ortofon

Measuring Computer P400

6/1985

INFORMATION

APPLICATIONS

1' STEREO HEADPHONES
EARPHONES

2' MICROPHONES

3' TELEPHONE TRANSDUCERS

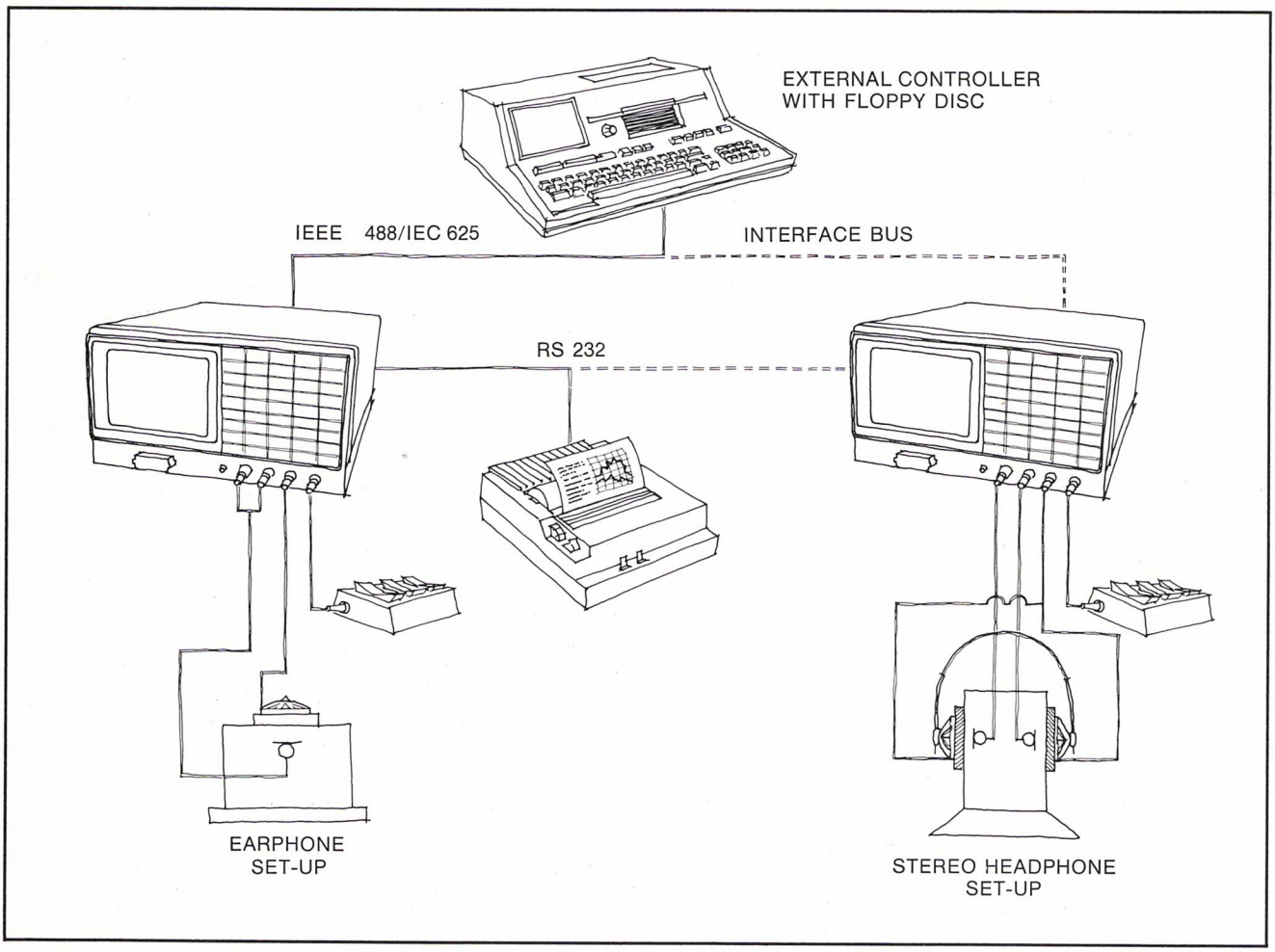
4' OPTIONAL ACCESSORIES

STEREO HEADPHONES EARPHONES

The acoustical performance of headphone transducers/earphones is in many respects similar or even identical to that of loudspeaker transducers. Consequently, the problems encountered are also quite similar.

Of particular importance to both manufacturer and user are the following performance parameters: frequency response, efficiency/sensitivity, rub & buzz/distortion, and polarity/electrical phase. Additionally, the correct channel balance between left and right earphone is essential for an optimal stereo image.

The P 400 Measuring Computer is able to carry out an OBJECTIVE evaluation of these performance criteria - quickly and reliably. The acoustical and electrical characteristics of each unit are automatically measured, compared to pre-programmed references/tolerances and the result displayed on the colour CRT as a GO/NO GO decision. A complete measuring cycle takes typically 4-5 seconds.



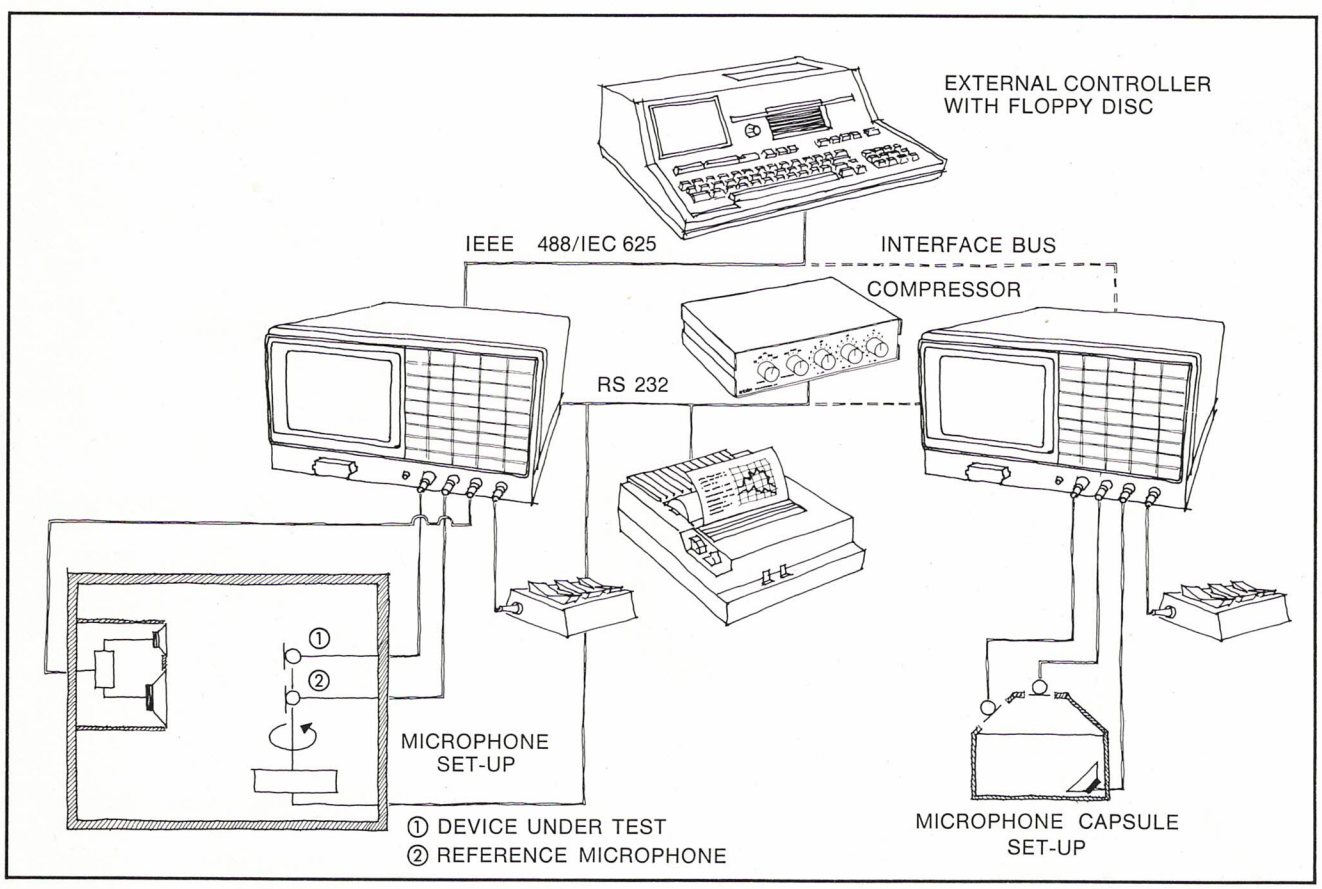
The P 400 Measuring Computer uses swept sine wave signals to excite a headphone tranducer. For the determination of polarity/electrical phase, sine wave pulses are applied to the unit being tested.
The test results can be plotted (curves) and printed out (measuring conditions). All data can be transferred to an external controller for further calculation and evaluation. The data bus is based on the IEEE 488/IEC 625 standard configuration.

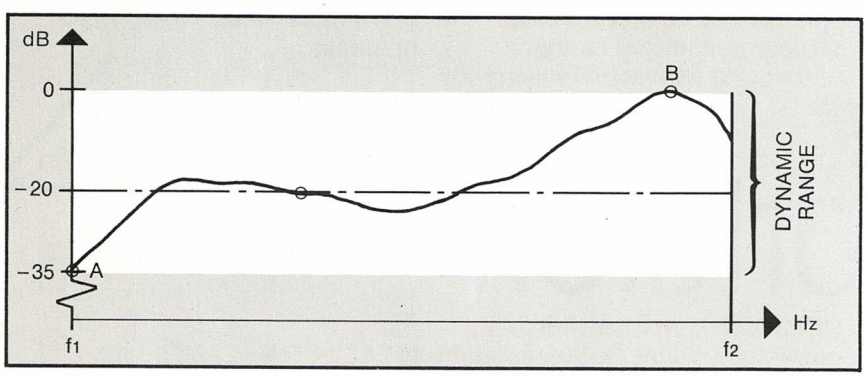
2' MICROPHONES

An evaluation of the acoustical performance of microphones requires the application of a constant sound field over the frequency range or compensation for variations in the sound pressure level (SPL).
The Ortofon Compressor Loop system operates on the basis of both principles and a technique which permits high sweep rates.

Measuring the frequency response of a microphone at various angle positions (to the sound source) requires the establishment of several tolerance bands. An external computer/controller with additional memory capacity is therefore needed. The appropriate turntable positions can be controlled from the P 400 Measuring Computer.

The P 400 Compressor Loop system represents the latest design in SPL-regulation technology. The compressor operates on the basis of SPL variations and offers regulating speeds between 5 and 10,000 dB per second (points A and B respectively) within a dynamic range of >35 dB. In addition, minor variations in the regulated response can be compensated for.
This advanced compressor system offers high sweep rates without producing distortion.
The regulated frequency response of the speaker is typically within 0.5 dB over a selected frequency range.

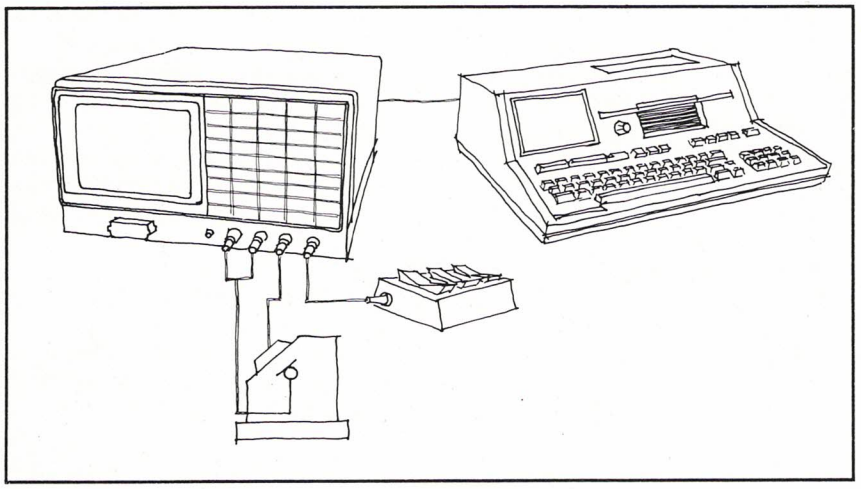




COMPRESSOR

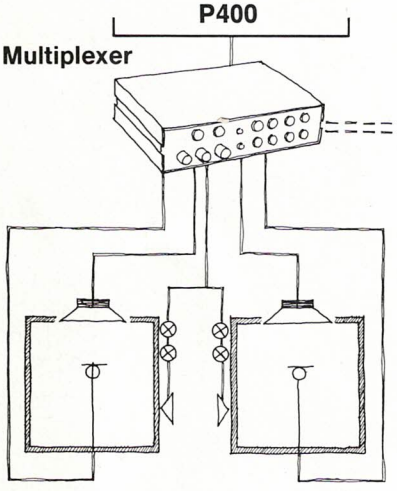
3' TELEPHONE TRANSDUCERS

Telephone transducers operate both as receivers and microphones. The measurement of the frequency response/sensitivity, rub & buzz/distortion and impedance characterize the acoustical performance of the transducer. Furthermore, the loudness rating is calculated from the frequency response measurement using a small external computer and additional software. The test cycle is typically 3-6 seconds. Two (2) test stations can be controlled by one (1) P 400 Measuring Computer.



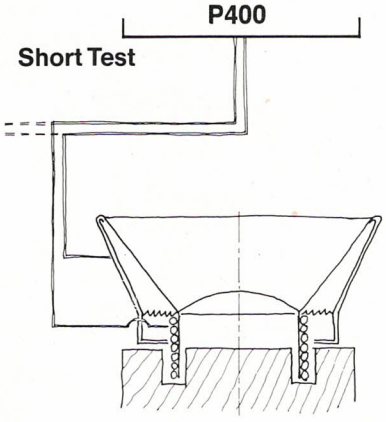
4' OPTIONAL ACCESSORIES

Multiplexer



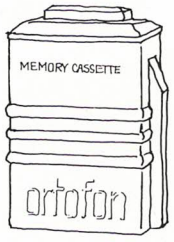
The Multiplexer System permits control of two (2) test stations with one (1) P 400 Measuring Computer. External light bulbs/ LEDs indicate GOOD UNIT (green) or REJECT (red).
A buzzer gives additional sound signal for REJECT.

Short Test



The Short Test facility is available as an individual module or as part of the Multiplexer System. Short failures between voice coil and basket are automatically determined during a sweep using an external voltage source.

EE-PROM CASSETTES 2/4/8/16 kb



EE-PROM Memory Cassettes are available with 2 kb, 4 kb, 8 kb and 16 kb capacity respectively. 8 kb can typically handle 6 test programmes, 16 kb 12 programmes.

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