

A M S S P E C I F I C A T I O N S

	AMS 8A	AMS 10A	AMS 12A	AMS 210A
Drive Units				
LF	1 x 8 inch (203mm) Mineral Loaded Polyolefin Cones	1 x 10 inch (255mm) Mineral Loaded Polyolefin Cones	1 x 12 inch (305mm) Mineral Loaded Polyolefin Cones	2 x 10 inch (255mm) Mineral Loaded Polyolefin Cones
HF	1 x 1 inch (25mm) Damped Tulp Wave Guide Compression	1 x 1 inch (25mm) Damped Tulp Wave Guide Compression	1 x 1.3 inch (33mm) Damped Tulp Wave Guide Compression	N/A
Frequency Response (Anechoic)	+ 2dB 38 Hz - 25kHz	+ 2.5dB 35 Hz - 25kHz	+ 2.5dB 25 Hz - 25kHz	+ 3dB 29 Hz - 110kHz
Phase Response	The Most Phase Accurate Dynamic Reference Loudspeaker in The World On And Off Axis.			
Maximum SPL@1 meter				
Max. Continuous per pair	108 dB	114 dB	120 dB	each 113 dB
Max. Peak	121 dB	126 dB	129 dB	each 119 dB
Controls				
LF Alignment	4th/6th order	4th/6th order	4th/6th order	Fixed 6th Order Only
LF Contour	NA	+2Flat/+4dB Shelving	+2Flat/+4dB Shelving	+6dB 60Hz Boost
Input Level	+4/-10	+4/-10	+4/-10	+4/-10
HF Boost (at)	+4dB@22kHz	+4dB@22kHz	NA	NA
HF Contour	NA	NA	+2Flat/2 Shelving	NA
Input Connectors				
XLR	Y - Combi	Y - Combi	Y - Combi	Y
TRS	Y	Y	Y	N
RCA	N	N	N	Y
Amplifier Output (per channel)				
LF	140W Continuous/180W Peak	160W Continuous/200W Peak	180W Continuous/225W Peak	205W Continuous/280W Peak
HF	140W Continuous/180 W Peak	160W Continuous/200 W Peak	180W Continuous/225 W Peak	N/A
Power Consumption	50W Idle/210W Full	55W Idle/250W Full	55W Idle/275W Full	55W Idle/325W Full
Input Impedance	10 K Ohms	10 K Ohms	10 K Ohms	10 K Ohms
AC Power Req.	Selectable 115 or 230 VAC	Selectable 115 or 230 VAC	Selectable 115 or 230 VAC	Selectable 115 or 230 VAC
Electro Acoustic X-over	2kHz	2kHz	1.7kHz	Variable 50Hz-130kHz
Cabinet Type				
Finish	-DMP- Twin Laminated Space Frame, Vertical, Charcoal Black, Slate & Soft Noidal Texture.	-DMP- Twin Laminated Space Frame, Vertical, Charcoal Black, Slate & Soft Noidal Texture.	-DMP- Twin Laminated Space Frame, Vertical, Charcoal Black, Slate & Soft Noidal Texture.	1.25 inch MDF Grey Fleck
Vent Tuning (foam Bungs)	<ul style="list-style-type: none"> ○ ○ Critical ● ○ Under Damped ● ● Sub Use Only 	<ul style="list-style-type: none"> ○ ○ Under ● ○ Critical ● ● Over Damped or Sub Use 	<ul style="list-style-type: none"> ○ ○ Critical ● ○ Under Damped ● ● Sub Use Only 	<ul style="list-style-type: none"> NA NA NA
Shielding Options	Yes	Yes	Yes	Yes
Protection Circuitry	LF -PTC- Thermal	LF -PTC- Thermal	None	None
Dimensions				
HxWxD inches	18.25H x 12.75W x 12.5D	21.5H x 15.25W x 13.375D	25.425H x 17.875W x 16.5D	14.875H x 26.75W x 25.375D
HxWxD mm	464h x 324W x 317D	546h x 387W x 340D	651h x 454W x 419D	378h x 679W x 644D
Weight				
Box	38 each	54 each	78 each	99 each
legs	17.2 each	24.5 each	35.4 each	44.9 each
Flight Case Option	Yes	Yes	Yes	Yes

Warranty: Passive loudspeaker limited 10-year parts and labor. Electronics limited 1-year parts and labor.

Part # 1000. 8027

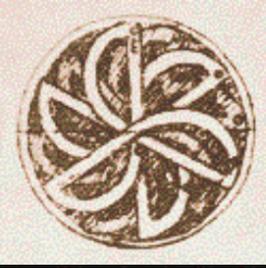


Tannoy/TGI North America • 300 Gage Avenue, Unit 1 • Kitchener, Ontario, Canada N2M 2C8 • 519 745 1158 • Fax: 519 745 2364 • Web site: <http://www.tannoy.com>

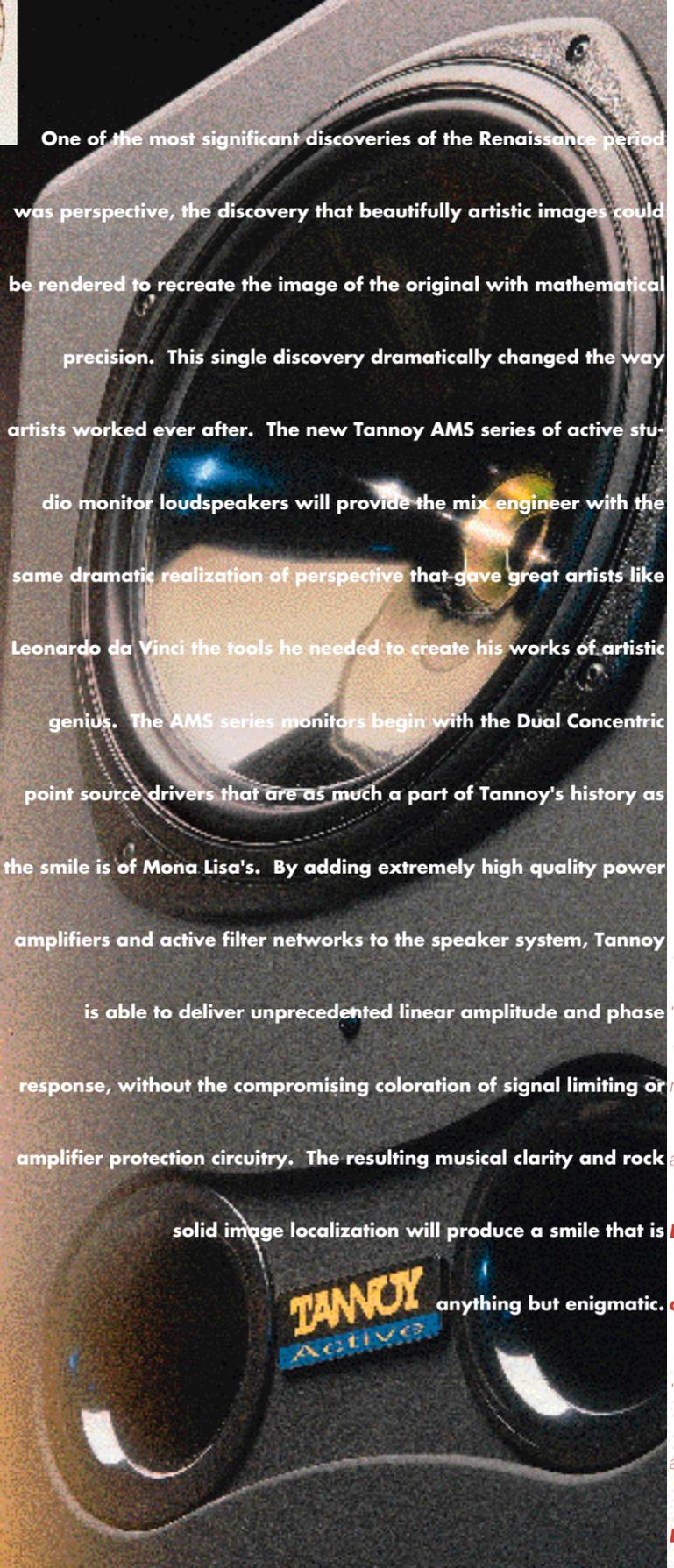
Active

MONITOR SERIES





One of the most significant discoveries of the Renaissance period was perspective, the discovery that beautifully artistic images could be rendered to recreate the image of the original with mathematical precision. This single discovery dramatically changed the way artists worked ever after. The new Tannoy AMS series of active studio monitor loudspeakers will provide the mix engineer with the same dramatic realization of perspective that gave great artists like Leonardo da Vinci the tools he needed to create his works of artistic genius. The AMS series monitors begin with the Dual Concentric point source drivers that are as much a part of Tannoy's history as the smile is of Mona Lisa's. By adding extremely high quality power amplifiers and active filter networks to the speaker system, Tannoy is able to deliver unprecedented linear amplitude and phase response, without the compromising coloration of signal limiting or amplifier protection circuitry. The resulting musical clarity and rock solid image localization will produce a smile that is anything but enigmatic.



A M A S T E R ' S D E S I G N

Why Active Amplification?

For the loudspeaker designer, one of the greatest frustrations is the inability to control the elements in the monitor chain that come before and after the loudspeaker. By incorporating the high and low frequency amplifiers into the monitor enclosure, Tannoy was able to remove all the variables in the interface between our Dual Concentric driver and the amplifier outputs. This is the only improvement that we could make in our Dual Concentric monitors, short of packaging an acoustician with each pair. Both time and frequency domain behavior of the monitor system are able to be optimized through active filter design, allowing the designer to minimize group delay and ensure the smoothest transition at the crossover point.

Active bi-amplification delivers at least 6dB greater dynamic range with lower inter-modulation distortion, by separating the audio spectrum before the amplifier. Extreme demands on the low frequency amplifier do not impair the dynamic range capabilities of the high frequency amplifier. In full range amplification, low frequency signals will consume the amplifier resources, distorting the high and mid-frequency signals.

Precisely tuned active crossover filters, combined with the short loudspeaker

cables, provide an exacting match between the amplifier output and the loudspeaker's high and low frequency devices. The AMS loudspeakers exhibit the transient response one would expect from this uncluttered audio path. By eliminating large passive crossover components, with their wide tolerance range, the AMS monitor series delivers more consistent performance unit to unit, over much wider temperature ranges, and with a longer service life.

Exacting detail in filter shaping is possible with the active filters, allowing subtle minimum phase equalization to be implemented that would otherwise have required massive inductor and capacitor component size and large component counts. Passive filters are problematic when combined with loudspeakers, since the dynamic variations in driver impedance caused by voice coil heating and cone movement affect the tuning of the filters. Through the use of active filters and amplification in the AMS monitor series, Tannoy has all but eliminated the sensitivity to dynamic impedance changes. The resulting clarity is readily apparent, especially at elevated sound levels, where cone travel and voice coil heating can be significant.

The low output impedance of the amplifier improves the filter accuracy and also provides the needed control over the low frequency cone in order to deliver deep, articulate, musical bass performance. The short internal speaker cable, combined with an audio path free of inductors or capacitors, eliminates the variables that affect low frequency damping. This tight cone control also allows the use of subtle low frequency contouring combined with subsonic filtering on these systems, without compromising fidelity or durability.

The Fulfillment

The AMS monitor series of loudspeakers is manufactured with the same craft and detail as a piece of fine art. Hand-selected loudspeaker components are matched to extremely tight tolerances to provide consistent performance. Each AMS system is individually tested, graphed, and matched to within 0.25dB ensuring that our own high standards are consistently met, which in turn ensures that your high standards are met.

The electronic crossover filters are matched to within 0.25dB throughout their passband, where passive crossovers would be judged exacting at 1dB of tolerance. The best passive crossover components tend to exhibit variations in value as large as 50% with changes in temperature, far in excess of the 1% tolerance of the active crossover components in the AMS series.

The MOSFET amplifiers used in the AMS series also use exceedingly close tolerance components and construction techniques found only in component amplifiers in the audiophile market. There are no compromises made in amplifier design or performance to facilitate direct mounting to the loudspeaker enclosure. The elimination of amplifier VI limiting or speaker protection limiters ensures faithful reproduction of the full musical dynamic range without any trace of signal compression. Of course, this does mean that we delegate the responsibility of speaker protection to the experienced listener who can

detect the onset of speaker distress and moderate the listening levels accordingly.

The AMS amplifiers use a massive aluminum heat sink extrusion, double anodized for durability of finish. The massive aluminum back plane ensures that there is adequate heat dissipation for any operating condition without any trace of audible ringing or resonance of the heat sinks. We have taken pains to ensure that the acoustical characteristics of the amplifier construction do not influence the loudspeaker's audible character.

The monitor enclosure itself is equally uncompromising, built of massive inert MDF panels in excess of 1 inch thick, and extensively braced and decoupled to ensure that no resonance colors the signal reproduction. Driver mounting and panel edges are designed to eliminate cabinet diffraction and the resulting off-axis frequency response variations. No grill is provided with the AMS series monitors as we could find no suitable method of building a grill as uncompromising as the AMS series demanded.

Simply stated, no other monitor loudspeaker manufacturer utilizes the matched high precision components, advanced design or manufacturing and test procedures Tannoy demands for the AMS series. No other active monitor performs to the same degree of sonic excellence, period!

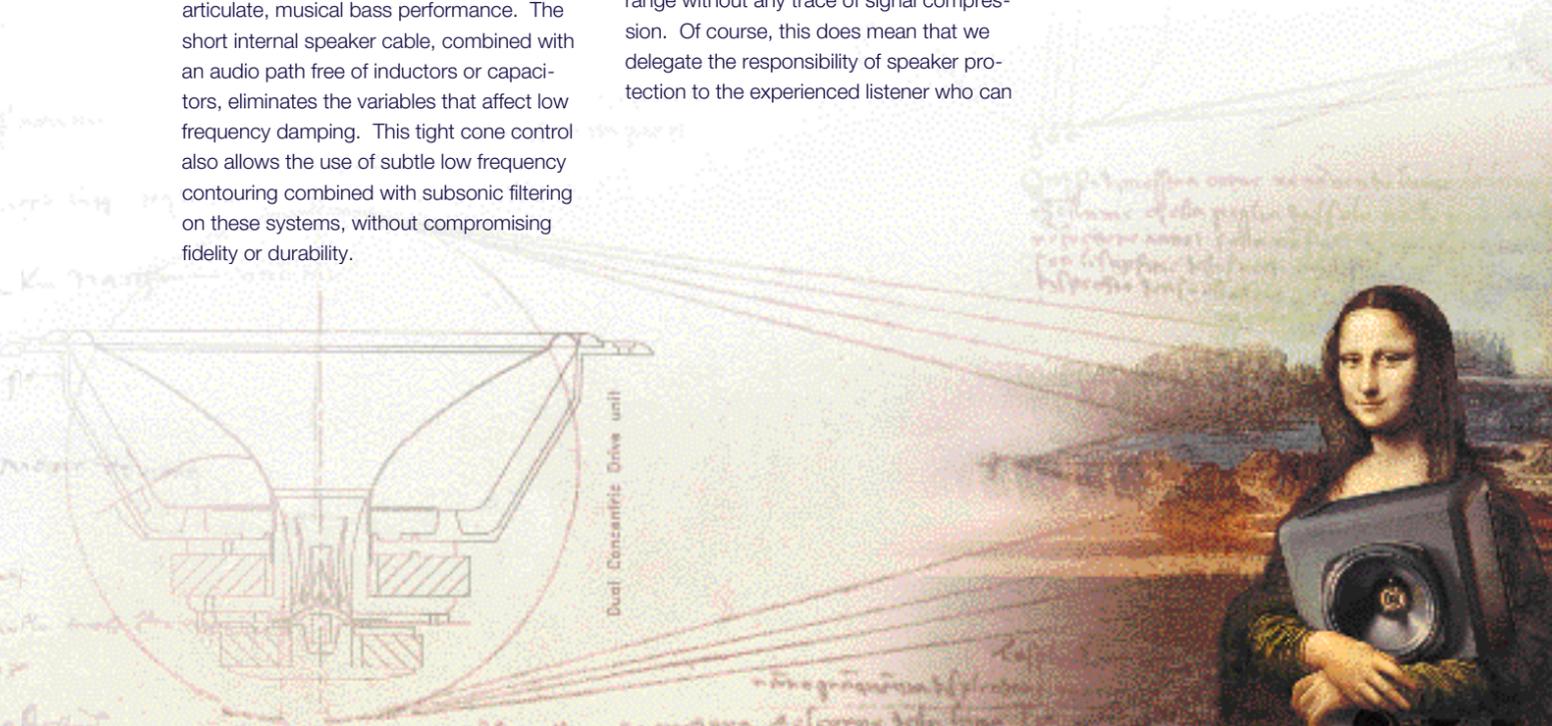
"The most accurate active monitors I've ever heard. More muscle and authority particularly in the bottom end than any other powered monitor I've worked with."

Bob Whyley, Director of Audio for the Emmy award-winning Tonight Show.

"I have never been so close to final results in my life. These are the most accurate, balanced monitors I've heard yet."

Don Gehman, Producer: Hootie and the Blowfish

•Tracy Chapman •John Mellencamp •Better Than Ezra



AMS 12A
SUBWOOFER

All of the controls of the AMS monitors are simple and intuitive, and provide enough flexibility to adapt to most listening rooms. The filters for Treble and Bass are gentle shelf-type equalizers and offer subtle tonal changes to the speaker without compromising fidelity.

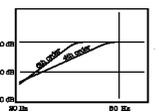
A M S M O N I T O R F E A T U R E S A M S 2 1 0 A S U B W O O F E R F E A T U R E S



AMS 8A

LF Alignment
AMS 12A
AMS 10A
AMS 8A

This control gives you the choice of the normal bass response or more aggressive bass output. The filter is a combination of a low frequency extension and high pass filter, enhancing the output below 50Hz down to its rated response while simultaneously being attenuated below vent resonance to prevent LF over excursion. When this filter is activated, the overall low frequency tuning will change from the normal 4th order bass reflex enclosure characteristics, to a 6th order tuning. A 6th order filter exhibits group delay characteristics, and this will change the low frequency transient performance of the system. We recommend that you listen to a variety of familiar material in both settings to familiarize yourself with the effect of the Low Frequency Contour control. We suggest that the 4th order position be used for critical monitoring, and the 6th order position be used for playback. Please note that any electronic boost in low frequency level will reduce the headroom and, therefore, the maximum SPL available from the monitor system.



LF Alignment



AMS 10A

Input Level
AMS 12A
AMS 10A
AMS 8A

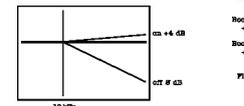
This feature allows the AMS 12A to be trimmed in gain to match nominal operating levels of -10dBm or +4dBm. This should accommodate most system configurations. For optimum signal to noise, the gain control should be set as low as possible to achieve the desired listening level.



AMS 12A

HF Boost (Air)
AMS 10A
AMS 8A

This HF Filter equalization provides an elevated HF level above 17kHz to increase the openness for some types of recorded material. The effect of the equalization begins only above 10kHz. Because this control has an effect only on material with a lot of harmonic content, your decision to use it should be based on subjective criteria.



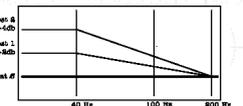
HF Boost (air)



AMS 210A

LF Contour
AMS 12A
AMS 10A

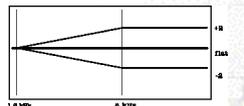
This filter is activated through the use of a three-position toggle switch. The center position is electronically flat, while the up position, or BOOST 2, is a 4dB LF boost, and the down position, or BOOST 1, is a 2dB LF boost. While flat has obvious critical listening applications, the decision to use this filter should also be based on your subjective listening criteria.



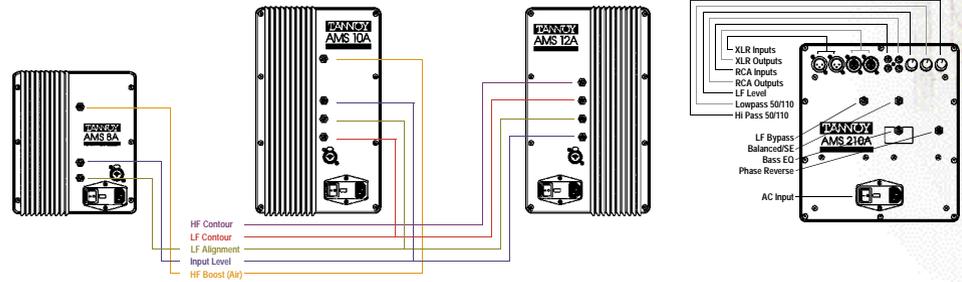
LF Contour

HF Contour
AMS 12A

The HF contour filter control is operated by a 3 position toggle switch. The center position is flat relative to the boost position which rises 2dB from 2kHz to 5 kHz where it shelves out to 20kHz. The cut position is directly inverse to the boost. Your decision to employ this feature should be based on inferior room acoustics and/or subjective listening criteria.



HF Contour



AMS 210A Subwoofer
HIGH PASS ELECTRONICS

The subwoofer contains an active electronic crossover which provides left/right XLR-type balanced inputs and left/right XLRM balanced outputs, as well as left/right single ended (unbalanced) RCA/phono inputs and left/right unbalanced outputs. The balanced circuitry is always part of the audio path and, therefore, a single ended input can be used, and both balanced and single ended outputs will be available. This is very valuable for establishing absolute polarity through the monitor chain. The high pass electronics in the subwoofer are signal inverting. To maintain absolute polarity of the monitor system, the signal polarity of the balanced high pass output can be connected inverted or non-inverted, depending upon the polarity of the full range monitor chain. Please note that it is not enough to ensure that cable wiring polarity is maintained; it is the electronic chain through to the loudspeaker output that determines absolute polarity. As described previously, this should be confirmed with a two-channel oscilloscope.

We have also provided a feature in the AMS subwoofer for use in home theatre applications. The amplifier has a Balanced/Presence/Single ended switch specifically for the home theatre market. The Balanced setting is to be used when balanced signals are present at the inputs and the Single ended setting when using the RCA inputs. The Presence setting is a unique setting for the discerning home listener, but is only available if single ended inputs are utilized. The effect is subtle and will vary somewhat with different recordings and speakers. Aside from a 6dB drop in level, the perceived effect of this setting is usually associated with more "air" and an increased sense of space and imaging in most systems. This circuit is not in any way more "accurate" but is in fact an enjoyable change in frequency and phase response. We mention this so that the recording engineer or audiophile will use this setting for enjoyment only and not for judging the merits of a particular recording or mix.



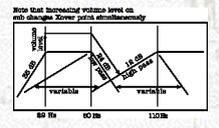
Isolation spikes improve the speed and definition of the bass performance.

It is important to ensure that the signal source driving the monitor chain is capable of driving the active crossover input. While the input impedance of the AMS 210A (10k ohms) is suitable for most modern audio electronics, some tube pre-amps or passive-filter equalizers may require additional circuitry or matching transformers to work effectively into this system. The renewed interest in tube equipment in the studio has made this a new concern to bring to the user's attention.

LOW PASS ELECTRONICS

The crossover frequency of the low pass circuit is independently adjustable from the high pass crossover. Due to the unpredictable nature of system polarity (inverting amplifiers, pre amps, etc.) and the polarity changes that occur with different amplifier and signal chain combinations, we have installed a polarity inverting switch on the AMS 210 that inverts the polarity of the signal going to the internal low frequency amplifier. This is useful in the process of establishing the absolute polarity of the monitor chain.

The Bass EQ feature is intended for the home theatre market. This control offers the user a setting for deficient recordings or just to increase the intensity of the lower mid bass region and to increase the sense of impact. This setting will also be helpful for the videophile when viewing his or her favorite movie, for that added "feeling" of excitement. Please note that the EQ in position inverts low frequency polarity relative to the EQ Out position. We have made an effort to reduce the number of electronic circuits the signal must pass through, and rather than add another stage of amplification to correct the polarity inversion in the LF



210A Cross Over Filter

boost circuit, we are relying on the Polarity switch being used with the EQ switch to maintain polarity.

SETTING THE CROSSOVER

Both the highpass and the lowpass filter sections can be varied in break frequency independent of one another. It is possible to adjust the overall system response of the monitor system by varying the amount of overlap in the crossover region. This allows adjustment of the level in the 80-100Hz region of the combined system. If the satellite monitors are weak in the 80-100Hz region, it is possible to increase the output of the subwoofer in that region to compensate. This would increase the amount of energy in this region since the satellite is still producing the same acoustic output in this range and the subwoofer is now adding to this energy.

It is also possible to lower the crossover point for both subwoofer and satellite monitors in the instance where the satellites are capable of extended low frequency response. This allows the subwoofer to bolster the output in the lowest octave only, reducing the sensitivity to subwoofer location.

"Truth is everything" doesn't sound good on our AMS monitors. If you're using nasty D-A or A-D converters, don't blame our monitors. If your signal path is nasty, we'll let you know. If your mix isn't up to snuff, we'll let you know that too. No warm and fuzzy going on here, unless its going on in your studio.

"Isn't that the way it's supposed to be?"