REVOX A77

Is it quite useful to describe the REVOX A77? 25 years ago, each recording studio contained two or three of them; to make copies or to generate echoes or to delay the signal sent to the reverberations with plate or springs. Several accessories appeared progressively: plates and cores CCIR or NAB and a kit to use loops of magnetic tape

It left then a model 38 and 19 cm/s CCIR, generalized in the studios and, of course, most interesting, there is a model with 4 tracks stereo (1/4 of track) and a model Dolby B; to avoid both! For our use, model 19-38 is the only interesting one. It is necessary to point out that the Revox A77 is a "dual track" and not a true stereo machine (the difference is in the precise width of each track and the distance between these tracks). It is the same, and it's there that difficulties can arise, for the head alignment which is a dual track and not single track; a small central band must thus not be unobtrusive and undesirable deaf noises can appear at the time a band already has been recorded or magnetized by a continuous-current field.

Lastly, do not miss the end of this page: if you are owner of an A77, you will find there, in pdf format, all the electronic diagrams necessary to its repair.

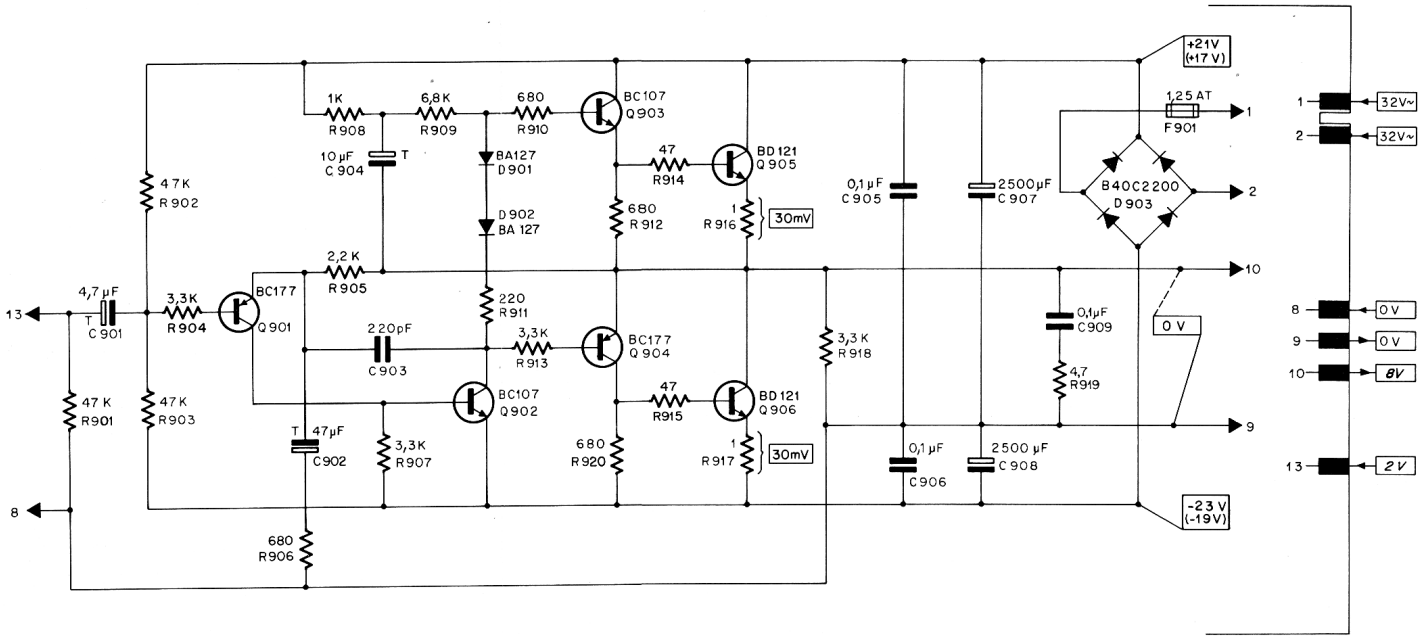
DESIGN FEATURES

General principle:	mechanism with 3 motors, all electronically controlled	
Tape speeds:	19 cm/s (7 1/2 in/s) 9,5 cm/s (3 3/4 in/s)	±0,2 %
Wow and Flutter:	« ± 0,08 % @ 19 cm/s « ± 0, 1 % @ 9,5 cm/s	
Drift:	<= 0,2%	
Diameter of the reels:	maximum 26,5 cm (10 1/2 in)	
Position of operation:	Horizontal or vertical	
Amplifiers:	equipped entirely with transistors with silicon structure double diffusion	
Response curve recording-reading:	30 Hz @ 20 kHz +2/-3 dB 50 Hz @ 15 kHz ± 1 , 5 dB 30 Hz @ 16 kHz +2/-3 dB 50 Hz @ 10 kHz ± 1,5 dB	à 19 cm/s à 9,5 cm/s
Harmonic distortion: (maximum level @ 1 kHz)	<= 2 % @ 19 cm/s <= 3 % @ 9,5 cm/s	
Corrections:	recording NAB, commutable reading NAB or IEC	
Signal ratio/noise: (balanced with filter DC IF)	>= 58 dB @ 19 cm/s >= 56 dB @ 9,5 cm/s	
Retreat of cross talk (@ 1 kHz):	>= 60 dB, mono >= 45 dB, stereo	
Oscillation frequency:	120 kHz, push-pull oscillator	
Inputs per channel:	cinch and jack DIN 5 poles cinch	Microphones commutable LO/HI LOW: 50 @ 600 ohms 0,15 mV HIGH: 100 kohms 2,5 mV RADIO: 33 kohms 2,5 mV AUX: 1 Mohms 35 mV
Outputs per channel:	DIN 5 poles cinch jack	OUTPUT max. 2,5 V / Ri 600 ohms RADIO max. 1,2 V / Ri 2,5 kohms PHONES ear-phones 200 to 600 ohms
remote Control:	all remotely controllable functions by impulses	
Amplifiers of loudspeakers:	plug-in, delivered on request	
Power of exit: (load 8 ohms distortion <= 1 %)	musical power20 W (10 W per channel) in sinusoidal mode16 W (8 W per channel)	
Output impedance:	4 to 16 ohms	

Built-in loudspeakers (model bag):	2 loudspeakers per channel (disconnected automatically at the time of the connection of external loudspeakers)
Component: (with the amplifiers of loudspeakers)	54 transistors, 32 diodes, 4 rectifiers with silicon, 1 photo resistor, 4 relays
Power supply:	stabilized
Tensions of the network:	110, 130, 150, 220, 240, 250 V-, 50 and 60 Hz
Consumption:	70 W without the amplifiers of loudspeakers between 70 and 100 W with the amplifiers
Fuses:	0,5 A for 220 to 250 V 1,O A for 110 to 150 V
Weight:	Approximately 15 kg

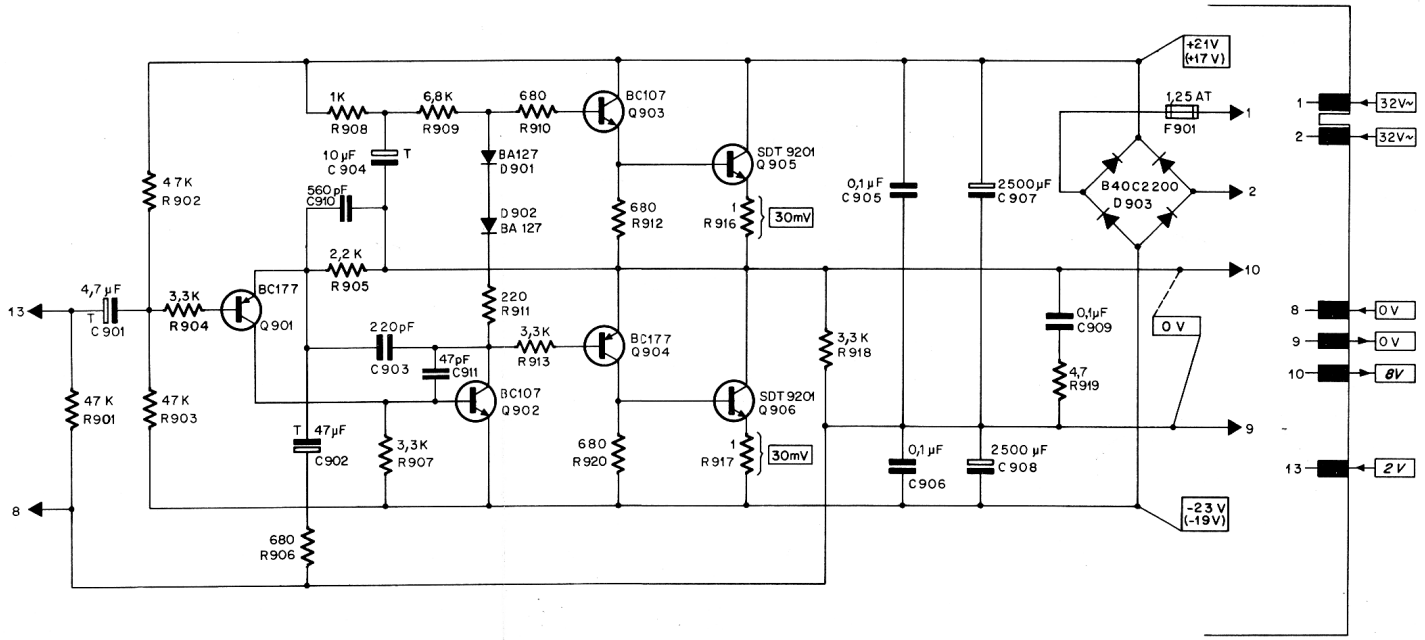
Loudspeaker Amplifier with
Final Transistors BD 121

Amplificateur de haut-parleur
avec transistors de puissance BD 121



Loudspeaker Amplifier with
Final Transistors SDT 9201

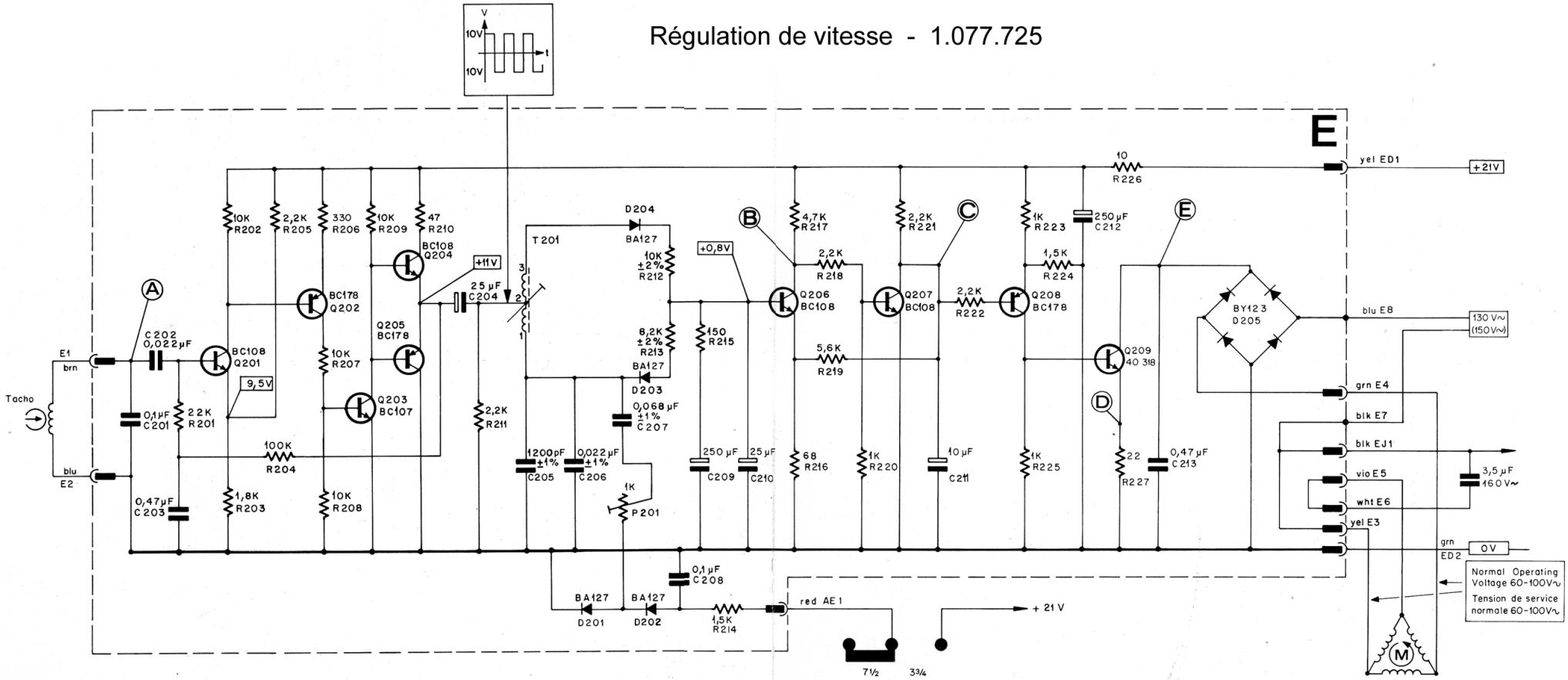
Amplificateur de haut-parleur
avec transistors de puissance SDT 9201

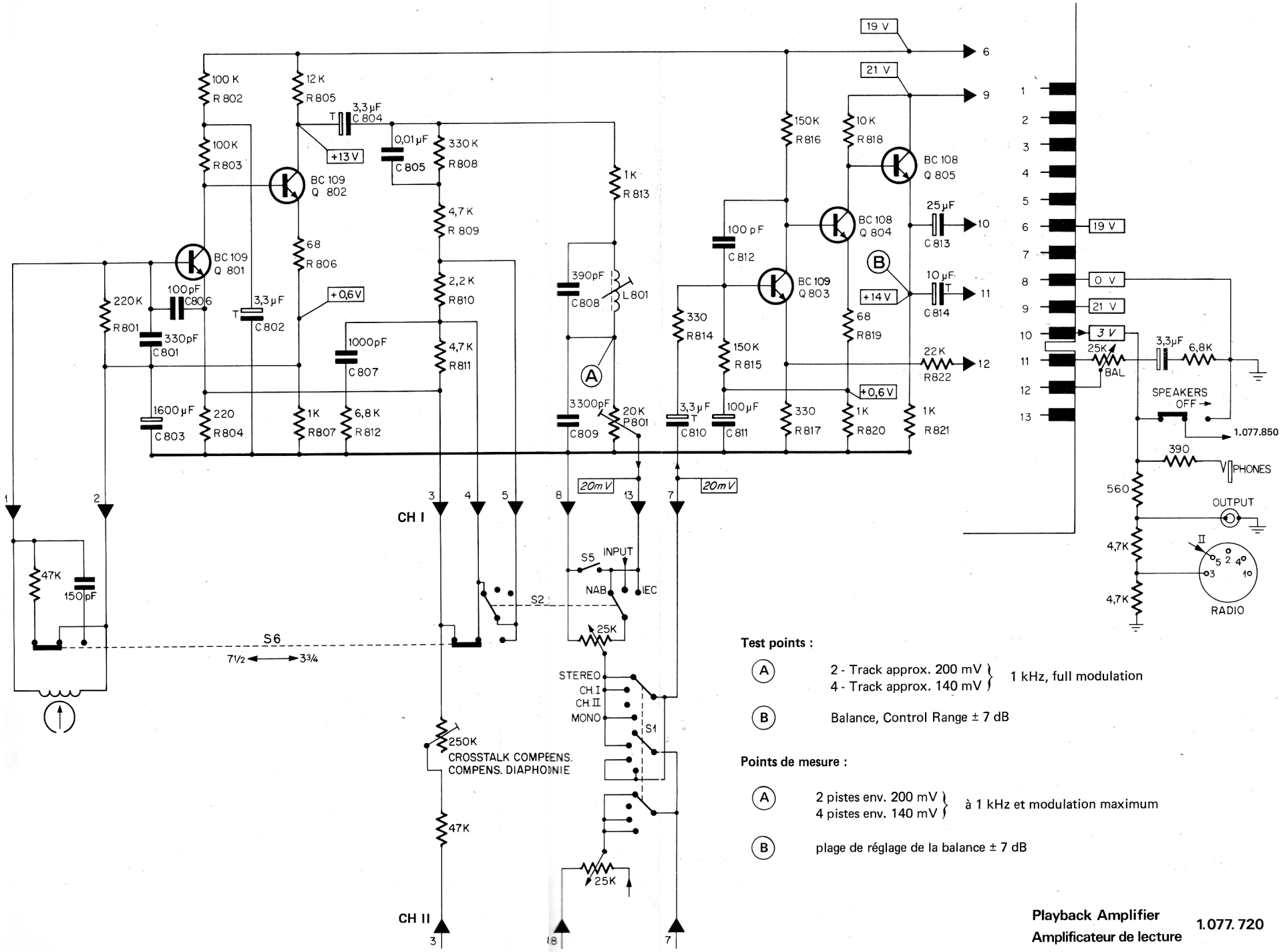


Loudspeaker Amplifier
Amplificateur de haut-parleur

1.077.850

Régulation de vitesse - 1.077.725





Test points :

(A) 2 - Track approx. 200 mV / 4 - Track approx. 140 mV } 1 kHz, full modulation

(B) Balance, Control Range ± 7 dB

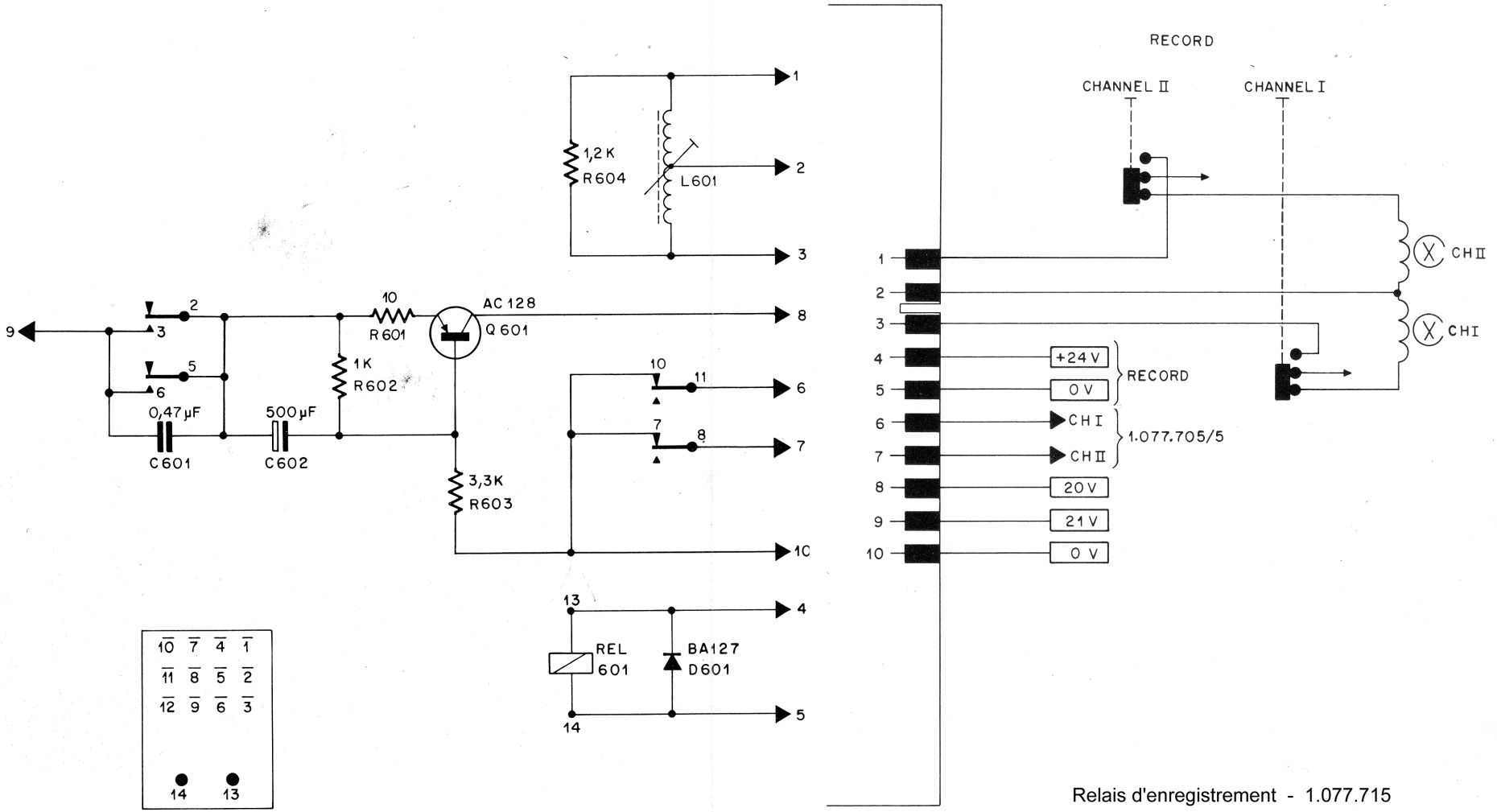
Points de mesure :

(A) 2 pistes env. 200 mV / 4 pistes env. 140 mV } à 1 kHz et modulation maximum

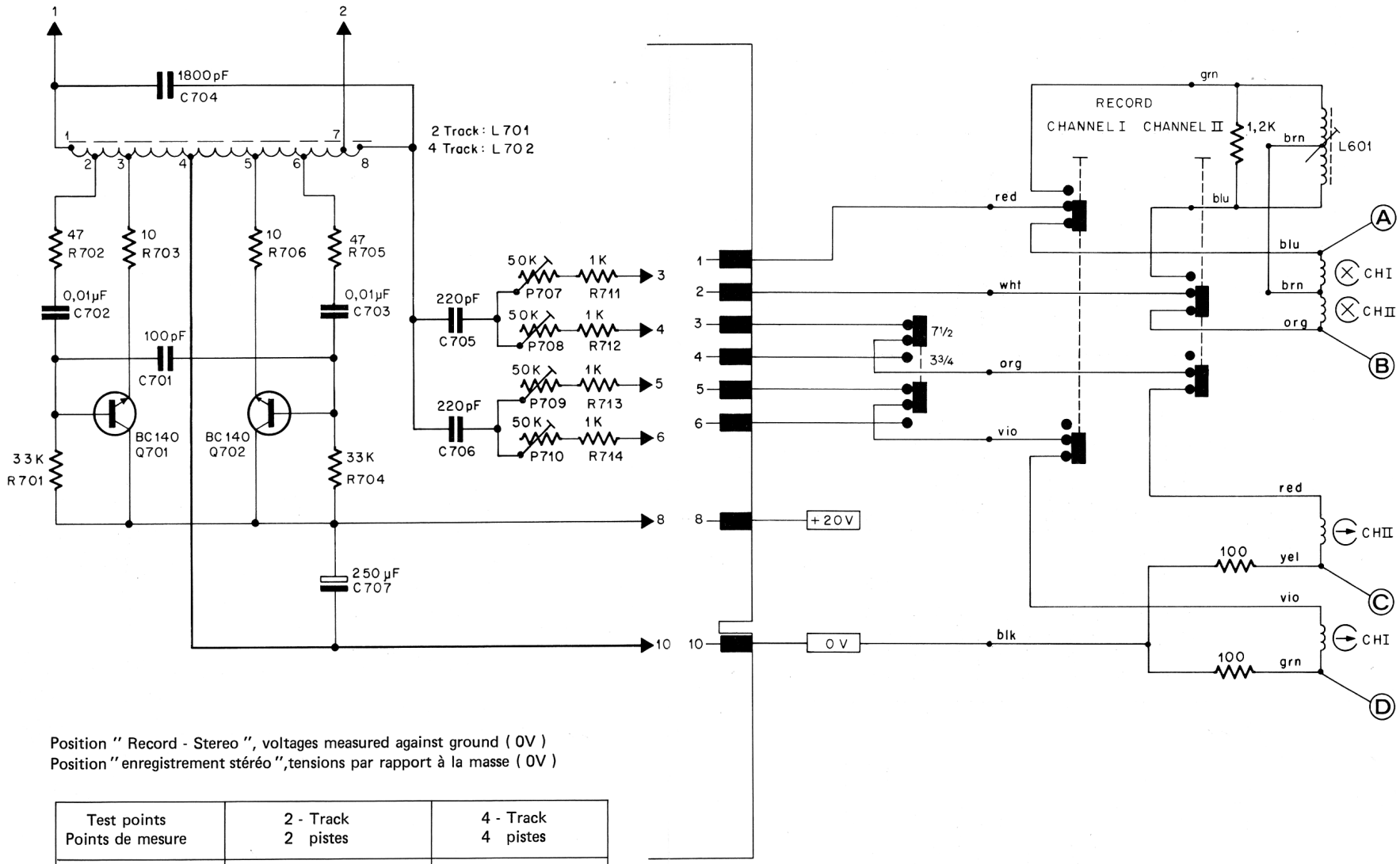
(B) plage de réglage de la balance ± 7 dB

Playback Amplifier
Amplificateur de lecture **1.077.720**

Diag. 8



Relais d'enregistrement - 1.077.715



Position " Record - Stereo ", voltages measured against ground (0V)
Position " enregistrement stéréo ", tensions par rapport à la masse (0V)

Test points Points de mesure	2 - Track 2 pistes	4 - Track 4 pistes
(A) + (B)	approx. 22V/120 kHz	approx. 18V/120 kHz
(C) + (D)	500 mV/120 kHz 50 mV/ 1 kHz*	400 mV/120 kHz 40 mV/ 1 kHz*

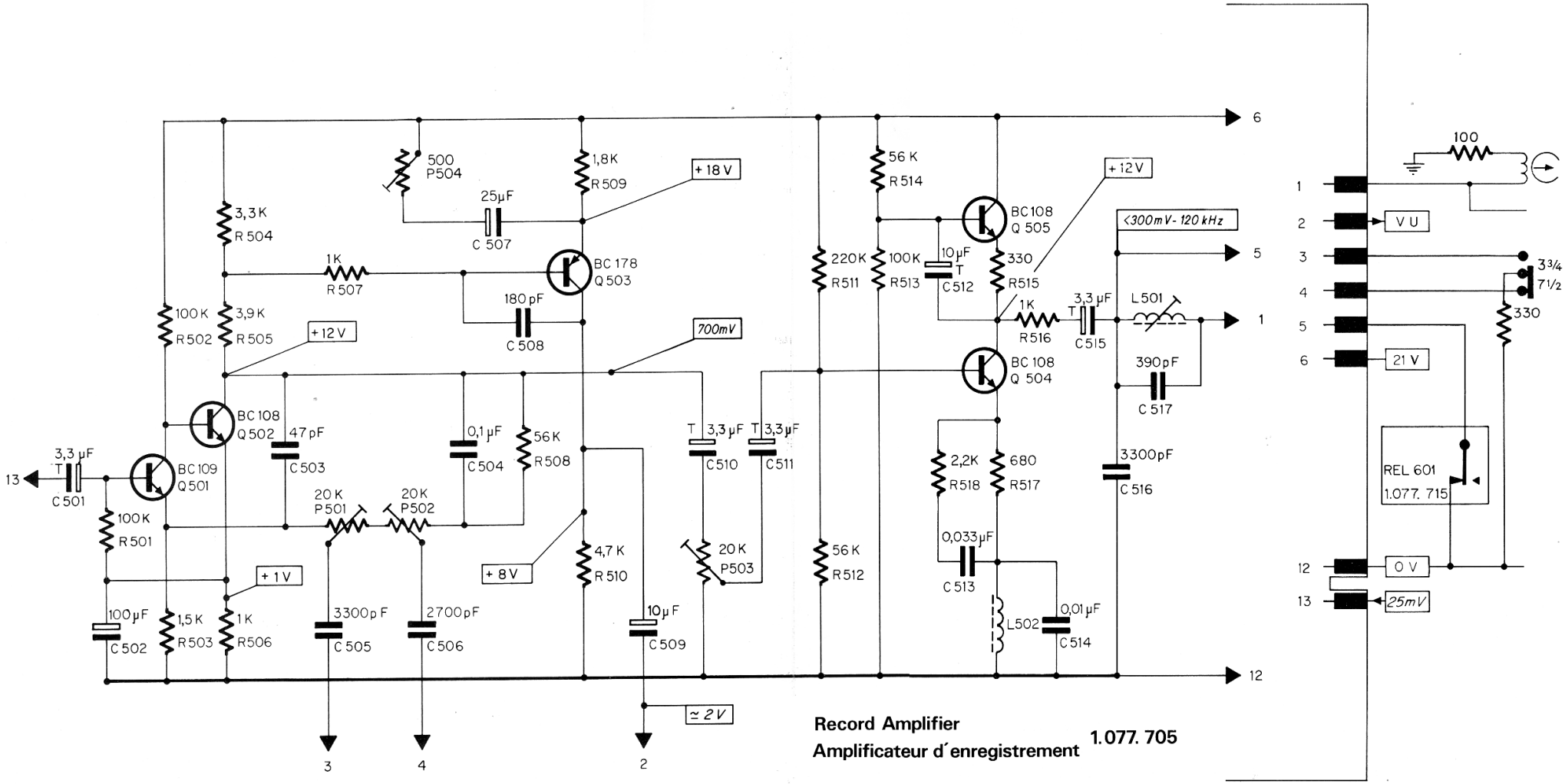
* AF - Test (oscillator pulled out), full modulation
* mesure BF (oscillateur retiré), modulation maximum

Test values (C) and (D) depend on type and speed of tape; they are to be considered nominal.

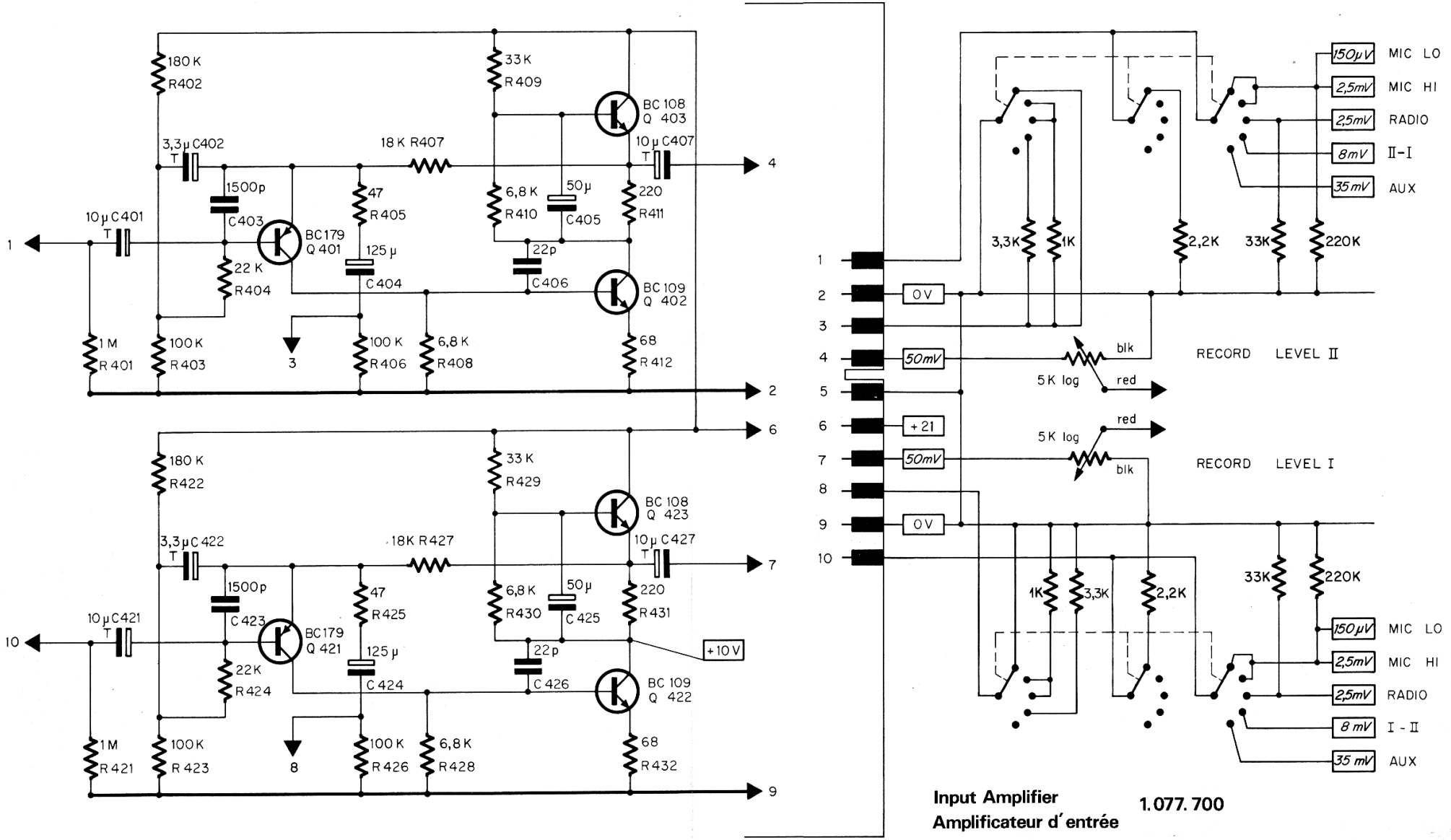
Les tensions aux points (C) et (D) diffèrent suivant le type et la vitesse de la bande; les valeurs indiquées sont nominales.

Oscillator
Oscillateur

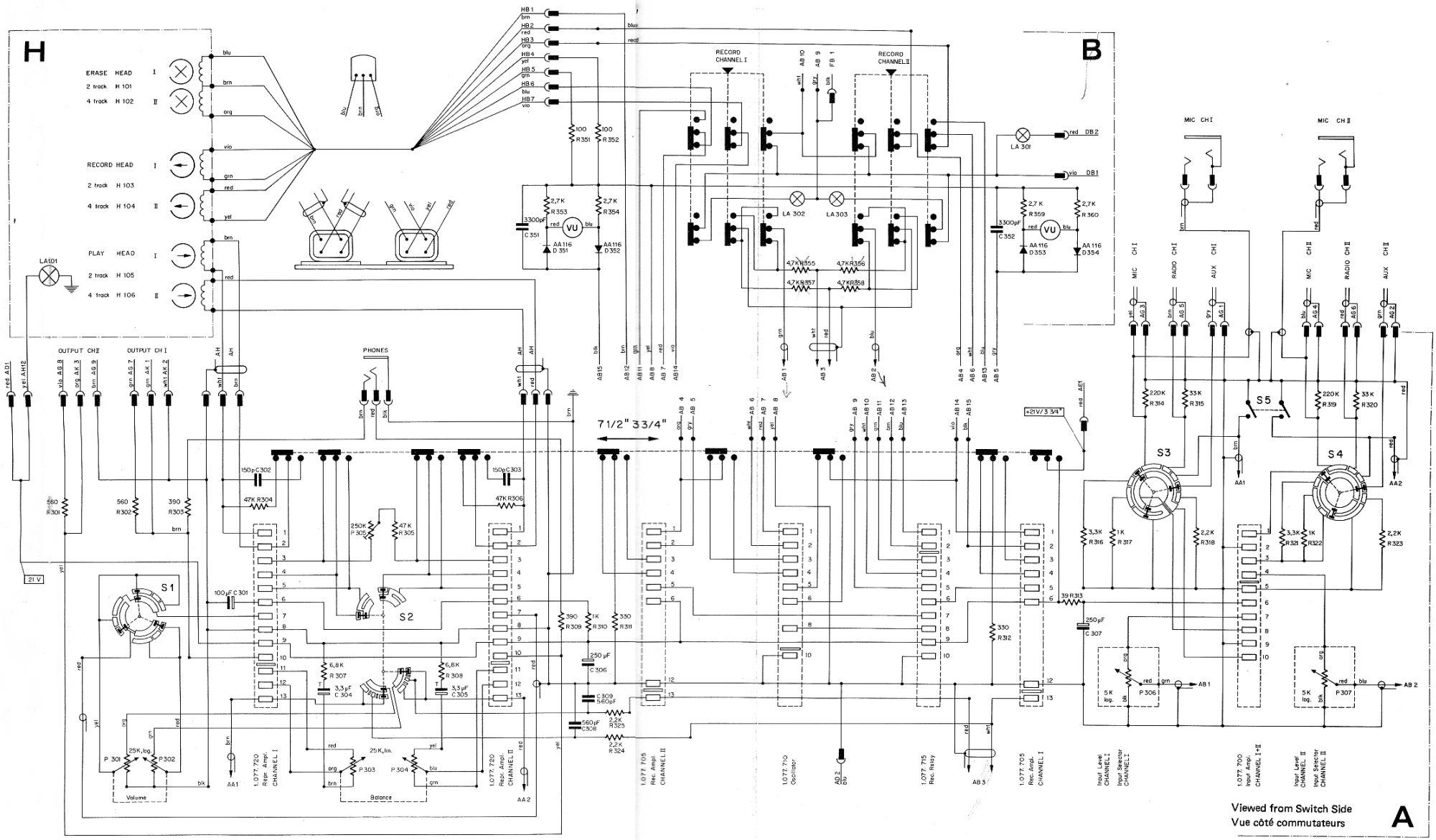
1.077.710

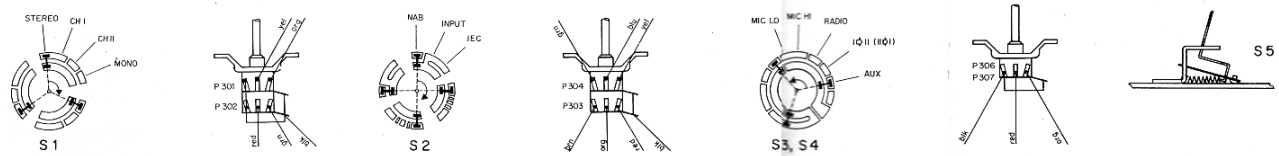


Record Amplifier
Amplificateur d´enregistrement **1.077. 705**



Input Amplifier **1.077.700**
Amplificateur d´entrée

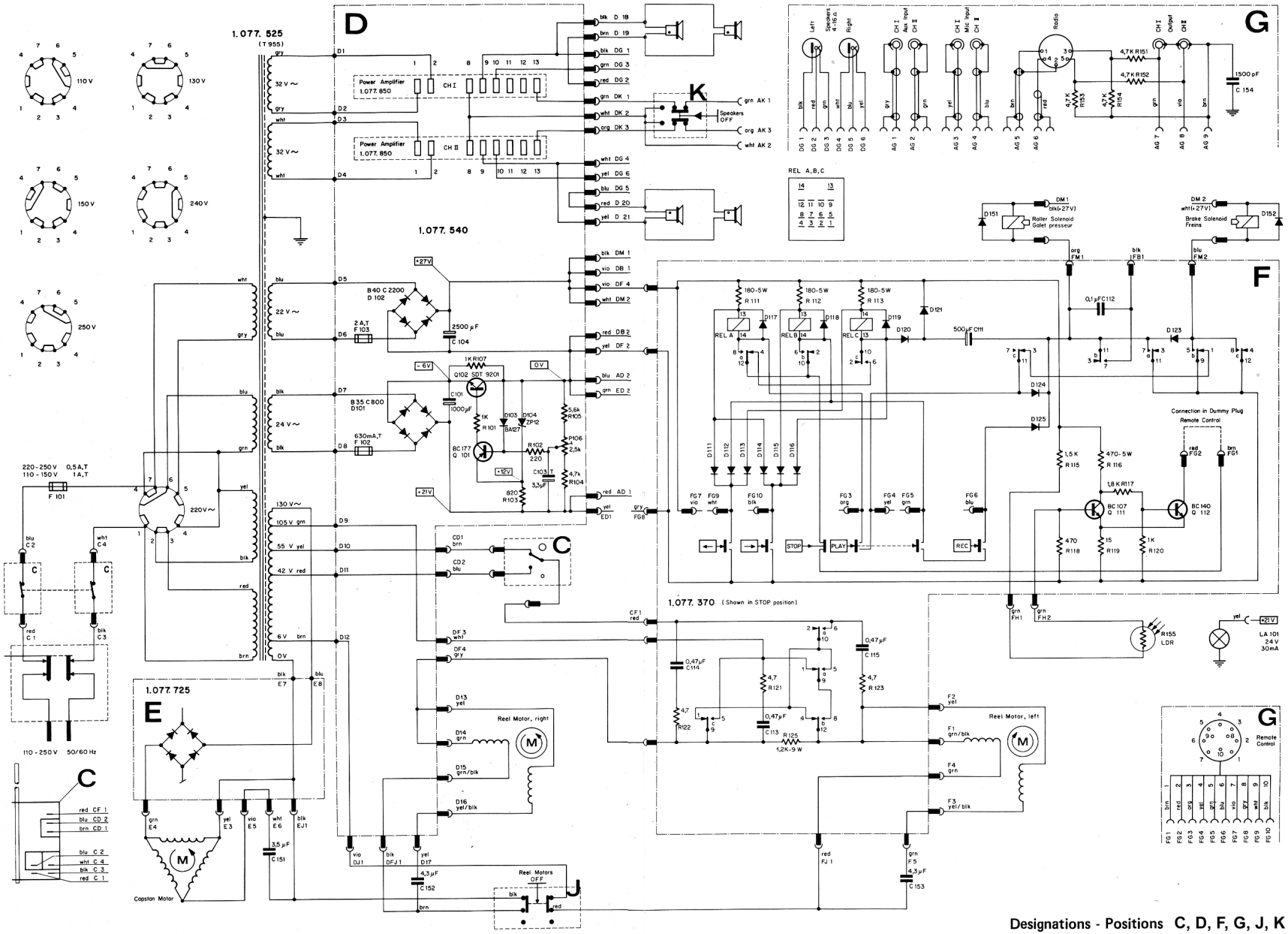




Designations - Positions A,B,H

VU-Meter Board
Plaquette des VU-mètres **1.077.480**

Switch Board
Plaquette des commutateurs **1.077.435**

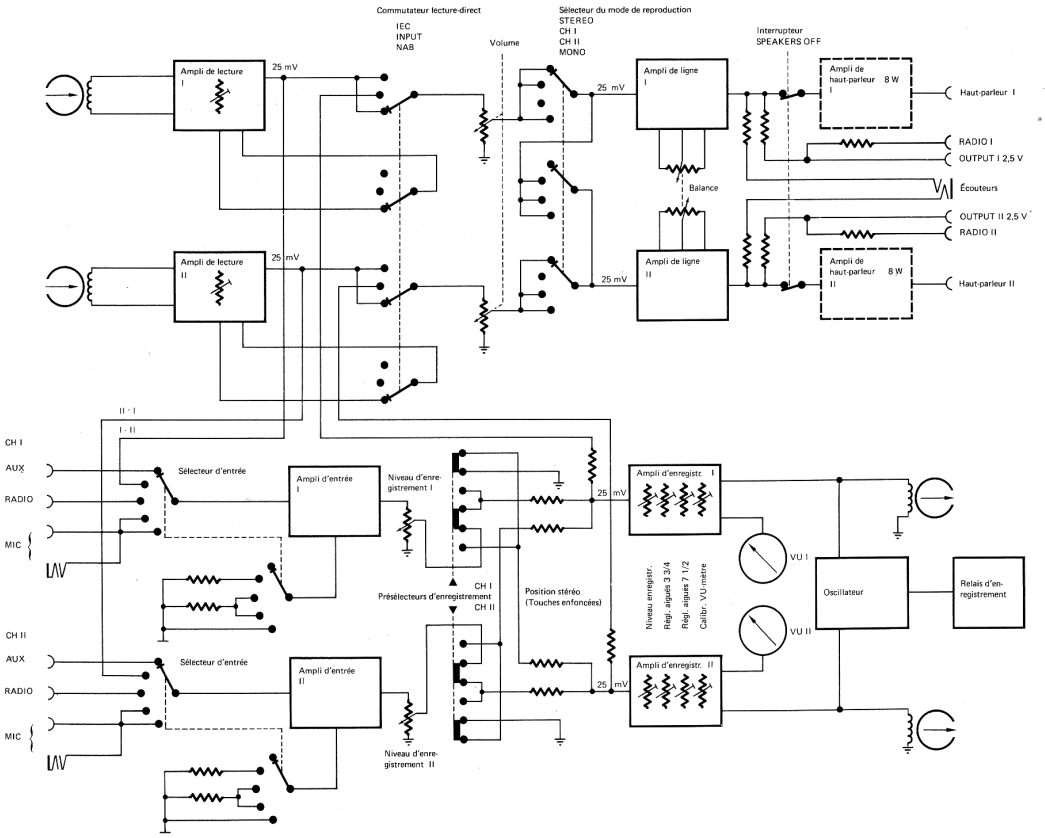


Color Code :
Code des couleurs :

red	= red	— rouge	yel	= yellow	— jaune	brn	= brown	— brun
org	= orange	— orange	grn	= green	— vert	gry	= gray	— gris
			blu	= blue	— bleu	blk	= black	— noir
			vio	= violet	— violet	wht	= white	— blanc

Designations - Positions C, D, F, G, J, K

Tape Drive 1.077.100
Mécanisme (1.077.370, 1.077.525, 1.077.540)

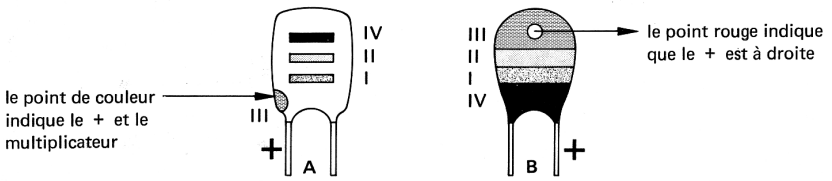


Conditions générales de mesure : (pour les tensions encadrées)

Tensions continues: caractères droits, ex. [+ 18 V] voltmètre à résistance interne minimum de 20 kΩ / V

Tensions basse-fréquence: caractères inclinés, ex. [*25mV*] voltmètre à lampes ou à transistors d'au moins 1 MΩ d'impédance d'entrée.

Marquage des condensateurs électrolytiques au tantale



Couleur (rose * *)	Capacité en µF			Tension de service
	1er chiffre I	2ème chiffre * II	Multiplicateur III	IV
noir	–	0	x 1	10 V
brun	1	1	x 10	–
rouge	2	2	–	–
orange	3	3	–	35 V * *
jaune	4	4	–	6 V
vert	5	5	–	15 V
bleu	6	6	–	20 V
violet	7	7	–	–
gris	8	8	x 0,01	25 V
blanc	9	9	x 0,1	3 V

* le 2ème chiffre peut manquer pour le modèle B

* * rose = 35 V pour le modèle A