Specifications:

Input signal: 500HZ to 1KHZ sine wave, or pink noise

Input level: 2.7 VRMS maximum, .4MV RMS minimum

Input Load: 86.6K

Battery: 9V Alkaline

Dimensions: 6 ½” H, 3 ¼” W, 2 3/8” D

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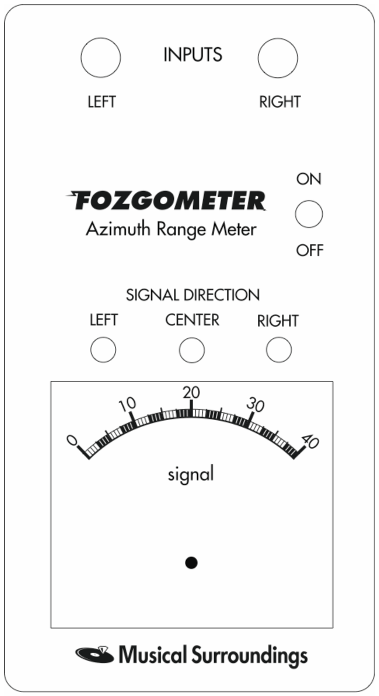
FOZGOMETER

Azimuth Range Meter

Owner’s Manual



Musical Surroundings

3. REMEDY - In the event the above product fails to meet the warranty, and the above conditions have been met, the purchaser's sole remedy under the limited warranty shall be to return the product to Musical Surroundings where the defect will be rectified without charge for parts or labor.

4. LIMITED TO ORIGINAL PURCHASER - This warranty is for the sole benefit of the original purchaser of the covered product and is NOT TRANSFERRABLE.

5. DURATION OF WARRANTY - This warranty expires 90 days after the date of original purchase. If Musical Surroundings receives the warranty registration card, this period is extended to the first anniversary of the date of purchase or no later that the second anniversary of the shipment to the authorized Musical Surroundings dealer, whichever comes first.

6. MISCELLANEOUS - ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. THE WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

7. WARRANTY OUTSIDE THE USA - Musical Surroundings has formal distribution in many of the countries of the free world, in each country the Musical Surroundings importer has contractually accepted the responsibility for product warranty. Warranty should normally be obtained from the importing dealer or distributor from whom you obtain your product

FOZGOMETER Azimuth Range Meter

To obtain high performance from a modern phonograph system, the tonearm and pickup cartridge must be properly adjusted to within a few thousands of an inch. There are several alignment gauges available to adjust overhang and offset. To adjust cartridge azimuth (Axial Tilt), it has been necessary to use lab quality equipment and a test record. Azimuth may be adjusted using an oscilloscope, AC voltmeter, or computer program. These methods can be expensive and time consuming.

The FOZGOMETER represents a breakthrough for adjusting phono system azimuth. The FOZGOMETER incorporates a “Log Ratio Detector” developed for surround processor steering logic circuits to measure channel separation over a wide range of signal levels down to -70 dB. The readings are virtually independent of overall signal levels, and can be made with a wide range of input signals without effecting accuracy. It is a small portable battery powered unit that is used in conjunction with a test record. It measures channel separation, channel balance, and signal direction quickly and accurately.

Readings are taken without touching the meter, leaving your hands free to work with the tonearm. The meter reads channel separation in both directions, and channel balance. The LED’s indicate Left, Center, and Right signal (test tone) positions.

Battery Installation:

Remove the four Phillips head screws to access the battery holder and install the supplied 9v alkaline battery. Reinstall the 4 screws.

Connection:

Connect your tonearm cable RCAs to the left and right input jacks on the meter. Higher output cartridges (>.4mV @ 3.54cm/sec) should have enough level to be connected directly to the meter but ultra-low output cartridges may require additional gain. In this case, RCA cables should be connected between the Fozgometer and the phono preamp out or preamp tape out jacks. (Note: tonearm cables connected directly to the Fozgometer may require the turntable ground wire to be connected to one of the meter input jacks to prevent hum pickup).

Test LP:

We recommend the Analogue productions Test LP #AAPT1 which can be purchased from the supplier of your Fozgometer. Use tracks 2&3 on side 1 for azimuth adjustment, track 1, side 1 for channel balance.

Any test LP with alternating 1kHz left and right bands may be used for azimuth. A 1kHz test tone cut to both channels can be used for channel balance test. Typically, LPs cut at 7cm/sec or lower will work the best. If you are measuring after the phono pre or tape outs and the meter pegs, lower the gain of the phono preamp.

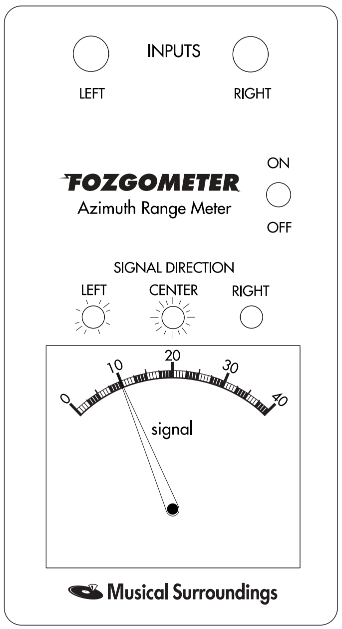
90 DAY LIMITED WARRANTY TERMS AND CONDITIONS
(1 Year optional extended service contract)

1. Musical Surroundings warrants the product designated herein to be free of manufacturing defects in material and workmanship, subject to the conditions herein set forth, for a period of 90 days from the date of purchase by the original purchaser. If the purchaser registers the unit with Musical Surroundings by mailing in the warranty card, together with a copy of the bill of sale, within 14 days of the date of purchase, said purchaser will be registered for an extended service contract. The extended service contract extends the 90 days to a period of 1 year from the date of purchase by the original purchaser or no later than 2 years from the date of shipment to the authorized Musical Surroundings dealer, whichever comes first.

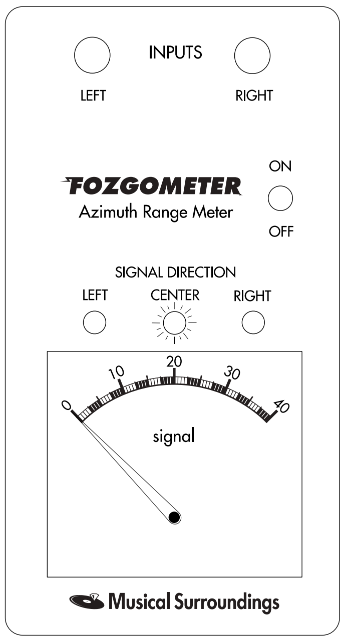
2. CONDITIONS - This warranty is subject to the following conditions and limitations. The warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in the owner's manual, abused or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being repaired or tampered with or modified by anyone other than Musical Surroundings or their authorized repair stations. To obtain warranty service, you must first contact Musical Surroundings at 510 547-5006 or info@musicalsurroundings.com to obtain a Return Authorization (RA) number. The product must be packed in its original carton and returned to Musical Surroundings or authorized repair station by the customer at his or her sole expense. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorized dealer and the purchase price. Musical Surroundings reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.

To measure channel balance:

Play a mono (lateral) test signal. The center direction indicator should light. Observe the Signal meter reading. Each meter division is approx one db. The meter will read zero if the channels are balanced.



Channel balance off



Channel balance correct

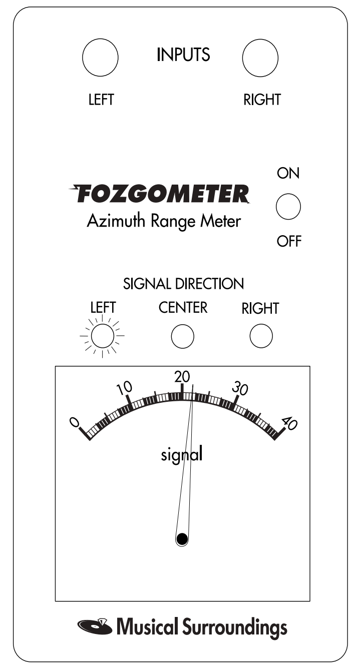
Battery replacement:

Remove the four Phillips head screws to access the battery. Replace with a 9 volt Alkaline yearly, or when exhausted from heavy use.

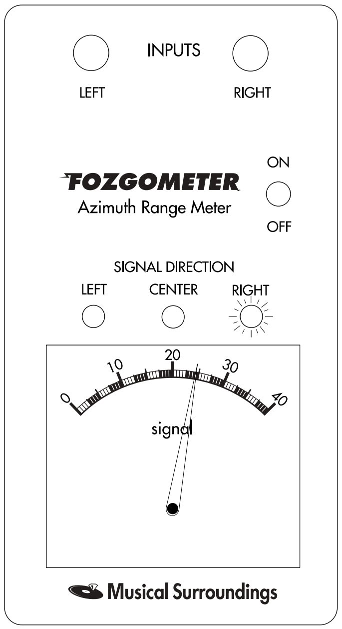
Azimuth adjustment:

1. Turn the power switch to the “on” position. With no signal the center direction indicator should light and the meter will read near zero.

2. Play a left channel signal from a test record and the left direction indicator should light (If the right indicator lights, the channels are reversed). Observe the signal meter reading.



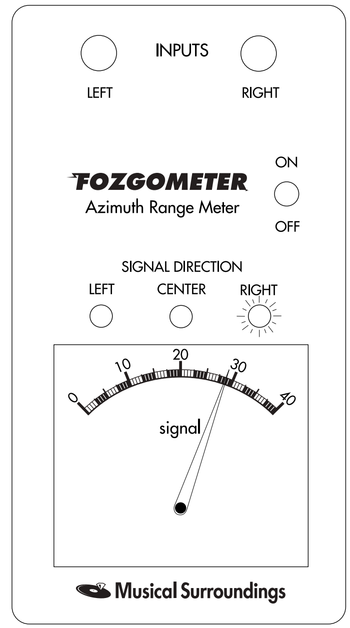
3. Play a right channel test signal, the right signal indicator should light. Observe the reading. Correct azimuth is obtained when the left and right signal readings are the same or as close as possible.

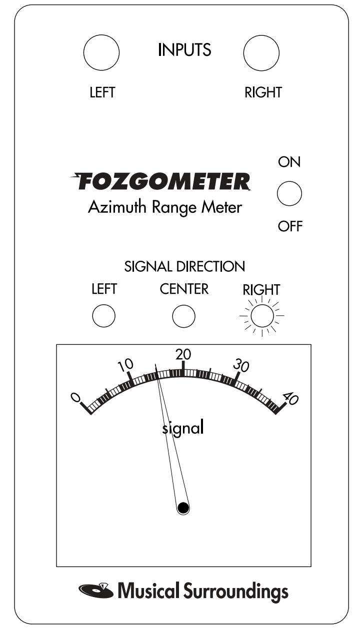


4. Alternate between left and right test signals and make small adjustments in axial tilt until both readings are the same or as close as possible.

Excessive meter movement may occur with warped or off-center test records or undamped uni-pivot tonearms. Connection via phono preamp or tape out may exacerbate these movements. When using pre out connection the meter may read the noise floor with no test signal. Disregard this reading until a signal is present.

Phono Cartridge Adjustments:





If the right channel reading is higher then the left channel as in the left diagram, turn the cartridge “clockwise” when looking from the front.

If the right channel reading is lower then the left channel as in the right diagram, turn the cartridge “counter-clockwise” when looking from the front.