

Victor Estrada



# Progressive Exercises for Theremin

Volume 1 (version 2)

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(version 2)

English Translation by Alan D Barbour

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## Introduction and acknowledgments

This book is the first (in its second version) of a series of manuals of exercises, études and repertoire which will be published little by little and with which I seek to ease the road for all those interested in this instrument and who wish to study it in a serious and orderly manner. I have also attempted to rationalize [streamline, systematize] the basic concepts of the theremin to the maximum so that the initiate can succeed in getting into it without the typical problems of incomprehension that can occur.

This manual is designed as a series of daily exercises to polish and improve performance technique and combine it with other études and works for theremin. It can serve as a complement, in case one lacks a teacher, to the DVD methods of **Peter Pringle**, **Lydia Kavina** and **Pamelia Kurstin\*** as well as the lessons of the great **Clara Rockmore** edited on DVD by **Moog Music**. From the aforementioned DVD's we can learn the positioning and use of the body, arms and hands, which is indispensable to be able to begin these exercises. It is important to point out that as a practitioner of the Canadian and American schools I have fingered the exercises according to their principles. The student who fingers according to the Russian school will have to modify the fingering of all the exercises; all these concepts will be treated throughout the book. Actually, there are also the impressive methods of **Masami Takeuchi** and **Carolina Eyck**, aside from the beginning method of **Clara Rockmore** translated into Spanish by Oscar Alberto Garcia, all of which will be very good to increase our knowledge of the theremin.

I take it as a given that the student has sufficient knowledge of [musical] theory and *solfège* to understand the method, and furthermore plays another instrument with which s/he has developed a sense of tune and rhythm. I have felt that the computer will serve as a great aid to study and have prepared all the exercises, together with their accompaniments, and archived them in MIDI format. With the help of an adequate computer application\*\* we can change the tempo, the type of sound, and the key; make loops, repeat the exercises as we like, or have a metronome synchronized with the accompaniments.

To conclude, I should like to thank Oscar Alberto Garcia and all the “**Theremin Hispano**” community for their selfless dedication to the promotion of, and aid to all persons approaching, this complicated instrument; to Ricard Franch for his collaboration on the method and his magnificent series of articles in the magazine **Digital Music Maker**; and above all to Lluís Moreno of publisher “**Mas Acoustics & Co.**” who facilitated access to Lydia Kavina and Pamelia Kurstin and without whom... we should not be able to purchase theremins in our lands!

I hope that this first series of exercises will be of use in perfecting your technique with this fine instrument.

Victor Estrada

March 2006

### Translator's note

This translation makes no pretense to either academic rigor or literary value, but I hope that it rises to the level of the functional. My thanks first of all to Victor Estrada for making this book freely available and granting permission for its translation; furthermore to Brian Robison for editing, particularly the technical musical terminology; to Thomas Grillo for his encouragement, and last but far from least to Mrs. Maria Huber, my high school Spanish teacher, who so many years ago gave me the tools necessary for this undertaking. All errors are mine alone, and if any of them are substantive I sincerely hope to be corrected.

Alan Barbour

February 2008

\*At the end of this book is a list of all the DVD's and books mentioned, and how to acquire them.

\*\*For Apple computers we have the magnificent GarageBand, with which we need only drag the files to the main window to work with them. For the PC Windows platform and other operating systems there are also numerous applications.

### Important notice:

**This method is copyrighted.** Although provided free of charge, it is for personal use only and may not be altered in any way or redistributed without permission of the author.

## History of the Theremin

### *Historical highlights of the instrument*

This [drama] in which reality exceeds fiction begins when **Lev Sergeievich Termen**, a physicist and musician established in Saint Petersburg/Leningrad and known for his experiments with radio waves, decided to join his technical knowledge with his passion for music to build a strange device capable of generating sounds varying according to the distance or proximity of the human body. As in other great moments of humanity, chance played a decisive role in producing the spark (literally) in the imagination of Termen, who years later would change his name to Léon Theremin to honor his French ancestors, and (why not?) to be more *à la page*. Working meanwhile with waves, vibrations and electromagnetic fields in his research laboratory, devoted among other things to development of electronic alarms, Termen was touching a metal rod when he received a shock, accompanied by a high-pitched screech. Instinctively pulling back from the offending rod, Termen noticed that the sound, although fleeting, had descended in tone, and it occurred to him that the reason for the acoustic change had been his [change in] proximity to the rod. Actually, the phenomenon is very similar to the type of interference that is produced when the hand approaches the antenna of a radio receiver. Paradoxically, in the preliminary investigations of sound production using interferences and capacitors this was seen as a problem, since in the experimental prototypes there was no way of regulating the inadvertent contact of the performer with the apparatus. Stimulated by this chance occurrence, Termen hit upon the concept of variable interference. Carrying it in a direction that had not occurred to anyone, he concluded that rather than supposing it to be a problem, the interference caused by the human body could be used to purposely control a sound generator. Termen's idea materialized in a presentation of the Therminvox, also called the "Ætherphone" at an electrical physics convention in 1920. The latter [euphonious] word refers poetically to "sound from the ether," because the hands of the player touch nothing but empty space.



The repercussions of this seminal invention might have been passed over, swept aside and buried by artistic puritans horrified by the unexpected, but that Theremin happened to live and work in the nascent Soviet Union. In those first years of fury against the old world which the October Revolution had left behind, ultraprogressive politics carried along an intense will for a breaking-off and change of course throughout society. Regardless of political considerations, the undeniable fact is that while other countries and cultures held themselves forth as guardians of traditional culture, in the Soviet Union the cult of modernity was elevated to the extreme and experimental artists who would have been consigned to the alleys of old Europe were generously approved, with the objective of forming a new artistic canon that would represent the revolutionary ideal. On the other hand, omnipresent electricity was the great symbol of soviet scientific progress, as manifested in Lenin's famous statement that "Communism is Socialism electrified." In this cultural and social climate, the fusion of modern art and science as an expression of the country's yearning for a break [with the past] was an ideal that could be optimally embodied in an unheard-of and electrical instrument such as the Therminvox, which later would be rebaptized with the gallicized name of its inventor.

Thanks to the efforts of the soviet state in promoting its social and cultural achievements, the world started to become aware of the new instrument and european musicians saw it as opening the doors to a completely virgin creative territory. In those years Busoni, Respighi and Ravel knew and admired the theremin, but Edgard Varèse was the first recognized composer who, slightly later, enthused about this new sound and wrote music specifically conceived for its characteristics (experimental works for theremin had already been written, some of them with orchestra, but they had neither [been performed outside] the Soviet Union nor gone beyond a few performers). Nevertheless, although the first creative fevers were intense in the avant-garde circles, the results did not bring about a schism in the established artistic world and its relevance was reduced to the category of anecdote by the skepticism of the cultural elite. When Theremin himself was nearly in his nineties no one had written truly good works for his invention, for many composers had fallen back on using it to imitate sounds like that of the violin or cello (or even the human voice), so that the popular repertoire for theremin has always been dominated by adaptations of works initially written for other instruments.

Although these tentative beginnings did not bring out all the potential of the theremin, **Clara Rockmore**, who met Léon Theremin in New York, soon came to forge a specific technique and raise the theremin to the level of an authentic musical instrument. Born Clara Reisenberg in 1911 in Vilnius, Lithuania, this person who would pass into history as the first virtuosa of the theremin began in music as a child violin prodigy. One of her trips took her to New York, just in time to cross paths there with Léon Theremin and take some of the classes that the successful inventor gave to American high society women. Astonished by the facility with which Clara caught the trick of the instrument, Theremin flipped over her, and his devotion to the young violin virtuosa seems to have caused her to further expand [upon] her musical gifts. Although she said that it caused her some painful problems, Clara remained in New York and came to be a part of Theremin's habitual circle of friends, and given that she was obliged to give up the violin as a result of bone problems caused by childhood malnutrition, she put all her musical energy into this new apparatus which she felt was underutilized. Aided by her perfect pitch and by direct contact with the father of the instrument, Clara Rockmore dedicated herself to developing a prodigious technique with which she extracted from the theremin nuances never [before] seen, and at the age of 34 astonished the musical community with her first solo concert, in which she had a theremin specially designed for the occasion. The importance of Clara Rockmore lies in her robust expressive focus of the instrument and in an outright rejection of any casual or nonmusical application. In practice, this posture led her to disdain all the proposals that came to her to record effects and ghostly sounds that had come to be popular, and which she considered "ugly and strident," while she exerted herself to adapt the classical repertoire to the theremin "to show its [ability] to create beautiful music." Her philosophy is especially well summarized in some interesting words: "I am a violinist, and I wish to demonstrate that the theremin can be used to play real music. Bach could not compose for the theremin, but why can't I play works of Bach on my instrument?"



Surely the years and years that she had to coexist with the uses made of the instrument, when it was adopted by Hollywood as a perfect way to create the sinister sound atmosphere of the "horror" movies that make us laugh today, were no fault of Clara Rockmore's. In fact, this was the main vehicle by which the sound of the theremin came to the ears of the greater public of the times. Aside from B movies of the 1940's, 1950's, and 1960's, the theremin came to the great movies by other means that greatly increased its prestige and which in practice elevated it to the level of a symphonic solo instrument--as in the original 1945 version of *Spellbound*, fairly daring for its time. Miklós Rózsa, legendary composer for movie orchestras, used the timbre of the theremin to accentuate the supernatural aura of a screenplay that penetrates into hypnosis and the complications of an amnesic mind, and later reformulated his creation as an orchestral work called *Spellbound Concerto*. Probably it was the first composition that presented the theremin to a great audience as a serious instrument, and it was not the last time (incidentally, the *Spellbound* movie [orchestral score] won the Oscar [for Best Music, Scoring of a Dramatic or Comedy Picture] in 1946).



The person chosen by Hollywood to give voice to American cinema fantasy was Doctor **Samuel Hoffman**, who in addition to playing the theremin was a violinist (this is a good time to point out the detail that both of the great interpreters of the theremin, at least in this period of discovery and experimentation, were musicians and played other instruments). From his hands came many of the extraterrestrial sounds of the many science fiction productions that invaded the United States cinema with subliminal messages of paranoia and anticommunist fervor.

Following its period of cinematic "splendor," in which the theremin was irrevocably joined to robots and malevolent Martians, the 1960's brought the explosion of "pop," which was a real crossroads for many musicians and instruments: some hitched themselves to the industry's wagon to the point of indispensability (electric guitars, modern drums, Hammond organs) and others fell into absolute oblivion. At the margin of avant-garde circles, driven by the advent of the first synthesizers and flowering of electronica, the theremin almost completely disappeared from popular music and was ignored in musical styles which had no place for it. But when the Moog Etherwave broke [onto the scene] in the 1990's, many musicians were motivated to use the theremin, both in the studio and live, conscious of its impact upon a generation little accustomed to this surprising

instrument. In the realm of rock, traditionally removed from electronic extravagances, artists such as Mötley Crüe, Alice Cooper, Marilyn Manson, and The White Stripes had added it to their live spectacles, and in alternative pop-rock, in principle more receptive to this genre of instruments, the theremin has been adopted among others by Blur, The Flaming Lips, Portishead, Beck, Elvis Costello, and Massive Attack.

Nevertheless, those who merit special recognition are the musicians who are working to convert the theremin into a true solo instrument, away from pure effects and [the realm of] anecdote. Without doubt, the great force of expansion for the theremin is the Russian Lydia Kavina, who carries it in her genes, given that she is the grand-niece [first cousin twice removed] of the very same Léon Theremin. With a life completely dedicated to the instrument and considered almost universally as the greatest modern virtuosa, Lydia gives classes in Moscow's Theremin Center and travels throughout the world to carry her sound to an ever larger public. In a less orthodox sphere is Pamela Kurstin, to whom Clara Rockmore said "You have the gift; you will be my successor." In fact, she is the only one who has dared to establish the theremin for jazz *walking bass* lines, opening a way that had not occurred to anyone [else]. One must also name the Canadian Peter Pringle, a versatile multi-style interpreter who has pulled out of his sleeve a technique of body posture far from the hieratism imposed by Clara Rockmore. Another interpreter of the first level is the German Barbara Buchholz, a protégé of Lydia Kavina and a specialist in contemporary music characterized by elegant electronic textures. Also in Europe, in Holland Wilco Botermans is investigating the possibilities of the theremin as a controller, and the young Carolina Eyck (also a violinist and an alumna of Lydia Kavina) couples her theremin with orchestras as well as modern groups. On the other side of the world, the Japanese Masami Takeuchi has established himself as the unquestioned authority in his country, in which the theremin is very popular, and aside from his musical work acts as didactic link with the teachings of Lydia Kavina in Russia.

**Ricard Franch**

## **How does a theremin work?**

In essence, a theremin consists of a circuit box from which two antennas extend, one vertical and the other a horizontal one in the form of a loop. From [the time of] its invention to now, leaving aside the possibilities of tone control, register, octaves, timbre, MIDI functions and other paraphernalia that have been added over the years, the instrument still functions [in] more or less the same [way]. The case contains two linked radio frequency circuits which produce high frequency oscillations. One of the two circuits is fixed [in frequency], and the vertical antenna, which detects the proximity of the hand, determines the frequency of the other circuit. The result, [rendered] audible by an amplifier, is the wave created by the difference between the two circuits, the fixed and the variable.

Without entering into excessively technical details, the plainest way to explain how a right handed person plays a theremin is to say that the right (vertical) antenna controls the pitch, thus the note that sounds, and the left (horizontal) [antenna] adjusts the volume. In this way the frequency and amplitude, which are the two essential physical parameters for the musical manipulation of a monophonic sound, are controlled by the movement of the hands in the air about the antennae. Actually, be it the hands or anything else, the antenna detects all movement within its active radius, without distinguishing which part of the body is used. In the standard position, the artist situates him- or herself at approximately arm's length from the vertical antenna, and holds the arms in such a way that the right hand can easily move to and from the vertical antenna and the left hand up and down above the horizontal antenna. One need not touch or push anything to begin to play and create sounds, [except for] the switch that activates the circuits; fantastic!

**Ricard Franch**

## Advice and things to know before you start to study

### What kind of theremin is best for learning [study]?

Actually we can find a great variety of models, [but] an essential characteristic is that the theremin selected have two antennae, volume and pitch. The pitch antenna should have the greatest **linearity** possible, which is to say that it has a uniform distance between the notes. I am personally familiar with the Moog Music “Etherwave” and “Etherwave Pro,” which perfectly satisfy this requirement, but there are more models of high quality on the market. Normally all the models are designed for right-handed players, but left-handed musicians needn’t be concerned; by simply turning the theremin around, we can use it without any problem.

### How much space is required for the theremin to work properly?

The electromagnetic field of the theremin is very responsive to the space where it is located. The walls of a house can affect its tuning; it is best to study in a large room where the walls are, at a minimum, some two meters (give or take a bit) from the antennae, above all from the pitch antenna.

### What kind of amplification is recommended?

Although we can use any sort of amplifier, the best is one with a frequency response as even as possible, and without attenuation [i.e., “line level” input]; one for keyboard or voice is ideal. If you have one for guitar or bass, you can use it, but these have very [unsatisfactory] frequency curves which distort the original sound of the theremin, although whenever we approach this subject it [becomes] a matter of taste [preference].

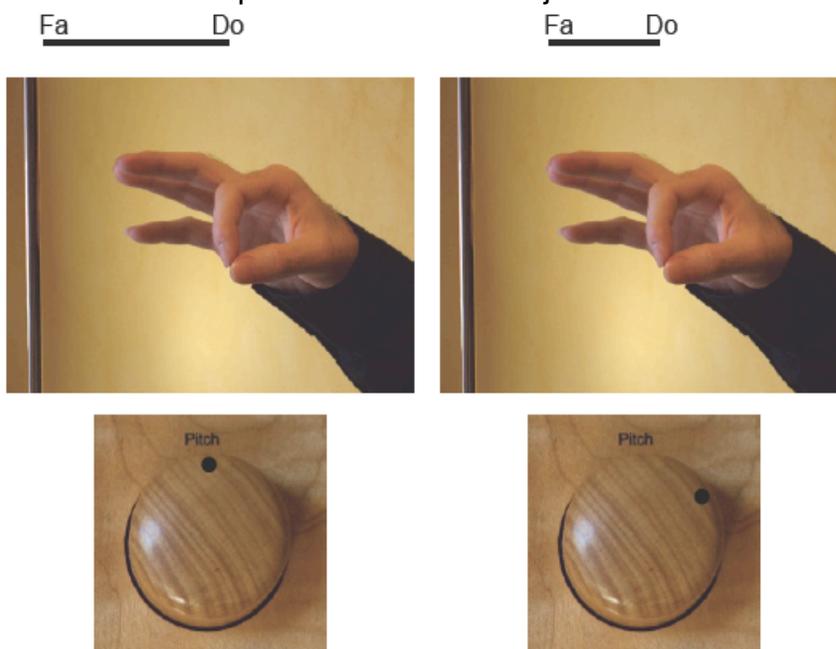
### How is the theremin tuned?

It is vital to properly tune the theremin before beginning to study. We calibrate it for each change of space, including movements within the same house, because the size of the room or the space between the vertical antenna and the walls affects the tuning. Furthermore, each person has a personal tuning according to his or her physical characteristics and size of hand. Calibration is achieved with the “Pitch” potentiometer:



**We must turn the “Pitch” potentiometer to correctly tune our theremin.**

The function of this potentiometer is to adjust the distance between the notes:



We must turn it until the distance between the first position (hand closed)\*and the fourth (hand open) is an interval of a fourth. In the example [shown] we have moved the notes together until the note Fa [F] coincides with the “fourth” hand position, so that when we close the hand we will obtain the note Do [C]. This way, we always work with the same distances, and the fingers will “memorize” the different openings for each note. One must bear in mind that when we turn the potentiometer we move all the notes; which is to say that the base note Do [C], for example, will be displaced, and we must move the arm with the hand in position 1 to follow it, and each time verify that when the hand is opened to position 4, an interval of a fourth is created.

*\*The concept of [hand] position is covered in the chapter “Performance Techniques 2: The right hand”*

## The theremin in performances

The correct location on the stage and adequate monitoring is vital to nip a typical series of problems in the bud. It is best to locate ourselves to the left of the stage (thereminist’s right), where the vertical antenna is protected from the possible movements and approaches of the other musicians of the group-- above all those of the singers, who move most actively upon the stage.



**In this case the singer will not affect the pitch antenna!**

To monitor oneself during a performance, it is desirable to have a speaker on a stand in back of us at

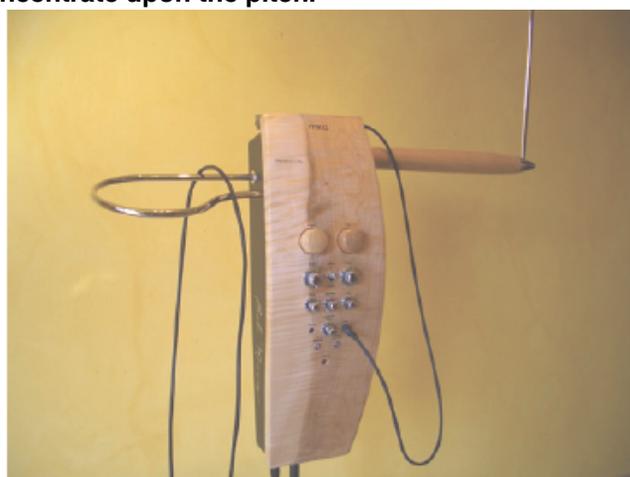
the height of our ears. This is best to isolate our sound from that of the other instruments which accompany us. This way, after a passage without playing, we can begin to search out the notes in pianissimo, which the audience cannot hear, and produce them perfectly in tune upon further lifting the left hand. It is also interesting to have a tuning indicator [chromatic tuner] connected to do the same visually; the Etherwave Pro has a port especially for this function. Another detail to bear in mind is that the theremin is always sounding, and this can be inconvenient when we momentarily move away from it. If our model has a “standby” function we can mute it that way, but [for] simpler models of theremin [that] do not have that function we can use a very simple trick which consists of laying the audio cable which runs from the theremin to the amplifier across the horizontal antenna, and automatically it will be muted.



**At the shoulder we have a speaker which helps us to listen to ourselves and concentrate upon the pitch.**



**Tuning indicator [chromatic tuner] connected to the theremin to visualize the notes, even when the instrument does not sound through the speaker.**



**The cable upon the horizontal antenna stops the sounding of the theremin.**

## Advice for proper study

A certain amount of time is required to acquire a properly natural and relaxed position of the arm and hand. One must avoid forced postures where the arm is tense or the fingers do not open naturally. The first study sessions should be short, so that the arm and hand gradually acquire the [proper] posture, learn to relax, and gain stamina. The technique of vibrato is best studied when one has sufficient sureness in tuning and good hand posture; this technique will not be treated in this first book. It is also very important to do muscle stretching and relaxation exercises, for the instrument is physically very demanding. This will be dealt with in the latter volumes of this method [book]. For now, you can ask the advice of any physical therapist.

The exercises should be analyzed with respect to both rhythm and melody before carrying them out with the instrument. They should be worked on very slowly and with much attention, first of all concentrating upon the sound quality and the pitch, and then obtaining a good control of the rhythm. As we gain skill, we work on the same exercises at greater speed with accompaniment and the metronome.

Learning the theremin, like any other instrument, requires continuous and measured work. It is far more productive to study half an hour every day with breaks, than eight solid hours only on weekends. Always remember that in study, quality (to be methodical and rigorous) is more important than quantity (to play a lot without method or rigor). One must be conscientious to become a good thereminist; it requires many years of dedication and serious work, but the effort is worth it.

As will be said later, it is vital to be very rigorous with the fingerings of the exercises, so that one can later apply this to the études and [musical] works. This will help us to gain more security in interpretation.

You can learn more about the instrument, exchange experiences, and resolve doubts on the following Internet pages:

### Introductory guide to the theremin



<http://www.victorestrada.com/theremin>

### Theremin Hispano



<http://www.thereminhispano.com>

## Performance Techniques 1

### *Basic concepts*

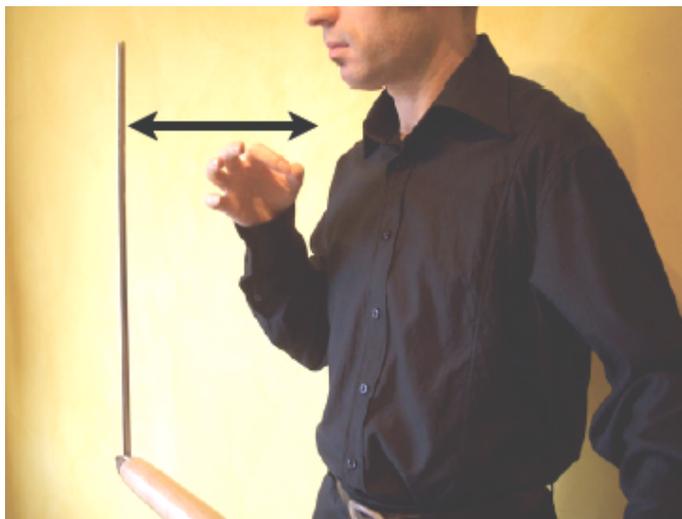
We shall begin with some very basic concepts--how to stand at the theremin, the function of each antenna, and how to use each arm.



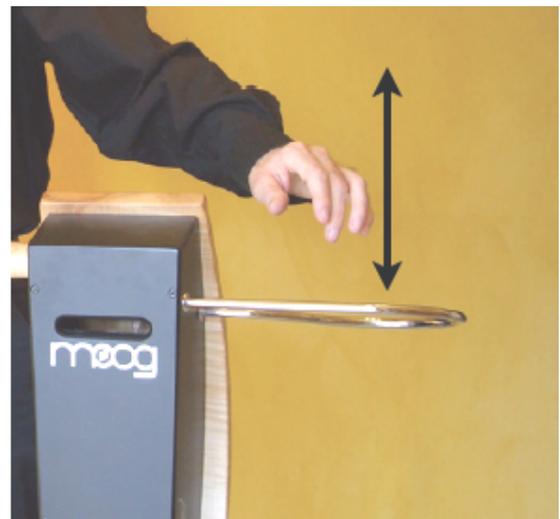
**Theremin seen from the perspective of the performer.**



**Thereminist seen from the perspective of the audience.**



**We use the vertical antenna on our right to produce different pitches, according to how near or far from it our right hand and arm are.**



**On our left we have the horizontal antenna, with which the left hand controls the volume.**

## Performance Techniques 2

### *The right hand*

The most important difference among the different schools of thereminists, aside from some details about the positions of the fingers and vibrato technique, is the way in which we approach the vertical antenna with the right hand. To understand it better we will analyze the basic playing styles of three great thereminists, each one representing a [particular] school, paying attention above all to the movement of the right arm, the subject of this chapter. We shall refer to the techniques as the “Russian” School or “Kavina” technique, the “American” School or “Kurstin” technique, and the “Canadian” School or “Pringle” technique.

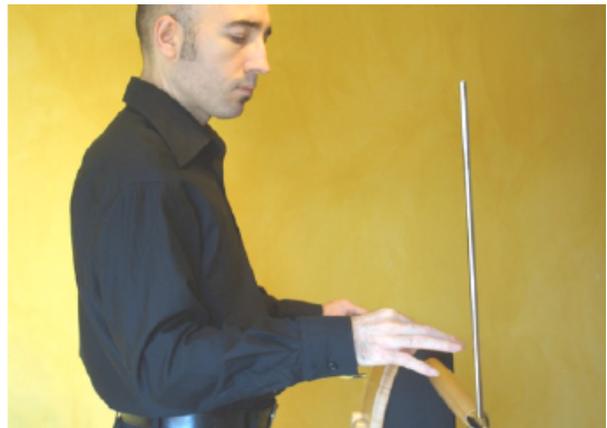
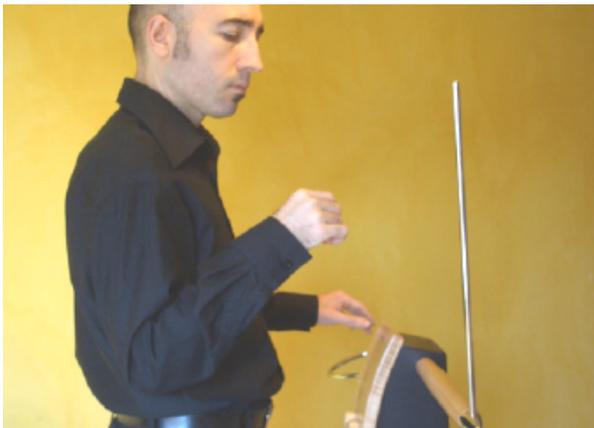
#### **Russian School or “Kavina” technique**

For the lowest register [*tessitura*], the arm is pulled back and held against the body; it is then extended little by little towards the vertical antenna to cover the rest of the range. A point comes at which one must completely extend the arm to play the highest notes. In contrast to the other schools, this has eight hand positions--nine counting the zero position--and the thumb is not used as a pitch limiter. Vibrato may be by arm and/or wrist. This technique is perfectly described in **Lydia Kavina’s** DVD “Mastering the Theremin.”



#### **American School or “Kurstin” technique**

The arm is always kept relaxed and held against the body. One only moves the forearm in a descending arc, by which means it approaches the antenna. At the level of the hand, one uses four [positions] plus the zero position, and the thumb as a pitch limiter. Vibrato is [accomplished] only with the arm. You can observe this technique in **Pamelia Kurstin’s** DVD “Beginning and Advanced Theremin Techniques.”



## Canadian School or “Pringle” technique

One always keeps the arm and forearm near the chest. By means of a special position of the feet, one moves the entire body (and with it the arm and hand) comfortably [conveniently] towards and away from the antenna, thus going throughout the range of the theremin in a completely linear manner. One uses four hand positions plus the zero position, and a highly developed version of the thumb as a pitch limiter. Vibrato is [accomplished] only with the wrist. This technique is perfectly described in **Peter Pringle’s** DVD “How to Play the Theremin.”



**The right leg is slightly advanced toward the vertical antenna.**



**Flexing the right leg in a relaxed manner we move the whole body toward the antenna.**

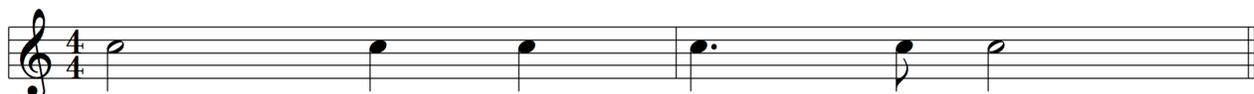
There is actually no standardized performance method because there are very few world class professional thereminists, and those few have had to discover the methods that work best for their [particular] interpretive styles. At this time the infrastructure necessary to form an adequate foundation for future thereminists is beginning to be developed, and therefore [we] contrast the different technical trends. Time will tell which technique or techniques are most appropriate to the typical student, and will filter [out] those which only work for a particular type of performer. At this time, you may choose one or another way of playing, according to the criteria and experience you have acquired.

## Performance Techniques 3

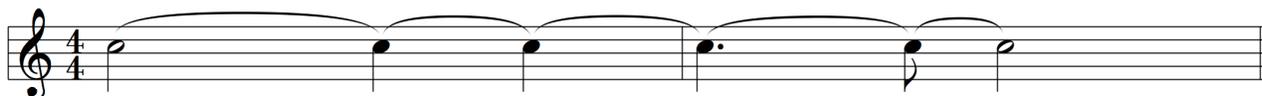
### *The left hand*

We have previously pointed out that the left hand controls the volume, and that is one of the most important characteristics of a note. It includes dynamics, attack and articulations, rests, melodic phrasing, envelopes, etc. In this first book, we shall only work on the attack of and maintaining the sound, which help us to separate the notes from one another, and to make them last as the score indicates. This will be indispensable, for example, when one exactly repeats the same note consecutively. Without this attack, we would hear a continuous sound without any type of separation among [the notes].

*To produce this rhythm we must separate the notes, attacking them with the left hand.*

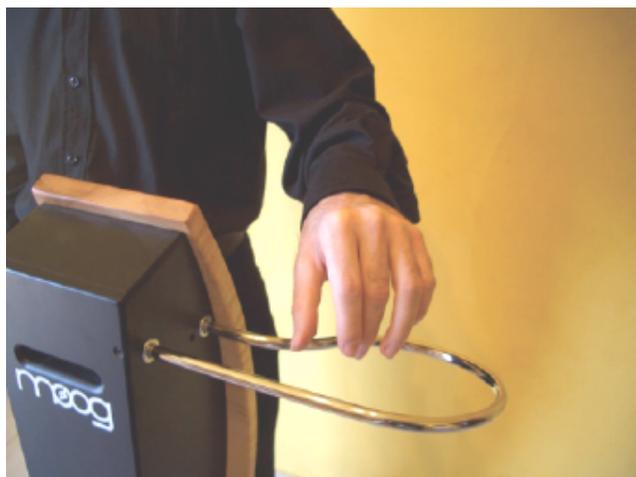


*Or it will sound like this!*



There are various techniques for controlling the volume antenna; we shall begin with the two basic methods, each with its specific function. First we will learn how to move the wrist, which is very agile, and which we use to attack the notes.

We move the left hand towards the antenna until the theremin is just silenced, and leave it fixed in this position. Then, with a sudden movement of the wrist, concentrating on the middle finger, we lift the hand without moving the arm. This way, we obtain sudden increases in sound, that are the attacks of the notes. Once finished with the note, we may relax the hand to silence the sound, or relax it and immediately give the hand an [upward] impulse to attack the following note according to the score.

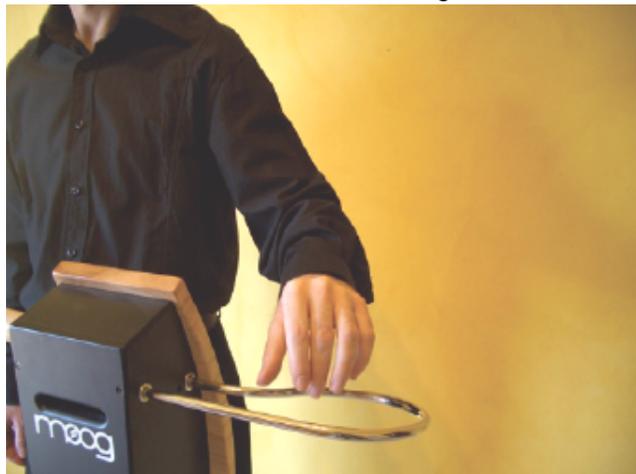


**Here the hand prevents the theremin from sounding.**



**Upon an [upward] impulse to the hand, the theremin begins to sound. We do it with a rapid impulse to give a good attack to the notes.**

The other movement uses the entire arm, which controls the dynamics of the sound. This movement is much more continuous than that of the wrist. The softest sound we call pianissimo, and it is when the hand is very close to the antenna. By raising the arm, the volume of the theremin will continue to increase until it reaches fortissimo, which will be the greatest volume we can elicit from the instrument.



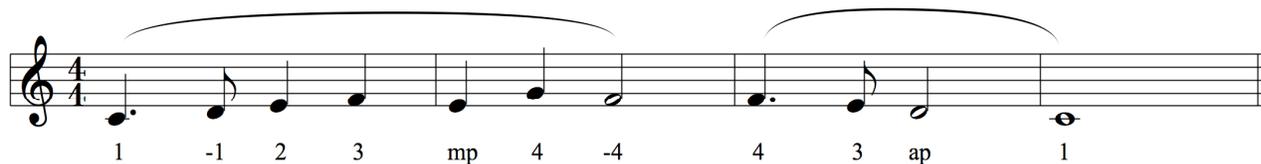
At these times the volume of the theremin is very low, "*pianissimo*"



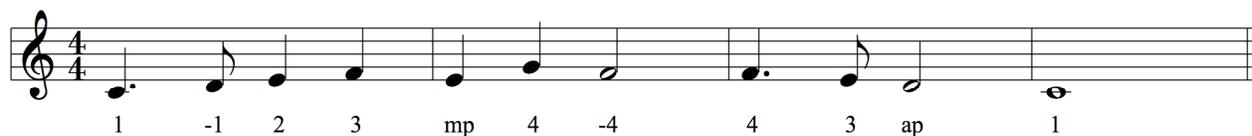
And now a very strong volume, "*fortissimo*"

For now we will use this movement to produce a medium volume, so that the theremin produces a continuous legato sound, which is the way we will work through most of the exercises in this first volume, to facilitate their performance. Actually, the scores will write it with a legato symbol, which is the way we play it, but to simplify the lecture we will ignore this detail and take it as a given. We will only move the wrist when we must play the same note twice in succession.

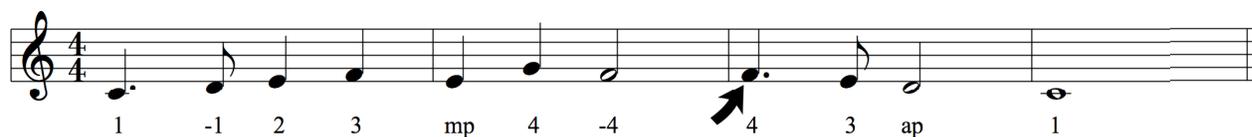
For now we will always play in continuous legato. The score is written thus:



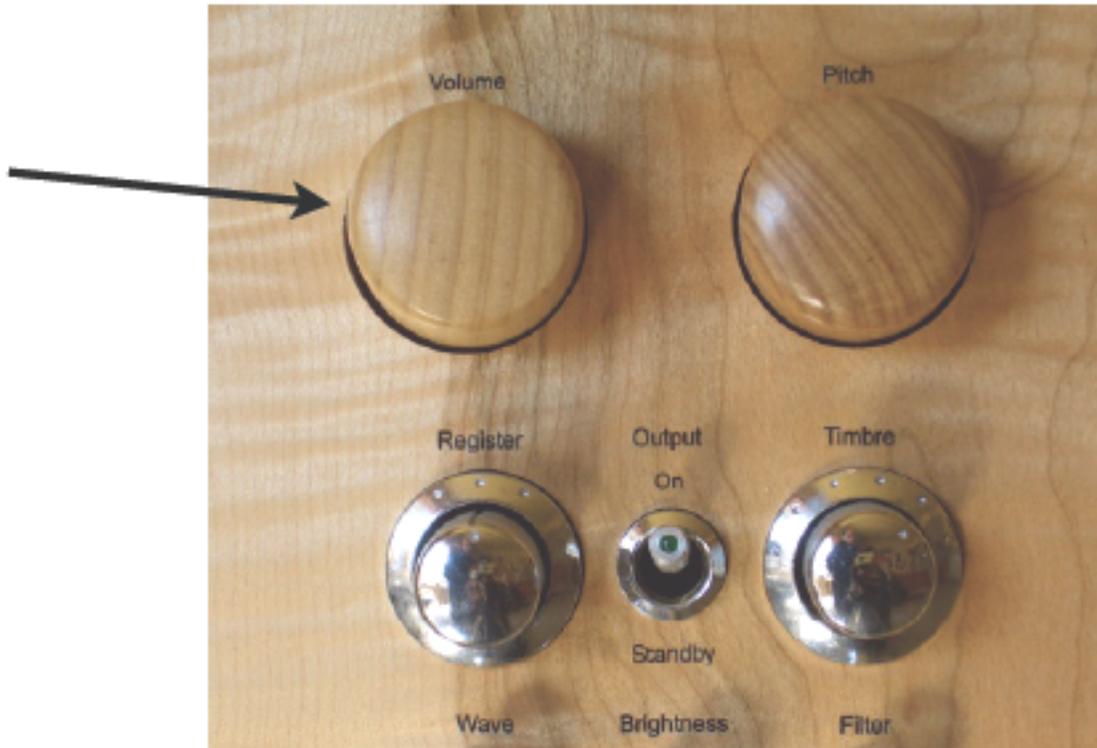
So that we do not have to continuously represent these symbols, we shall write the music without slurs:



In this case, it is essential to separate the notes by movement of the wrist:



To conclude this section, it remains to say that the behavior of the volume antenna can be calibrated with the “Volume” potentiometer. With it we can so adjust [the instrument] that when we withdraw the hand from the antenna, the reduction in volume varies from very quick to very gentle. According to the style or type of work which we are performing, one form of sound or the other is better. Some models of theremin also allow calibration of the height of the left hand at which sound begins to be produced.



**We must turn the “Volume” potentiometer to calibrate the response of the horizontal antenna.**

## Performance Techniques 4

### *Positions of the right hand*

Right hand technique has been developing from the first players to now. In the early days of the instrument, the player moved the hand and arm towards and away from the instrument together, greatly limiting response. A little later the great thereminist **Clara Reisenberg** [Clara Rockmore] developed a technique which she called “**aerial fingering**.” Since then new movements of this hand for the precise control of notes have been described and adopted. With respect to the technique for this hand, we will now work on the base posture [position] and the four [other] positions.

**Base posture:** This posture seeks to stabilize and relax the hand by lightly touching the ends of the thumb and index finger; from here the [other] positions are developed.



**Positions:** These consist of different openings of the group of middle, ring, and small fingers. Each opening equals a change of a half tone or a full tone [half or whole step; minor or major second]. In position 1 these fingers are held as shown; in position 4 they are completely opened, without being forced. The intermediate openings are positions 2 and 3. For example, if position 1 is the note Do [C], position 2 is Re [D], 3 is Mi [E] and 4 is Fa [F]. The exact opening of the hand will be relative to the note which we wish to play, and we select and regulate the correct position by ear.



**Position 1**



**Position 2**

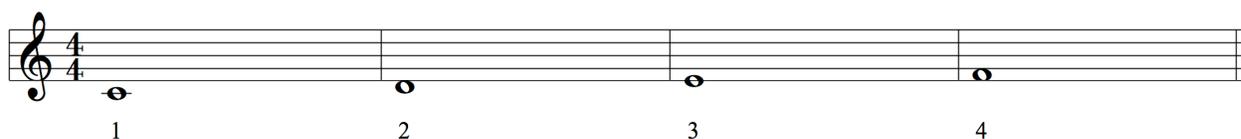
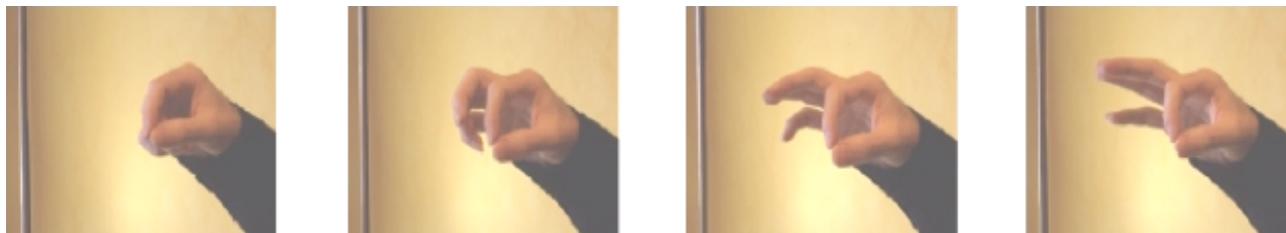


**Position 3**



**Position 4**

If we set them well, at each position to which we advance the fingers they will further approach the vertical antenna, producing the order of notes below, and vice versa. The angle of the hand shown in the photos is more a matter of demonstration than reality. One must bear in mind that according to the chosen school one can change the turn of the wrist, even to the point that the oval created by the index finger and thumb is completely horizontal.



**In this sequence we can clearly see the different positions of the fingers and their gradual advance toward the antenna. In the score we can see the note produced in each case.**

## Fingering and characteristics of theremin scores

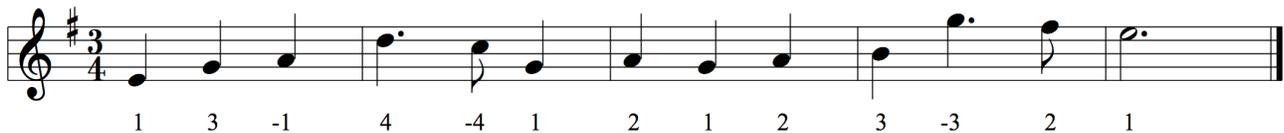
Something very important when learning an exercise, étude or work, is the correct fingering for the music; that is, which fingers we are going to use for each of the notes we are going to play, keeping in mind the type of interpretation and means we wish to apply in each case. Normally there are numerous ways to finger a score. Our experience, interpretive necessities, or technical level will lead us to follow one fingering or another. In the case of the theremin we need only concentrate on the right hand, unlike instruments such as the piano, guitar, harp, etc. Learning to finger correctly will give us sureness of execution with a form that is logical, fluid, and without ostentation.

As we might suppose, developing a melody on the theremin is based upon the positions of the fingers, displacement of the arm, and combinations of both techniques. All this can be perfectly represented in the scores.

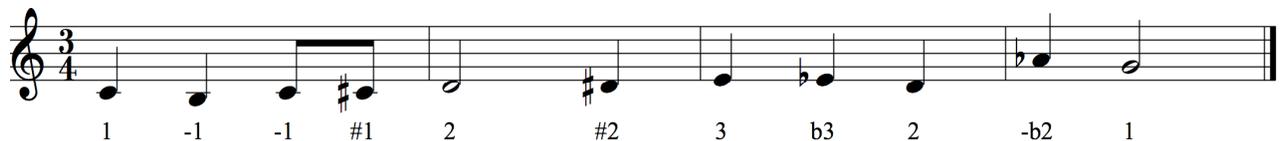
We will indicate the positions of the fingers with the numerals 1, 2, 3, and 4:



To indicate that the hand must be displaced, we will mark the new position with which we arrive at the note with the symbol “-”, which is to say that this is the displacement from which we are going to reach the following positions: -1, -2, -3, or -4. From here on, since the [position of the] hand is fixed, the subsequent numerals are the normal 1, 2, 3, or 4:



For chromatics, the markings will be thus: #1, #2, #3, #4, b1, b2, b3, or b4. We will also encounter the symbol “-” in cases of displacement:



When we use the thumb as a finger [motion] limiter, it will be indicated in the score by the following combinations of letters: “mp” for the union of the middle finger with the thumb; “ap” for the ring finger with the thumb,\* and “qp” for the junction of the thumb with both the little finger and the ring finger. The symbol “-” may also appear when we displace these fingerings. This type of fingering will be dealt with extensively later on:



\*Translator's note: In Spanish “ring” [finger] is [dedo] “anular;” “thumb” is “pulgar;” thus “ap” for “anular-pulgar,” “ring-thumb,” and so forth.

Given the great range of the theremin, we will use the treble clef as well as the bass clef, following [the] convention:

A musical exercise in 4/4 time, using a key signature of one flat (Bb). The notation is split across two staves. The first staff uses a treble clef and contains the notes G4, A4, Bb4, and C5. The second staff uses a bass clef and contains the notes D4, E4, F4, G4, A4, Bb4, C5, D5, E5, F5, G5, A5, Bb5, and C6. Fingering numbers are placed below the notes: 3, 1, -2, 1, -1, 2, #2, 2, -1, -1, 2, -4, 2, 1.

And for all types of articulation, phrasing or regulation of sound, the symbols to which we are accustomed with other instruments will be used:

A musical exercise in 4/4 time, using a key signature of one flat (Bb). The tempo is marked 'Largo'. The notation is on a single staff with a treble clef. The notes are G4, A4, Bb4, C5, D5, E5, F5, G5, A5, Bb5, C6, D6, E6, F6, G6, A6, Bb6, and C7. Fingering numbers are placed above the notes: 1, 2, 3, 2, 1, -4, 3, 2, 1, -3, 2, 1, 2, 3, -1, 4, -2, 1. Dynamics include *p* (piano) at the start, *ff* (fortissimo) under a slur covering the notes from D5 to G5, and *ppp* (pianissimo) at the end. There is also a *ppp* marking under the final note C7.

## Lesson 1

### *Beginning exercises for the right arm and hand*

The first thing we must learn is to stabilize the sound and produce steady notes. We place the hand in the first position and work with any note (distance from the vertical antenna). We attempt to obtain a steady, clear and accurate intonation. Once this is achieved, we can try different notes (distances from the vertical antenna), including glissandos, to understand the range [*tessitura*] of the instrument with the arm technique which we have chosen from among the three most important variations.

Having once achieved a good sound, we concentrate upon tuning it to a particular note with the following exercise. With the theremin vibrato is normally applied to long notes, but for now it is not convenient to work on this technique. You may repeat [loop] the exercise indefinitely, and in this way have time to seek the note, tune and stabilize it. With this accompaniment we can attempt to give musicality to a simple note:

#### *Exercise 1*

The score for Exercise 1 consists of two staves. The top staff is for the theremin, written in 4/4 time with a treble clef. It features a single whole note in the first measure, marked with a '1' below it, which is sustained across the entire 4-measure phrase. The bottom staff is for the guitar, also in 4/4 time with a treble clef. It provides a rhythmic accompaniment of eighth notes, with each eighth note accompanied by a chord. The chords are: C4-E4-G4 (measures 1-2), C4-E4-G4 (measures 3-4), and C4-E4-G4 (measures 5-8).

Translator's note: the exercises are available as MIDI files and can be downloaded from [http://web.mac.com/estudioserin/theremin/¿Cómo\\_aprender\\_a\\_tocarlo\\_files/Midis.zip](http://web.mac.com/estudioserin/theremin/¿Cómo_aprender_a_tocarlo_files/Midis.zip)

Here you have two more exercises in the same style; you can create others to fix [solidify] the technique.

#### *Exercise 2*

The score for Exercise 2 consists of two staves. The top staff is for the theremin, written in 4/4 time with a treble clef. It features a single whole note in the first measure, marked with a '1' below it, which is sustained across the entire 4-measure phrase. The bottom staff is for the guitar, also in 4/4 time with a treble clef. It provides a rhythmic accompaniment of eighth notes, with each eighth note accompanied by a chord. The chords are: C4-E4-G4 (measures 1-2), C4-E4-G4 (measures 3-4), and C4-E4-G4 (measures 5-8).

#### *Exercise 3*

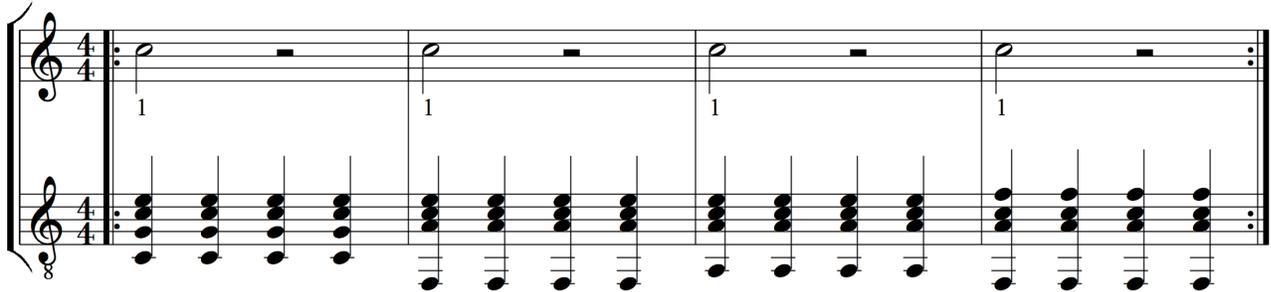
The score for Exercise 3 consists of two staves. The top staff is for the theremin, written in 4/4 time with a treble clef. It features a single whole note in the first measure, marked with a '1' below it, which is sustained across the entire 4-measure phrase. The bottom staff is for the guitar, also in 4/4 time with a treble clef. It provides a rhythmic accompaniment of eighth notes, with each eighth note accompanied by a chord. The chords are: C4-E4-G4 (measures 1-2), C4-E4-G4 (measures 3-4), and C4-E4-G4 (measures 5-8).

## Lesson 2

### Exercises for the left hand

Now we must work with the left hand, as mentioned in the section “Performance Techniques 3.” With this we will now execute rests, attacks and completions of notes. Rests are achieved by simply bringing the left hand close enough to the horizontal antenna to silence the theremin. Rests must be applied precisely at the moment given in the score (in this example during beats 3 and 4 of the bar), and the hand raised again to sound the [half] note during beats 1 and 2 [of the following measure]:

#### Exercise 4



Exercise 4 is a musical score in 4/4 time, consisting of two staves. The upper staff (treble clef) contains four measures, each starting with a half note on G4 (labeled '1') followed by a half-note rest. The lower staff (bass clef) contains a continuous accompaniment of eighth notes, with each pair of eighth notes forming a chord. The chords in the four measures are: (F3, C4), (F3, C4), (F3, C4), (F3, C4).

Here we have a similar exercise with half-note rests; we use the same accompaniment in this and the following examples:

#### Exercise 5



Exercise 5 is a musical score in 4/4 time, consisting of a single staff (treble clef). It contains four measures, each with a half note on G4 (labeled '1') followed by a half-note rest. The notes are separated by a small upward impulse.

In the following examples we are going to learn, after the “continuous legato” of the theremin, certain rhythmic formulae. To achieve this, we must attack at the beginning of each note and in this way separate them from one another. We do this, as we have seen in “Performance Techniques 3,” using the wrist to give a small upward impulse to the left hand (increasing volume) for each note, always returning (decreasing volume) an instant after each attack. In this way we will produce a half-note rhythm in the following exercise:

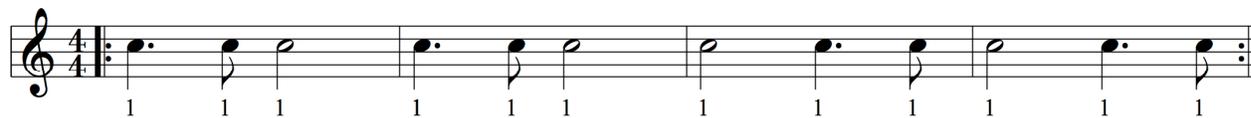
#### Exercise 6



Exercise 6 is a musical score in 4/4 time, consisting of a single staff (treble clef). It contains four measures, each with a half note on G4 (labeled '1') followed by a half note on A4 (labeled '1'). The notes are separated by a small upward impulse.

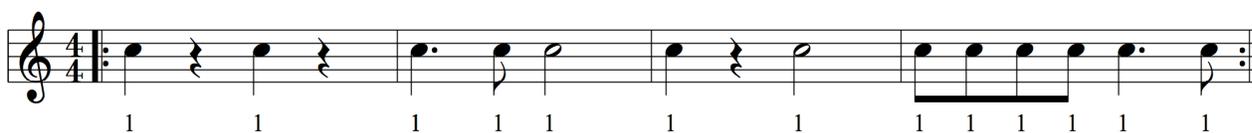
Our sense of rhythm will tell us when we need to raise our hand. You can practice with these rhythmic formulae. The accompaniment is the same as before and, again, you can make up all the variations that occur to you.

### Exercise 7



In this [exercise], furthermore, we have rests.

### Exercise 8



### Lesson 3

#### *Movement of the right arm*

This time we are going to work on a more ordered way of approaching or retreating from the vertical antenna by displacements [movements] of the right arm or the body, according to the chosen technique. We will carry out the entire exercise in the 1<sup>st</sup> position. The exercise consists of displacements at intervals of seconds, thus developing a scale of C Major, ascending and later descending. Each displacement will equal a change of a half or whole step according to the interval. Initially we will resort to the glissando to find and tune the notes, and little by little we will improve the displacements, making clean and direct movements.

#### *Exercise 9*

The image displays two systems of musical notation for Exercise 9. Each system consists of two staves. The top staff of each system is in treble clef, 4/4 time, and contains a sequence of notes: C4, D4, E4, F4, G4, A4, B4, C5, D5. The bottom staff of each system is in bass clef, 4/4 time, and contains a series of chords corresponding to the notes in the top staff. The first system includes fingerings: 1, -1, -1, -1, -1, -1, -1, -1, -1. The second system includes fingerings: 1, -1, -1, -1, -1, -1, -1, -1.

Here we have some variants of the same exercise (you should do it with the same accompaniment as before) in which we also work with the left hand.

*Exercise 10*

1 -1 -1 -1 -1 -1 -1 -1 -1

1 -1 -1 -1 -1 -1 -1 -1 -1

*Exercise 11*

1 -1 -1 -1 -1 -1 -1 -1 -1

1 -1 -1 -1 -1 -1 -1 -1 -1

## Lesson 4

### Changes of positions 1 and 2

We shall first work on changes of position. Before studying this exercise we must achieve a clear sound and accurate intonation, moving directly from one position to another with [minimum] glissando between the notes. In the exercise the position is changed from the first to the second and we return to the first. This will facilitate our retrograde displacement of the arm or body to seek the following note, which we have worked on in lesson 3. It is very important to work [through] all the exercises very slowly to fix upon the quality and tuning of the sound. We mentally sing the notes to be conscious of how we must make the theremin sound. As sureness is gained we will increase the speed. First we will study the most basic exercise numerous times in order to acquire the technique and work with more concentration; later we will apply what we have learned in the following exercises.

#### Exercise 12 (Preparatory exercise)

1 2 1 -1 2 1    1 2 1 -1 2 1    1 2 1 -1

#### Exercise 13

1 2 1 -1 2 1 -1 2 1 -1 2 1 -1 2 1 -1 2 1 -1

We continue with the changes between first and second positions. This time we will work on other rhythmic formulae that will complicate the displacements.

### Exercise 14

Exercise 14 consists of two systems of two staves each. The top system shows a melodic line in the treble clef and a bass line in the bass clef. The melodic line consists of eighth notes with a sequence of fingerings: 1 2 1, -1 2 1, -1 2 1, -1 2 1, -1 2 1, -1 2 1, -1 2 1, -1. The bass line consists of eighth notes with a sequence of fingerings: -1, 2, 1, -1, 2, 1, -1, 2, 1, -1, 2, 1, -1, 2, 1, -1. The bottom system shows a similar melodic line and bass line with the same fingering sequence.

### Exercise 15

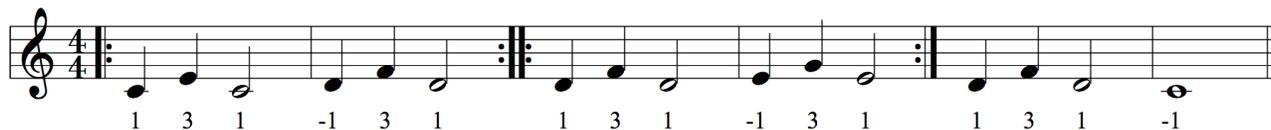
Exercise 15 consists of two systems of two staves each. The top system shows a melodic line in the treble clef and a bass line in the bass clef. The melodic line consists of eighth notes with a sequence of fingerings: 1 2 1, -1 2 1, -1 2 1, -1 2 1, -1 2 1, -1 2 1, -1 2 1, -1. The bass line consists of eighth notes with a sequence of fingerings: -1, 2, 1, -1, 2, 1, -1, 2, 1, -1, 2, 1, -1, 2, 1, -1. The bottom system shows a similar melodic line and bass line with the same fingering sequence.

## Lesson 5

### Changes of positions 1 and 3

Now we turn to changes between the first and third positions. This time each change will be an interval of a major or a minor third. Here I give the same advice as in lesson 4 about previous work on direct movements without glissandos.

#### Exercise 16 (Preparatory exercise)



Exercise 16 is a single-line musical exercise in 4/4 time. It consists of two measures, each repeated twice. The first measure contains a sequence of notes: G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter), B4 (quarter), A4 (quarter), G4 (quarter). The second measure contains: G4 (quarter), F4 (quarter), E4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter). The notes are marked with fingering numbers: 1 3 1 -1 3 1 for the first measure and 1 3 1 -1 3 1 for the second measure. The exercise concludes with a final G4 note in the second measure of the second repetition.

#### Exercise 17



Exercise 17 is a two-staff musical exercise in 4/4 time, consisting of two systems of eight measures each. The first system starts with a whole rest in the first measure. The melody in the upper staff is: G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter), B4 (quarter), A4 (quarter), G4 (quarter), F4 (quarter). The bass staff provides accompaniment with chords: G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter), B4 (quarter), A4 (quarter), G4 (quarter), F4 (quarter). The second system continues the melody: F4 (quarter), E4 (quarter), D4 (quarter), C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter). The bass staff accompaniment continues: F4 (quarter), E4 (quarter), D4 (quarter), C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter). Fingering numbers 1 3 1 and -1 3 1 are provided for the notes in both systems.

Other exercises to work on positions 1 and 3, and to gain agility in displacements:

*Exercise 18*

Exercise 18 is a musical exercise in 3/4 time, consisting of two systems of two staves each. The top staff is in treble clef and the bottom staff is in bass clef. The first system shows a sequence of eighth notes in the treble staff and chords in the bass staff. The second system continues the sequence. Fingerings are indicated by numbers 1, 3, and -1 below the notes.

*Exercise 19*

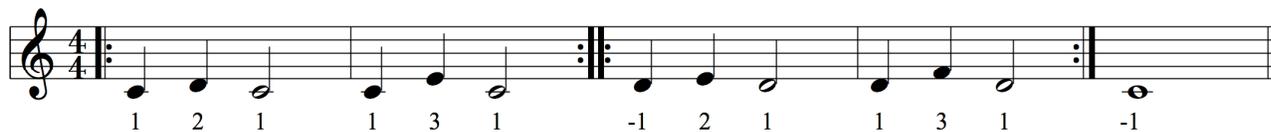
Exercise 19 is a musical exercise in 3/4 time, consisting of two systems of two staves each. The top staff is in treble clef and the bottom staff is in bass clef. The first system shows a sequence of eighth notes in the treble staff and chords in the bass staff. The second system continues the sequence. Fingerings are indicated by numbers 1, 3, and -1 below the notes.

## Lesson 6

### Combination of changes between positions 1 and 2, 1 and 3

With the following exercises, we combine what has been learned up to now about changes between positions 1 and 2 as well as 1 and 3. We shall warm up with the preliminary exercise and later work on the more complicated versions.

#### Exercise 20 (Preparatory exercise)



Exercise 20 is a single-line musical exercise in 4/4 time. It consists of two measures, each repeated. The first measure contains the notes C4, D4, E4, F4, G4, A4, B4, and C5. The second measure contains the notes B4, A4, G4, F4, E4, D4, C4, and B3. Fingering numbers are written below the notes: 1 2 1 1 3 1 for the first measure and -1 2 1 1 3 1 for the second measure. The exercise ends with a final C4 note.

#### Exercise 21



Exercise 21 is a multi-line musical exercise in 3/4 time, consisting of four systems. Each system has a treble and bass staff. The treble staff contains a sequence of notes with fingering numbers: 1 2 1, 1 3 1, -1 2 1, 1 3 1, -1 2 1, 1 3 1, -1 2 1, 1 3 1. The bass staff contains a sequence of chords with fingering numbers: 1 3 1, -1 2 1, 1 3 1, -1 2 1, 1 3 1, -1 2 1, 1 3 1, -1. The exercise is divided into four systems, each with eight measures.

Exercise 22

Exercise 22 is a piece in 3/4 time, consisting of two systems of two staves each. The first system has a treble staff with a melodic line and a bass staff with a bass line. The second system continues the piece. Fingerings are indicated by numbers 1, 2, 3 and -1 below the notes.

System 1:  
Treble staff: 1 2 1 -1 3 1 -1 2 1 -1 3 1 -1 2 1 -1 3 1 -1 2 1  
Bass staff: [Bass line with chords and eighth notes]

System 2:  
Treble staff: -1 1 2 1 -1 3 1 -1 2 1 -1 3 1 -1 2 1 -1 3 1 -1 2 1 -1  
Bass staff: [Bass line with chords and eighth notes]

Exercise 23

Exercise 23 is a piece in 3/4 time, consisting of two systems of two staves each. The first system has a treble staff with a melodic line and a bass staff with a bass line. The second system continues the piece. Fingerings are indicated by numbers 1, 3, 1 and -1 below the notes.

System 1:  
Treble staff: 1 3 1 -1 2 1 -1 3 1 -1 2 1 -1 3 1 -1 2 1 -1 3 1 -1  
Bass staff: [Bass line with chords and eighth notes]

System 2:  
Treble staff: 1 3 1 -1 2 1 -1 3 1 -1 2 1 -1 3 1 -1 2 1 -1 3 1 -1  
Bass staff: [Bass line with chords and eighth notes]

## Lesson 7

### Sequential changes of positions 1, 2, and 3

We are going to start working on more than two sequential changes of position. This time we will proceed from the first to the second position, from there to the third, and thereafter return to the first to [improve, ease] displacement of the arm. As always, we shall prepare with the preliminary exercise in which we will work [on] variations of the openings of the three positions, as we need to go through intervals of half or whole notes.

#### Exercise 24 (Preparatory exercise)

#### Exercise 25

Here we have a series of exercises to reinforce what has been covered before and to work on different rhythmic formulae.

*Exercise 26*

The musical score for Exercise 26 is presented in three systems, each with a treble and bass staff in 4/4 time. The first system begins with a whole rest in the treble staff of the first measure. The second system also begins with a whole rest in the first measure. The third system begins with a whole rest in the first measure. Each system contains six measures. The rhythmic patterns and fingerings are as follows:

- System 1:** Measures 1-6: Treble staff: quarter notes (1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1). Bass staff: quarter notes, quarter notes.
- System 2:** Measures 1-6: Treble staff: quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1). Bass staff: quarter notes, quarter notes.
- System 3:** Measures 1-6: Treble staff: quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1), quarter notes (2), quarter notes (3), quarter notes (1), quarter notes (-1). Bass staff: quarter notes, quarter notes.

Exercise 27

The first system of Exercise 27 consists of two staves in 4/4 time. The treble staff begins with a whole rest in the first measure, followed by eighth-note patterns in the next three measures. The bass staff provides a harmonic accompaniment with chords and single notes. Fingerings are indicated as 1 2 3 1 and -1 2 3 1.

The second system of Exercise 27 continues the piece with two staves in 4/4 time. The treble staff features eighth-note patterns with slurs. The bass staff continues with harmonic accompaniment. Fingerings are indicated as -1 2 3 1 and 1 2 3 1.

The third system of Exercise 27 concludes the piece with two staves in 4/4 time. The treble staff features eighth-note patterns with slurs. The bass staff continues with harmonic accompaniment. Fingerings are indicated as -1 2 3 1 and -1.

Exercise 28

The first system of Exercise 28 consists of two staves in 4/4 time. The treble staff begins with a whole rest in the first measure, followed by six measures of eighth-note patterns: 1 2 3 1, -1 2 3 1, -1 2 3 1, -1 2 3 1, -1 2 3 1, and -1 2 3 1. The bass staff provides accompaniment with chords and rests: a whole rest in the first measure, followed by chords in the second, fourth, and sixth measures, and whole rests in the third, fifth, and seventh measures.

The second system of Exercise 28 consists of two staves in 4/4 time. The treble staff has six measures: -1 2 3 1, -1 2 3 1, -1, 1 2 3 1, -1 2 3 1, and -1 2 3 1. The bass staff provides accompaniment with chords and rests: whole rests in the first, second, and sixth measures, and chords in the third, fourth, and fifth measures.

The third system of Exercise 28 consists of two staves in 4/4 time. The treble staff has five measures: -1 2 3 1, -1 2 3 1, -1 2 3 1, -1 2 3 1, and -1. The bass staff provides accompaniment with chords and rests: whole rests in the first, second, and fourth measures, and chords in the third and fifth measures.

## Lesson 8

### *Displacements in intervals of seconds and changes of positions 1, 2, and 3*

The combination of displacements and positions allows us to go through the range of the theremin in a controlled manner. We can make displacements from any of the four positions. It is advisable not to make more than one subsequent displacement with the same position in order not to lose control of the notes. The ideal is always to combine displacements and changes of position. For now we will only work on ascending displacements in seconds, adding the changes of position previously practiced.

#### *Exercise 29*

Exercise 29 consists of two systems of two staves each. The top system has a treble staff with a 4-measure melodic line and a bass staff with accompaniment. The bottom system has a treble staff with a 4-measure melodic line and a bass staff with accompaniment. Fingerings are indicated by numbers 1, -1, 2, 3.

The following exercise is identical to the one before. We shall simply use it to learn to make displacements from the second and third positions. The accompaniment is the same.

#### *Exercise 30*

Exercise 30 consists of two systems of two staves each. The top system has a treble staff with a 4-measure melodic line and a bass staff with accompaniment. The bottom system has a treble staff with a 4-measure melodic line and a bass staff with accompaniment. Fingerings are indicated by numbers 1, 2, -2, 3 and 1, 2, 3, -3.

In order to make still longer runs, one must make various combinations of displacements and positions. These exercises will aid us in developing this skill.

*Exercise 31*

1 -1 2 -2 3    1 -1 2 -2 3    1 -1 2 -2 3    1 -1 2 -2 3

1 -1 2 -2 3    1 -1 2 -2 3    1 -1 2 -2 3    1

The previous exercise may be fingered in various ways. We will use it to work on the other options.

*Exercise 32*

1 2 -2 3 -3    1 2 -2 3 -3    1 2 -2 3 -3    1 2 -2 3 -3

1 -1 2 3 -3    1 -1 2 3 -3    1 -1 2 3 -3    1 -1 2 3 -3

1 2 -2 3 -3    1 2 -2 3 -3    1 2 -2 3 -3    1

1 -1 2 3 -3    1 -1 2 3 -3    1 -1 2 3 -3    1

We can advance yet one note more with the displacements and just the three positions studied up to now. For longer runs one must apply techniques which we will learn in the following volumes.

*Exercise 33*

The musical score for Exercise 33 is written in 3/4 time. It consists of two staves: a treble staff and a bass staff. The treble staff begins with a whole rest in the first measure, followed by a melodic line of eighth notes. The notes and their fingerings are: C4 (1), D4 (-1), E4 (2), F4 (-2), G4 (3), A4 (-3), B4 (1), C5 (-1), D5 (2), E5 (-2), F5 (3), G5 (-3), A5 (1), B5 (-1), C6 (2), D6 (-2), E6 (3), F6 (-3), G6 (1). The bass staff provides a harmonic accompaniment with chords: C4-E2-G2 (first measure), C4-E2-G2 (second measure), C4-E2-G2 (third measure), C4-E2-G2 (fourth measure), C4-E2-G2 (fifth measure), and C4-E2-G2 (sixth measure).

All the exercises worked on in this section may be studied with diverse rhythmic combinations.

## Lesson 9

### *Introduction to fingerings with the thumb as tone limiter*

Apart from the four positions which we have presented, and the first three of which we have worked on, we have a way to conveniently assure ourselves of a more direct and controlled descent of tone in half and whole steps, thanks to the intervention of the thumb. This will be a great help to us at the general level, but above all in the rapid or staccato passages, because it will give greater agility of execution. We will explain the different possibilities.

From a start in the third position with an interval of a major third, we can go down a full step (the equivalent of the second position) by touching the ring finger and thumb “ap”:



**Third position forming a major third.**



**We go down a step with the “ap” (ring finger/thumb) position.**

If the beginning in the third position has created an interval of a minor third, it will be very easy for us to go down a half step by joining the middle finger and the thumb “mp”:



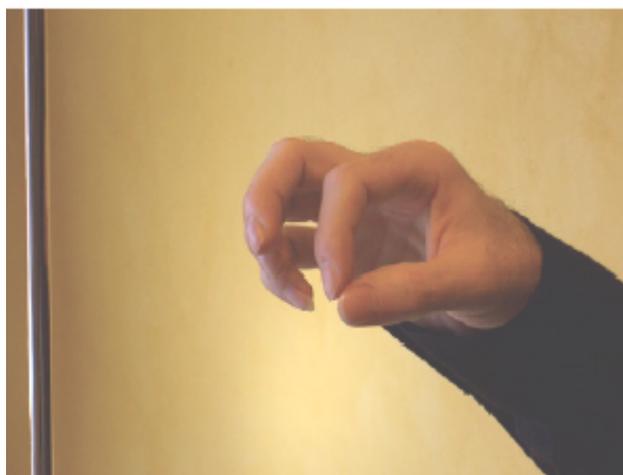
**Third position forming a minor third.**



**We go down a half step with the “mp” (middle finger/thumb) position.**

From the position of the minor third (left photo above), we can descend a full step with the ring/thumb combination “ap,” in this way quickly obtaining a minor second.

From a start in the second position with an interval of a major second, we can descend half a step by joining the ring finger and thumb:



**Second position forming a major second.**



**We go down a half step with the "ap" (ring finger/thumb) position.**

There is one last fingering which we will utilize in special cases. For example, beginning in the second position with an interval of a major second, after using the "ap" fingering to descend a half step, we can go down another half step by changing to the "qp" fingering. This is actually the same as the first position, but in this case it is more convenient to go down half a tone with the "qp" fingering. The combination of the "ap" and "qp" fingerings can also be very effective when we must go up or down a half step in a rapid and exact way:



**"ap" (ring/thumb) position.**



**We go down a half step with the "qp"(pinky/ring/thumb) position.**

We can practice these types of fingerings with the following exercises, in which each one of the three options will be clearly indicated. Each example is worth studying numerous times to calibrate and acquire the exact opening of the fingers.

*Exercise 34 (for intervals of a major third)*

1 2 3 ap 1 1 3 ap 1

1 2 3 ap 3 ap 1 1 3 ap 3 ap 1

*Exercise 35 (for intervals of a minor third, case 1)*

1 2 3 mp 1 1 3 mp 1

1 2 3 mp 3 mp 1 1 3 mp 3 mp 1

*Exercise 36 (for intervals of a minor third, case 2)*

1 2 3 ap 1 1 3 ap 1

1 2 3 ap 3 ap 1 1 3 ap 3 ap 1

*Exercise 37 (for intervals of a major second)*

1 2 ap qp

1 2 ap 2 ap qp



Exercise 39

1 3 ap 3 1 -1 3 mp 3 1 -1 3 ap 3 1 -1 3 ap 3 1 -1 3 ap 3 1

-1 3 mp 3 1 -1 3 ap 3 1 -1 1 3 ap 3 1 -1 3 ap 3 1 -1 3 mp 3 1

-1 3 ap 3 1 -1 3 ap 3 1 -1 3 ap 3 1 -1 3 mp 3 1 -1

Exercise 40

In this exercise we will use the previous accompaniment.

1 2 3 ap 1 -1 2 3 mp 1 -1 2 3 ap 1 -1 2 3 ap 1 -1 2 3 ap 1

-1 2 3 mp 1 -1 2 3 ap 1 -1 1 2 3 ap 1 -1 2 3 ap 1 -1 2 3 mp 1

-1 2 3 ap 1 -1 2 3 ap 1 -1 2 3 ap 1 -1 2 3 mp 1 -1

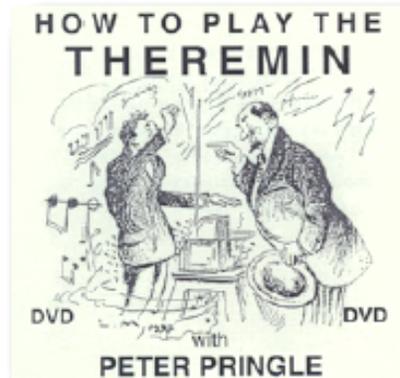
## Other methods on DVD and in print

It is important when studying any instrument to have the maximum of information and resources. Here you have the list of methods on DVD and in books that have been published up to now. I indicate where you can acquire them:

Methods on DVD

### How to play the theremin

Peter Pringle



<http://www.peterpringle.com>

### Beginning and Advanced Theremin Techniques

Pamelia Kurstin

### Mastering the Theremin

Lydia Kavina

### Clara Rockmore: World's Greatest Theremin Virtuosa

Clara Rockmore

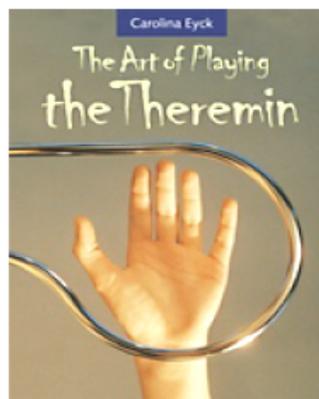


<http://www.moogmusic.com>

## Print methods

### The Art of Playing the Theremin

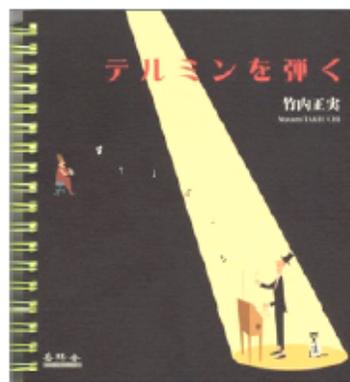
Carolina Eyck



<http://servi.de/IShop/index.html>

### To Play The Theremin

Masami Takeuchi



<http://www.amazon.co.jp>

### Method for Theremin

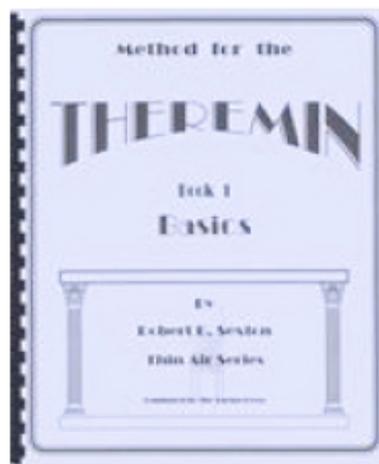
Clara Rockmore



<http://electrotheremin.com/claramethod.html>

### Method for Theremin

Robert B. Sexton



<http://www.moogmusic.com>

## Recommended Recordings

As part of becoming a thereminist, it is indispensable to see and hear professional thereminists, and if it is done live so much the better. Here you have a list of recommended recordings which includes many of the pioneering thereminists as well as the most important performers. Among them we encounter a great variety of musical styles. Links to places you can obtain these CD's are included.

### Clara Rockmore

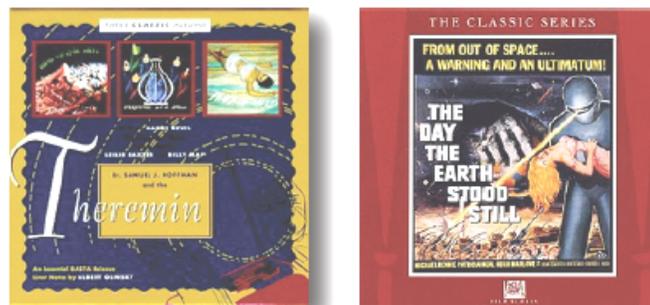
From this mythic artist we have her famous and essential work, "The Art of the Theremin," and the work "Theremin Concerto" included on the classical music CD "Ionisation."



<http://www.amazon.com>

### Samuel Hoffman

From this no less mythic thereminist, we can find the three-CD compilation "Dr. Samuel J. Hoffman and the Theremin," gathering together original works for jazz orchestra and theremin as well as sound crew of the famous movie "The Day the Earth Stood Still."



<http://www.amazon.com>

### Peter Pringle

This exquisite interpreter has issued two CD's: "Many Voices" and "A Theremin Jewel Box," full of pleasing themes of great lyricism and good musical taste.



<http://www.peterpringle.com>

## Lydia Kavina

Without doubt the most important performing thereminist, and the one with the greatest discography. For one, we have her work **“Music from the Ether”** with original works for theremin and some of the first classical works composed specially for this instrument. In **“Concerto per Theremin”** we have an entertaining recital of very popular classical works adapted to the theremin. On the CD **“Black Black Magic”** of Messer Chups we discover a stylistically unfamiliar Kavina. She has also participated in various sound casts, of which the best are those for **“The Machinist,” “Ed Wood,”** and **“eXistenZ.”**



<http://www.amazon.com>

<http://www.messerchups.ru>

<http://www.cdbaby.com>

## Pamelia Kurstin

These two works are radically different from one another, but you will always recognize the unmistakable style of Kurstin. With the group The Kurstins she recorded **“Gymnopodie,”** and with Barbez **“Insignificance.”**



<http://www.pameliakurstin.com>

<http://www.barbez.com>

## Barbara Buchholz

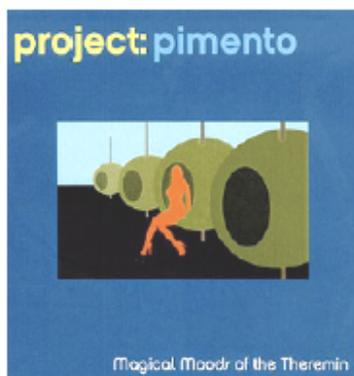
Student of Lydia Kavina. In her work “**Theremin: Russia With Love,**” she uses the theremin in a very elegant melodic and atmospheric manner.



<http://www.barbarabuchholz.com>

## Robbie Virus

One of the most pleasant and entertaining discs for theremin: “**Magical Moods of the Theremin**” with the group Project: Pimento.



<http://www.projectpimento.com>

## Masami Takeuchi

Outstanding student of Lydia Kavina, great virtuoso and teacher of the instrument. In his CD “**Time Slips Away**” we encounter a great variety of themes played with exquisite technique.



<http://www.amazon.co.jp>

## **Credits**

### **Photographs and front page design**

Marc Xicola  
<http://www.marcxicola.com>

### **Concert photos**

Jordi Ponce  
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### **Chapters:**

**“History of the theremin” and “How does a theremin work?”**

Ricard Franch

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