

## SCHERTLER SA

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## DYN-M Mandolin Transducer

### USER'S MANUAL



Dear musician, recording engineer . . .

The SCHERTLER® system is used worldwide in recording and amplification whenever superlative quality is a must. Therefore many of the finest soloists and professional engineers of our time have already chosen SCHERTLER®.

The patented electrodynamic principle guarantees linearity and dynamics to the highest degree, combining for the first time the advantages of a "pickup" (easy transmission and handling) with those of a "microphone" (better reproduction, but without the usual feedback, voiceover and crosstalk problems) allowing for the best possible signal separation.

All SCHERTLER® products are developed and manufactured in Switzerland according to highest standards in design, material quality and workmanship providing you not only with a product that looks and sounds great, but a "tool" that will accompany you for years to come.

Within the pages of this short course on the application and use of your SCHERTLER® product we have tried to present simple and clear instructions that should have you up and running in a short period of time. In the event you would have questions or comments on the use feel free to contact your local dealer or get in touch with us here in Switzerland through the contact information on the back cover.

In my continuing quest to improve transmission and reproduction of acoustic instrument sound, I hope to have improved your individual performance too.

Yours faithfully,

Stephan Schertler

## MOUNTING THE TRANSDUCER



Let us make a general remark before we start. The entire mounting process of the transducer is so very simple that explaining it is often the most difficult part. With this in mind we have tried, nonetheless, to present easy step-by-step instructions for the trouble-free operation of your newly purchased SCHERTLER® DYN-M, electrodynamic mandolin transducer.

Within the little "black" box you will find a small cylindrical container, which when opened reveals a green coloured adhesive putty. This putty is the key to fixing the Transducer to the correct spot on the instrument. Derived from a special inert formula, the putty is reusable many times over and does not present any risk even to the finest of instrument finishes. In the event that any trace of the putty is left on the instrument itself, it is easily removed by taking a generous amount of putty from the container and using it as an eraser making "dabbing" motions, completely removing any residue left after detachment of the transducer.

Remove a small bit of putty from the container and form a ball ca. 1 cm (7/16 inch) in diameter (a little bit larger than a pencil eraser). Placing the ball on a flat surface begin to work it back-and-forth (use your hand, our little "black" box or anything else you find convenient) in order to form a "worm" ca. 7 cm (23/4 inch) in length.

Now, going back to the "black" box, remove the transducer and hold it in your hand with the bottom (black) side facing upward. We would like for you to notice one of the most important parts of the transducer located in the very center of the bottom side where you can clearly see a black rubber insert or spot. This is the "contact" point of the transducer, which will pick up the vibrations from the instrument.

In your free hand take the "worm" of putty and apply it lightly to the surface as shown in Fig. 1. Be sure to make a complete ring around the transducer as this will create a "vacuum" effect when later mounted, thus ensuring improved adhesion to the instrument.

Once you have completed this step, and are confident that you are ready to move on to your musical instrument, you can put the transducer down ("black" side up).

The first step is to make sure that the surface where the transducer is to be mounted is clean and free of any dust or oily film as this will only lessen the effect of the putty and may create problems later on while you are playing.

Now that the instrument is clean and you have it securely in hand, take the transducer and apply it by firmly pressing on one of the points indicated in Fig. 2. Be sure not to press too hard, but hard enough, while also slightly twisting the transducer back and forth in order for any trapped air to escape. You will be aware when the transducer is correctly fit in place when you feel that the center spot is making contact with the instrument. Once again, it is not necessary to press too hard, but only enough to ensure proper connection. With time, and after a number of applications, you will gain a certain confidence and feeling allowing you to perform this operation in less than a minute.

We would also like to point out the basic concept of the transducer once it is attached to the instrument. When correct contact is made between the instrument body and the transducer's center spot, we refer to this as having established the "vibration circuit" which becomes an integral part of the instrument itself for the transfer of dynamics, frequency and timing to the sound amplification system.

You will also note that the recommended placement of the transducer as in Fig. 2, is just that, a recommendation. Every instrument has its own personality and particular characteristics including the type of wood used, the quality of the wood, bracing positions etc. The goal of the optimal placement is to find a "hotspot" that not only reproduces the instrument's personality, but also produces sound pleasing to you as a musician and ultimately listeners. A good way to find this spot is to simply work with a friend and use the transducer, without any putty, as a doctor's stethoscope. Here one person can play while the other gently places the transducer in various places to obtain the desired results. Remember that slightest change in position can sometimes make an enormous difference in the final results.

## USING THE TRANSDUCER

The unique characteristics of the SCHERTLER® Transducer provide you with a device with very low impedance and balanced signal output. This lessens the probability of having problems such as line noise, humming and interference (i.e. radio noise), even if very long cables are used. Thanks to the transducer's high dynamics, transducer noise is kept to a minimum.

Since the transducer has a flat frequency response we don't recommend trying to improve the sound through equalization. As necessary you can adjust the mounting position of the transducer to control the sound. However, to reduce certain frequencies at around XXX Hz, a parametric equalizer could be helpful to give the sound more transparency. (The SCHERTLER® PRE-A Acoustic Preamp is provided with such a filter).

The SCHERTLER® Transducer can be connected in several different ways, three of which are listed below:

1) Directly to the mixer or a microphone-amp with balanced XLR-Inputs (Canon). This will be the most customary way to amplify most instruments. This is especially helpful during studio recording as it guarantees highest fidelity, but also in "live" performances where you have the possibility to play directly into the house system or concert set-up.

2) Even if there is no PA/mixer system available you still shouldn't miss out on the advantages that a "full range" speaker system offers. You can use the SCHERTLER® PRE-A Acoustic Preamp in conjunction with the transducer: this device is musically and technically synchronized to the SCHERTLER® Transducer and provides a preamplified signal (+20dB) for connection to any power-amp or active speaker. Using our original SCHERTLER® PUB 2/280 or 3/400, very compact, high quality, two and three way active loudspeakers will obtain surprising results.

3) The transducer can also be connected to any guitar amp (using an adapter or cable canon/jack). Yet, one must never forget that most instrument amplifiers don't have the ability to reproduce an acoustic instrument sound correctly. The SCHERTLER® Transducer provides a very acoustic, microphone-like signal, which needs no additional improvement at all (amp-character, equalizer) unlike piezoelectric pickups. Therefore you should always use amplifiers and speaker systems that are best for piano or voice too. Should you be in a situation where you are forced to use a bass or guitar amplifier, we recommend the use of the Acoustic Preamp, PRE-A, plugged into the "effects return" (or "slave in") of the amplifier, which should by-pass the system preamp of the amplifier, which generally manipulates the input signal generating a more electric sound.

## PLAYING POSITION

Fig. 3 illustrates the distribution of the sound-pressure relative to the respective feedback frequency. This frequency depends on your instrument and lies between 180 and 220 Hz. So the distance from pressure-maximum to pressure-minimum (wavelength) measures about 2 m (6 feet).

In order to avoid any influence on your instrument from the speakers you should choose your playing position in a pressure-minimum area, since this achieves the clearest sound and lowest feedback-tendency.

The best position you will find easily while moving away from the speaker with raised volume. You will notice the feedback decreasing about every 1 or 1.5 meters (3-5 feet). While conducting this experiment it's advisable to dampen the strings and the bridge with your hand in order to spare your ears and above all the speakers.

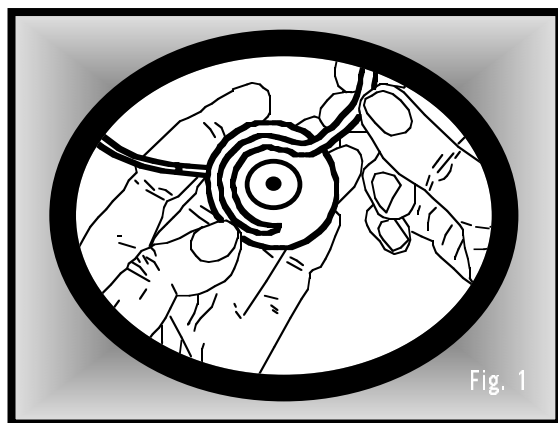


Fig. 1

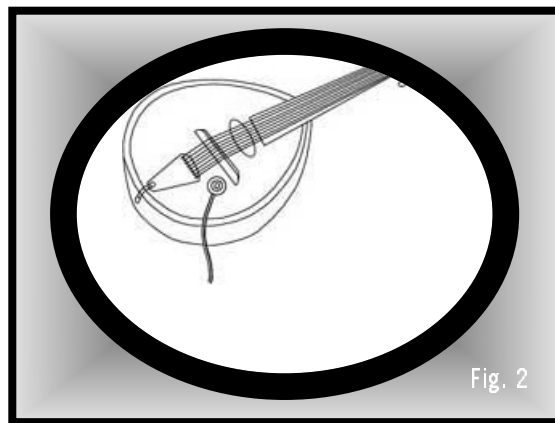


Fig. 2

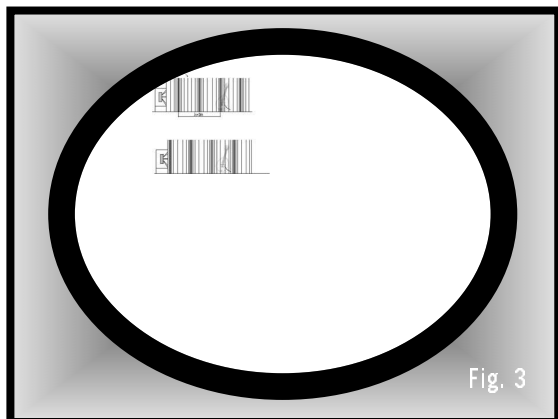


Fig. 3

