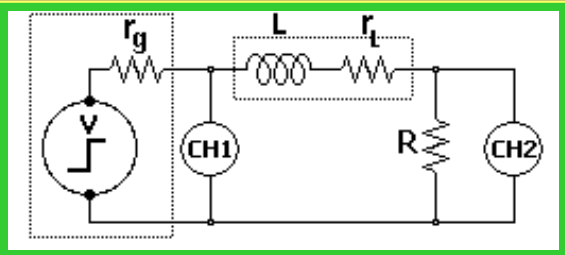


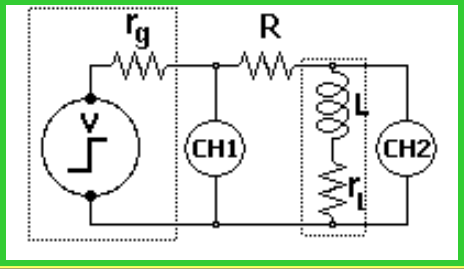
R≈10 kΩ

r_g=50 Ω con incertezza trascurabile



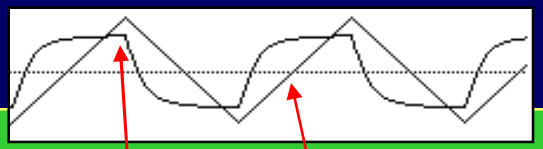
per ognuno dei 4 circuiti:
1) leggere le coordinate di 6-8 punti durante la salita e durante la discesa
2) riportarle in carta semilogaritmica
3) determinare (min.quad.) τ_s e τ_d
4) confrontare τ_s con τ_d
5) misurare τ
6) confrontarlo con le previsioni teoriche





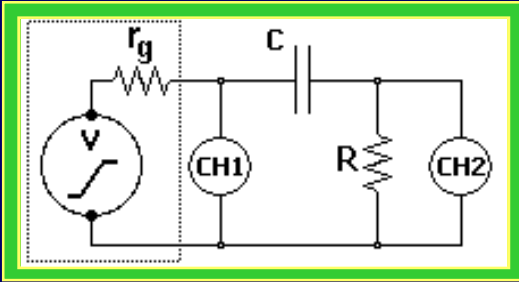
R≈1 kΩ

4 Vpp @ 5 kHz



$V(t) = K\,t$

$V_R(t) = K\,\tau\,(1 - e^{-\frac{t}{\tau}})$



R≈10 kΩ
inviare al circuito derivatore CR un segnale triangolare; confrontare dV/dt della rampa in ingresso col massimo della tensione di uscita diviso τ