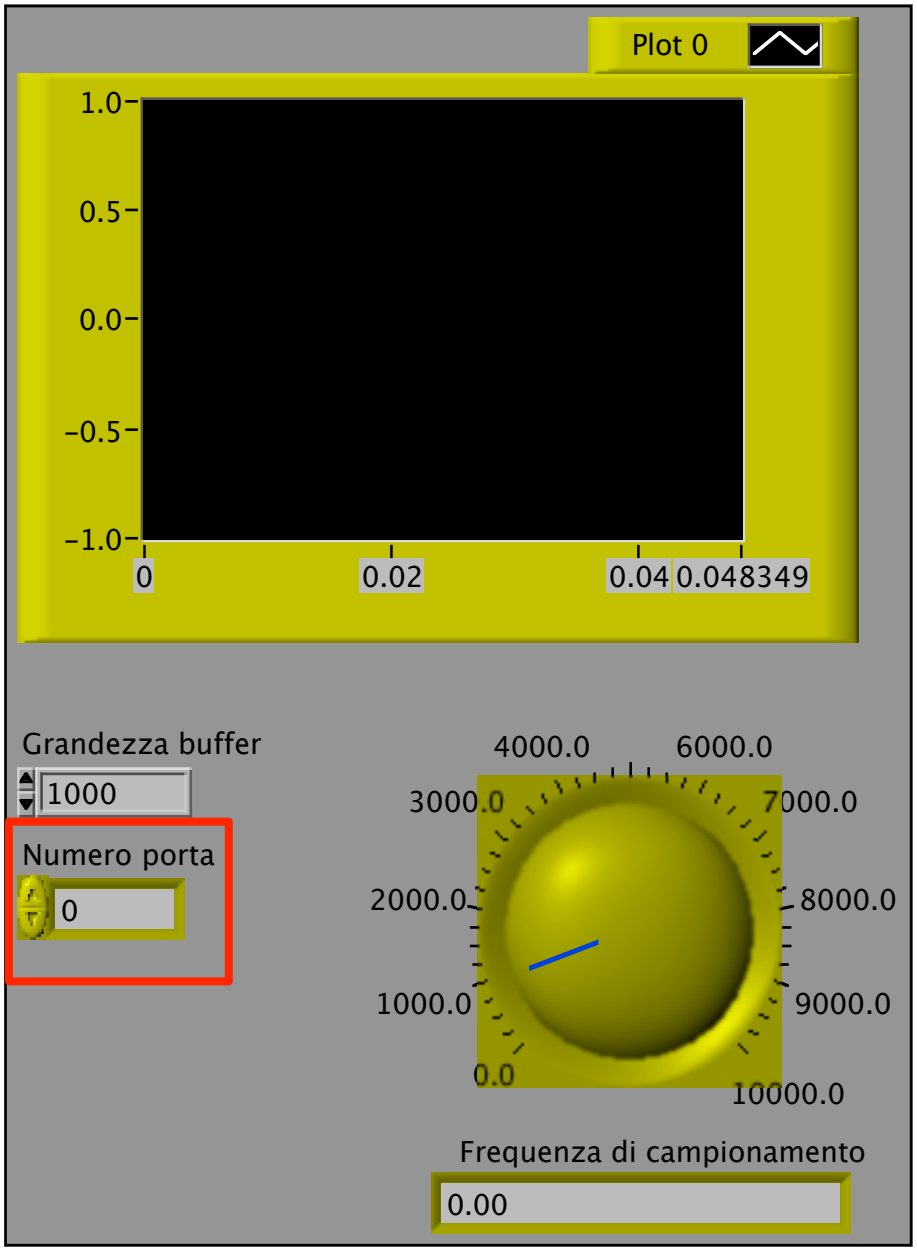
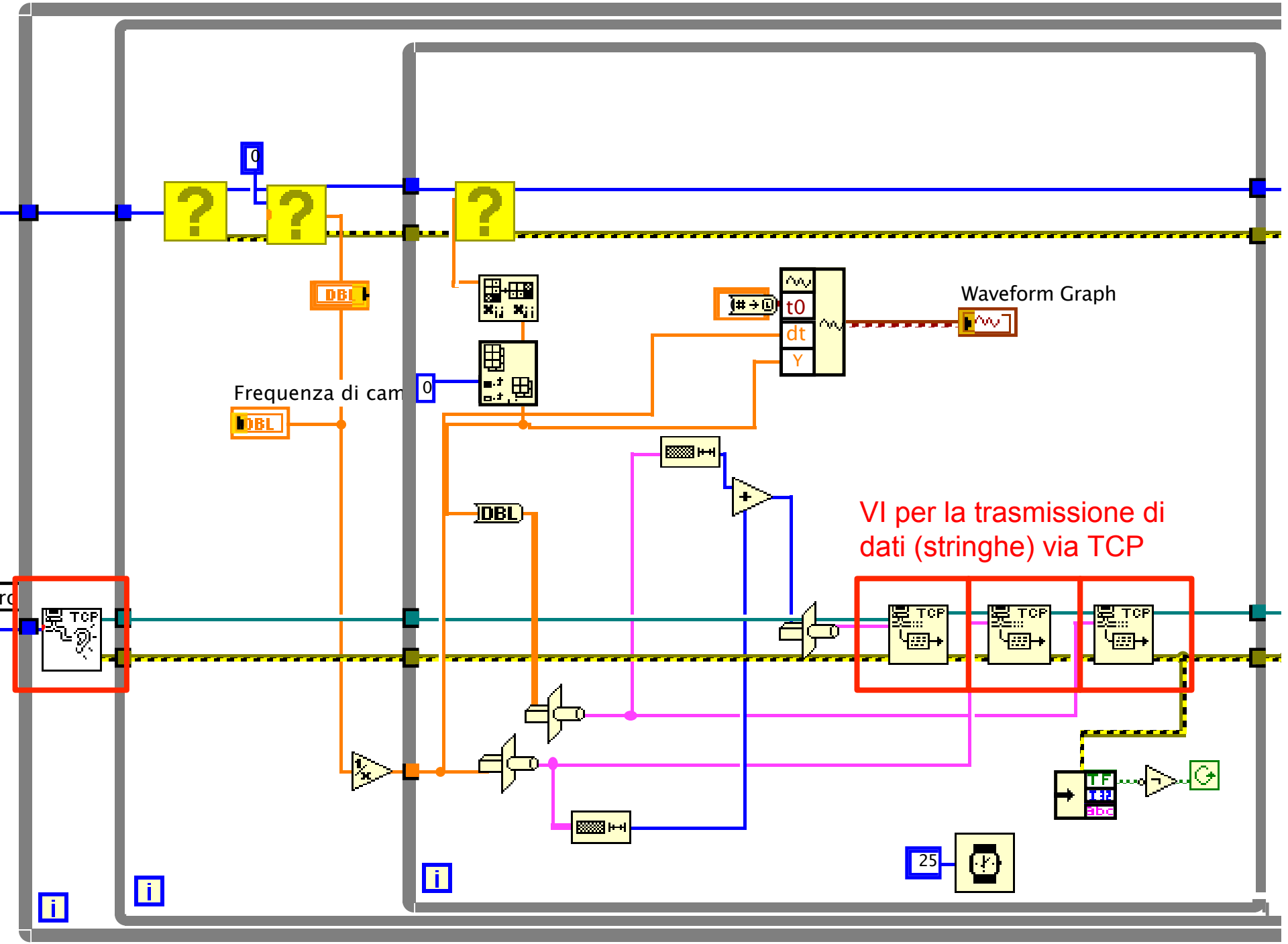
Esercizio n^{o} 5

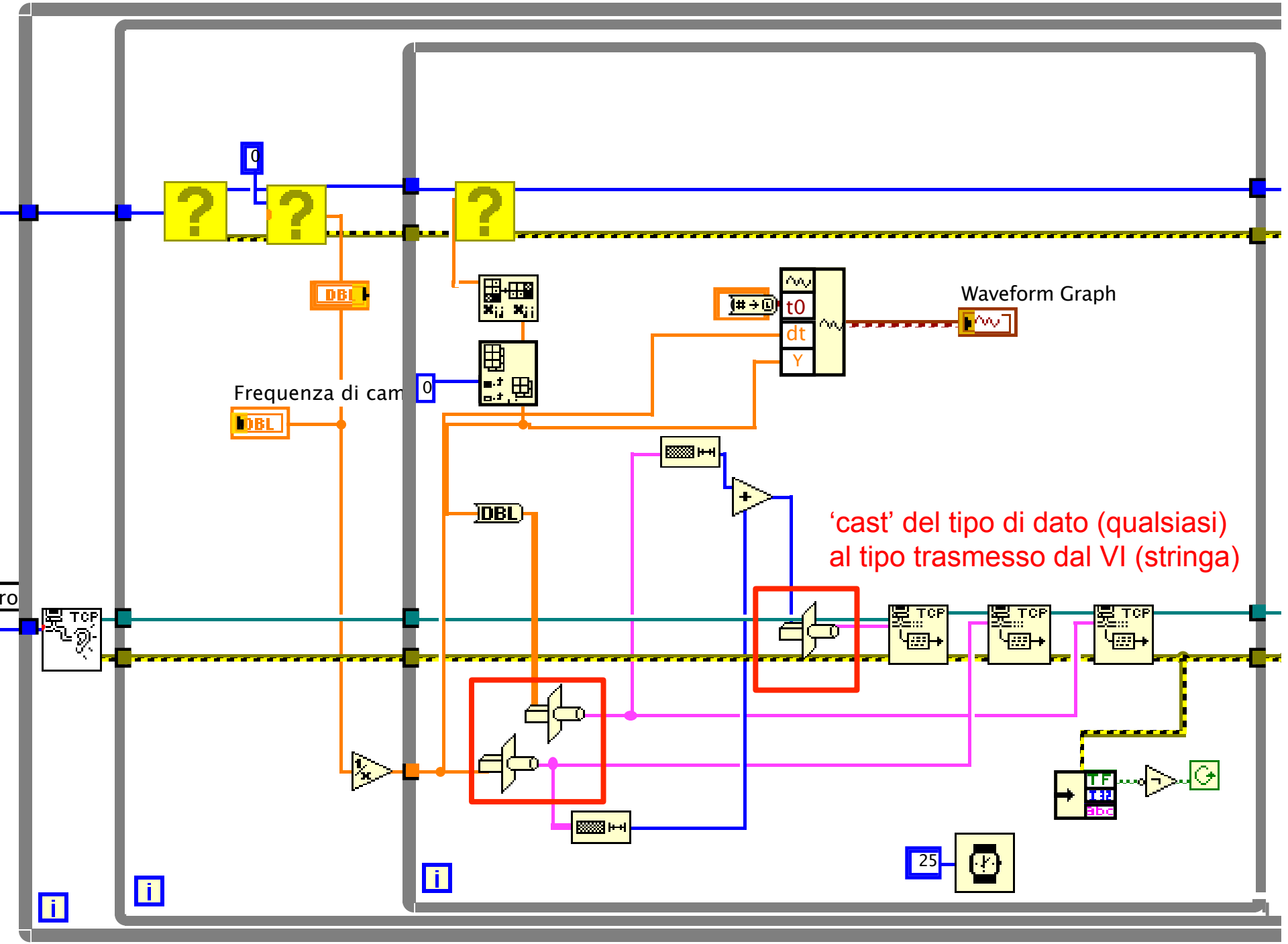
- Si realizzi un sistema di client-server per l'acquisizione di una forma d'onda e la sua trasmissione via rete

- Qualsiasi variazione (e ampliamento) sul tema è non solo ben accetta ma anche caldamente consigliata

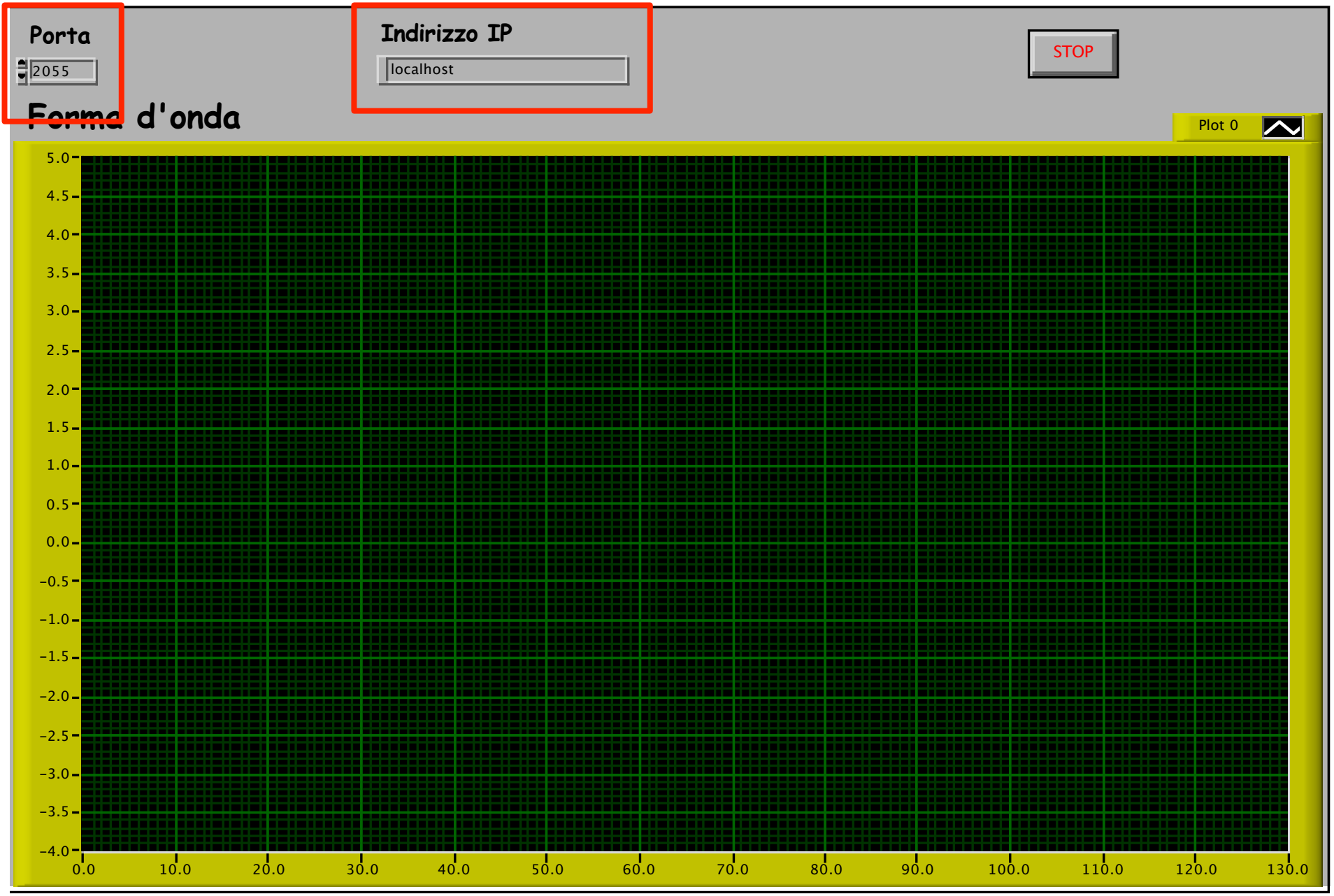
Server

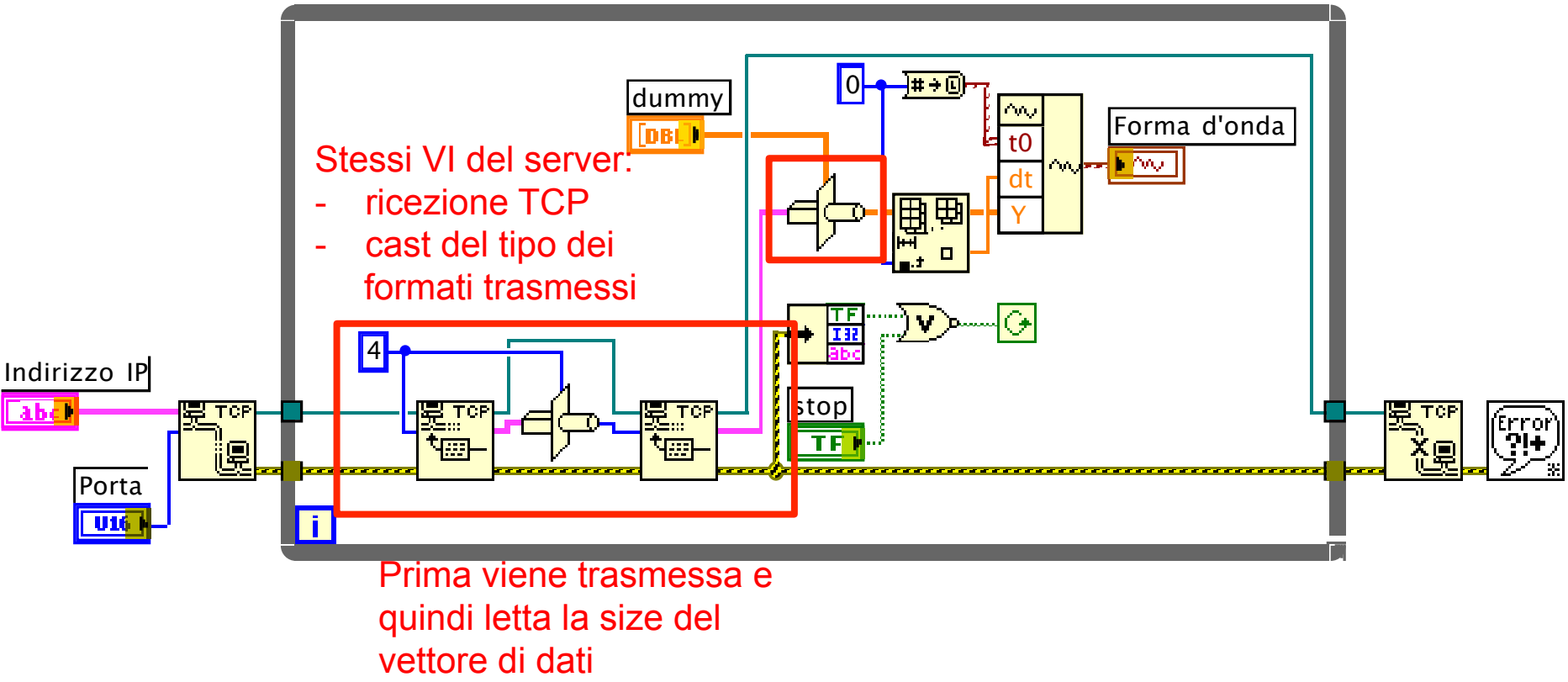

Plot 0
1.0
0.5
0.0
-0.5
-1.0
0
0.02
0.04
0.048349
Grandezza buffer
1000
Numero porta
0
4000.0
6000.0
3000.0
7000.0
2000.0
8000.0
1000.0
9000.0
0.0
10000.0
Frequenza di campionamento
0.00


0
DBL
Frequenza di cam
DBL
0
t0
dt
Y
Waveform Graph
DBL
VI per la trasmissione di dati (stringhe) via TCP
TCP
TCP
TCP
TCP
25
i
i
i


0
DBL
Frequenza di cam
DBL
0
t0
dt
Y
Waveform Graph
DBL
'cast' del tipo di dato (qualsiasi)
al tipo trasmesso dal VI (stringa)
TCP
TCP
TCP
TCP
TF
TCN
abc
25
i
i
i

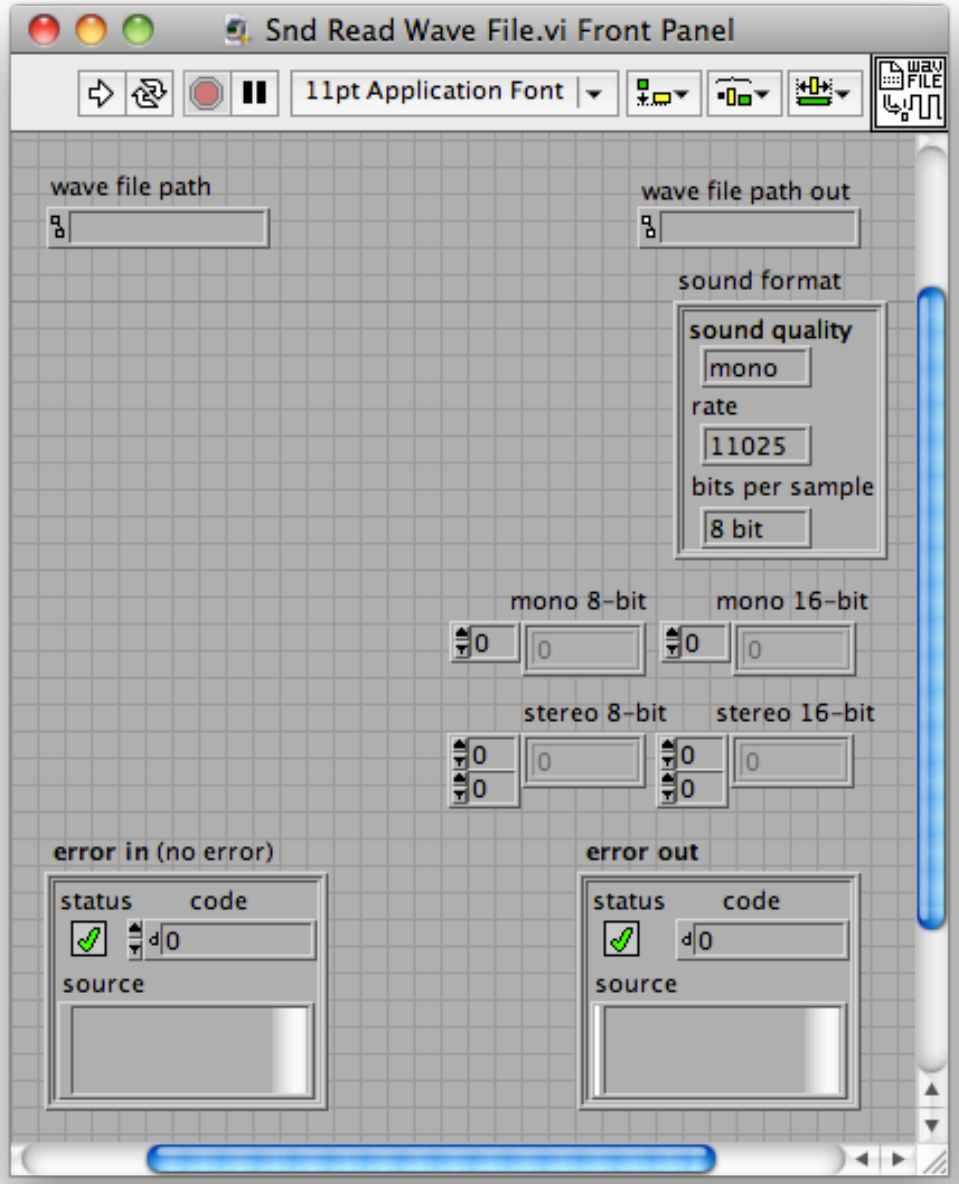
Client

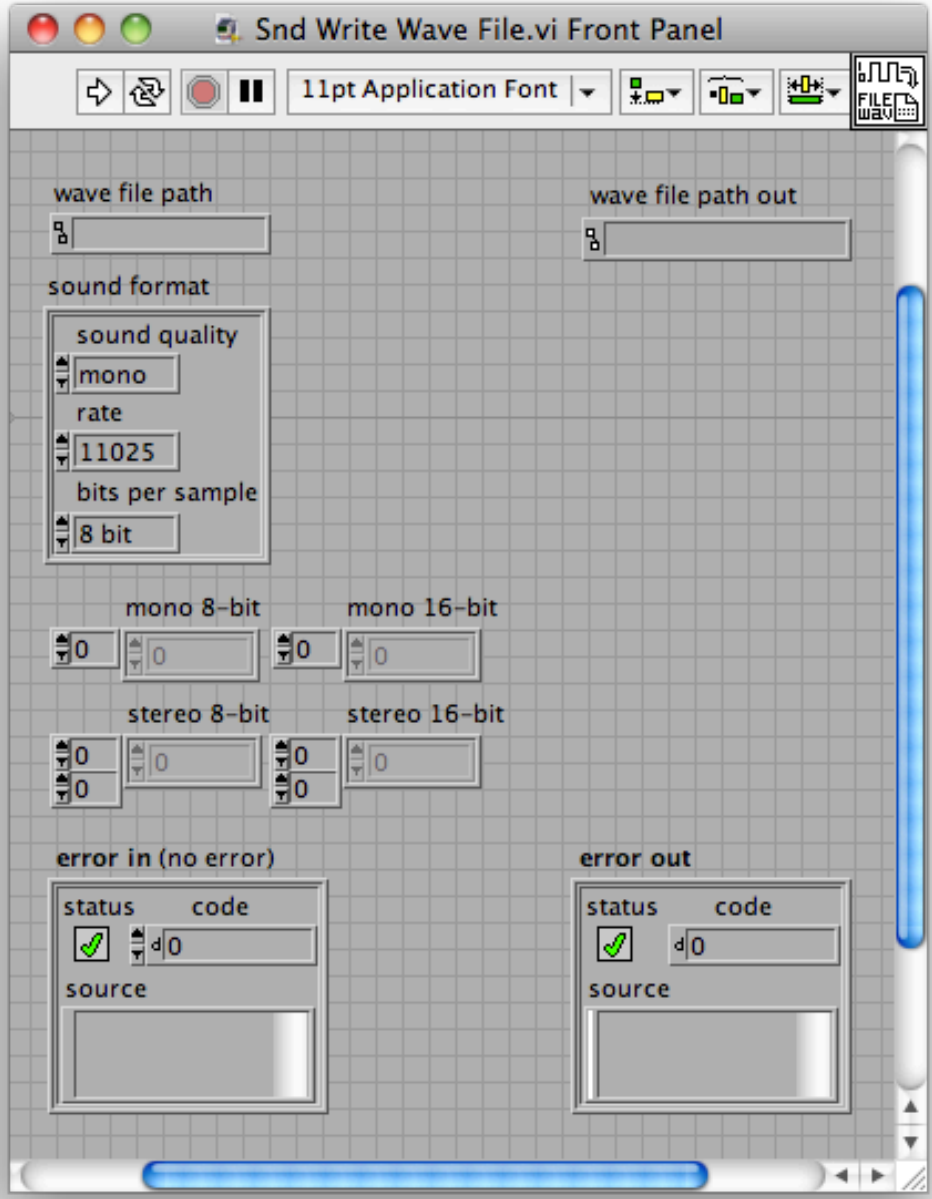

Porta
2055
Indirizzo IP
localhost
STOP
Forma d'onda
Plot 0
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0



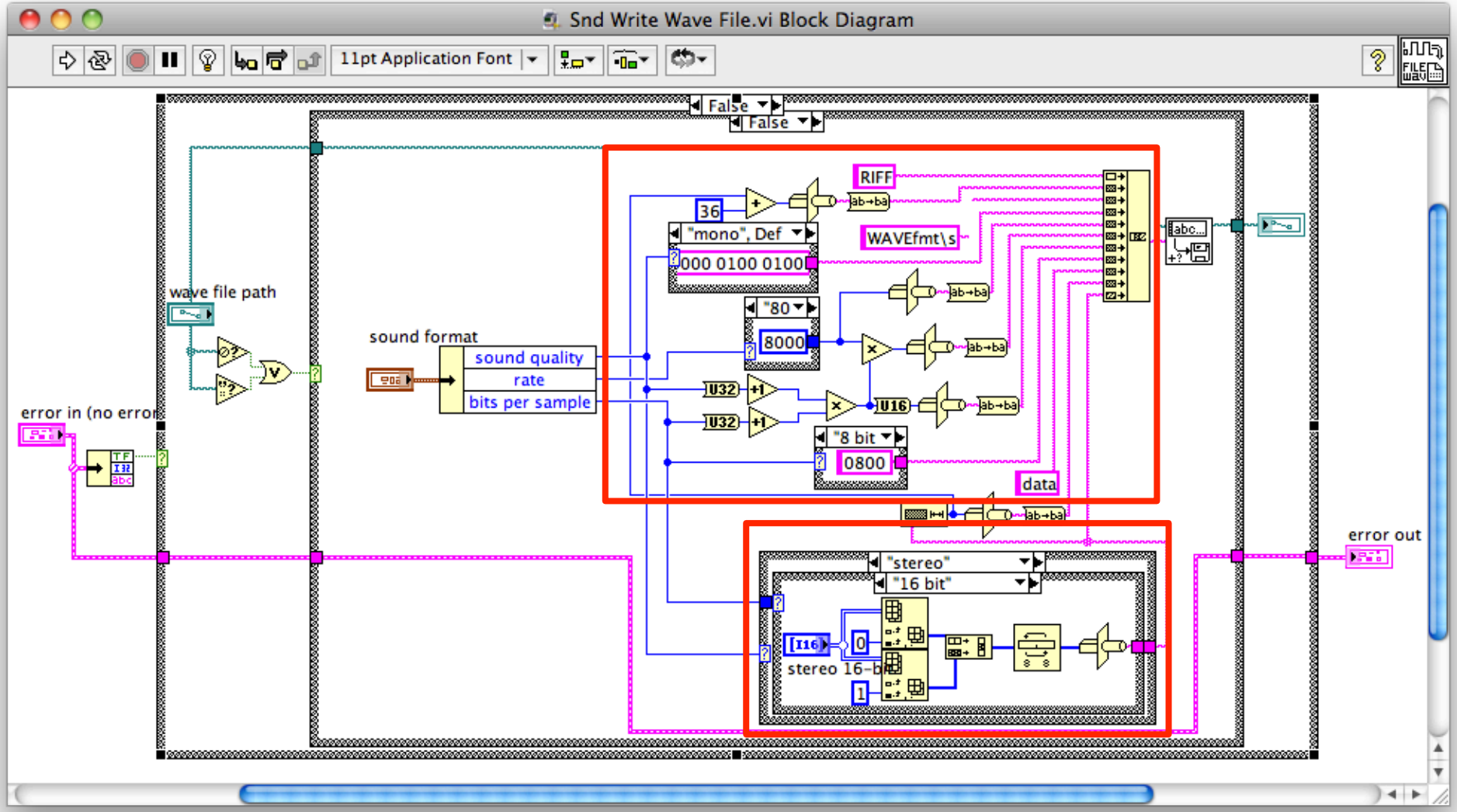
- Cosa viene trasmesso è 'hard-coded': lunghezza vettore + valori Y + dt. Si può, ed è utile, fare più in generale?
- Il tipo dei dati trasmessi non viene mai comunicato. Si può, ed è utile, fare più in generale?
- Il client deve stare sempre in ascolto e in "decodifica" o basta un ascolto e definiamo un "hand-shake" che faccia partire la decodifica?

Formato dati e protocollo

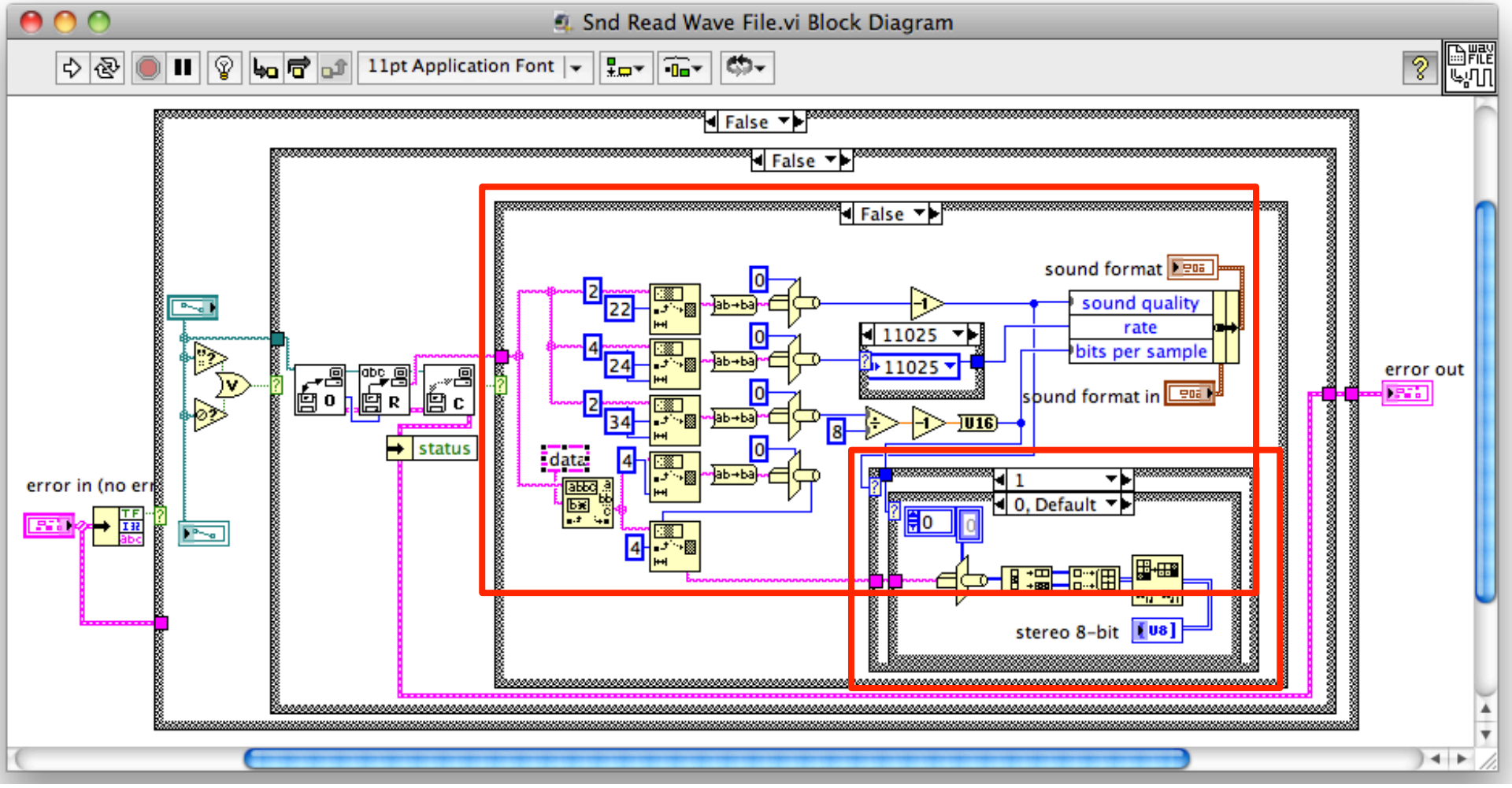




Formato dati e protocollo



Formato dati e protocollo



Formato dati e protocollo

AMS Block Request

Bits	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
AMS Block Header	L	Size (number of bytes) of the block exclude "size" and "size extension" word														
	Size extension if "L" = 1															
	0	RW	Node Address									Data Type				
	Data Type Extension if Data Type = 0x1F															
	FBI	ICE	IE	NL	Secondary header tag											
AMS Block Data	Request Data Bytes …															

Note:
- RW - 0 mean write and then read, 1 means write only
- NL - Flag to indicate the reply will not be sent to low rate HK stream
- IE - Flag to indicate ignore the error for this command, it is only valid when the command is inside command file or envelop
- ICE - Flag to indicate if the parent should be ignore error from child command file, it is valid only when start command file
- FBI - Reserved for Future Brilliance Idea

AMS Block Reply

Bits	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
AMS Block Header	L	Size (number of bytes) of the block exclude "size" and "size extension" word														
	Size extension if "L" = 1															
	1	RW	Node Address									Data Type				
	Data Type Extension if Data Type = 0x1F															
	Status				Secondary header tag											
	Secondary header time tag (Most significant word)															
	Secondary header time tag (Least significant word)															
AMS Block Data	Reply Data Bytes …															

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AMS Block Data	Reply Data Bytes …															

Possibile idea: “skype”

- Come scheda di acquisizione utilizziamo la scheda audio del PC1 (ADC)
- Il client “visualizzerà” la forma d’onda trasmettendola dalle casse del PC2, via la sua scheda audio (DAC)

→ abbiamo realizzato un sistema di telefono VoiP

- L’ ”hand-shake” è il “trigger” della chiamata vera e propria ma il client deve essere sempre in ascolto
- Il protocollo ed il formato dei dati sarà più o meno fisso (trasmissione di suono) ma:
  - frequenza di campionamento?
  - stereo o mono?
  - quanti bit?
  - …