

# ESEMSA

Elettroacustica e Sistemi Elettroacustici - Master in Sonic Arts  
2014

# ESEMSA 2014

mixer: architetture e tipologie di utilizzo



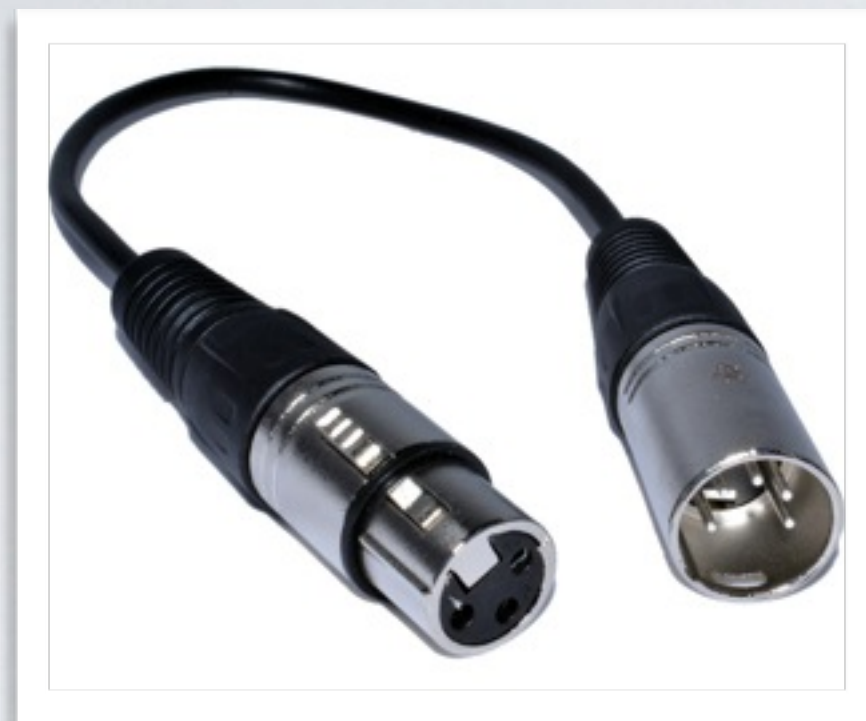
# FUNZIONI DEL MIXER:

- Pre-amplifica il segnale
- Elabora la risposta in frequenza
- Invia il segnale ad altri circuiti di elaborazione esterni
- Somma i diversi ingressi
- Ri-distribuisce i segnali su diverse uscite
- Permette un controllo su tutti i parametri

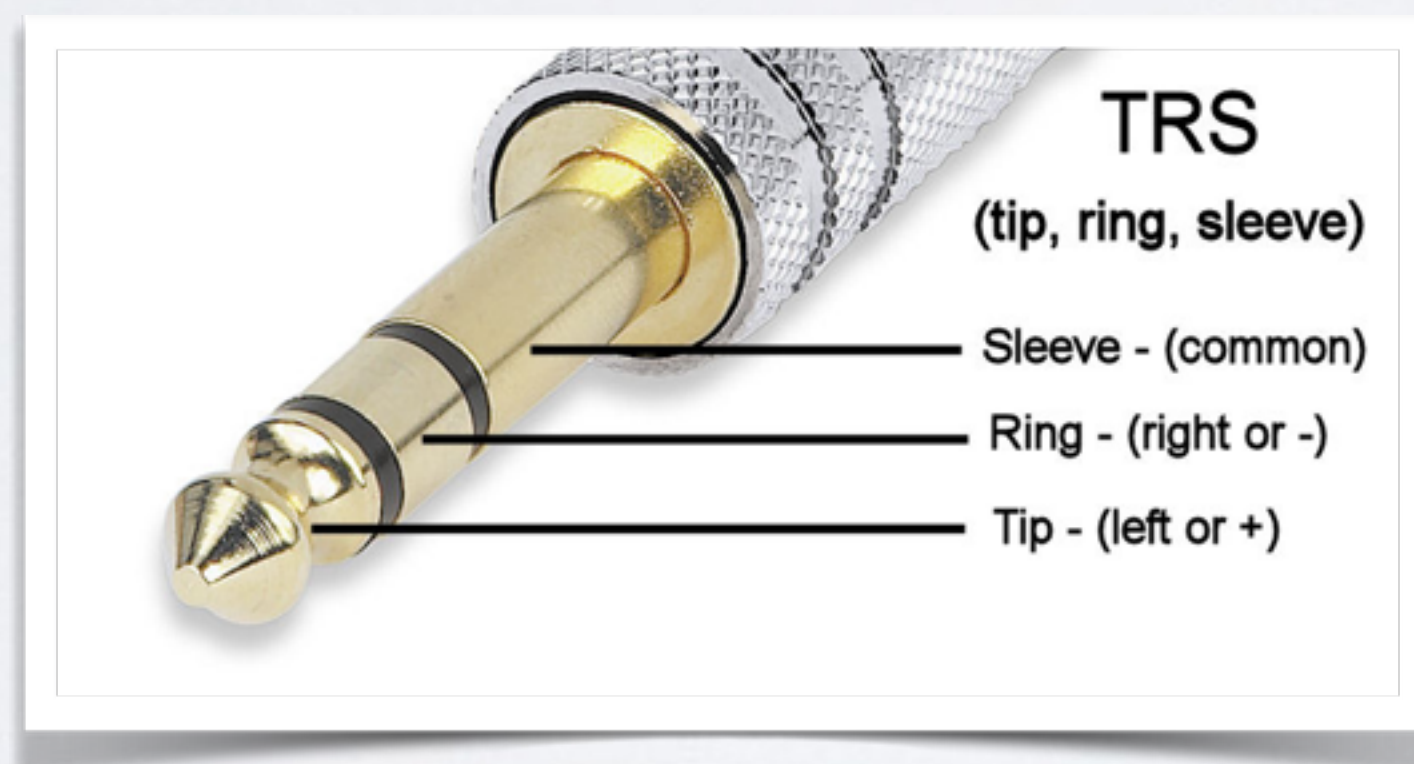
# STADIO DI INGRESSO

- Alimentazione fantasma (Phantom o 48V)
- Attenuatore (PAD)
- Guadagno (Trim o Gain)  
errori comuni: saturazione e rumore
- Invertitore di fase (Phase o  $\emptyset$ )

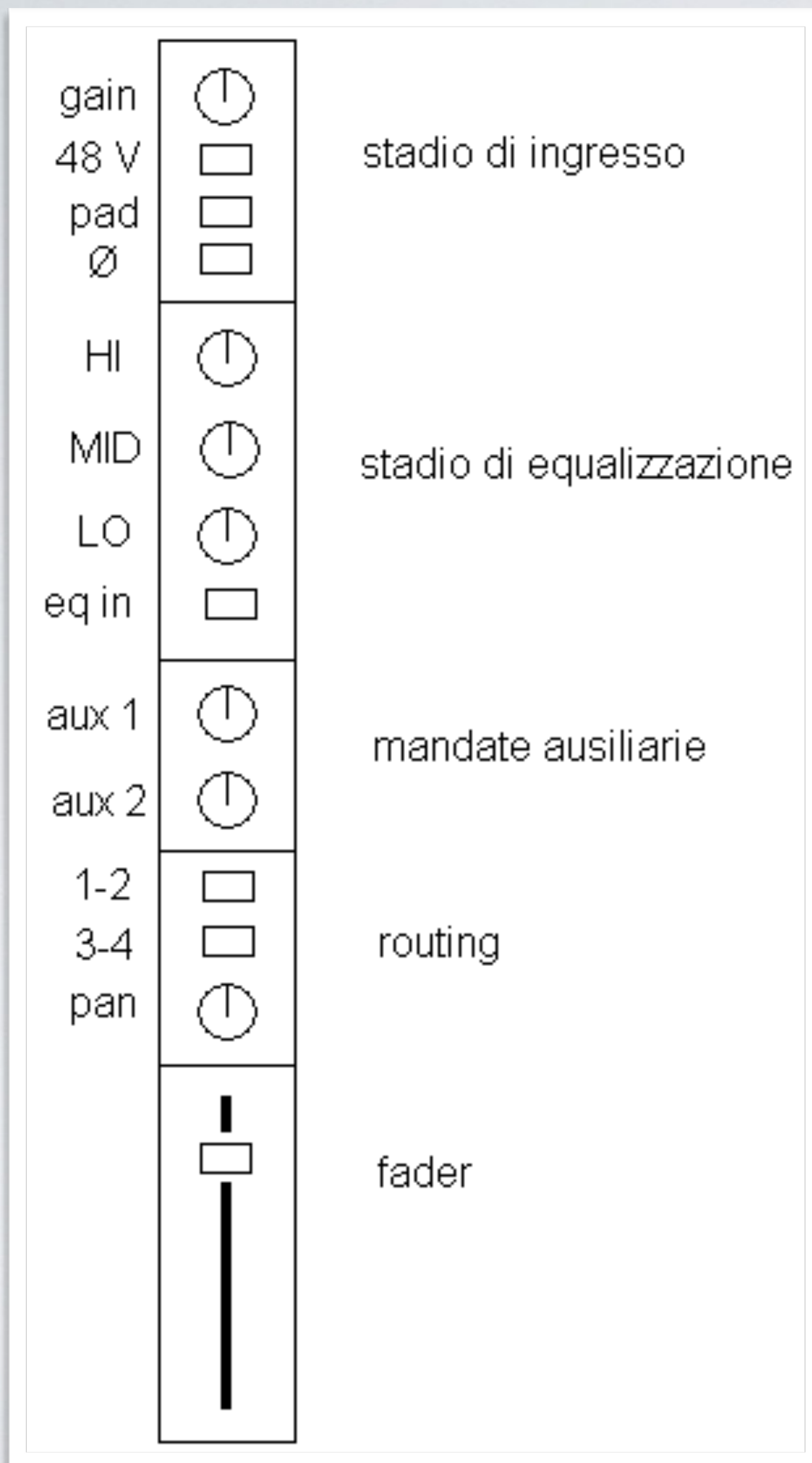




# CONNETTORI COMUNI



XLR  
Cannon X  
Latch  
Rubber  
TRS (jack)



# CHANNEL STRIP

stadio di ingresso

stadio di equalizzazione

mandate di equalizzazione

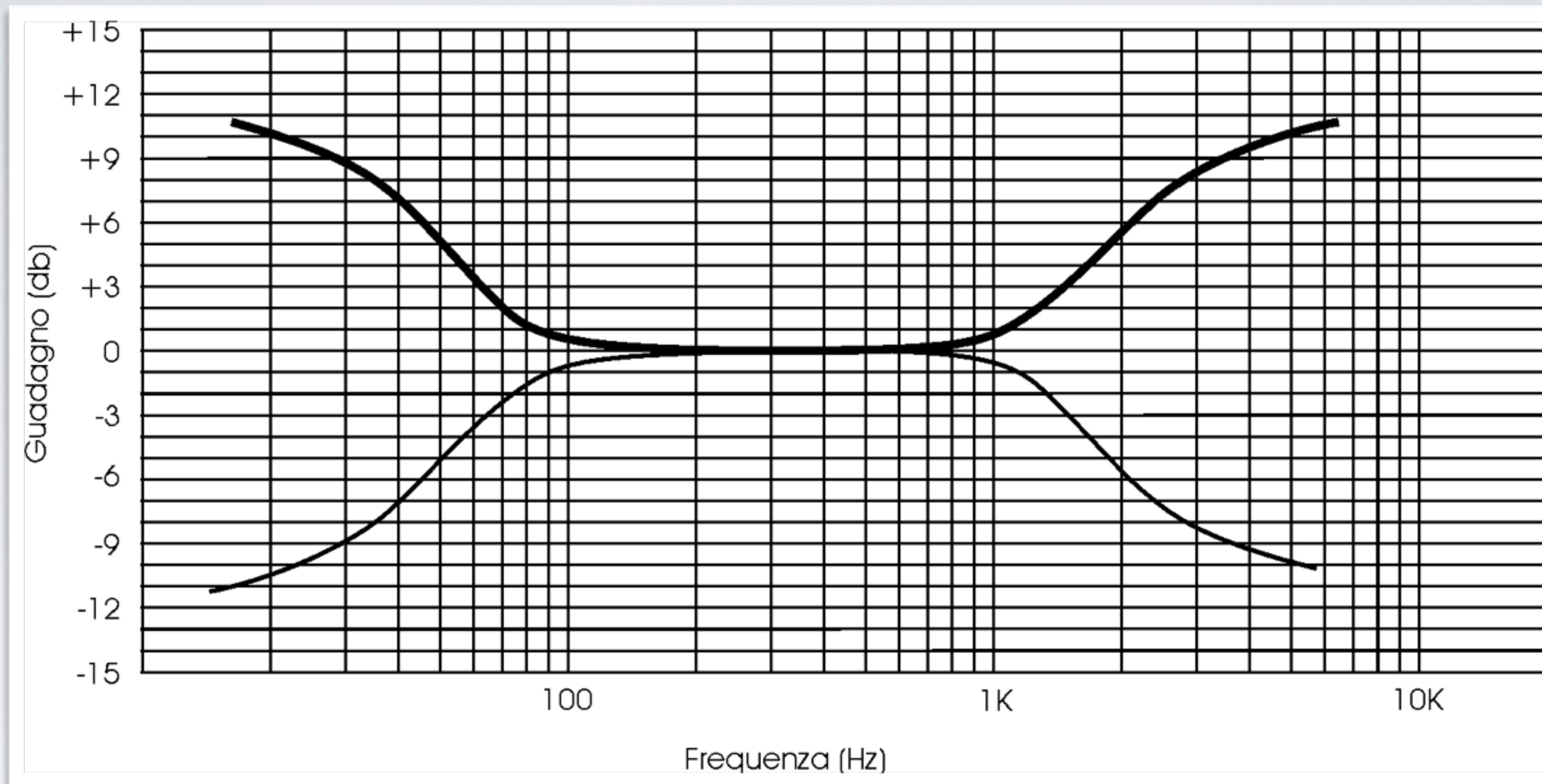
routing

fader



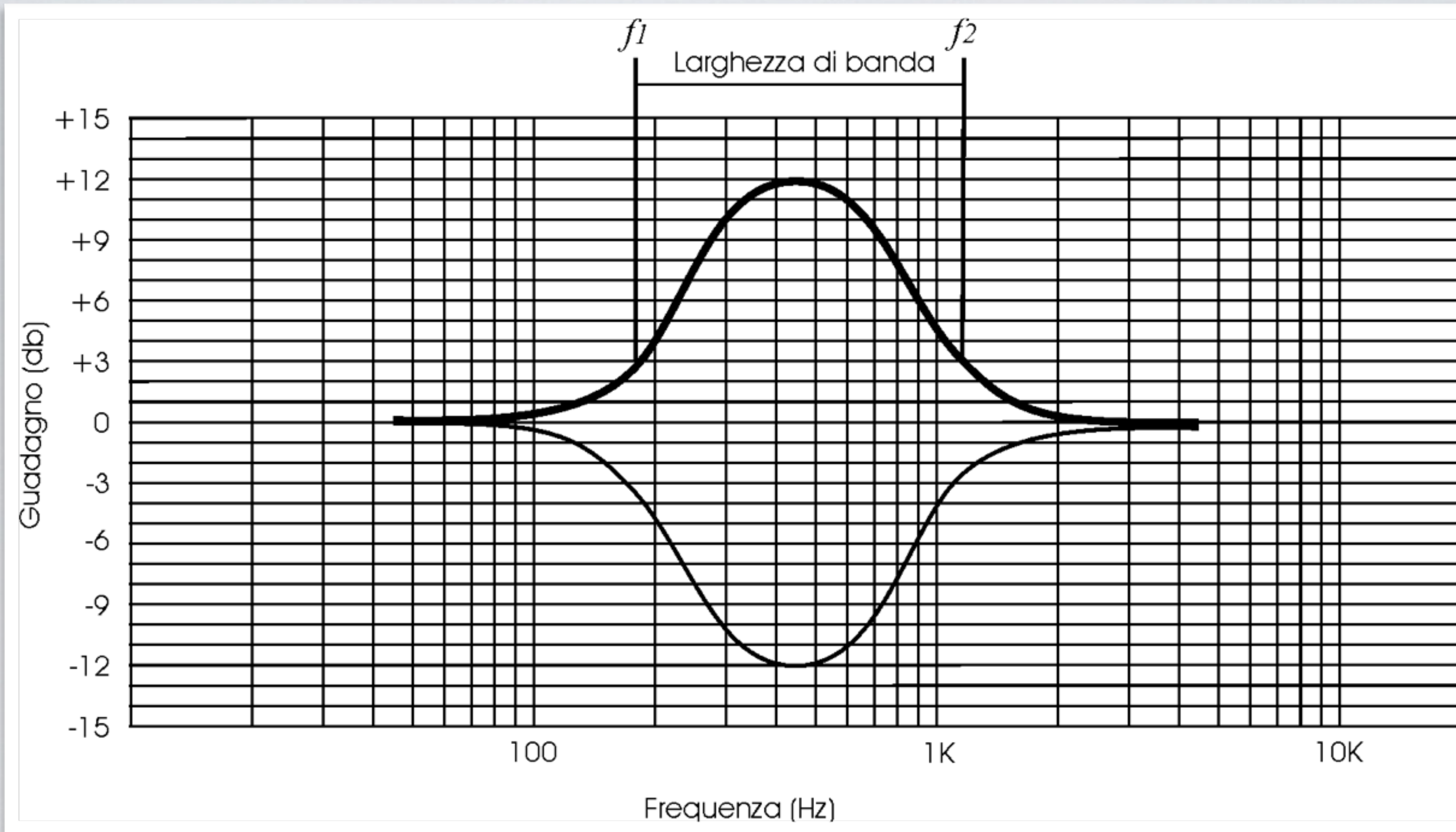
# SEZIONE DI EQUALIZZAZIONE

- LO (low frequency) shelf
- MID (mid frequency) peak/dip
- HI (high frequency) shelf



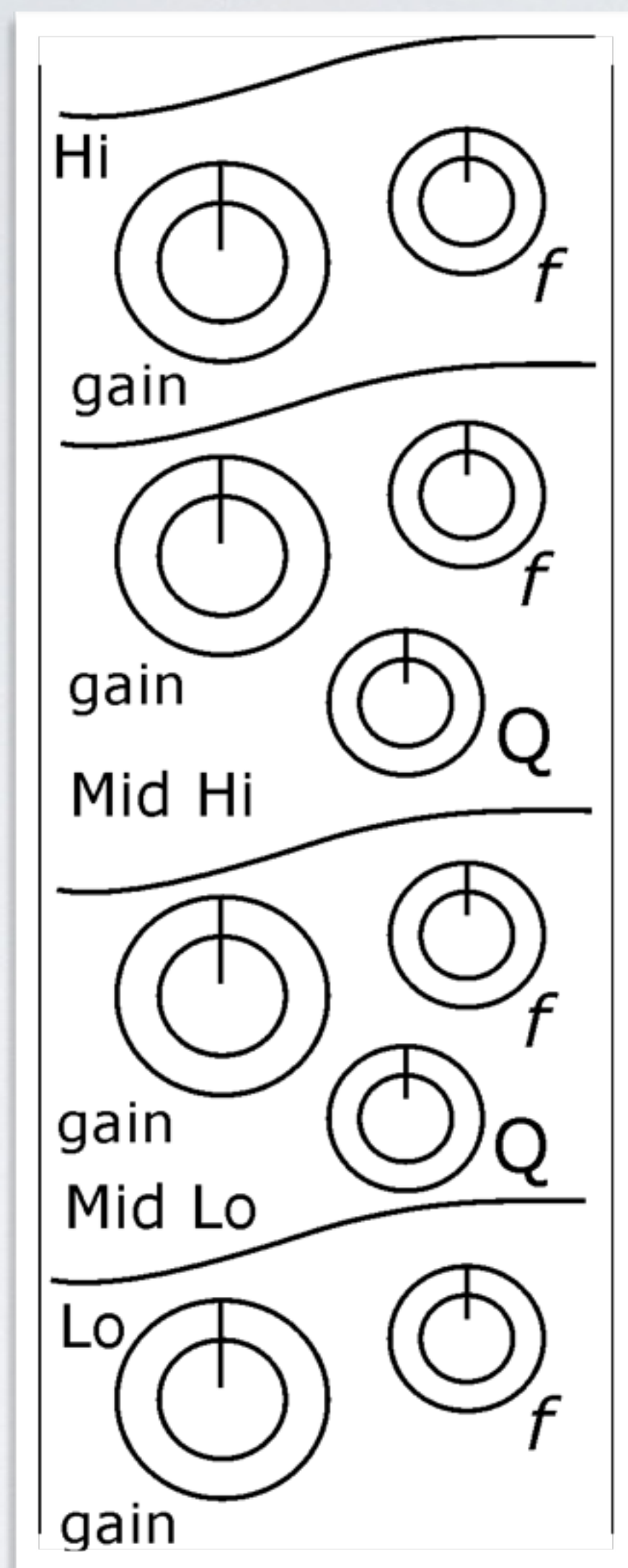
# EQUALIZZAZIONE SHELF





$$Q = \frac{f}{f_2 - f_1}$$

# EQUALIZZAZIONE PEAK/DIP



# EQUALIZZAZIONE PARAMETRICA

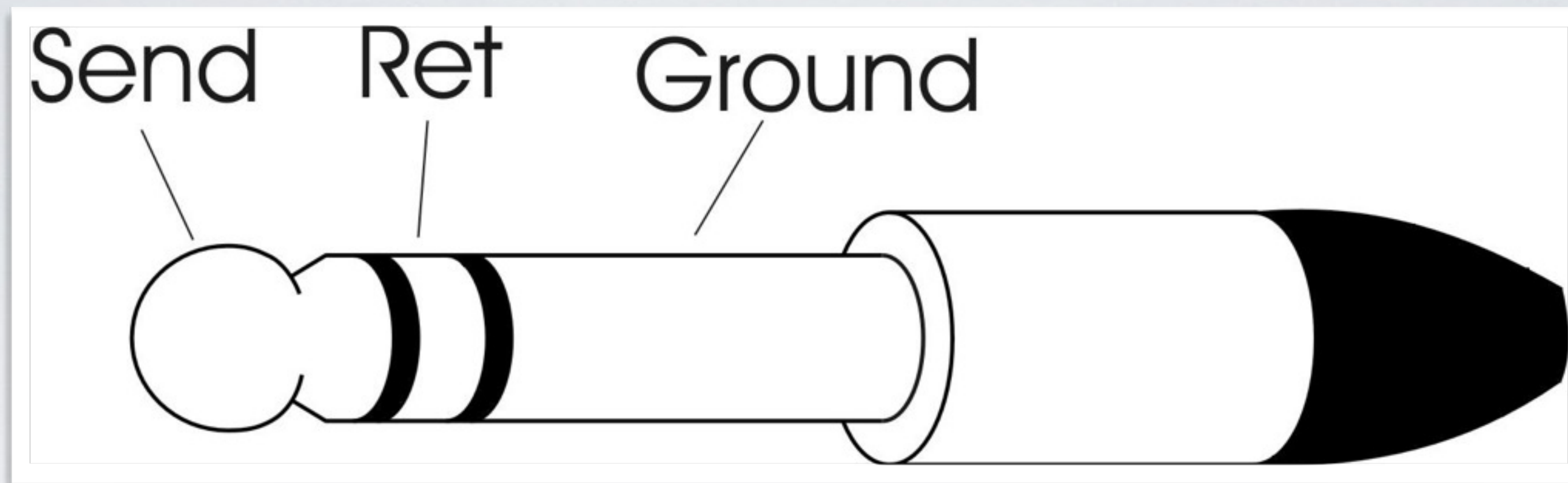
Hi shelf

MID HI bandpass

MID LO bandpass

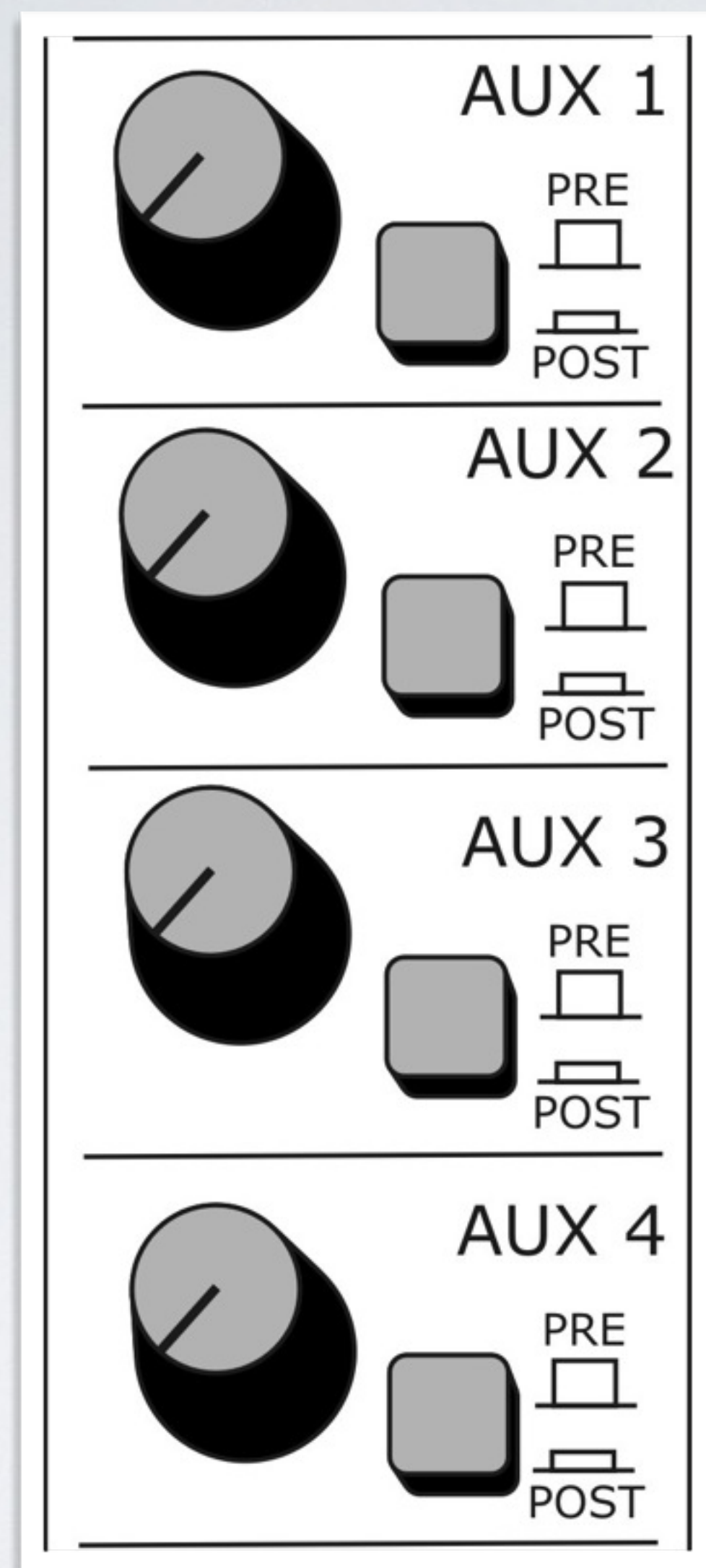
LO shelf





# SEND & RETURN

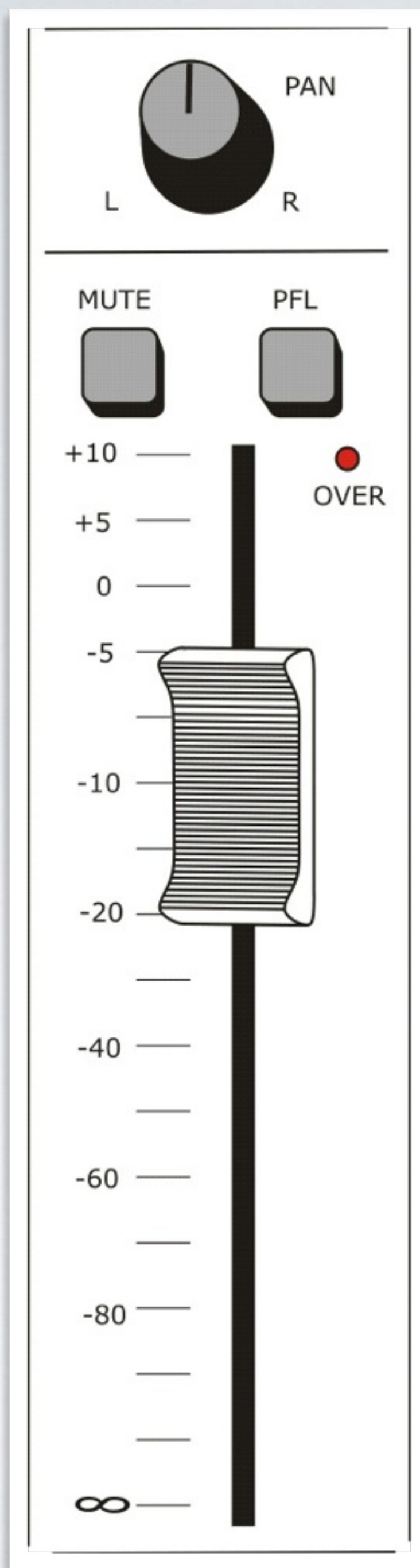
jack insert



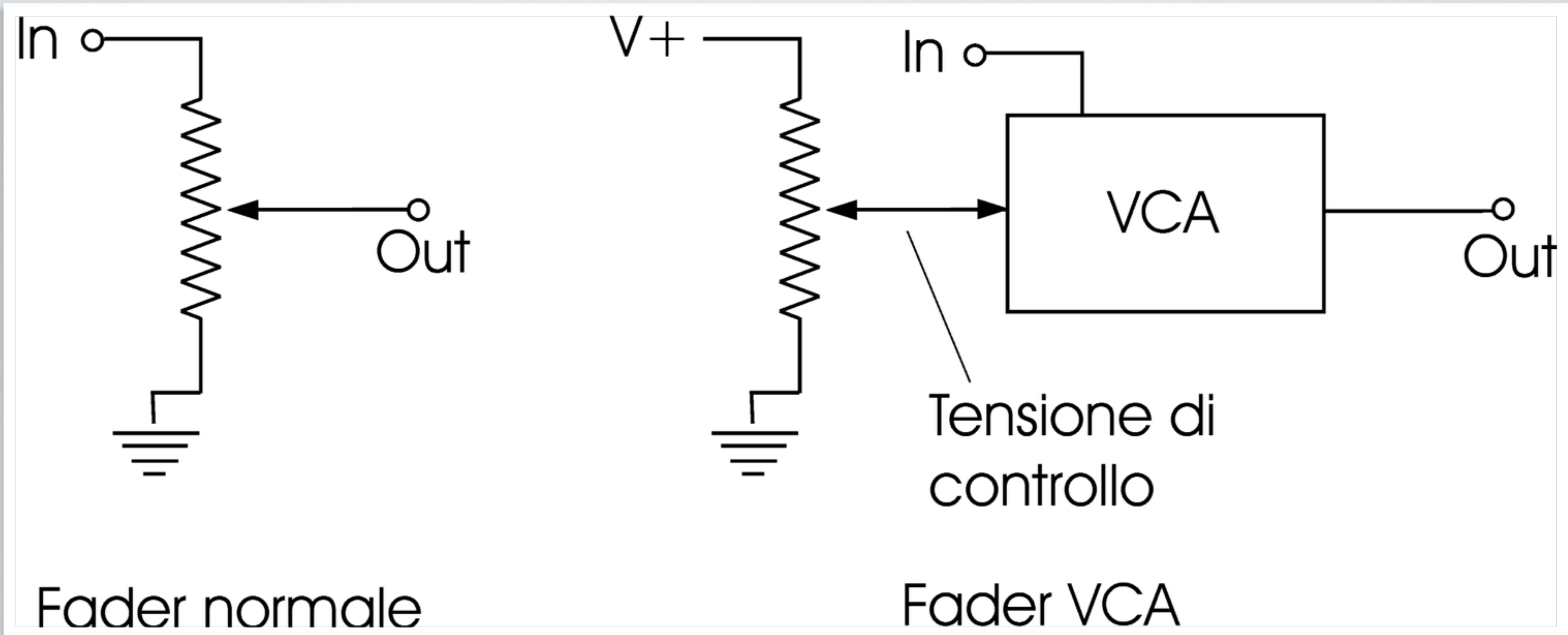
# AUX SENDS

Mandate ausiliarie





IL FADER

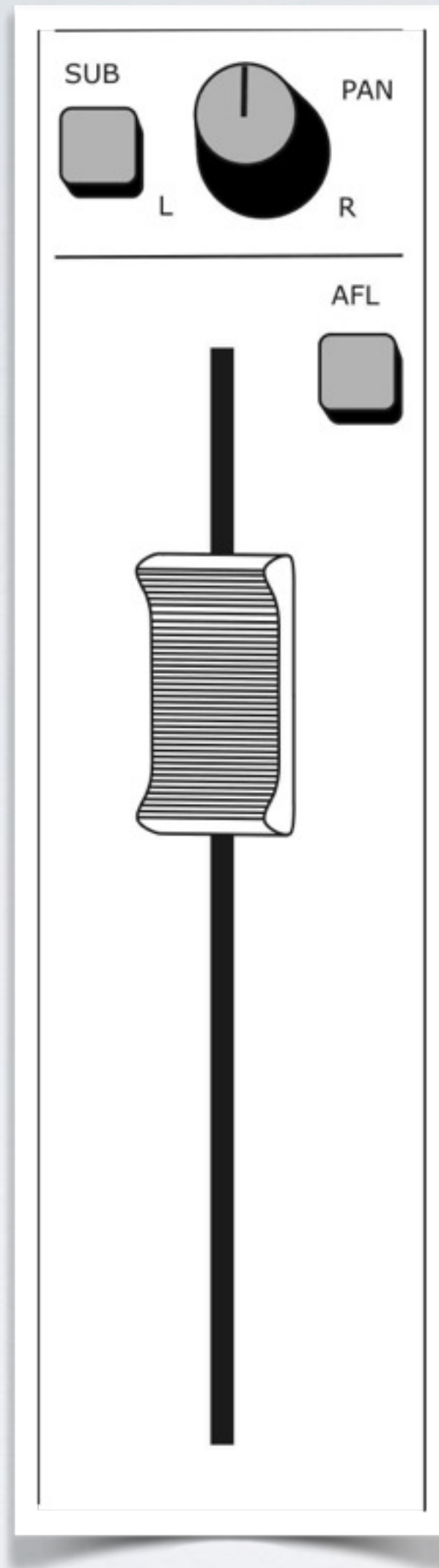


FADER - FADER VCA





IL ROUTING



BUSS  
SUBGROUP

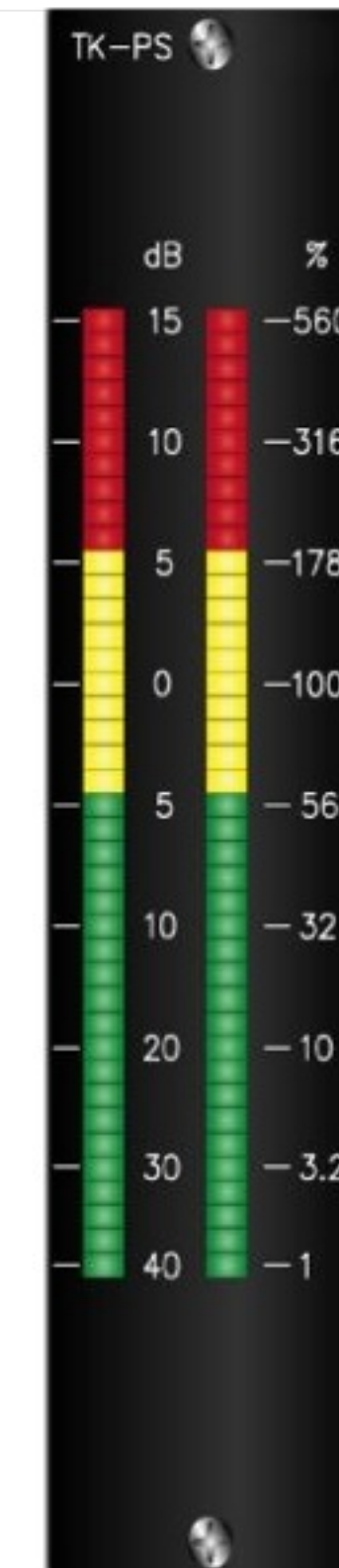




VU meter



PPM meter

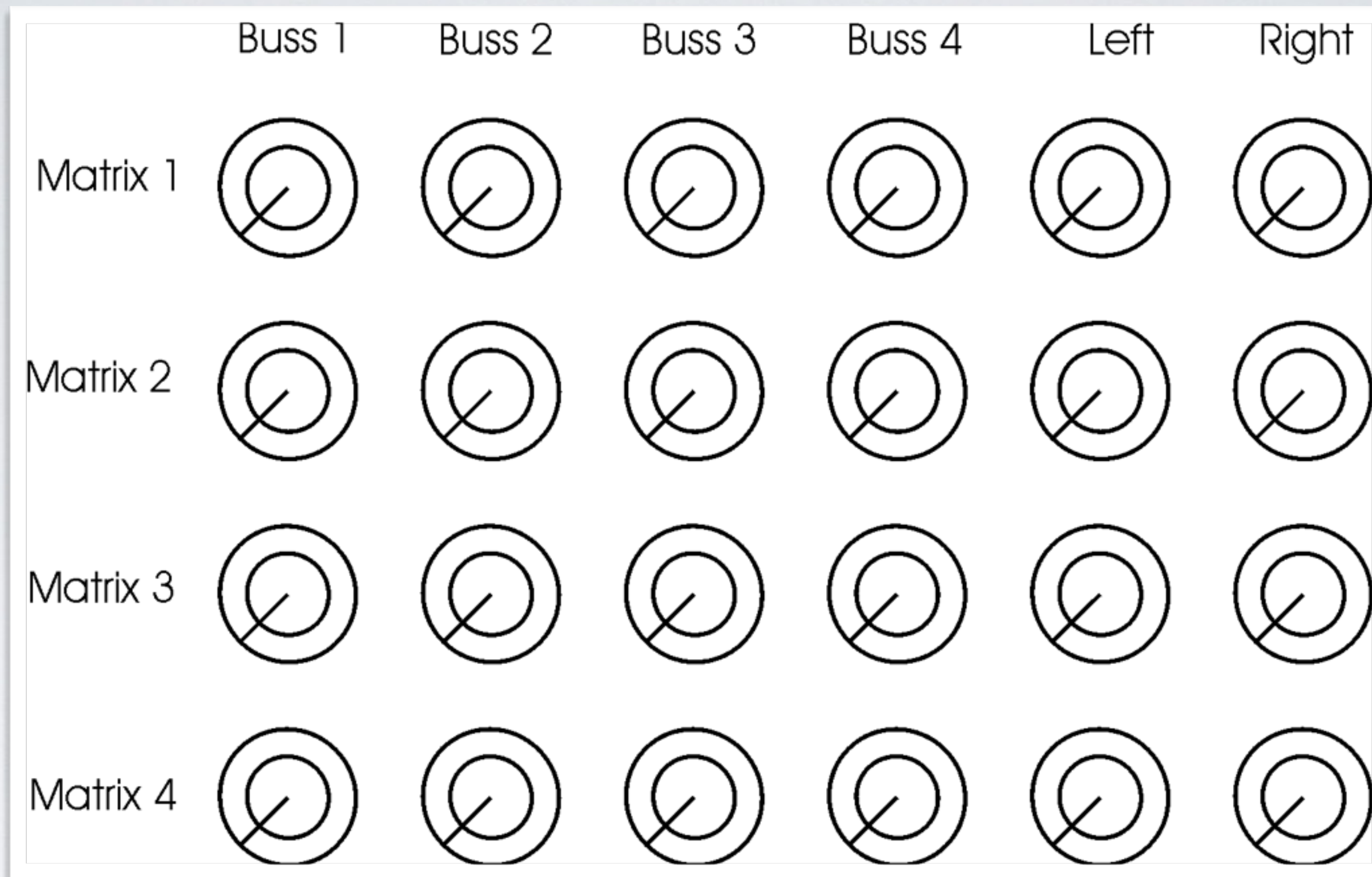


Bargraph meter

# DISPLAY

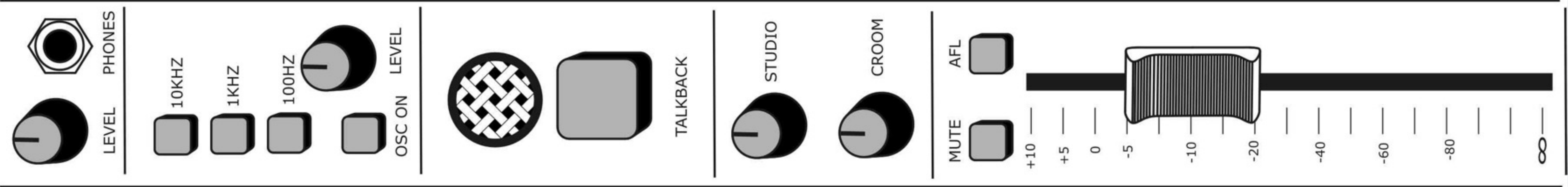
misurazione





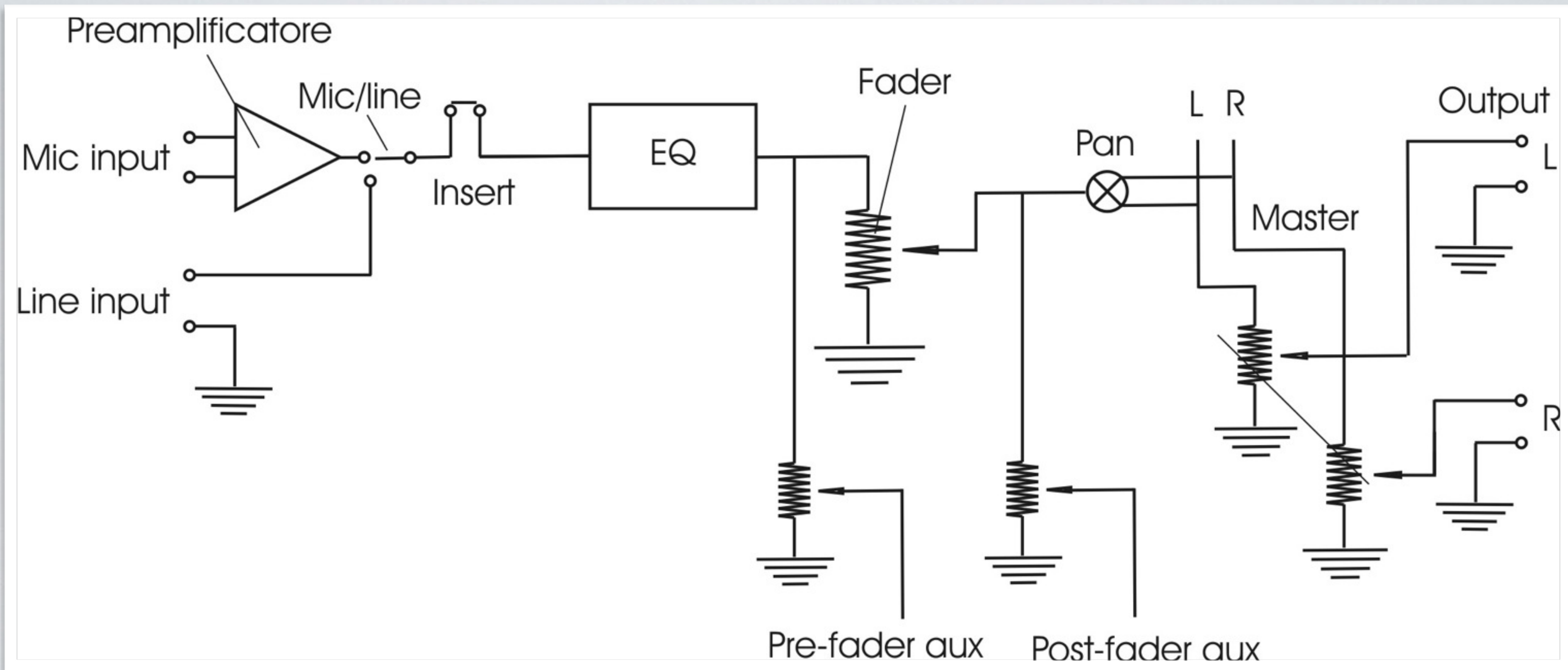
MATRIX MIX





# MASTER

modulo master



SCHEMA CIRCUITALE



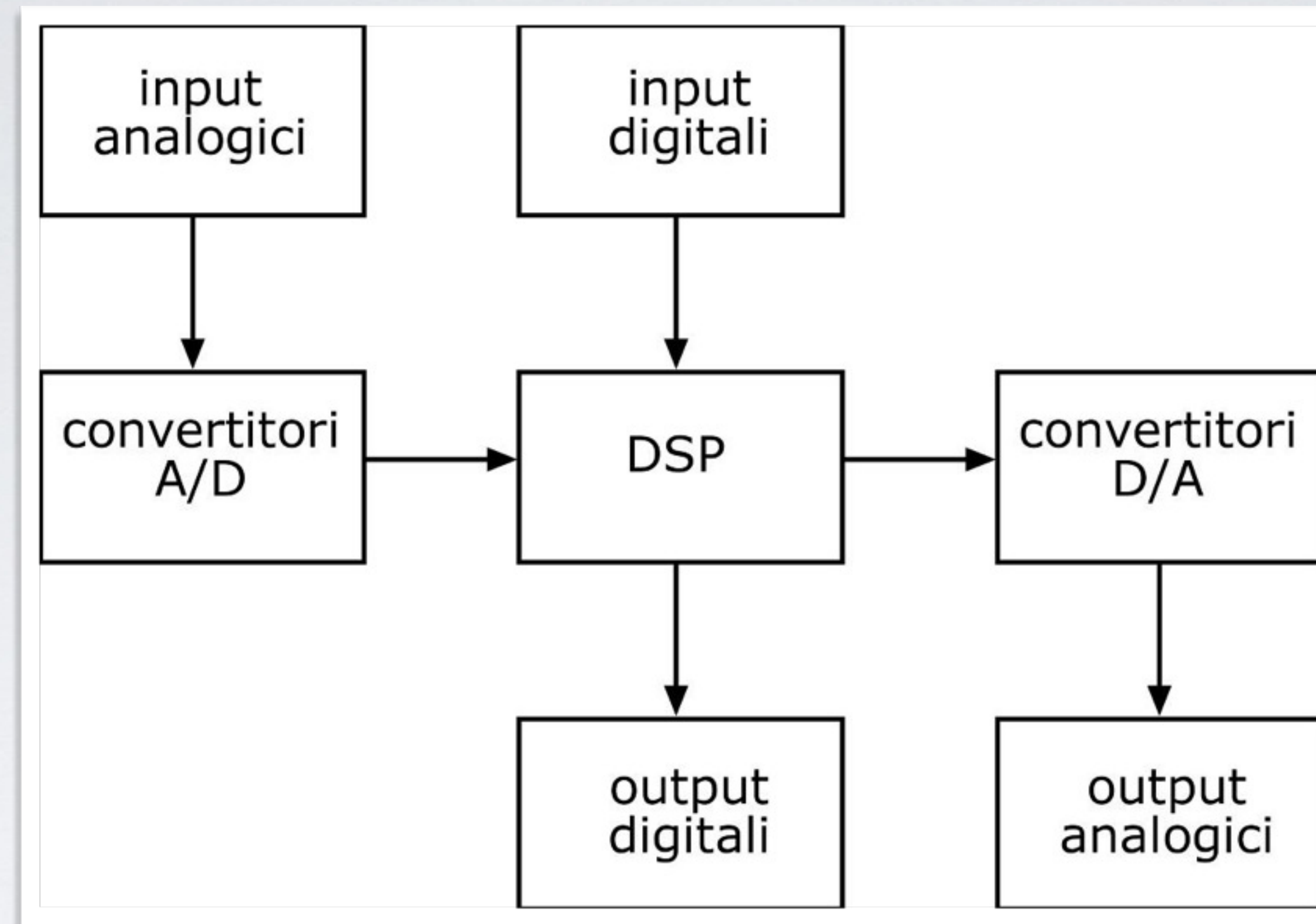
MIXER DIGITALE





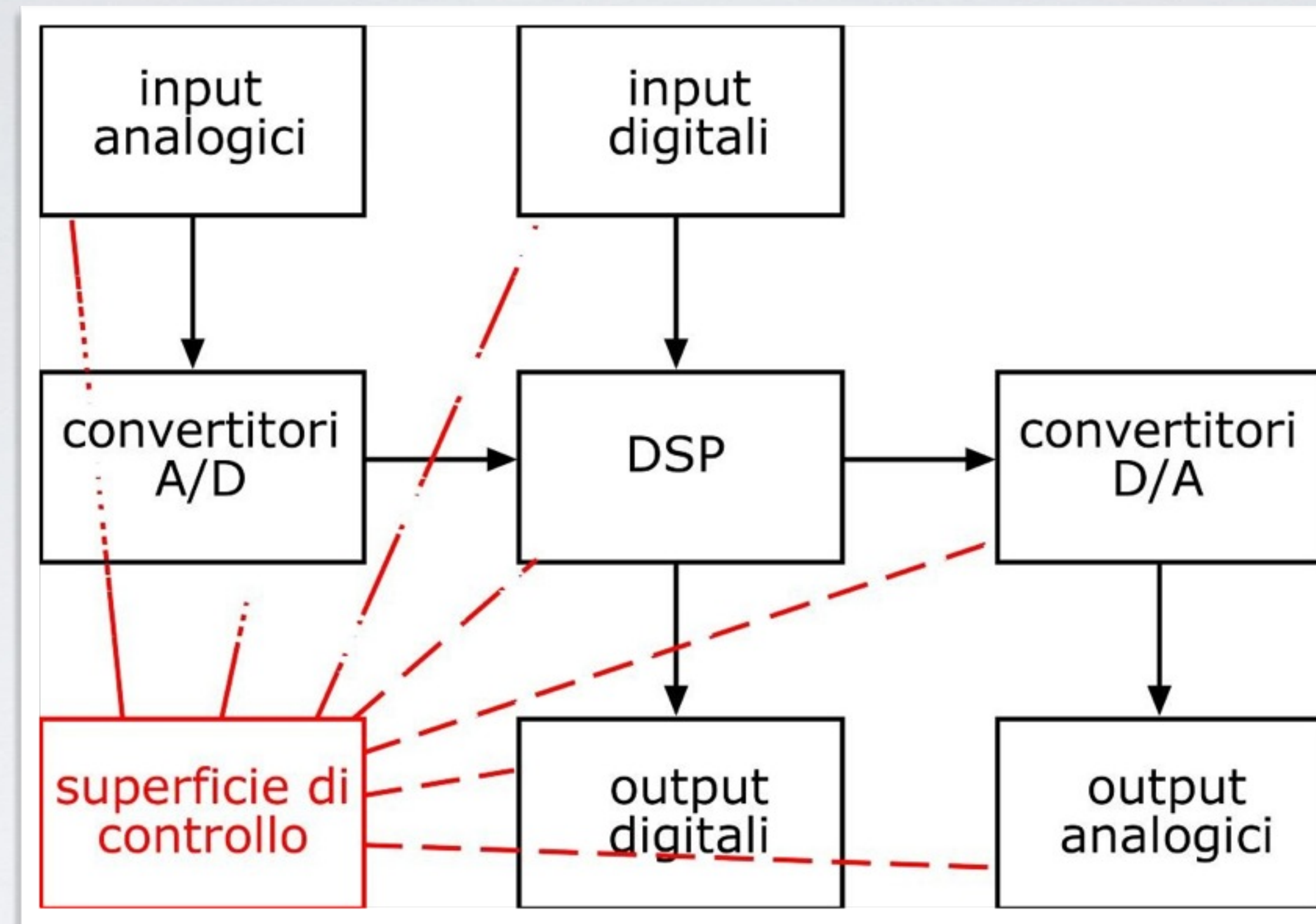
SCHEMA CIRCUITALE





# ARCHITETTURA FISICA

Mixer Digitale



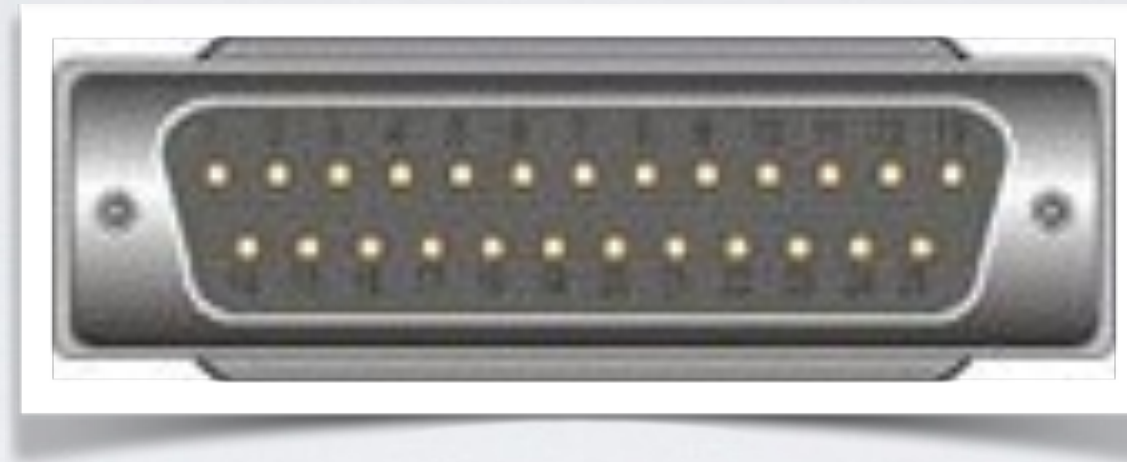
# ARCHITETTURA FISICA

Mixer Digitale



Protocollo	canali	multiplex	connettore		cavo
			multiplo	stereo	
AES/EBU	8/2	2	DB 25	XLR	Bilanciato 110 Ohm
SPDIF	2	2	-	RCA Toslink	Coassiale 75 Ohm Fibra ottica
TDIF	8	2	DB 25	-	Sbilanciato
ADAT	8	8	Toslink	-	Fibra ottica
MADI	28/56/64	28/56/64	BNC SC	-	Coassiale 75 Ohm Fibra ottica

# PROTOCOLLI DIGITALI



DB 25

DSUB

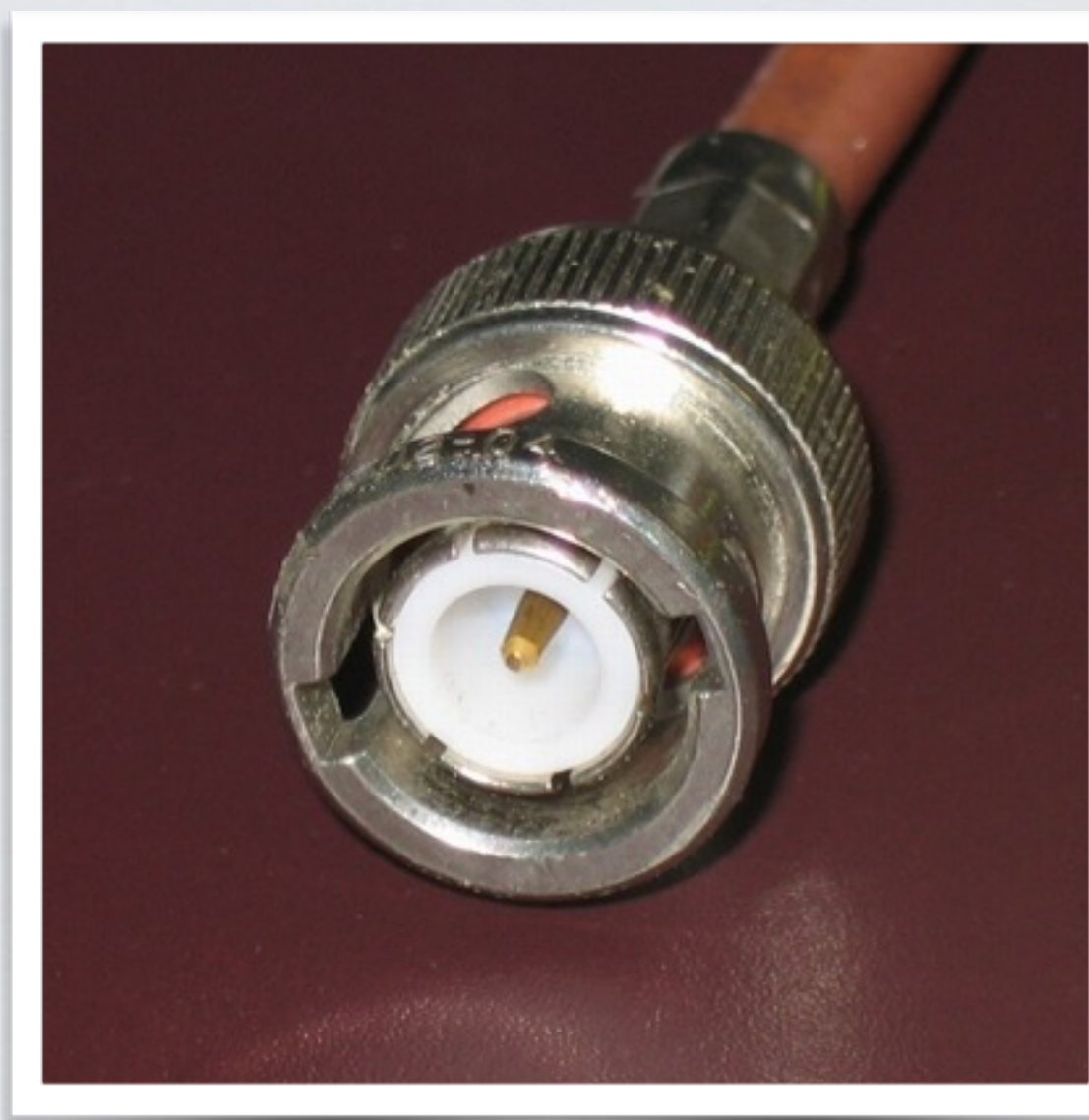




# TOSLINK

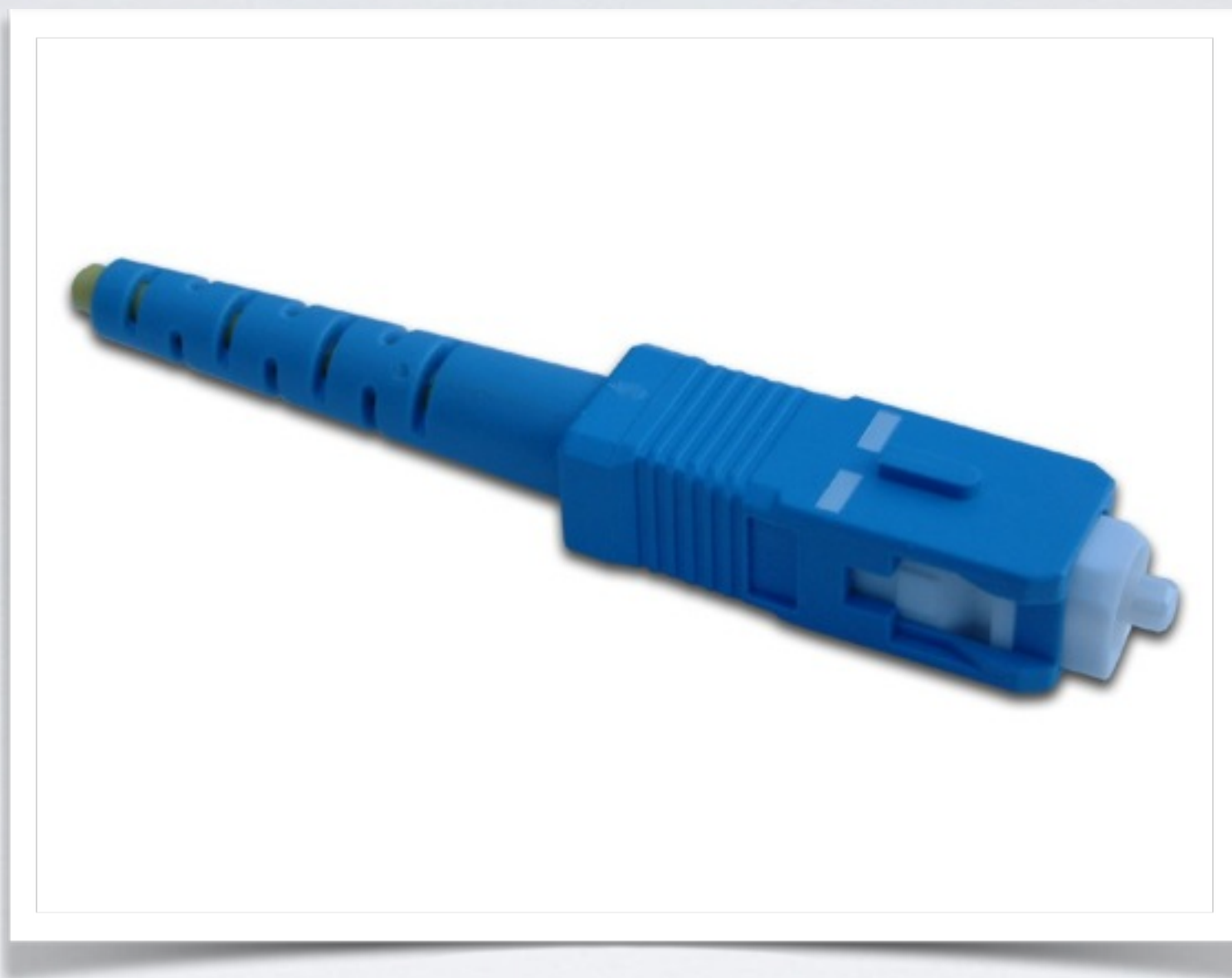
ottico





TOSLINK  
ottico





SC  
ottico

# DSP

- Amplificazione
- Equalizzazione
- Somma
- Routing
- Mandate ausiliarie
- Delay
- Effetti







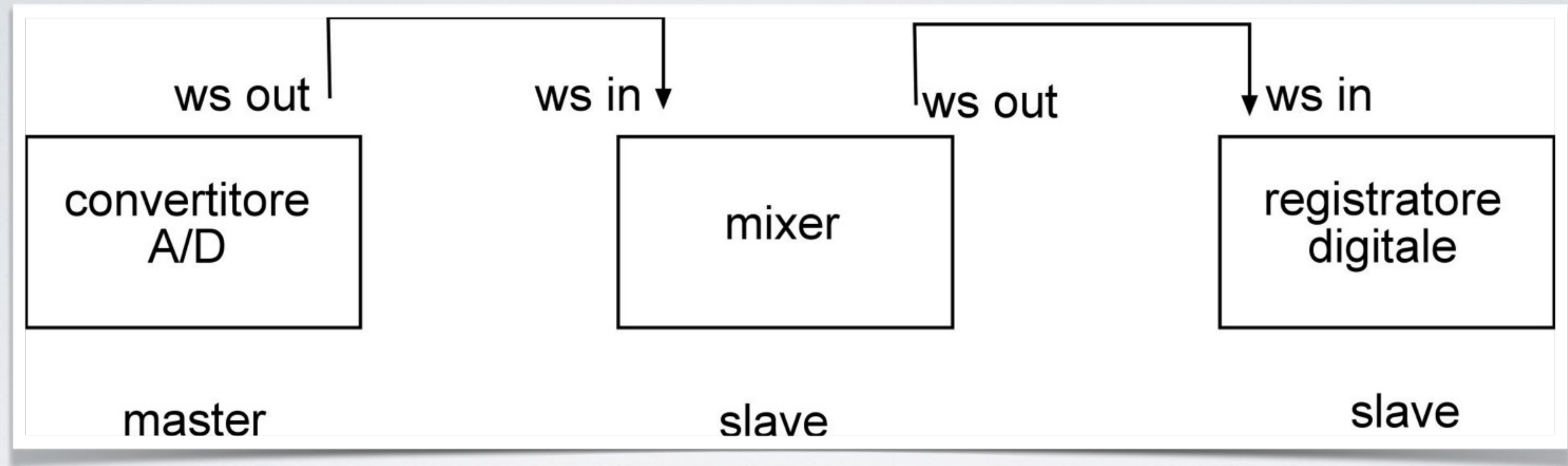
# CONTROLLI ANALOGICI

- Input gain
- PAD
- Control room level
- Headphones level



# SINCRONIZZAZIONE

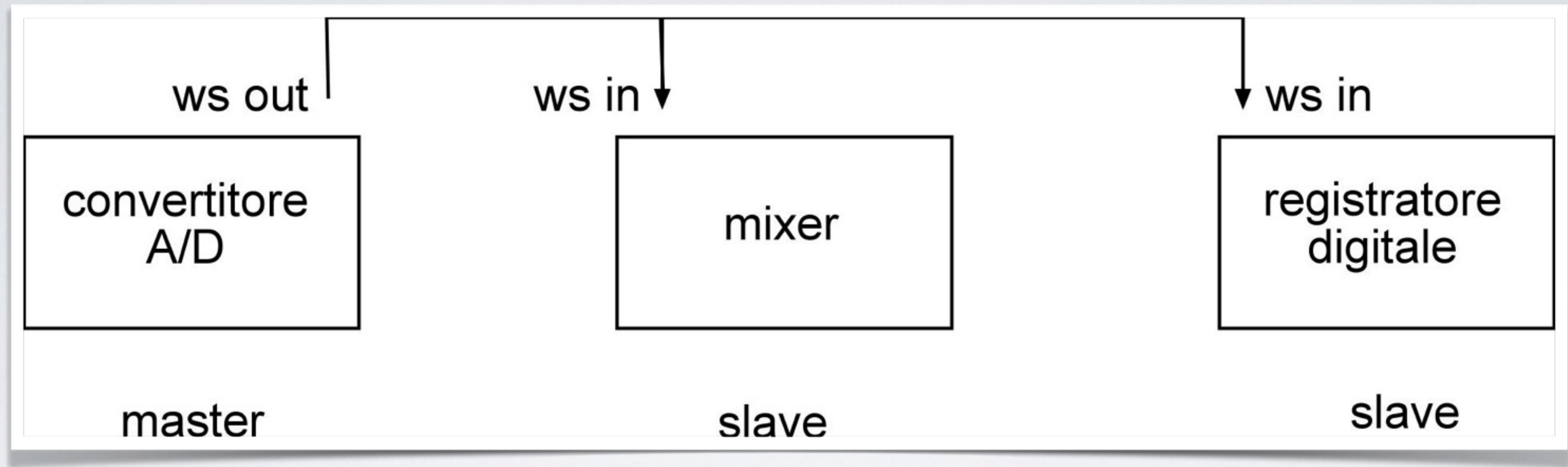
- Internal
- Digital Input (ADAT, SPDIF, TDIF...)
- Wordclock



# DAISY CHAIN

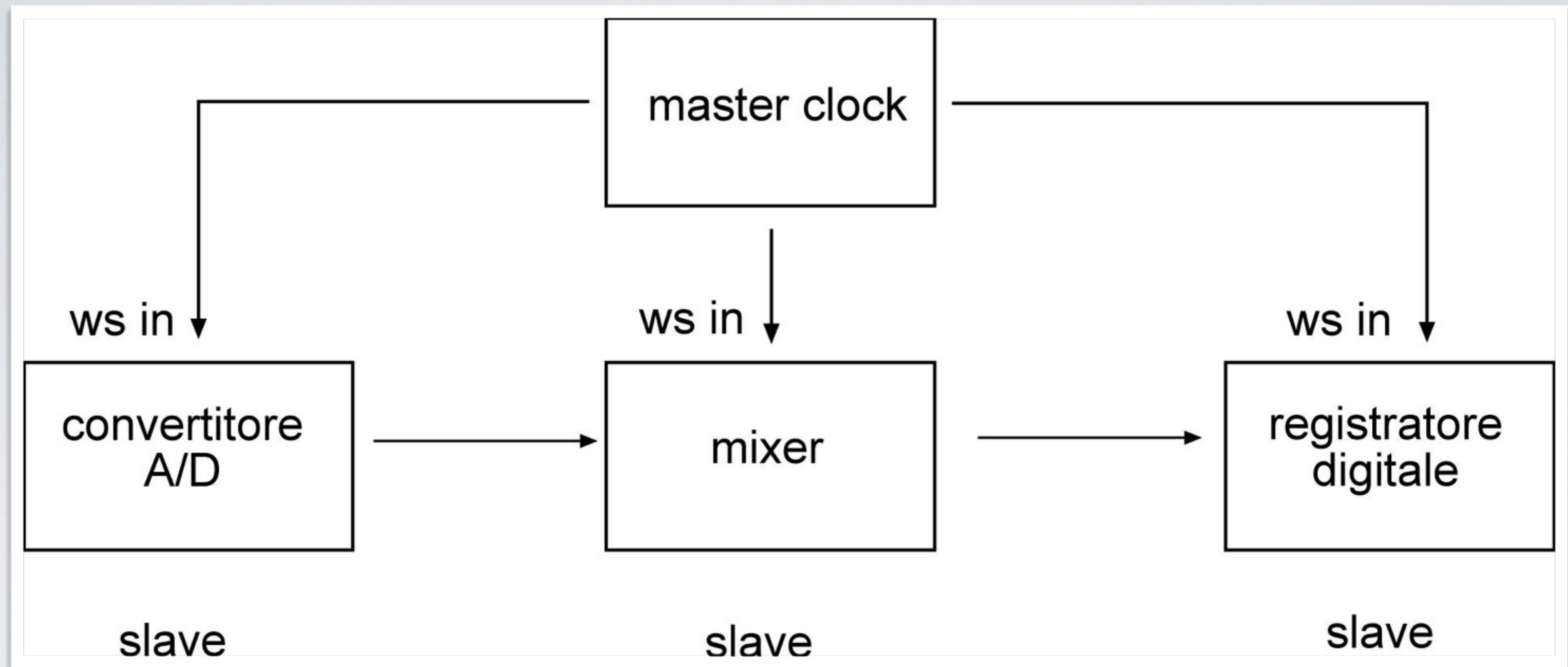
gerarchia





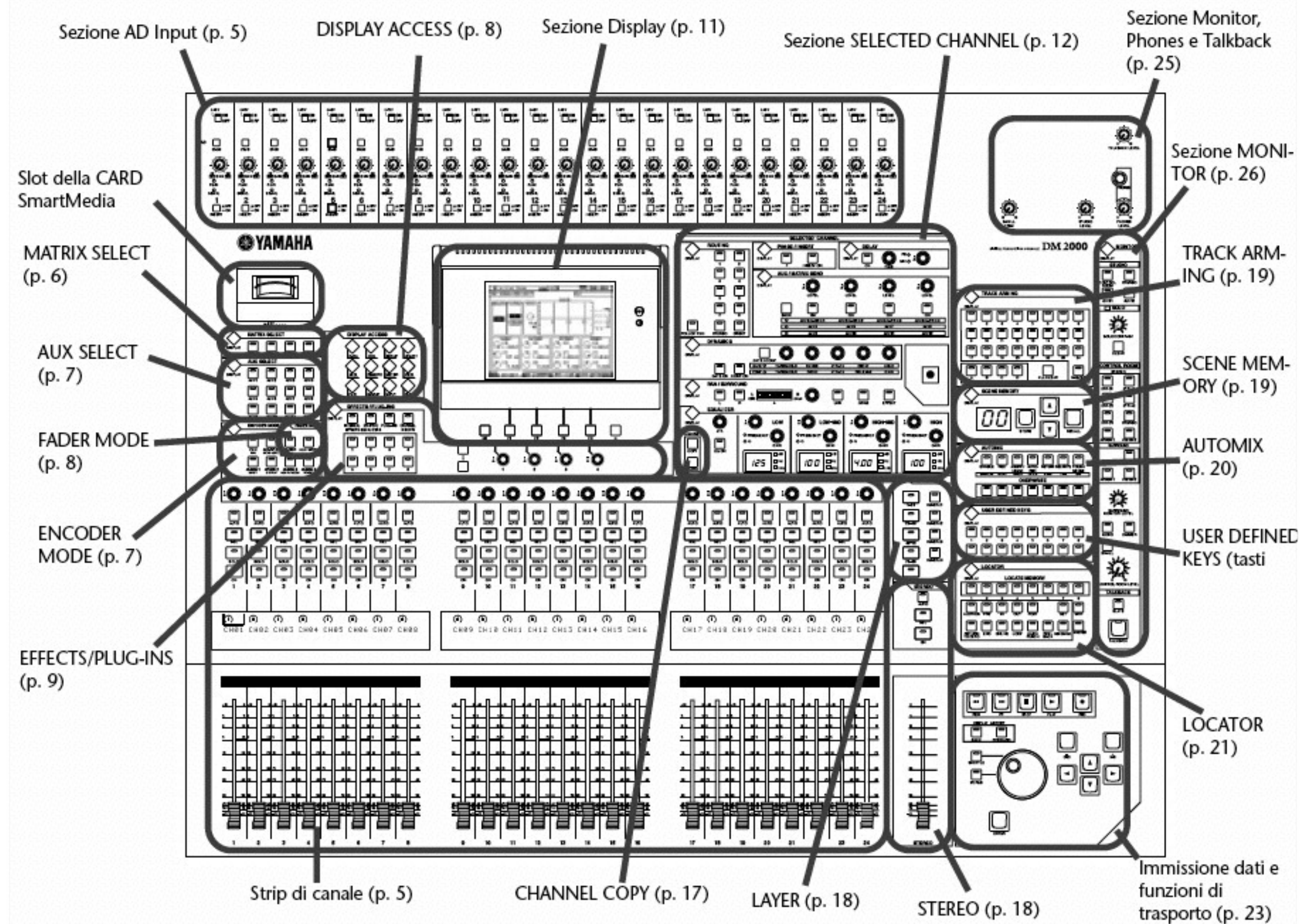
SPLIT





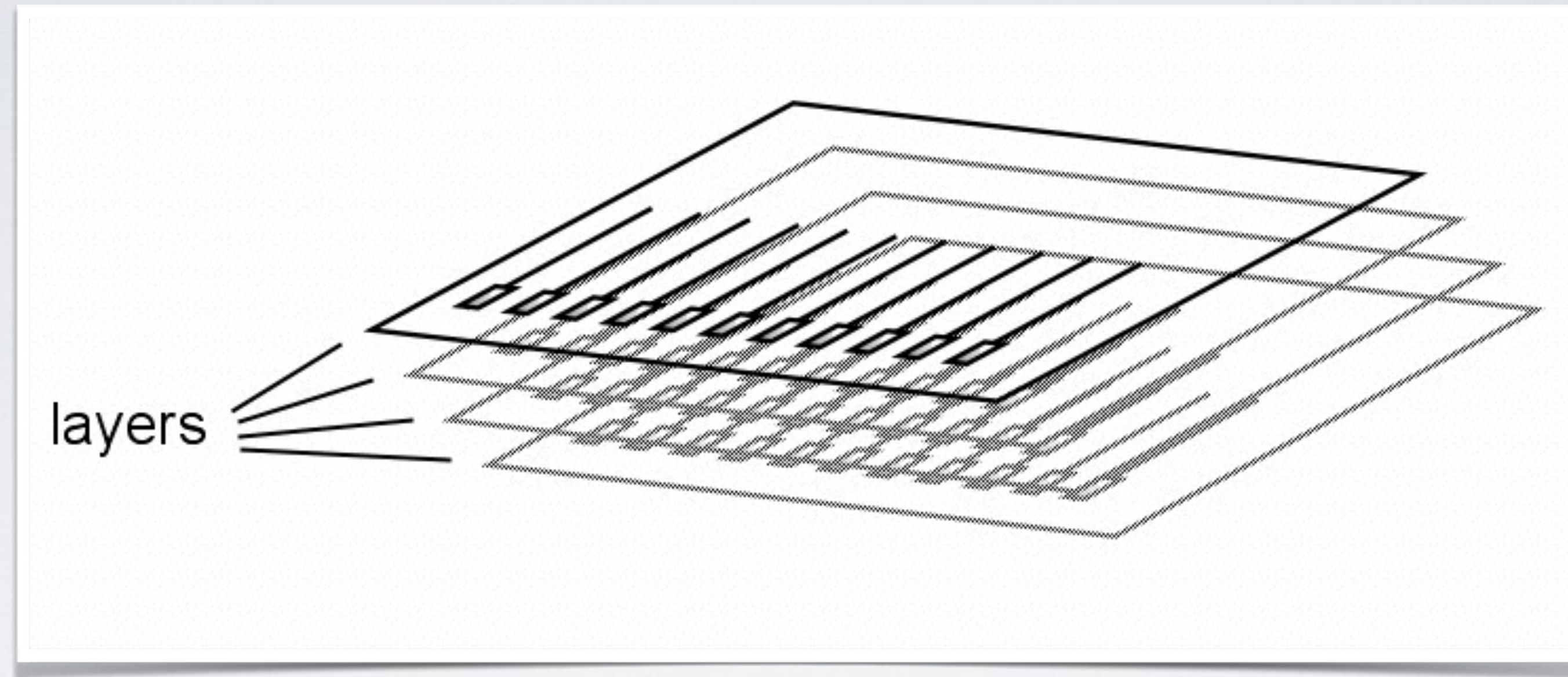
MASTER CLOCK GENERATOR





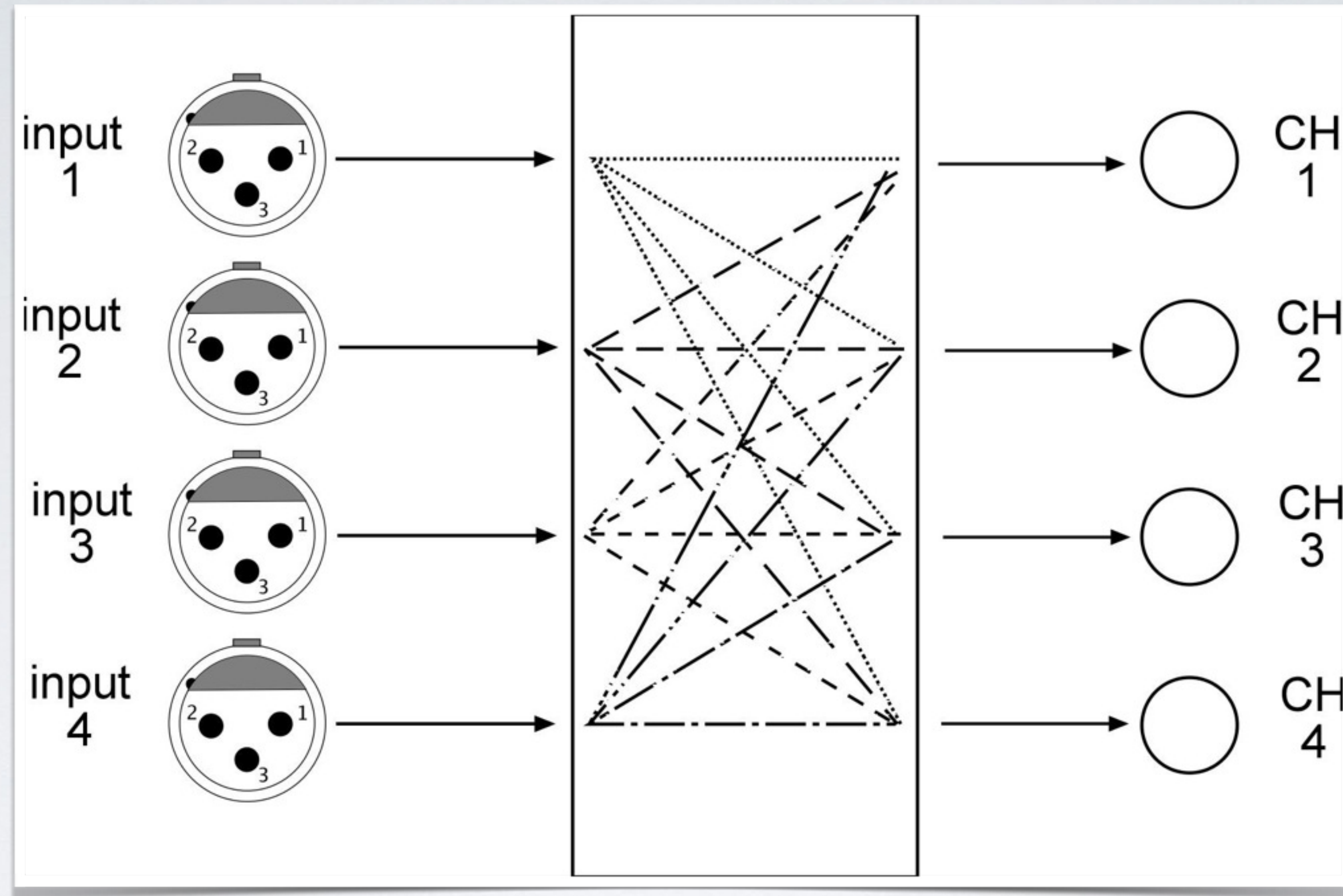
# SUPERFICIE DI CONTROLLO





LAYERS





REPATCHING



# LOAD & STORE

- Memorie Statiche (SCENE)
- Sequenze di scene
- Automazione



# PRO E CONTRO

	Analogico	Digitale
Qualità sonora	Ottima a costi elevati	Ottima (pre e convertitori)
Completezza di funzioni	:-)	:-)
Manovrabilità	:-)	:-)
Ergonomicità	:-)	:-)
Ingombro fisico	:-)	:-)
Memorizzazione	:-)	:-)
Tempi di setup	:-)	:-)
Connettività	Statica	Espandibile
Scelta per lo Studio	:-)	:-)
Scelta per il Live	:-)	:-)