

The ESS amt-1a Monitor biamp system

In quest of Sonic Excellence.



The biamp system

The ESS amt-1a Monitor biamp system is the newest, most exciting adventure in the quest for sonic excellence — a biamplification package designed for total sound.

This system unites the impressive potentialities of the amt-1a Monitor loudspeaker and ESS Series Eclipse 500A and 250 amplifiers via the specially-engineered Series Eclipse Model 2241-AM electronic crossover network. The result is a powerful, sophisticated system, audibly superior to conventional sound reproduction systems. Delivering tighter bass, improved midrange clarity, smoother highs, greatly reduced distortion: performance outstripping equivalent non-biamped systems of up to 1,440 watts per channel.

The Monitor biamped system is available in an exciting series of options meeting a wide range of biamplification requirements; including operation with an existing amplifier or receiver linked with a Series Eclipse amplifier, or with a wide selection of other commercial electronics.

Any way it goes together, the Monitor biamped system is a *total* system — for the total sound.

AIR MOTION TRANSFORMATION: MIDRANGE/HIGH FREQUENCY

The Heil air-motion transformer midrange/tweeter is the world's most advanced transducer. Utilizing a lightweight, pleated Teflon diaphragm to *accelerate* air over five times faster than its own motion, the Heil far surpasses conventional "piston" systems in the reproduction of clean, distortion-free sound. Its almost purely resistive load allows an amplifier to deliver its maximum output with absolute stability. An inherently high resistance to heat enables the Teflon diaphragm to perform faultlessly at high power levels.

LOW FREQUENCY PERFORMANCE

The Monitor's sophistication doesn't stop with the Heil. A precision-engineered 12" (30.48 cm) bass driver meets the demands of complex low frequency programming under heavy power loads. Of a precision curvilinear shape, the woofer cone is mounted in a massive cast aluminum framework to ensure absolute rigidity. Performance is enhanced by excellent stiffness and linearity, characterized by reduced distortion and breakup and unparalleled dynamic attack through 850 Hz. The inductance of the 2" (5.08 cm) high temperature voice coil is an element of the passive crossover network; when the Monitor is operated non-biamped, this inductance, in conjunction with the rest of the crossover network, produces an 18 dB crossover slope without the phase problems usually attendant upon such a steep curve.





THE ESS SERIES ECLIPSE 2241-AM ELECTRONIC CROSSOVER

The amt-1a Monitor and Series Eclipse 500A and 250 amplifiers are integrated without modification by the Series Eclipse 2241-AM electronic crossover. Factory-set at 800 Hz, the 2241-AM bypasses the Monitor's passive crossover network in bi-amplification, to allow direct electronic drive to the speaker's transducers. The 2241-AM is equipped with front-panel LF/HF rotary controls, an 18 dB/octave rumble filter at 15 Hz, and an integral 30 Hz equalizer with switch-in/switch-out capability. It permits compatibility with a wide variety of commercial electronics.

LOW FREQUENCY PASSIVE RADIATOR

Special low frequency reinforcement is provided by the 12" (30.48 cm) passive radiator, utilizing a cast aluminum outer frame and diaphragm of rigid polyfoam and neoprene foam. A polyurethane half-roll outer surround allows free air resonance below 5 Hz. Mounted directly below the woofer, the radiator extends useful bass output to below 30 Hz.

SPECIFICATIONS

SYSTEM

Power rating:	75 Watts continuous program, 350-Watt peaks
Nominal impedance:	6 Ohms
Dispersion:	120° horizontal; 30° vertical
Crossover frequency (passive):	850 Hz
Efficiency:	1 Watt produces 82 dB sound pressure at 15 feet (4 m)
Frequency response:	± 3 dB 35-25,000 Hz

CONTROLS

High frequency:	Continuously variable attenuation or accentuation from 1200 Hz to beyond audibility
Midrange:	3-position control for frequency shelving

HEIL AIR-MOTION TRANSFORMER

Total radiating area:	29 in. ² (187.24 cm ²)
Transformation ratio:	5.3:1 velocity increase
Magnet assembly weight:	12 lb. 15 oz. (5.87 kg)
Flux density:	4500 Gauss
Square wave rise time:	15 microseconds at 5000 Hz

LOW FREQUENCY DRIVER

Nominal diameter:	12" (30.48 cm)
Voice coil:	2" (5.08 cm)
Magnet assembly weight:	7 lbs. 6½ oz. (3.36 kg)
Flux density:	10,500 Gauss

PASSIVE RADIATOR

Nominal diameter:	12" (30.48 cm)
Diaphragm:	0.5" (1.27 cm) rigid polyfoam base material laminated to a damping skin of .125" (.32 cm) neoprene foam. Unitary free-air resonance is 5 Hz.

DECOR

Finish:	Oiled walnut veneer
Grille color:	Dark brown

DIMENSIONS AND WEIGHT

Height:	39.25" (99.7 cm)
Width:	15.63" (39.7 cm)
Depth:	15.88" (40.3 cm)
Shipping weight:	105 lbs. (47.72 kg)

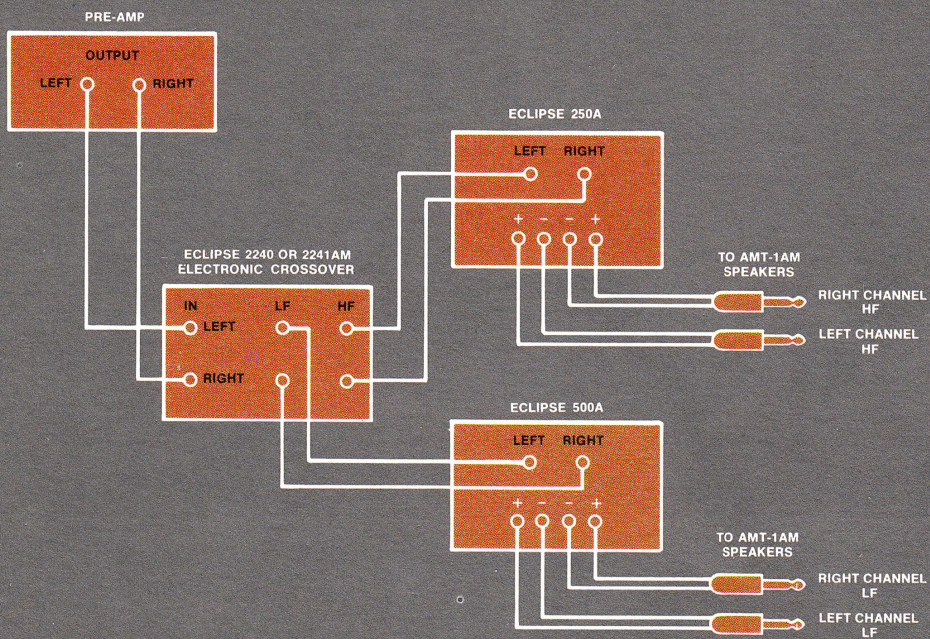
ESS is constantly researching new materials, production methods and design refinements which may be introduced into existing product lines without notice or obligation. For this reason, any current ESS product may differ in some respects from its published description but will always equal or exceed performance of the original design.



SOUND AS CLEAR AS LIGHT

Schematic A

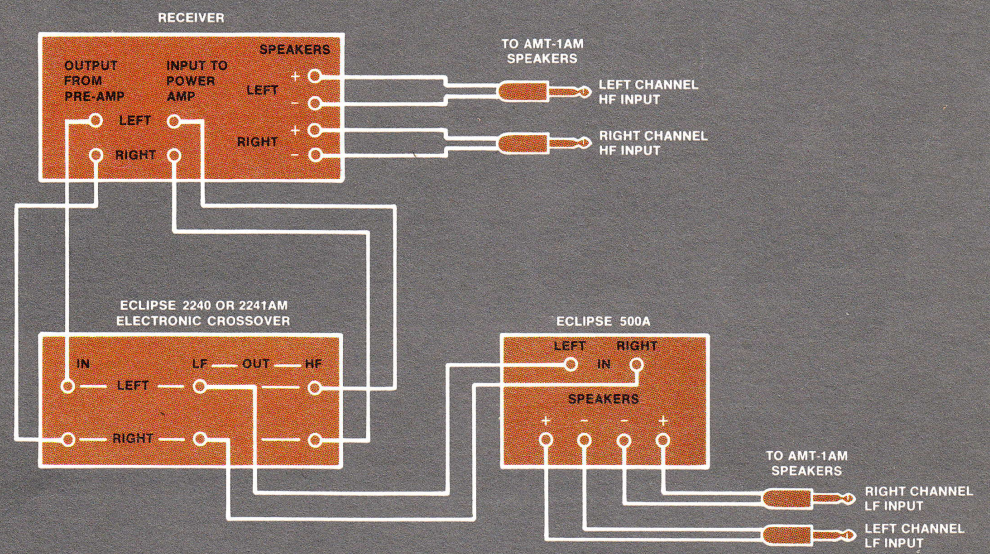
In the first bi-amplification option, the amt-1a Monitor loudspeaker is linked to the ESS Series Eclipse 500A metered amplifier and Eclipse 250A un-metered amplifier by means of the new Series Eclipse Model 2241-AM electronic crossover network.



Schematic A

Schematic B

In biamp option number two, the amt-1a Monitor speaker and Series Eclipse 500A non-metered amplifier are coupled with an existing receiver by the Model 2241-AM electronic crossover network.



Schematic B

Loud and Proud

HIFIGOTEBORG.se a



Sound As Clear As Light™



WANT TO RELAX TO BEAUTIFUL
MUSIC

WELCOME

WE HAVE GOOD HIFI AT YOUR
SERVICE

PLEASE WAIT HERE & A MEMBER
OF OUR TEAM WILL BE WITH
YOU SHORTLY.

Or press finger HERE