# EQUIPMENT RODUCTION MUSIC DEFINITION H G H

## The Audio Research Commitment

# THE AUDIO RESEARCH PHILOSOPHY

Audio Research is committed to two basic goals. First, Audio Research will only release products which truly advance the state-of-the-art in music reproduction. Second, Audio Research will only manufacture products which will provide optimum performance for as long as the customer desires. These criteria hold true for every Audio Research model, whether moderately priced or top-of-the-line.

In selecting Audio Research the audiophile always receives the finest equipment available, both in terms of sonic accuracy and quality craftmanship. Every Audio Research model will continue to furnish its owner with musical enjoyment and satisfaction for many years. Additionally, the Audio Research performance and quality commitment not only assures enduring musical value but makes Audio Research products a sound investment for the serious music enthusiast.

#### THE PERFORMANCE STANDARD

Dedication to state-of-theart music reproducing equipment has established Audio Research as the "benchmark" or standard by which other products are judged. Audio Research products are the "reference tools" used by many manufacturers in the research laboratory as well as in the homes of knowledgeable industry personnel.

"Audio Research has already produced equipment in the classic mould that provides and will continue to provide a datum for years to come."

Hi-Fi Answers (England)

This is no coincindence.
Audio Research has remained at the top of its field because of its innovative design approaches, commitment to quality and pride of service.
Audio Research will continue to apply these principles along with its commitment to further the art of music reproduction, thus assuring you of the finest products available both now and in the future.

#### THE DYNAMIC APPROACH

Steady-state distortion measurements provide a decidedly unclear picure of preamplifier or amplifier performance under dynamic music conditions. While dynamic measurements are difficult to obtain and even more difficult to evaluate it is strict attention to real world performance that separates Audio Research products from equipment, which having nearly identical bench measurements, sounds radically different under dynamic music conditions.

Simply put, quality static specifications do not necessarily translate into quality music reproduction. Since static specifications may be misleading in component evaluation and selection, Audio Research publishes only a modicum of technical information. Should additional performance details be desired a detailed specification sheet is available through your local dealer or directly from Audio Research.

# THE AUDIO RESEARCH DEALER

The commitment to quality does not stop with the manufactured product. This commitment is extended to you through your local Audio Research dealer. In order to retail Audio Research products a dealer must provide the ability to discern, display and provide the audiophile with musically accurate sound; desire to determine the customer's needs and meet those needs within the framework of the customer's budget; exhibit a high degree of reliability and integrity; and have a commitment to fully service the customer.

In short, the Audio
Research dealer provides a
high level of expertise,
honesty and service. Few
dealers meet these
requirements, making an
Audio Research dealer worth
knowing. It is satisfying to
know that he has been
selected to meet your
standards too.

# The Quality Approach

Audio Research products are built for perfectionists by perfectionists. Basic to the nature of a perfectionist is a love for quality. At Audio Research fine quality is manufactured into every product.

"Audio Research is one of those names which are synonymous worldwide with quality." Practical Hi Fi (England) All active and passive components are critically evaluated for their audio performance quality. Only the finest materials are carefully selected and individually tested before inclusion into Audio Research electronics.



Circuitboards utilize military quality, double sided, plated through-hole, wide-foil layout, for long life and optimum sound quality.



Every unit is hand-built and undergoes a wide range of quality assurance and listening tests. Each unit is first tested, then burned in and finally retested before being carefully evaluated for its sound quality by an Audio Research sound expert.



Research and development utilizes the finest testing and evaluation equipment, providing valuable performance information which is incorporated whenever and wherever it is desirable.







(MCP-3 not pictured)

#### **FEATURES**

New generation Analog Module®technology.
Fully balanced and regulated circuitry for unequalled linearity.
Noise levels near theoretical measurable limits.
Front panel moving coil gain and impedance selection (MCP-2 only).
Front panel moving magnet loading selection (MCP-2 only).
Near military grade components and construction throughout.

#### **SPECIFICATIONS**

Frequency response: ± .25dB, DC to 80kHz.

Harmonic distortion: Less than .005 at 1V RMS output 20Hz to 20kHz.

Gain: Selectable (moving coil) 10dB, 16dB, 22dB, 28dB, 34dB (MCP-2 only).

Input Impedance: Selectible 3, 10, 30, 100 and special (47K maximum) ohms (MCP-2 only).

Noise: (moving coil) less than 100 nanovolts equivalent input noise at 10 ohm input, RIAA equalized.

Dimensions: 19"W x 3.5"H x 8.5"D

A preamplifier is the focal point of a music reproducing system. It is the "heart" or control center, bringing together all functions of the reproducing chain. It should be considered the most important electronic component of the audio system. However, a preamplifier is more than a control center; its main purpose is to amplify the given input from a variety of sources, doing so as authentically as possible. Design compromise in amplification circuitry renders meaningless the secondary function of a preamplifier as a control center.

There are two basic preamplifiers: the "classic" stereo preamplifier, primarily meant to amplify high level signal inputs; and the prepreamplifier or "head amplifier" designed to boost or amplify the incredibly low output of today's better moving coil cartridges.

#### PRE-PREAMPLIFIERS

The MCP-2 and MCP-3 pre-preamplifiers offer the serious music enthusiast state-of-the-art performance in moving coil amplification. Both employ the Analog Module®, a proprietary Audio Research amplification device.

The Analog Module® is similar to the vacuum tube in its high degree of musciality, dynamic range and headroom. And like the transistor, the Analog Module® provides wide bandwidth, high linearity, low noise and accurate "push-pull" balance making it ideally suited for low level amplification. When coupled to fully balanced and carefully chosen operating circuits and highly stable power supplies, the MCP-2 and MCP-3 provide unequalled linearity. exceptional staging, clarity, High Definition® and dynamic range with residual noise near theoretical limits.

The MCP-2 offers a high degree of versatility and a wide range of flexibility for optimizing moving coil and moving magnet performance. The MCP-3 provides equal performance for the music enthusiast who does not require the versatility of the MCP-2. In either case both the MCP-2 and MCP-3 offers the audiophile the finest performance available in moving coil preamplification.



Automatic muting for continuous protection.

Manual muting for repeat settings, interruptions, etc.

Front panel power switch for activating 1600 watt capacity back-chassis, plug-in power receptacles.

High accuracy, close tracking segmented gain control.

Sonically selected components for optimum sound performance.

Near military grade construction used throughout.

#### **SPECIFICATIONS**

Frequency response: High level + .25dB, 5Hz to 30kHz.

Frequency response: Magnetic phono + .25dB of RIAA, 30Hz to 40kHz. Harmonic distortion: Less than .01% at 2V RMS output, 20Hz to 20kHz.

Input impedance: 50K ohms, all inputs.

Noise: High level, 250uV RMS maximum residual unweighted wideband noise. Noise: Magnetic phono, 5uV maximum equivalent input noise, wideband RMS.

Dimensions: 19"W x 5.25"H x 10.25"D.

#### **PREAMPLIFIERS**

The single greatest requirement of a preamplifier is to amplify the given signal input without adding or subtracting musical information. This extremely complex, intricately defined, highly dynamic signal creates heavy demands on a preamplifier. Only Audio Research preamplifiers so accurately meet these demands that they transmit the listener beyond the reproduction chain to experience the "live event."

For optimum signal amplification the SP-8, SP-10 and SP-12 utilize vacuum tube audio circuitry. While the transistor has replaced the vacuum tube in most popular consumer electronics, the vacuum tube still offers a number of design advantages over solid-state devices. The

vacuum tube has certain unique electrical properties that make it highly attractive for use in quality audio electronics.

Audio Research continues to incorporate the vacuum tube in its designs many years after tube technology was considered impractical. However, experience dictates that for state-of-the-art music reproduction the vacuum tube is difficult to surpass. Because of its long-term involvement in vacuum tube design Audio Research is regarded as the leader in vacuum tube technology.

"The SP-8 represents a new art in three dimensional sound transcription. Just a few minutes of listening are needed to realize the amazing accuracy in width and depth of this preamplifier."

Revue Du Son (France)

### SP-10 Preamplifier



#### **FEATURES**

Automatic muting for continuous protection.

Front panel muting for repeat settings, interruptions, etc.

Front panel power switch for activating 1600 watt capacity back-chassis, plug-in power receptacles.

Selectable front panel impedance matching for optimizing moving coil and moving magnet cartridge performance.

Front panel gain selection for matching low output or high output cartridges. Front panel "bypass" switch for optimizing performance.

Sonically selected components and near military grade construction.

#### **SPECIFICATIONS**

Frequency response: High level + .25dB, 5Hz to 30kHz.

Frequency response: Magnetic phono + ,25dB of RIAA, 30Hz to 40kHz.

Harmonic distortion: Less than .01% at 2V RMS output, 20Hz to 20kHz.

Input impedance: High level, 50K ohms (all inputs).

Input impedance: Magnetic phono, 10, 30, 100, 10K, 47K ohms (selectable). Noise: High level, 250uV RMS maximum residual unweighted wideband noise.

Noise: Magnetic phono, .2uV RMS above 1kHz. Dimensions: 19"W x 5.25"H x 10.25"D (both units).

#### FOUR CRITICAL PERFORMANCE AREAS

The SP-8, SP-10 and SP-12 have been widely acclaimed as representing the state-of-the-art in music reproduction and each of these preamplifiers can provide the critical listener with true reference sound quality in the four critical areas of performance.

Clarity—Providing a clarity of sound that immediately impresses the listener, Audio Research preamplifiers are totally absent of the "heaviness" or "veiling" of sound present in other designs. There is also a notable lack of "hardness," "edge" and "grain" that masks fine detail in other preamplifiers.

High Definition®-While other preamplifiers obscure important musical information, Audio Research preamplifiers reproduce all of the subtle colors, shadings and ambient detail that create the illusion of a "you are there" performance. The SP-8, SP-10 and SP-12 effortlessly sort through complex musical material placing every instrument and voice onto the proper acoustic stage. This High Definition® quality is a hallmark of all Audio Research products.

Harmonic Integrity—Audio Research preamplifiers provide the listener with a unique sense of "harmonic rightness." Delicate harmonic structures essential to musical accuracy remain wholly intact, creating a musical performance with a sense of "aliveness."

"In our opinion, the SP-10 is a landmark, a milestone in the history of audio products and it definitely establishes the SP-10 as residing somewhere well beyond the frontier of the state of the rest of today's art."

Dynamic Expression—
Audio Research preamplifiers
excel in reproducing a
musically accurate dynamic
range. Highly stable power
supplies and essentially
overload-proof output sections
result in preamplifiers that
reproduce the quietest notes
to the loudest and most
complex musical passages.
Separation of instruments and
voices remains intact at every
level without "smearing" or
collapse of sound field.



Front panel muting for repeat settings, interruptions, etc.
Front panel power switch for activating back-chassis, plug-in power receptacles.
High accuracy, close tracking, segmented gain control.
Sonically selected components for optimum sound performance.
Optional rack mount and automatic mute version available.
Near military grade construction used throughout.

#### **SPECIFICATIONS**

Frequency response: High level + .5dB, 5Hz to 30kHz.

Frequency response: Magnetic phono + .25dB of RIAA 30Hz to 20kHz.

Harmonic distortion: Less than .02% at 2V RMS output, 20Hz to 20kHz.

Input impedance: 50K ohms phono, 100K ohms high level.

Noise: High level, 250uV RMS maximum residual unweighted wideband noise.

Noise: Magnetic phono, 5uV maximum equivalent input noise, wideband RMS.

Dimensions: 15.6"W x 4.5"H x 8.9"D (19"W with optional rack mount front panel).

#### AUDIO RESEARCH PREAMPLIFIERS

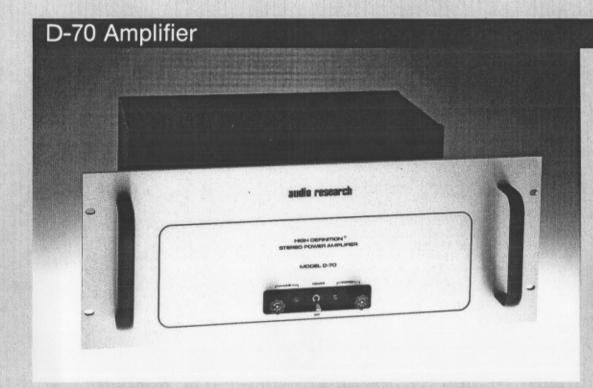
The SP-12 is a musically accurate, High Definition® wide bandwidth, vacuum tube preamplifier offering the serious music enthusiast uncompromised performance. With proper attention to set up the SP-12 can be placed in virtually any quality audio system, from the least costly to the most sophisticated, without compromise in system performance. The SP-12 appeals to a variety of music lovers, from the enthusiast experiencing high quality sound reproduction for the first time to the most seasoned audiophile.

The SP-8 has been recognized throughout the world as the benchmark for classic, well constructed, high performance vacuum tube preamplifiers and will find its place in many top quality audio systems. The SP-8 provides reference sound quality and near military grade construction not found in other preamplifiers in this price range.

The SP-8 is designed for perfectionists who require the best within cost constraints. Because of its high performance/cost ratio the SP-8 has been widely acknowledged as the finest value available in quality preamplifiers.

The SP-10 is not only regarded as a state-of-the-art preamplifier. It is also truly responsible for the advancement of audio technology. The SP-10 is the reference preamplifier having been universally acclaimed as the finest available.

The SP-10 will remain the strongest link in many stateof-the-art audio systems for vears to come. In fact, the SP-10 so advances the art that it demands scrupulous attention to system set-up, so revealing is it of system inefficiencies. The SP-10 requires the finest commensurate equipment and will advance the technology of associated components for many years. As the most sophisticated and most musical preamplifier available, the SP-10 provides every feature expected of such a product.



Patented Audio Research cross-coupled and fully balanced circuitry. Front panel power switch, relay coupled for smooth and reliable turn-on. Front panel LED indicators for line and screen. Front panel fusing for line and screen. Sonically selected components for optimum sound performance. Near military grade construction used throughout.

#### **SPECIFICATIONS**

Power output: 65 watts per channel minimum continuous at 16 ohms from 20Hz to 20kHz with less than 1% total harmonic distortion. Power bandwidth: 10Hz to 60kHz (-3dB points). Input sensitivity: .95V RMS for rated output. Input impedance: 75K ohms nominal. Noise: Greater than 90dB below rated power, broadband unweighted.

Dimensions: 19"W x 7"H x 16.5"D.

#### **AMPLIFIERS**

If a preamplifier is viewed as the control center of a music system, then an amplifier can be regarded as the "engine" which powers the system. There is a misnomer among the audio community that amplifiers have no distinct "sonic signature" of their own, and that amplifiers varying widely in design and construction exhibit only minimal sound differences. With thirty years of design experience Audio Research has discovered this is not the case.

Claims for amplifier similarity have been strictly based on static performance measurements made into purely resistive loads. This is a poor test basis, similar to comparing a racing engine to a road model at identical idling speeds and concluding that they are equal in performance. In fact, amplifiers vary widely in their sonic character and recent advances in amplifier technology make this easily demonstrable.

From a performance standpoint, amplifiers must meet the same criteria for preamplifiers including clarity, High Definition®, harmonic accuracy and dynamic range. Perfect linearity under difficult load conditions is impossible to achieve. However, Audio Research has been responsible in extending amplifier performance to new limits for nearly two decades.

#### **DESIGN CRITERIA**

When designing a high performance power amplifier, the engineer is faced with four primary considerations: 1) audio quality, 2) construction quality, 3) power and 4) cost. So successfully blended are these criteria that Audio Research amplifiers now extend state-of-the-art performance without sacrifice in power, construction quality or at unreasonable cost.

Because Audio Research has given continuous attention to improving all aspects of amplifier design for many years, Audio Research now manufactures amplifiers which appear modest in price compared to state-of-the-art models of just a few years ago. Yet the performance capabilities of these amplifiers are so great that they overwhelm recent state-of-the-art amplifiers built without cost constraints.



Patented Audio Research cross-coupled and fully balanced circuitry.

Front panel power switch, relay coupled for smooth and reliable turn-on.

Front panel LED indicators for line and screen.

Front panel fusing for line and screen.

Sonically selected components for optimum sound performance.

Near military grade construction used throughout.

#### **SPECIFICATIONS**

Power output: 115 watts per channel minimum continuous at 16 ohms from 20Hz to 20kHz with less than 1% total harmonic distortion.

Power bandwidth: 10Hz to 60kHz (-3dB points). Input sensitivity: 1.1V RMS for rated output. Input impedance: 75K ohms nominal.

Noise: Greater than 90dB below rated power, broadband unweighted.

Dimensions: 19"W x 7"H x 16.5"D.

Performance once limited to a select few is now available to all serious music enthusiasts.

#### AUDIO RESEARCH AMPLIFIERS

Audio Research introduces the D-70 and the D-115, conceived in response to the need for totally accurate music reproduction. It is doubtful that any amplifier, regardless of cost, can exceed the D-70 or the D-115 in value or overall performance.

The D-70 and D-115 rely on straightforward design approaches and incorporate patented Audio Research cross-coupled circuitry. To this topology a number of significant improvements in power amplifier technology have been added, a few of which are proprietary.

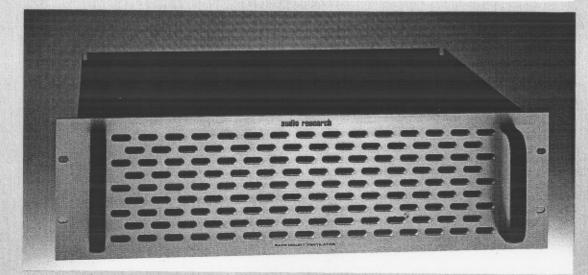
Wide band, ultra-stiff, fully regulated power supplies have been combined with Audio Research patented and fully balanced output circuitry, creating highly stable amplifiers capable of providing highest performance levels into even the most difficult loads. Proprietary circuitry minimizes distortion and

provides a more accurate interface with low level stages and driver circuits. Extensive research into transformer technology has created more efficient and more tightly coupled output transformers. Consistent with Audio Research methodology, the D-70 and D-115 use only the finest materials in their construction.

The result of this attention to all parameters of amplifier design are increased detailing, wider bandwidth, significantly reduced distortion, improved low frequency accuracy and an amazingly accurate and realistic presentation of voices and instruments, even during complex and highly dynamic material.

D-70 and D-115 are executed in similar packaging, and each is capable of state-of-the-art performance. The amplifier of choice should be selected strictly on power requirements, for both models will provide the highest quality music reproduction at satisfying music levels irrespective of standard power ratings.

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#### EC-21

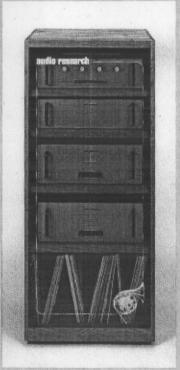
The EC-21 is an infinitely variable, fixed frequency and slope, two-way electronic crossover, allowing biamplification of a number of quality loudspeaker systems. Biamplification greatly improves the dynamic range of an audio system while greatly reducing dynamic distortion. When considering additional power for your audio system discuss the benefits to biamplification with your Audio Research dealer. Biamplification is the best approach to increasing system performance and efficiency.

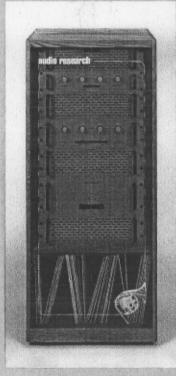
#### RMV-3

The RMV-3 is a passive convection rack mount ventilator used when rack mounting electronic equipment. It is important to allow for proper air flow to dissipate heat from electronic componentry to assure long life and optimum performance. Whenever rack mounting Audio Research electronics, be sure to incorporate RMV-3's in system installation.

# Wood Cabinets and Equipment Racks







OC-5, WC-5

The OC-5 and WC-5 are attractively styled multi-unit equipment cabinets designed specifically for Audio Research components. Specially designed for Audio Research by one of the finest audio furniture manufacturers, the OC-5 and WC-5 are available in furniture grade solid oak or walnut. Options include rack mounting or shelf design and include removable glass doors available with or without the Audio Research Trademark.

OC-4, WC-4

Available in oak or walnut, the OC-4 and WC-4 are single unit equipment cabinets made to fit a wide selection of Audio Research equipment. These cabinets are manufactured to Audio Research specifications by a high quality musical instrument and furniture maker. The OC-4 and WC-4 are attractive options when shelf mounting or openly displaying Audio Research products.



