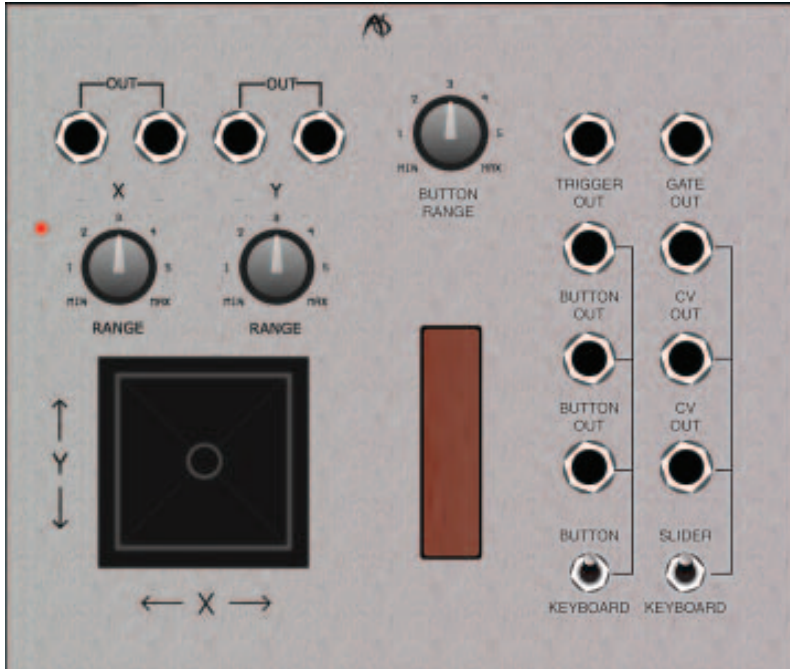


# FRENCH CONNECTION

## PERFORMANCE CONTROLLER



### INTRODUCTION

The Ondes Martenot was developed by Maurice Martenot. A radio operator during the First World War, he noticed how the interaction of two pieces of similarly tuned electrical equipment could give rise to potentially musical oscillations. After the war, Martenot began his research into the musical applications of electricity and the possibilities offered by allowing high frequency oscillators to interfere with one another. However, much of his work over the ensuing nine years is clouded in mystery because he did not unveil his eponymously named instrument until May 1928.

The first Ondes Martenot had a conventional keyboard but, more importantly, a wire that stretched the length of the keyboard, and which you moved from side to side using a little ring that you slipped over the index finger of your right hand. If you moved the ring to the right, the pitch of the sound produced by the instrument increased; if you moved the ring to the left, the pitch dropped. Had this been all the control offered by the Ondes Martenot, it would not have been a particularly musical instrument. However, there was a second control that allowed you to articulate notes using your left hand. The combination of the two made it possible to determine both the pitch and the amplitude of a note, and the result was not unlike a human voice, or an instrument such as the 'cello or violin.

The Ondes Martenot's playing mechanism was novel, but its playback system was amazing. There were three parts to this. The first was called the "principal", and this was a straightforward loudspeaker. The second was the "resonance diffuser". Called the "Palme", its resonant chamber and twelve tuned strings resonated in sympathy with the notes played by the performer, creating complex tones in the same way as some Eastern string instruments. The third part was a second diffuser called the "Metallique". This was, in essence, a traditional loudspeaker, but with the cone replaced by a metallic plate similar to a cymbal or gong. This added a distinctive metallic timbre to the sound.

Martenot's instrument was a marvel, and proved to be a huge success, so he proceeded to design and build a number of variations. One of these allowed you to wiggle the keys themselves from side to side to create natural vibrato. There was also a smaller version called the Ondioline. But whatever else changed, one thing remained constant... there was always a wire with a ring that controlled the pitch of the sound.

On a well-adjusted Ondes Martenot, the semitone positions of the ring correspond to the keys on the keyboard behind it. This makes it much simpler to play than a Theremin. This fact was not lost on the composers of the day and several wrote music for it. Of these, the most famous were undoubtedly Ravel, Boulez, Messiaen, and (more recently) Maurice Jarre, but many others have contributed to a repertoire of more than 1000 classical works that feature the instrument.

## IN USE

The French Connection offers the expressive potential of the Ondes Martenot coupled to the huge resources of the analogue synthesiser. Controlling sounds is completely intuitive and musical; the depressions and studs on the fingerboard make it simple to locate conventional semitones, and the ring moves without any discontinuities or unevenness. With a little practice you will be able to articulate each note individually and smoothly using the amplitude "button", and create slides and vibrato without difficulty.

The control panel comprises three sections: the joystick, the amplitude Button, and the Controller Select Switches.

### The Joystick

The joystick uses a high quality self-centring X/Y joystick mechanism that provides smooth response across its full range. (You can remove the internal springs to allow for non-centring action, if desired.) It provides two outputs for each CV generated.

#### RANGE

At its far left extreme or its lowest point, the joystick will generate a voltage of -10V at the X outputs or Y outputs (respectively). At its far right extreme or its highest point, the joystick will generate a voltage of +10V at the X outputs or Y outputs (respectively). The RANGE controls reduce the maximum output CVs to approximately 0V at their MIN settings, while passing the full  $\pm 10V$  ranges when set to MAX.

### The Button

If left untouched, this sits in its uppermost position, and generates a CV of 0V. As you depress the Button, the CV rises progressively to a maximum of approximately +10V.

#### RANGE

The RANGE offers fine control, reducing the output CV of the Button to 0V at its MIN settings, while passing the full  $\pm 10V$  range when set to MAX.

### Controller Select Switches

The first of these determines whether the pitch CV is controlled by the keyboard or by the wire controller. The second determines whether the keyboard produces a conventional trigger and gate, or whether the Button produces an amplitude CV.

There are four switch combinations:

BUTTON + SLIDER

Imitates the Ondes Martenot

KEYBOARD + KEYBOARD

Acts as a conventional CV+Trigger+Gate monosynth keyboard

## KEYBOARD + SLIDER

Control the pitch of the sound using the wire controller, but trigger envelopes using the keyboard.

## BUTTON + KEYBOARD

Play the pitch of the sound conventionally using the keyboard; articulate notes using the button.

## Outputs

### Joystick:

Each axis offer dual 3.5mm outputs with a maximum range of  $\pm 10V$ . Each pair carries identical signals with maximum operational values determined by the joystick's RANGE controls.

### Keyboard Gate / Button

Three 3.5mm outputs offer a maximum range of +10V.

### Keyboard CV / Slider

Three 3.5mm sockets output 0V to +3.89V. This represents the 48-key range C-B.

### Gate

An additional +10V Gate is provided in Keyboard mode.

### Trigger

A +10V Trigger is provided in Keyboard mode.

**Note:** *The power connector for the French Connection is to the right of the keyboard rather than to the rear so that you can place the unit flush against Analogue Systems synthesisers such as the RS8000 and RS8500.*