

Laboratorio II, modulo 2

2015-2016

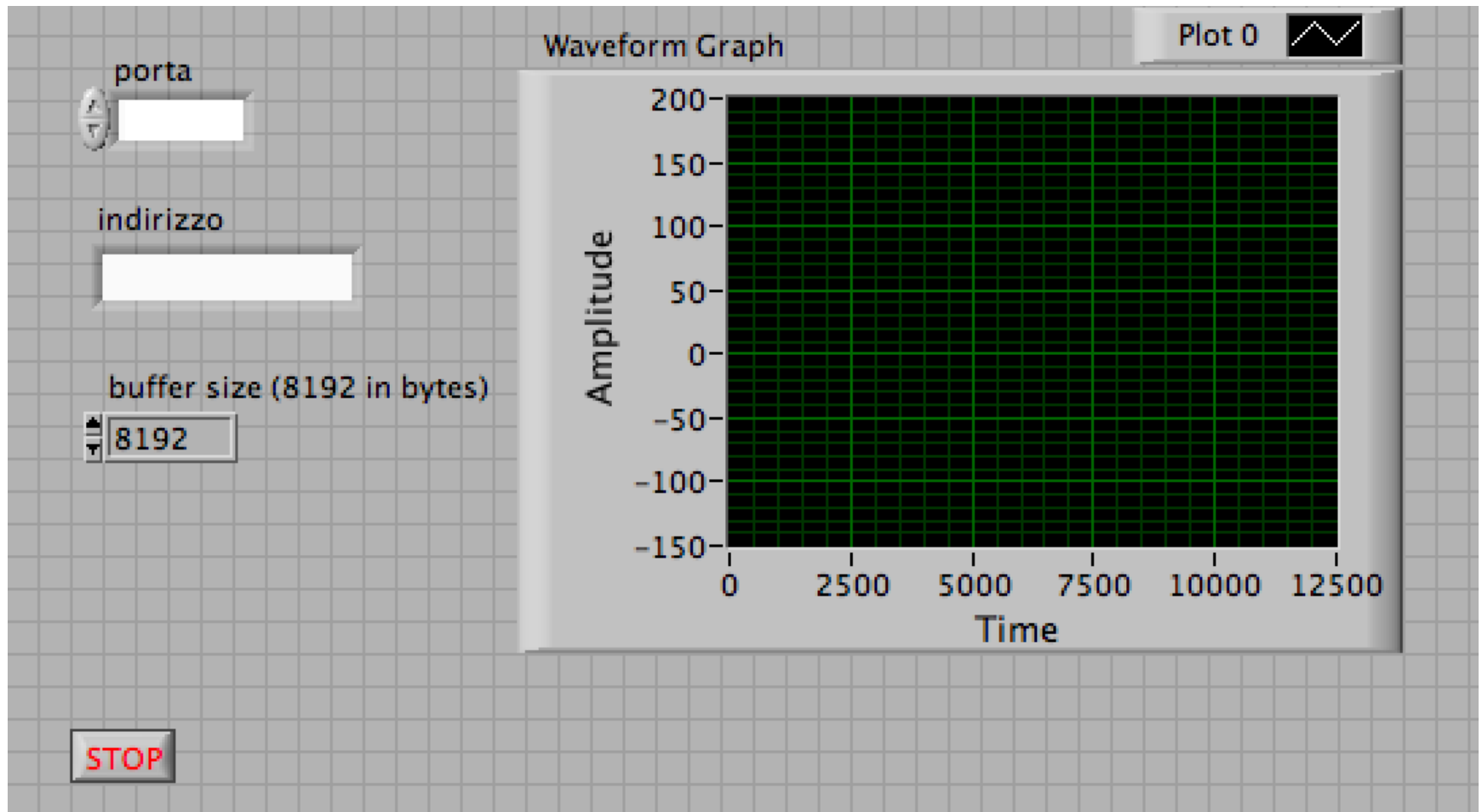
“Skype”

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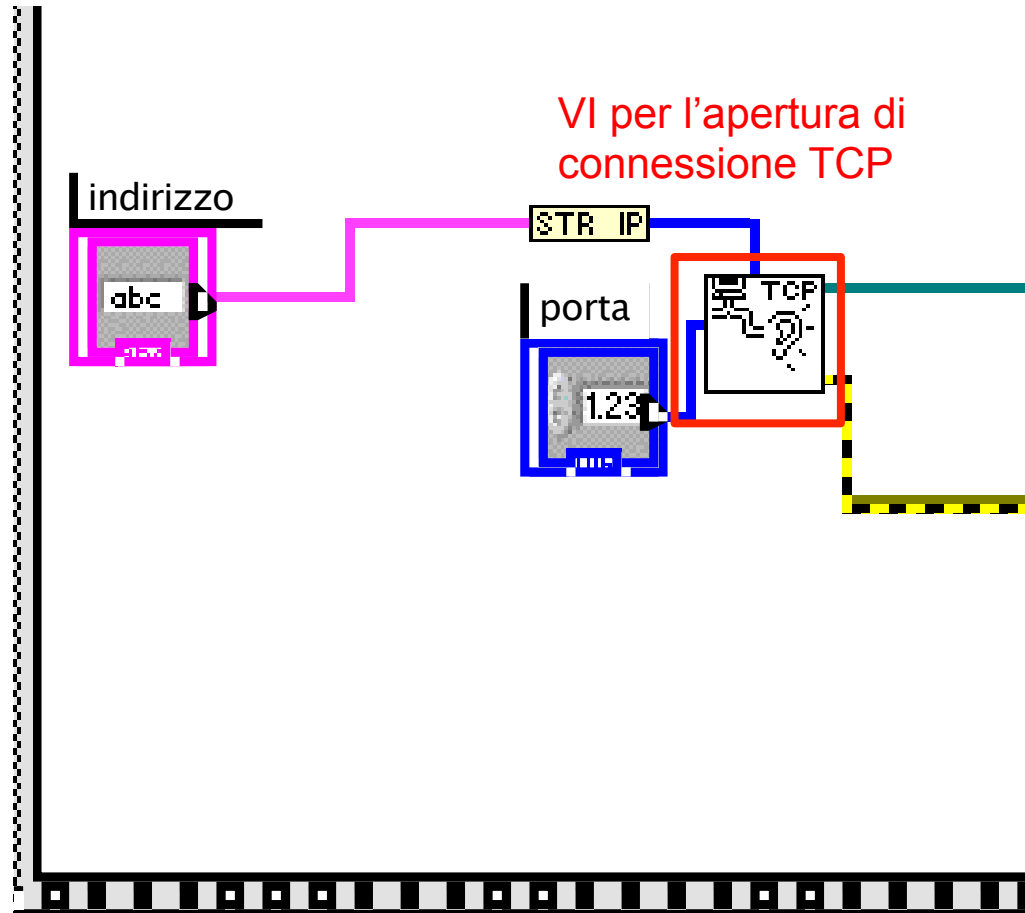
- Sappiamo come acquisire un segnale
- Labview ci fornisce gli strumenti per trasmetterlo/riceverlo via rete

→ “Skype”

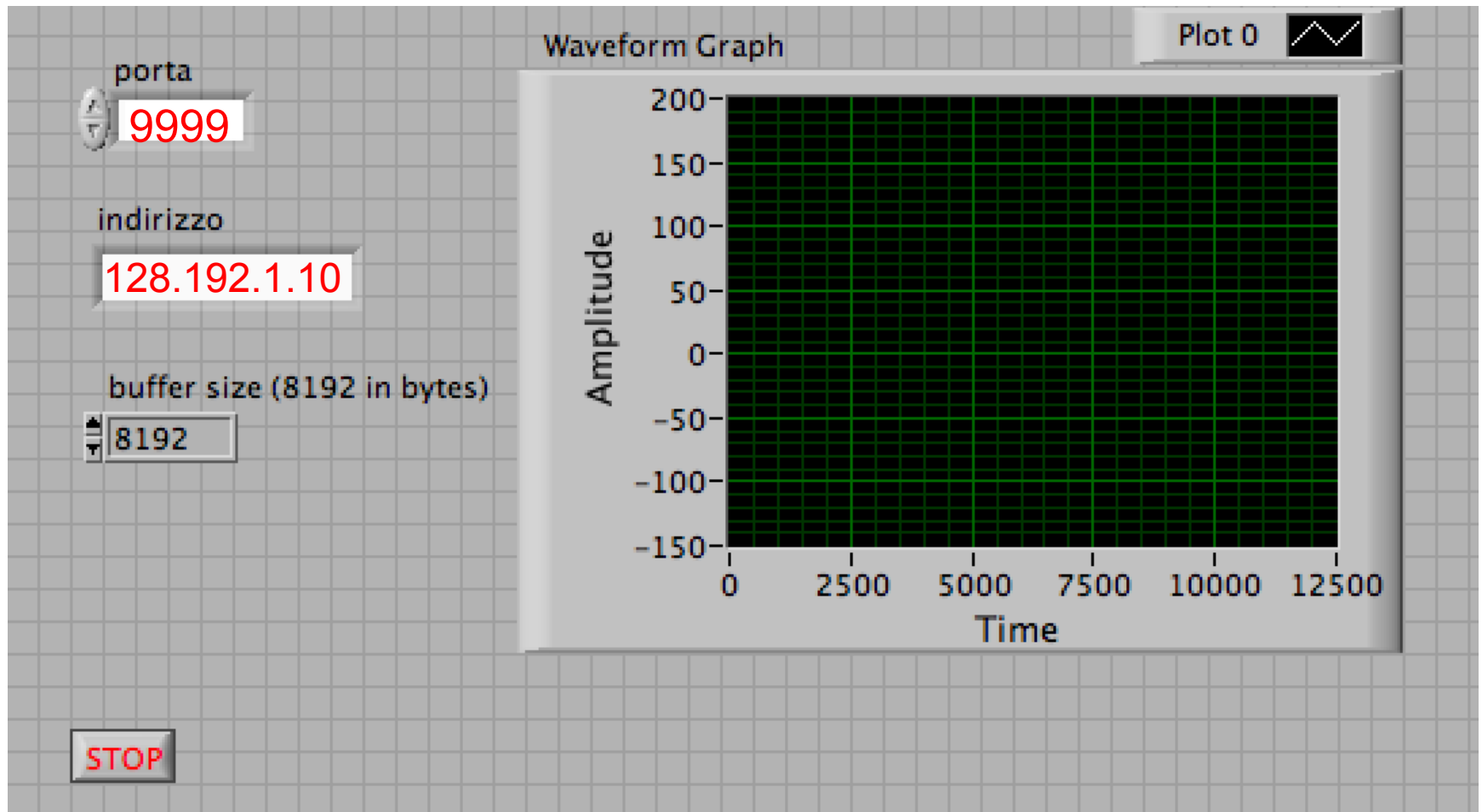
TCP



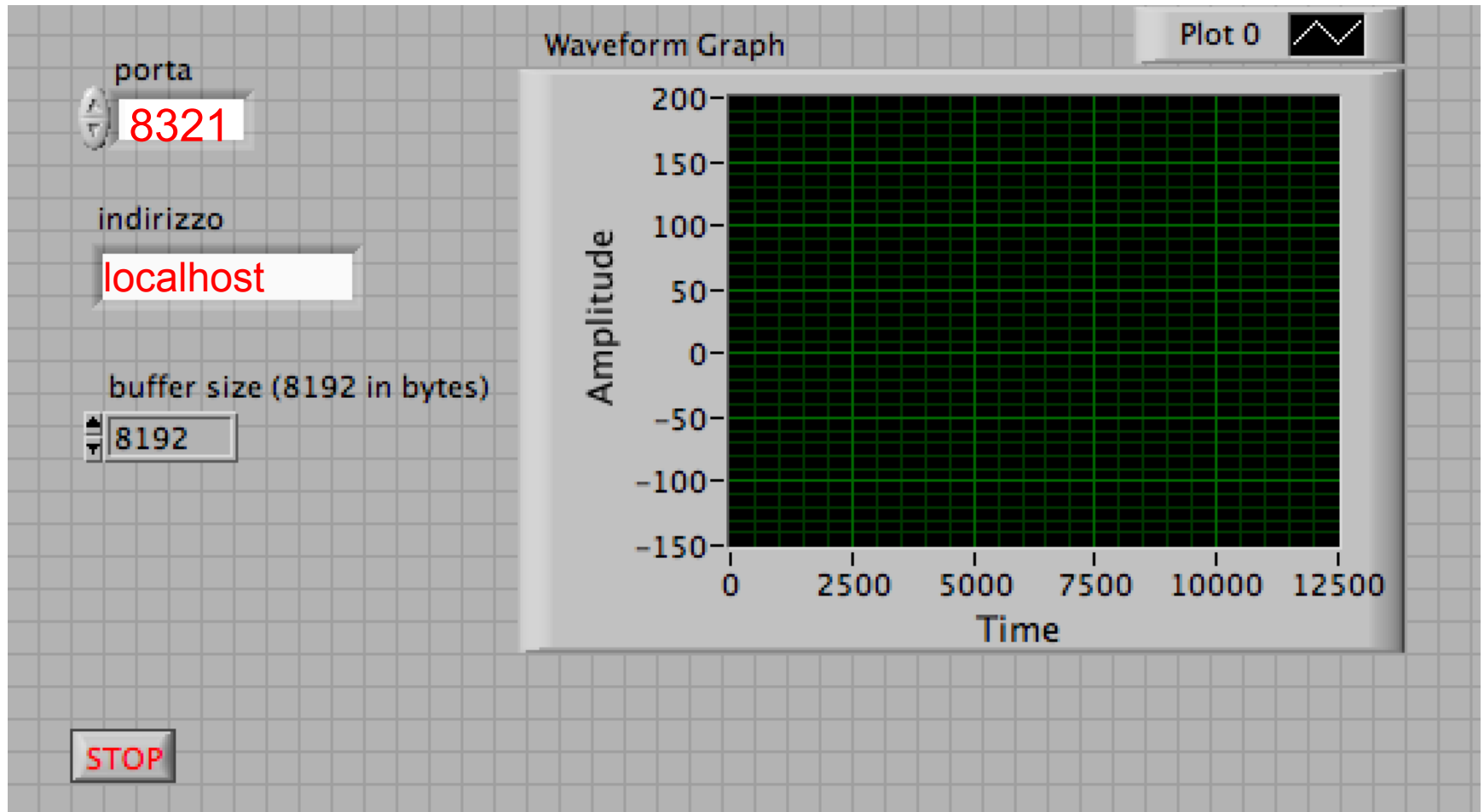
TCP



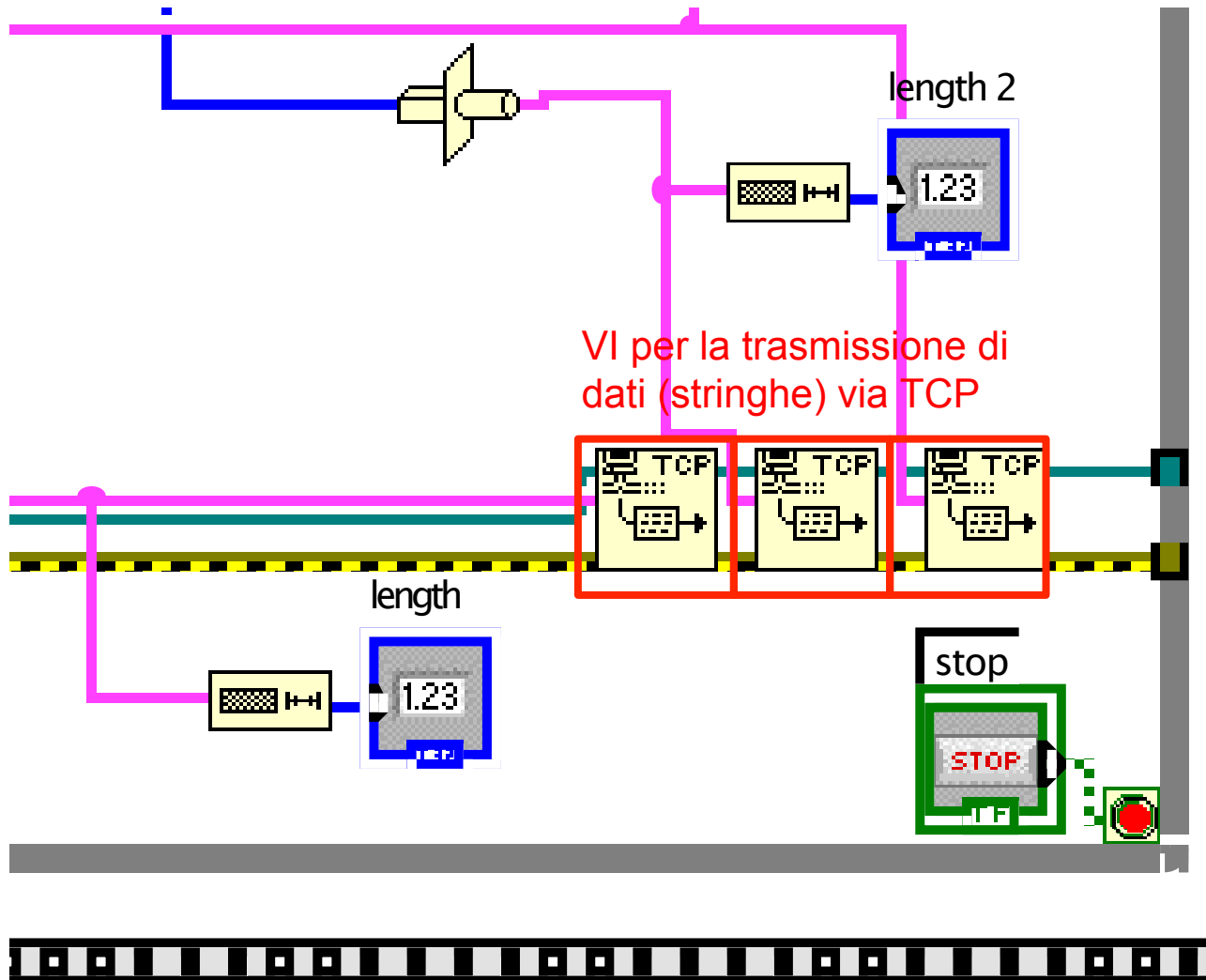
Front panel tipico



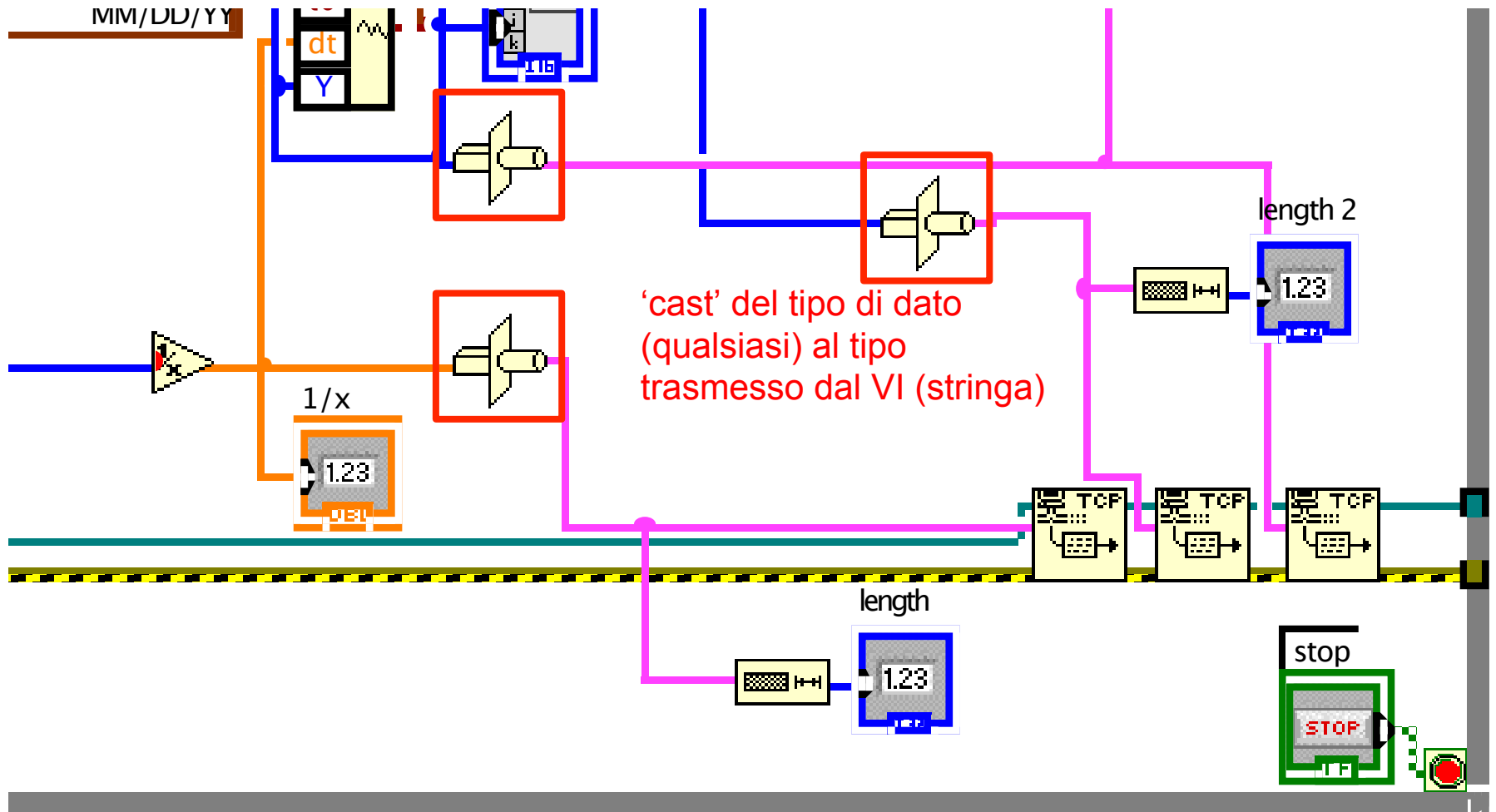
Front panel tipico

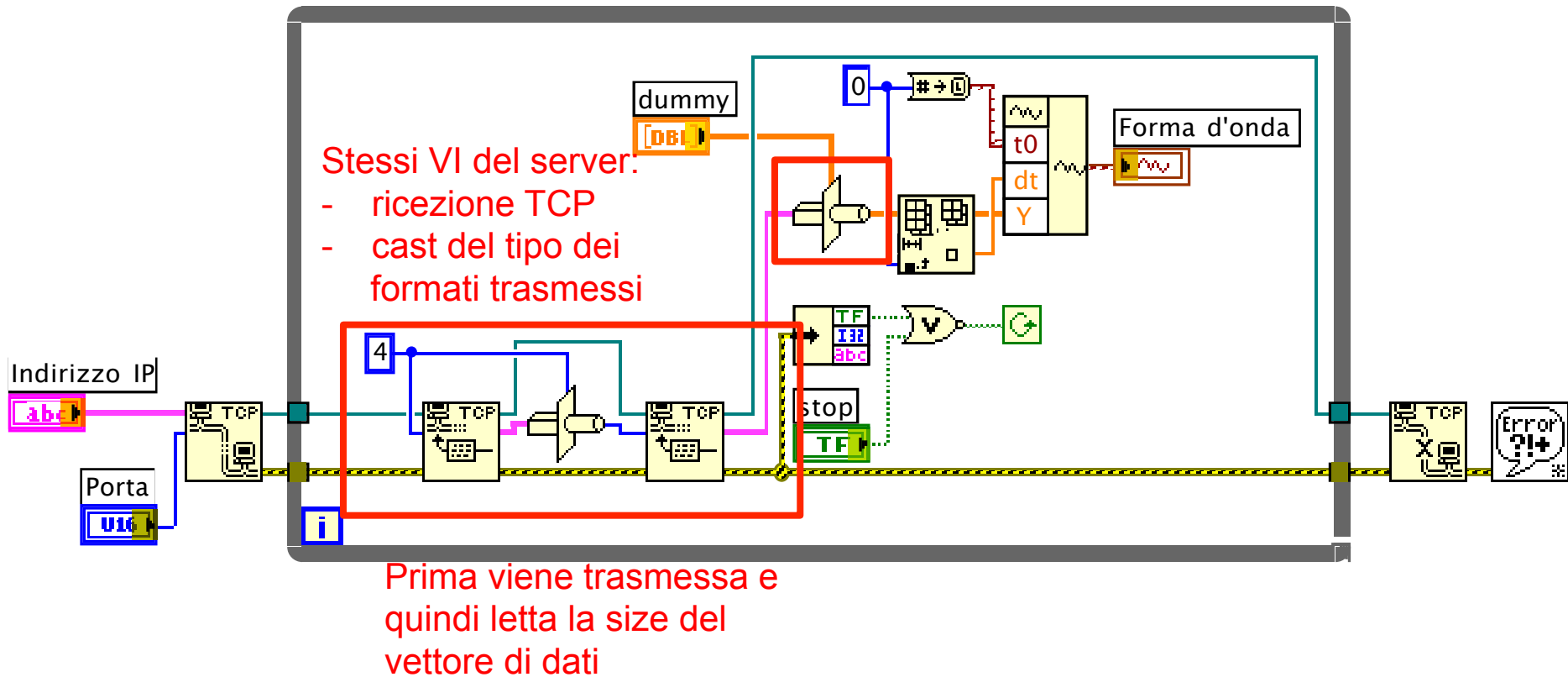


TCP



Cast del tipo dati





- 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

Snd Read Wave File.vi Front Panel

wave file path

wave file path out

sound format

sound quality: mono

rate: 11025

bits per sample: 8 bit

mono 8-bit:

mono 16-bit:

stereo 8-bit:

stereo 16-bit:

error in (no error): status code d0 source

error out: status code d0 source

Snd Write Wave File.vi Front Panel

wave file path

wave file path out

sound format

sound quality: mono

rate: 11025

bits per sample: 8 bit

mono 8-bit:

mono 16-bit:

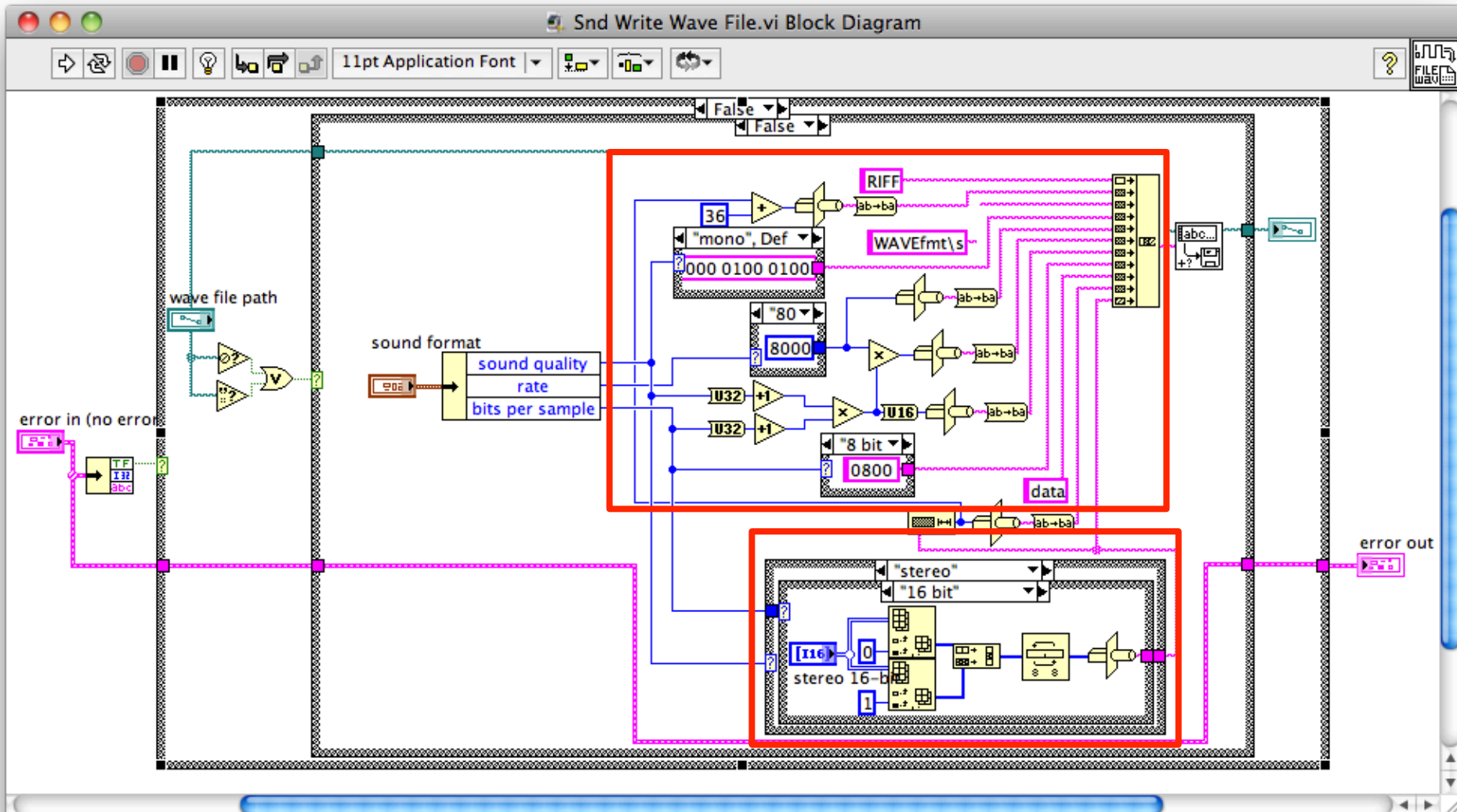
stereo 8-bit:

stereo 16-bit:

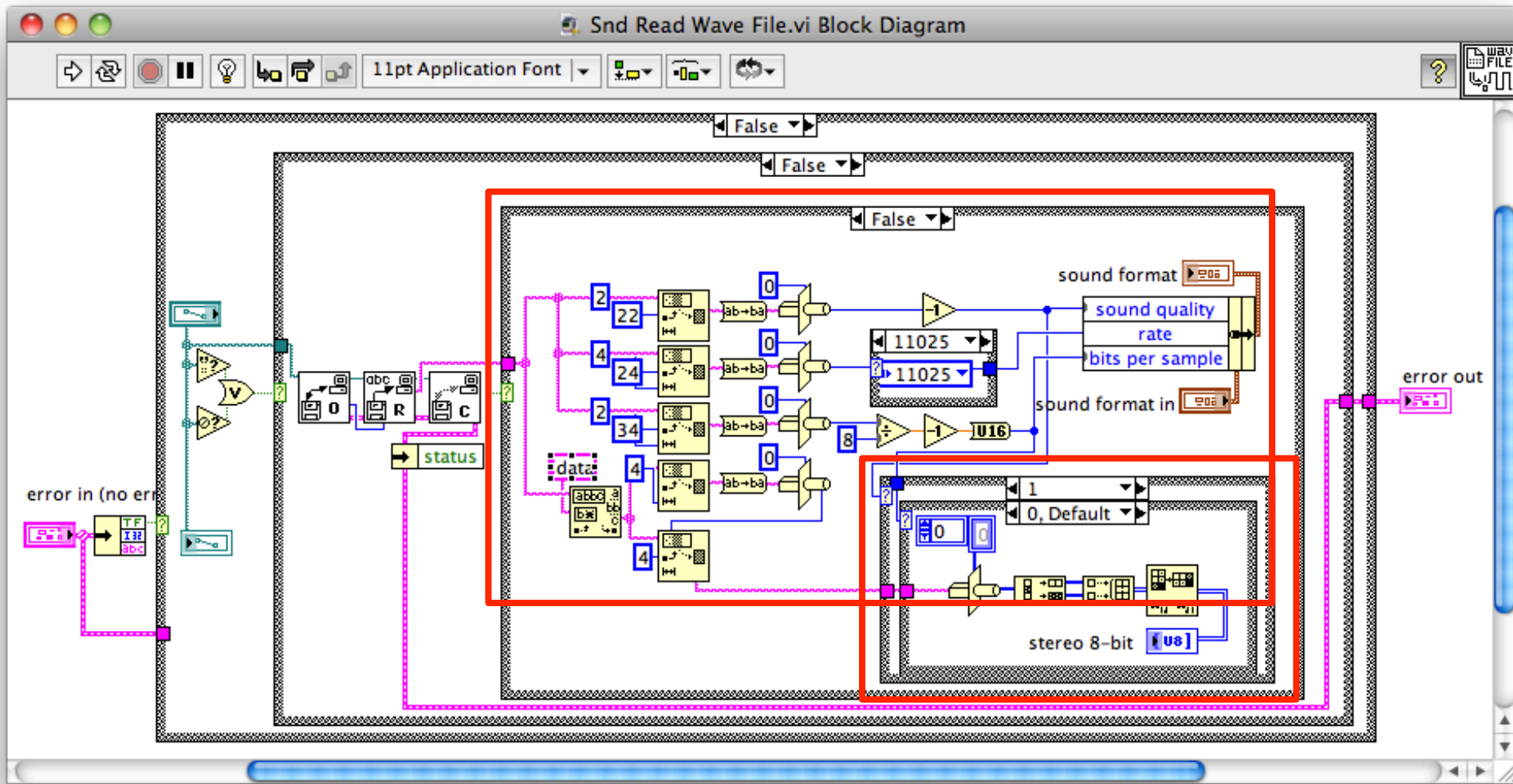
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Formato dati e protocollo



Formato dati e protocollo

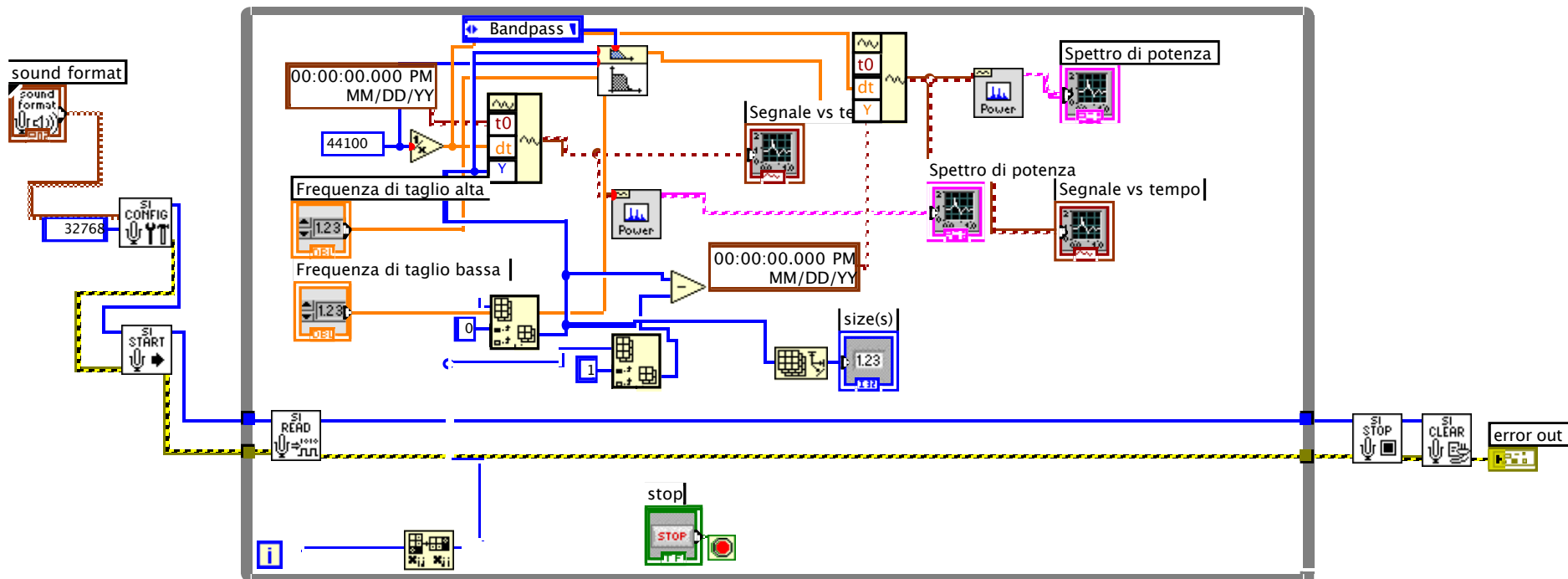


Modalità di acquisizione

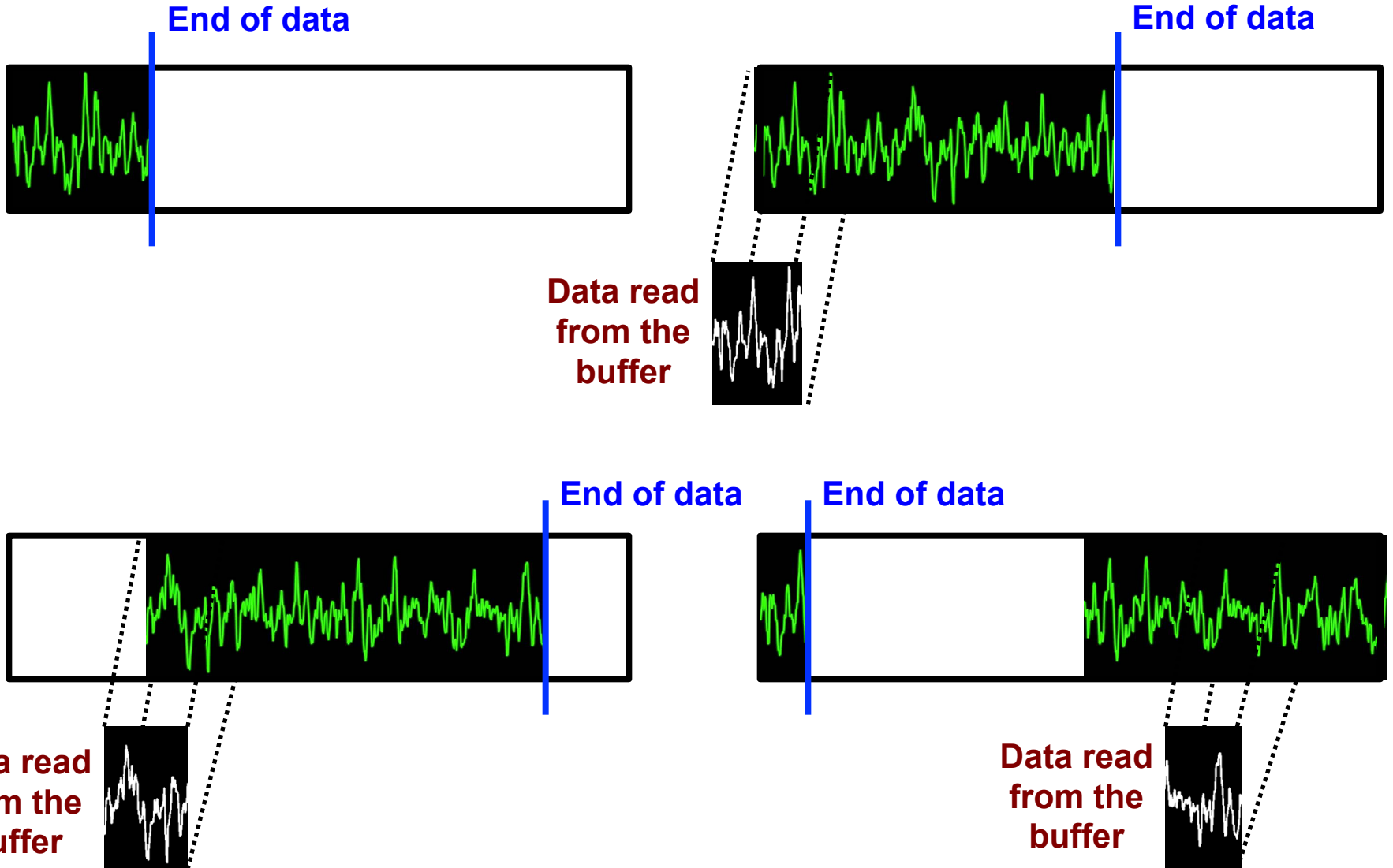
- Continua: a partire da un certo t_0 il sistema acquisisce campioni ad una frequenza fissata
- Con trigger: il sistema acquisisce una quantità definita di campioni, ad una frequenza fissata, a partire da un segnale di trigger
- La sequenza di campioni può essere relativa a:
 - lo stesso segnale a tempi diversi
 - diversi segnali allo stesso istante di tempo
(necessità di un *sample&hold* e di un *multiplexer*)

Modalità di acquisizione

- Continua: a partire da un certo t_0 il sistema acquisisce campioni ad una frequenza fissata



Buffer circolare



Acquisizione & trasmissione

- Che succede ai dati che vengono acquisiti se non c'è nessun client in *ascolto*?
- Che succede ai dati che vengono acquisiti nel frattempo che il server è in attesa di un client che si colleghi e inizi a ricevere i dati?

→ l'acquisizione deve iniziare solamente quando la connessione è stabilita

Anche nella Ricerca Scientifica...



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																
AMS Block Data	FBI	ICE	IE	NL	Secondary header tag												
	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	
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	Size extension if "L" = 1																
	1	RW	Node Address										Data Type				
	Data Type Extension if Data Type = 0x1F																
	Status				Secondary header tag												
AMS Block Data	Secondary header time tag (Most significant word)																
	Secondary header time tag (Least significant word)																
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Formato dati e protocollo

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