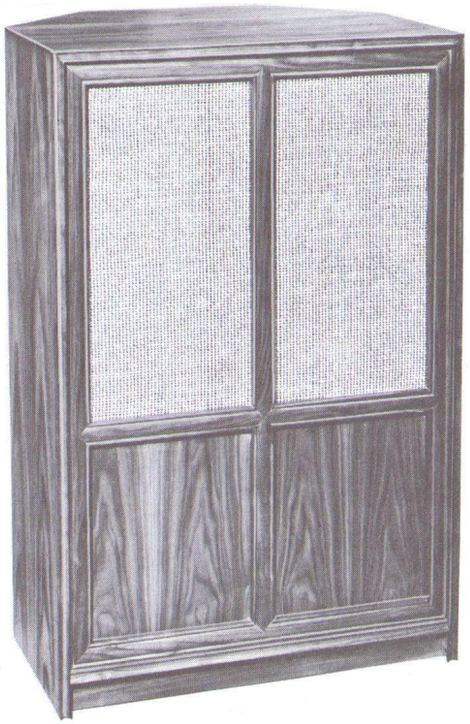
GEORGIAN 400 4-WAY LOUDSPEAKER SYSTEM



FEATURES

- Four separate drivers with four-way crossover
- Authentic furniture styling and quality hardwood construction
- Finest possible performance in moderately sized enclosure

SPECIFICATIONS

FREQUENCY RESPONSE:	30 to 23,000 cps
NOMINAL IMPEDANCE:	16 ohms
POWER HANDLING CAPACITY	
PROGRAM:	35 watts
PEAK:	70 watts
CROSSOVER FREQUENCIES:	250, 800, and 3500 cps
FURNITURE STYLE:	Classic
FINISH:	Satin walnut
SHIPPING WEIGHT:	205 lbs.

DESCRIPTION

For many years the name Electro-Voice Georgian has denoted a loudspeaker system of exceptional quality in terms of performance and cabinet construction, combined with reasonable size. The Georgian 400 system represents a degree of attainment of these goals not believed possible a few years ago. The new Georgian continues to be a completely compression-horn-operated system which features an exclusive E-V phase-loading principle at frequencies below 250 cycles. The results are extremely high efficiency and virtually distortionless reproduction. The low-frequency driver employed in the Georgian 400 is the largest used in any commercially available system with the exception of the Electro-Voice Patrician 800. This is an exceptionally massive 18-inch driver, the Model 18WK, known to audiophiles the world over. This precision woofer, combined with the dual loading techniques employed, provides truly impressive performance at very low frequencies where most woofers cease to operate. An additional reason for the exceptional performance of the Georgian 400 at low frequencies is the fact that a woofer of 18 inches diameter moves approximately two and one half times more air per excursion than an equivalent 12-inch speaker. To maintain the integrity of the low mid-frequencies and avoid the undesirable effects which occur when a woofer is required to operate at higher frequencies, the Georgian 400 woofer is crossed over at an unusually low frequency--250 cycles--to the mid-bass driver. A model SP8B coupled to an exponential horn performs this function, the rear of the loudspeaker being enclosed in a liberally-padded compression chamber. The loudspeaker in this sophisticated housing exhibits very smooth and well-controlled response to 800 cps, where the highly precise model T25A mid-range driver and 8HD diffraction horn become effective. The ample magnetic circuit in the driver makes possible optimum magnetic damping and smooth response, while the diffraction horn ensures widest possible dispersion of the all-important presence frequency range. Above 3500 cps, the Model T350 VHF driver extends the high-frequency response of the Georgian 400 to 23,000 cps. Painstaking attention to detail, including such techniques as the use of silverplated aluminum voice-coil wire, makes the T350 without equal as a high-frequency reproducer. The integral diffraction horn ensures equal brilliance in the reproduced sound anywhere in the listening area.

The Model X2835 crossover network, employed in the Georgian 400 system, is specifically designed to provide 12 db-per-octave attenuation on either side of the three nominal crossover frequencies: 250, 800, and 3500 cps. Highest quality capacitors and air-core inductors are utilized; the fast crossover rate eliminates any possibility of distortion arising from drivers being called upon to reproduce frequencies beyond the response range for which they have been designed.

The Electro-Voice Georgian 400 enclosure is available in Classic design, a skillful blend of traditional and contemporary concepts. It is solidly constructed from selected wood and beautifully finished in hand-rubbed walnut, mahogany or cherry. To take fullest advantage of the inherently superior acoustical loading at low frequencies, the Georgian enclosure is of the corner type, making it the finest system possible in its size category. However, one of the dividends of the unusually large woofer and the type of enclosure associated with it is that this system is much less critical of placement than many corner systems. Its performance remains amazingly good when located along the wall. Moreover, when the system is placed in a corner, its orientation is not critical, but may be adapted to meet the requirements of individual furniture arrangements and stereo systems. The enclosure occupies only 3.75 square feet of floor space and its overall shape is such as to make it surprisingly easy to accommodate.

AMPLIFIERS

Any reasonably good high fidelity amplifier may be used with the Georgian 400. Because of its high efficiency, less amplifier power is needed than with smaller or less costly systems. The Georgian 400 will, however, handle the full music output of virtually any quality amplifier currently available for home use. Ideally, an amplifier capable of 20 to 70 watts output with less than .1% to .5% harmonic distortion at any frequency above 20 cycles would be excellent. Amplifiers with high damping factors (between approximately 10 and 50) are recommended, and the Georgian 400 owner who is selecting an amplifier should devote careful attention to choosing one with quality components and power and output transformers of generous size and weight.

PLACEMENT

Any loudspeaker system, whether designed for corner or along-the-wall use, will usually deliver the smoothest, most extended bass response--and the best overall sound--when placed in a corner of the listening room. In this position, it uses to best effect the standing waves and principles of sound reflection, in addition to the horn loading provided by the flare of the walls themselves, meeting at the corner. The Georgian 400 is extremely effective in any location, although corner placement is recommended. Its orientation in the corner is not rigidly determined, and its angle of placement may be adjusted for best stereo effect. When placed in a corner, the angular back surfaces should be approximately four to seven inches from the wall.

STEREOPHONIC OPERATION

Two Georgian 400's may be used in a conventional stereophonic array, with one system connected to the output terminals of the amplifier in each stereo channel. To check phasing of this type of system, feed monophonic source material into both channels simultaneously and adjust the amplifier's stereo balance control so that the two Georgians are playing at equal loudness. Then stand at the point of convergence of the axes of the two speakers (midway between them and at a reasonable distance from them). If the stereo channels are properly phased and balanced, the sound will seem to come from an imaginary speaker mid-way between them. If this effect cannot be obtained at any setting of the stereo balance control, the connection to one of the two Georgians should be reversed. This is accomplished by reversing the connections at either the amplifier or at one speaker system. When the system has thus been adjusted so that monophonic sound seems to come from the imaginary center source, well-recorded stereo discs and tapes will be reproduced with startingly precise stereo localization and the overall sound quality will be magnificient at almost all listening locations in the room.

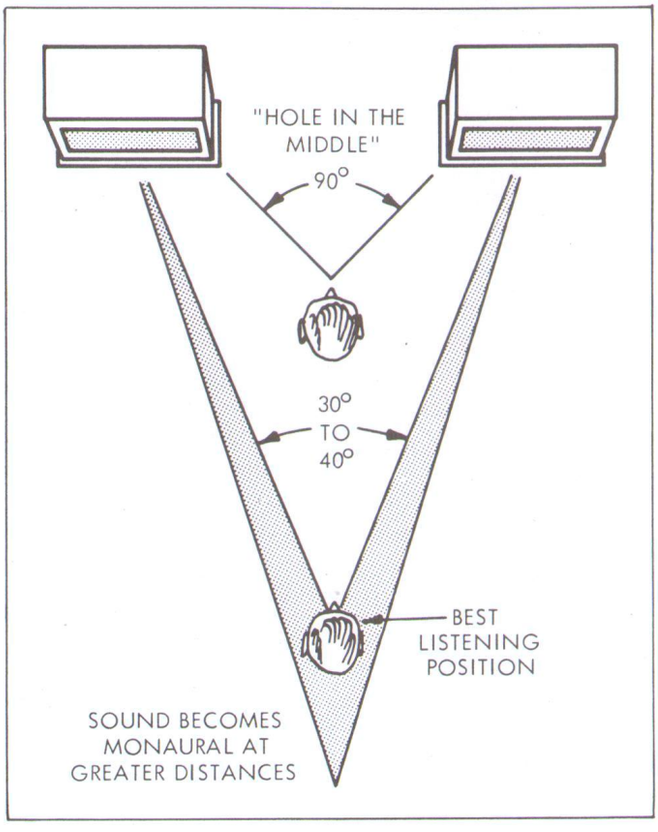
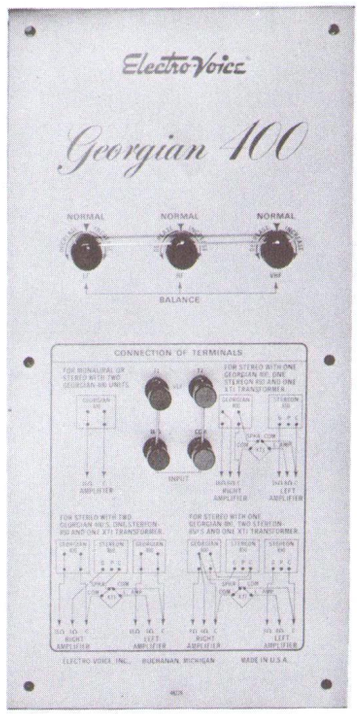


Figure 1 - Stereo Placement Diagram

While it is recommended that two separate Georgian 400 systems be employed for stereophonic reproduction, this is not absolutely necessary, since the Stereon 850 may be used to permit the expansion of a single Georgian to stereophonic operation at a slight savings in cost and floor space.



Specific wiring information for connecting the Georgian 400 in stereo arrangements is given on the escutcheon of the system itself. This information will be found to be almost completely self-explanatory. The rectangular blocks labeled "Georgian 400" and "Stereon 850" represent the escutcheons of the respective systems; the dots within these rectangular blocks are the binding posts on the escutcheon and lines between these dots represent wire jumpers which are present on the system as received. The Stereon 850 may be used in both two- and three-channel stereophonic systems and may be placed in any of a number of locations relative to the Georgian 400. Experiment will determine the arrangement most suitable to your own acoustical environment, using the basic test outlined for monophonic source materials described above. Where the two outside loudspeakers in the system must be separated a great distance, it may be necessary to incorporate a third, center-channel loudspeaker to eliminate a tendency toward exaggerated stereo separation. On the other hand, where the two systems must be located very close together--less than approximately five feet--the stereo or separation effect will be diminished.

When using the Stereon 850 with one or more Georgian 400 systems, the Model XT1 Stereo Mixer Transformer is required. Use of the XT1 is described on the Georgian 400 escutcheon.

CONNECTIONS

Connection of your Georgian 400 to the amplifier should be made with number 18 or larger wire (common zip or lamp cord is good). If you wish to run the lead between the amplifier and the speaker farther than 30 feet, or to run it behind a molding strip or carpet, use 300-ohm TV twinlead. Connect it to the 16-ohm and Common taps of the amplifier. Be certain that these connections are secure. For monophonic operation, the two leads from the power amplifier are connected to the two terminals labeled "Input" on the Georgian 400. For proper phasing, run the lead from the 16-ohm input terminal on the Georgian 400 to the 16-ohm terminal on the amplifier and from the Common terminal on the Georgian to the Common amplifier terminal. Both wire jumpers should be left in place as indicated on the diagram to the left of the input terminals. In this diagram, the rectangular block labeled "Georgian 400" represents the escutcheon of the Georgian; the four dots with lines between them represent the four binding posts with their wire jumpers.

ADJUSTMENT OF LEVEL CONTROLS

The loudness of the mid-bass, treble, and very-high-frequency sections of the Georgian 400 may be individually adjusted by means of the level controls provided. These controls are labeled LF, HF, and VHF, respectively. The system is shipped with controls set for laboratory-flat response and with the controls locked in place, but other settings may be used to accommodate individual preferences and room acoustics.

A simple way to adjust the high-frequency level control is to tune in a live FM broadcast and, with volume level equal to that of your own voice, adjust the control until the "s" and "t" sounds are no more prominent in the announcer's voice than they are in your own. This adjustment will usually prove satisfactory. Setting the high-frequency control too high will produce a "metallic" sound. Your best guide to setting the control properly is, of course, a familiarity with the sound of live music. Acoustically "hard" or "live" rooms will normally require a somewhat retarded setting of the very-high-frequency control to compensate for the greater amount of high-frequency reflection. In "soft" or "dead" rooms, with carpeting, draperies and soft furniture, a more advanced setting of the VHF control will normally be required.

CUSTOMER SERVICE

The Georgian 400 is packed to provide protection well in excess of shipping requirements of the Interstate Commerce Commission. If shipping damage does occur, contact the carrier, requesting inspection and instructions, or the dealer from whom the unit was purchased. The identification number of your loudspeaker is noted on the warranty registration card. This number should be re-

corded and used in all correspondence regarding your system. The warranty registration card should be filled out and mailed to the factory within ten days after your purchase. The Georgian 400 system is guaranteed indefinitely against defects in original workmanship and materials. Should your system become damaged, or develop faulty operation from unusual conditions of use, please write the Electro-Voice Service Department requesting return authorization and shipping instructions. When writing, please mention the make and the model number of other components used in the system.

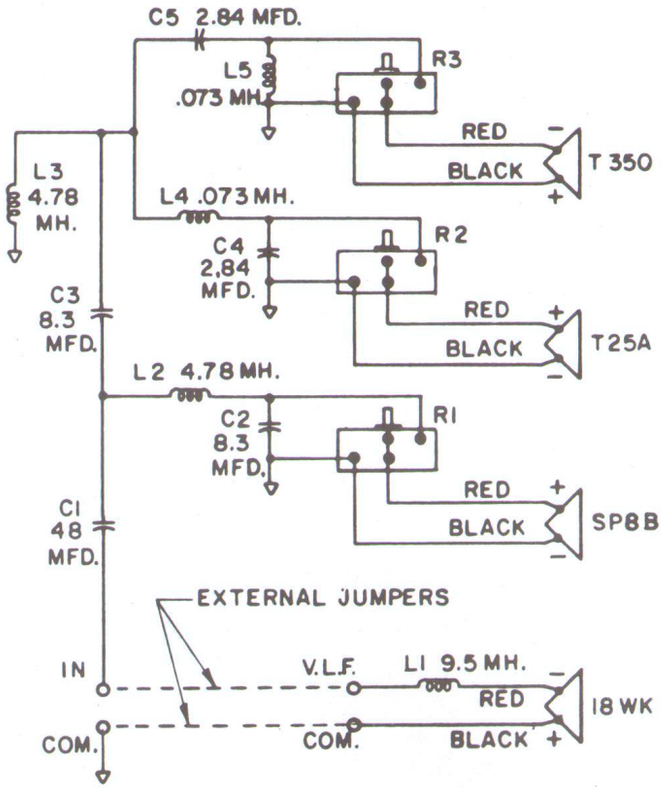


Figure 2 - Schematic Wiring Diagram