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The *Resolution Series*®  
You've never heard it so good!

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*Building dreams! Celebrating its 25th anniversary FM ACOUSTICS introduces the world's rarest audio component:*

The  
*Resolution Series*® 2011

monophonic ultra-high power amplifier is the culmination of twenty-five years of the most dedicated Research & Development in power amplifier design. The *Resolution Series*® opens up another world in music appreciation, a world that until now nobody has been able to discover.

The FM 2011 is not for everyone. The world's finest power amplifier is also the rarest of all audio components. Only twenty-five pairs will ever be manufactured; one pair for each year of FM ACOUSTICS' existence. These jewels were created for those few users and collectors who own equipment that can reveal the unique class of this dream (there is no point in combining this phenomenal power amplifier with anything less than the most accurate and demanding systems).

To arrive at their peak performance a pair of FM 2011's requires two separate mains supplies of at least 20A at 100-120V (or 10A at 200-240V) each. Special ultra-low resistance mains wiring is a further requirement.

The FM 2011 literally drives any speaker ever made to a performance level that until now could only be imagined. That the *Resolution Series*® 2011 delivers almost unlimited dynamics and phenomenal bass in conjunction with unheard of diaphragm control could be expected. What is unexpected, however, is the incredible increase in lifelike presence, a fabulous realism and "be there" experience for which no words nor technical terms exist.

The *Resolution Series*® 2011's price reflects its rarity, its development costs (amortized to 25 pairs) and its unique status as the most exclusive audioproduct ever. A questionnaire has been prepared for those who are seriously interested in this unique product that is destined to become one of the most collectible items in the world.

# FM ACOUSTICS NEWS

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Double issue Volume 9 & 10, Autumn 2000

## News for Domestic Users

The ultimate rarity	2
True balanced cartridge interface	4
Variable de-emphasis	6
Sweeter than tubes	10
The Classic Series	11
Brandnew Linear-Phase Crossovers	12
Improving the IRS	17
The Inspiration System	21
The Component of the year	24

## News for Professionals

Users report on the ClassAmp	13
Yo Yo Ma, Anthony Jackson	13
Arthuro Sandoval on the ClassAmp M-1	14
More accurate recordings	15
East IRIS installs FM 801A's	16
Discrete 5-channel monitoring	18
"Old ears"?	19
Gold medal for FM ACOUSTICS	19

## 25 YEARS OF EXCELLENCE

"The best for those who require the best" is one of the valid descriptions of FM ACOUSTICS' philosophy; but it does not matter how we are described: be it as "maniacs", as "obsessed with accuracy" or as "incurable perfectionists", all are fine as long as our efforts to achieve the ultimate can continue unabated. The absolute dedication to create the best at whatever time and cost required in conjunction with the support of a loyal clientele has allowed us to remain totally independent. All research & development, which several times lead to *major* breakthroughs, is completely self financed; never have we needed any grants or outside support.

FM ACOUSTICS has no foreign capital, no third party interest, no "phantom" backers, no option schemes, no loans and zero debt. This allows us to stay what has become rare in today's audio world: the truly independent company. As most audio companies are no longer independent entities, they cannot follow their philosophy without limitations, budget constraints and others having a say. At FM ACOUSTICS we are very lucky not to have to look for quick commercial success or be concerned with the next 3 or 6 months balance sheet. Sometimes we can even afford to disregard commercial aspects altogether and just perfect a great product even if it is not going to be commercially viable (it is somewhat ironic that some of the products that were designed in this way later did become commercially successful). While there may be less financial reward the consequence of this freedom is that one's motivation and joy to strive for the ultimate is kept at the highest level. We are lucky indeed that we can follow our ideals and do not have to succumb to the compromises that are the daily routine of others.

It has not come easy. Often the road ahead seemed impassable and many obstacles were placed in our way (unintentionally and sometimes intentionally...). Quite a few storms and recessions had to be weathered and we've had to learn how not to become victims of ruthless elements. Sometimes it really felt like swimming in a pool of sharks!

FM ACOUSTICS' products are designed for mature listeners who recognize a treasure when they hear one and do not need to be guided (or sometimes misguided...) by some second rate "hifi" magazine. Listeners who - instead of the usual "high-end effect music" - want to relive the essential of a great performance, music lovers who do not need status symbols to show off but desire to experience the emotional content and vigour of an important musical event are enthralled by the unique realism that is achieved with our products.

FM ACOUSTICS products have quietly become a synonym for *the absolute best*. World renowned artists, engineers, studio & concert halls, collectors and private music enthusiasts are praising FM ACOUSTICS' products as the ultimate reference for recording, monitoring, mastering and for music enjoyment at home. Countless letters of appreciation and personal statements continue to motivate us in our quest for the ultimate in accuracy, even though this often requires "swimming against the stream" of current "fashion". This background allows us to create products that are free of compromises; products of value, that further the cause of *accurate* music recording and reproduction.

Helping engineers to record and master with higher precision and allowing enthusiasts to get closer to the essence of music is a contribution to the preservation of our cultural heritage.

This FM ACOUSTICS NEWS has been some time in the making which is why it became a "double issue". Some content may not be "brandnew", but as there are interesting comments they were nevertheless included herein.

FM ACOUSTICS is pleased to announce a number of truly *great* new products in this anniversary issue.

The renaissance of LP's has developed into a steadily growing market. More and more music enthusiasts are moving upwards (or coming back to...) the venerable LP and are often rewarded with wonderful musicality.

When an absolutely faithful phono reproduction of the original is required the FM ACOUSTICS Phono Linearizers/Preamplifiers are THE ultimate solution. They feature...

## TRUE BALANCED CARTRIDGE INTERFACE

By design all phono cartridges are **balanced** sources. The term "balanced" describes a system in which the audio signal is transferred via two shielded symmetrical conductors, neither of which is connected to ground (see Fig. 1).

To this day the interconnection of phono cartridges has been done "unbalanced". An unbalanced system is one in which one of the signal paths is carried by the shield, or is in some way exposing the signal to the ground carrier. Because of this, interference signals such as hum, RF noise etc. are picked up by the shield and can enter the audio circuitry. The lower the signal level and/or the more ambient interference present, the greater is the danger of degradation allowed by an unbalanced interface.

When one considers the ultra low signal levels of cartridges it becomes clear that a **true balanced** signal interface to the preamplifier would be a major improvement over presently available designs. Unfortunately, such an elegant system was always faced with a number of technical problems. In the FM 222 these limitations have been overcome entirely.

The FM 222 is the only unit which allows **true balanced** interconnection of cartridges. Fig. 1 shows such a balanced interface. Balanced interconnection of the phono cartridge has major advantages such as:

- increased dynamics & head room
- freedom of interferences
- lower hum and noise

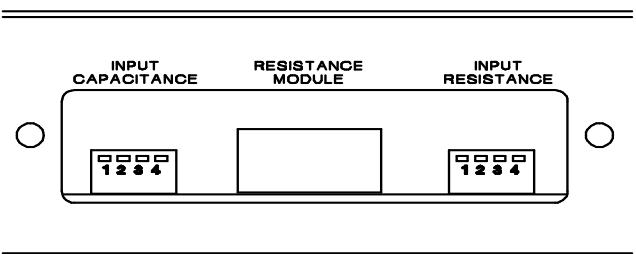
The signal lines from the cartridge are directly connected to the true balanced input stages of the FM 222 and have no connection to the shield. Thus, the shield

can function optimally conducting all interference signals directly to ground. This ground must be separate from the electric ground in the circuits (in many so-called "balanced" products this is not the case).

Optimal reproduction is only guaranteed when employing a **true balanced** cartridge interface.

But the Phono Linearizers/Preamplifiers of FM ACOUSTICS have even more unique features:

## CARTRIDGE LOADING



In phono preamplification *all* aspects require careful consideration. Cartridge loading has a major influence on reproduction. If there is non-optimal impedance matching between a cartridge and the input stage of the preamplifier, optimal reproduction is impossible.

It would be handy if cartridge manufacturers would specify the detailed data required for calculation of the optimal loading (such as coil resistance, inductance and capacitance, phase plots incl. tolerances etc.), but as this is not the case, it is necessary to obtain the correct loading values by listening tests. With the unique cartridge loading of the FM ACOUSTICS' phono linearizers it is for the first time possible to optimize this interface.

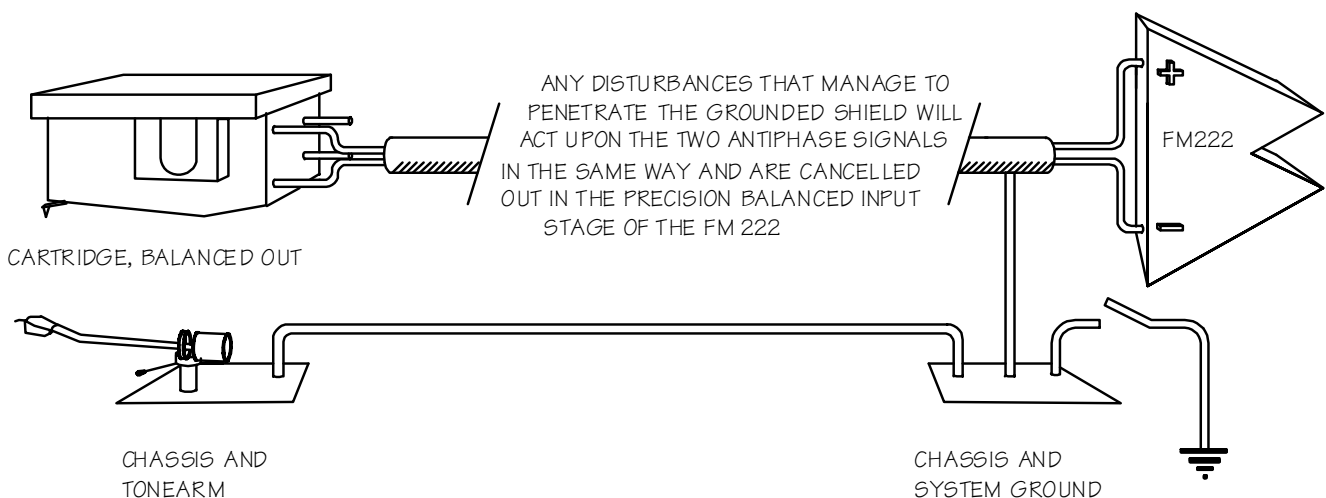


FIG. 1 THE INPUT STAGE OF THE FM 222 HAS AN EXREMELY HIGH IMMUNITY TO ANY NOISE AND INTERFERENCE THAT MAY BE PRESENT IN THE GROUNDING SYSTEM REJECTING THIS FROM THE AUDIO PATH AND DIRECTING ALL DISTURBANCES TO GROUND INSTEAD (one channel shown).

A loading resistance is required because electro-acoustic transducers must be damped to avoid ringing, overshoot and other negative effects. The loading also influences the preamplifier's noise level, the frequency response etc. Designing for low noise at low impedances is a real challenge. To avoid this challenge many preamplifier designers just use a high input resistance and thereby force the cartridge to work into the wrong load. Some moving coil (=MC) cartridge manufacturers specify a loading resistance of 47kOhm. While in theory this may give an acceptable noise specification for the preamplifier, it does *not* provide the necessary damping for the MC cartridge (this 47kOhm input resistance is the "compromise" setting that was decided upon for loading MM cartridges. It is a theoretical figure and it only is the correct termination for a few (but by far not for all) MM cartridges. It is certainly *not* correct for MC cartridges - most MC cartridges perform best with a load of between 20 Ohm and a few hundred Ohm).

Preamplifiers having just fixed input resistances that do not allow variable resistance and capacitance loading are unable to extract the full performance from cartridges. Despite that, almost all preamplifiers lack this important feature. This is one of the reasons why many preamplifiers work acceptably with one or two cartridges but do not provide satisfactory performance with other cartridge makes, leaving the listener at the mercy of the fixed input loading of the preamplifier. Thus performance is far from optimal.

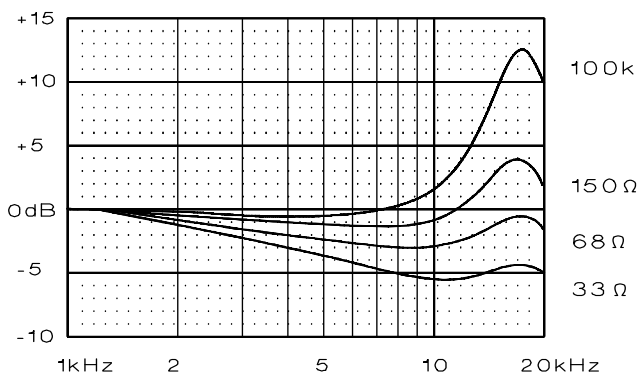


Fig. 2 shows the effect of varying the resistive load on an MC cartridge. The potential deviation from a linear response by a wrong loading resistance can be massive.

The FM ACOUSTICS phono preamplifiers provide the ultimate solution: they feature switches for loading resistance and loading capacitance. Furthermore, should the standard resistance module supplied not provide the optimal loading for a certain cartridge type, the resistance module behind the front panel can easily be exchanged. An *unlimited* number of resistance combinations ranging from 1 Ohm to 200 KOhm is available. The loading can be optimized for of any cartridge ever made (or that will ever be made)!

Besides the possibility of adjusting the resistive loading, FM ACOUSTICS Phono Linearizers also offer another unique linearizing feature: capacitive loading which allows damping of cartridge resonance and helps to fine tune the upper frequency response.

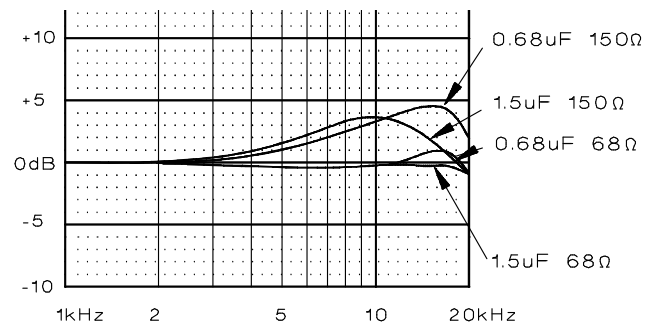
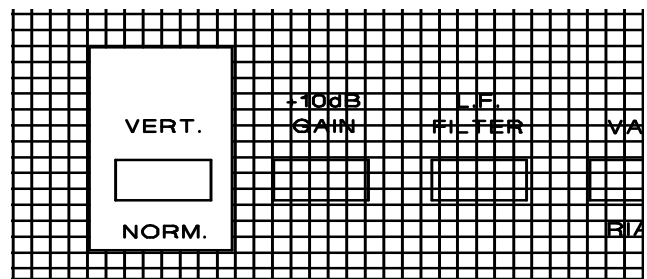


Fig. 3 shows various combinations of resistance and capacitance loading. With this feature the response of cartridges can be linearized.

There is no room here for getting into further details of cartridge loading and its effect on overshoot and ringing, signal-to-noise ratios, etc. The FM ACOUSTICS' Phono Linearizers/Preamplifiers are the *only* preamplifiers that address *all* of these problem areas and provides the optimum interface for *any* cartridge, whatever type and make.

## VERTICALLY CUT RECORDS



A special feature which guarantees utmost reproduction with monaural LP's that were cut vertically (also called "Hill and Dale records") is the "Vertical" switch.

Many 78's and monaural LP's are cut laterally rather than vertically. When in it's "Norm" position this switch optimizes the lateral information content of the signal.

Some mono discs, however, were cut vertically. So far these records could never really be played back satisfactorily. With a flick of the "Vertical" switch the FM 122 and FM 222 automatically adjust themselves and allow optimal reproduction of vertically cut records.

Whatever the type of cutting, the FM ACOUSTICS phono linearizers can extract every minute detail from the record groove.

*"This is one nice drug. I have never listened like this before. I just bypassed the built in MC stage of my not inexpensive preamplifier with the FM 122 and I did not stop listening. This unit brings you back to music like nothing else!"*

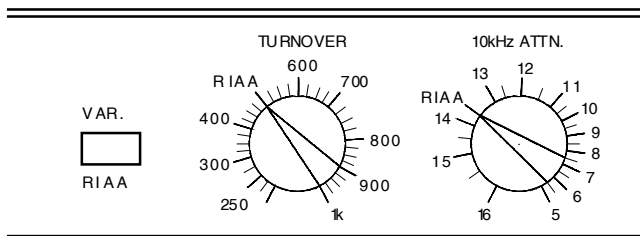
*Italian client, name withheld by request*

# REVITALIZING LP & SHELLAC REPRODUCTION

## UNIQUE VARIABLE RIAA DE-EMPHASIS

For music lovers the **performance** is every bit as important as the **sound** of a record. Many great performances are only available on LP's or even only on 78 RPM discs. On today's equipment, many of these records are replayed wrongly and their sound leaves something to be desired. Some re-issues suffer from similar problems. One of the reasons is that all preamplifiers available on the market are limited by the fact that they can only replay the RIAA de-emphasis curve.

In the 50's there was no standardized pre-emphasis/equalization curve. Different record companies used a wide variety of pre-emphasis "cutting" curves, until the RIAA curve was finally agreed to and again reaffirmed in March 1964. This is a problem unsolved by today's audio electronics, which are limited by the fact that de-emphasis is fixed to the standard RIAA curve. However, many different de-emphasis curves are required to inversely match the original recording curves, which sometimes even changed within the same company!



With the FM 122 and FM 222's variable RIAA de-emphasis it is now possible to accurately playback important earlier LP's and 78's. With correct equalization, it is possible to extract an absolutely astounding amount of information from these record grooves. Fig. 4 shows on the top pre-emphasis curves for several record Labels, in the center the error when replayed with the standard RIAA curve and on the bottom the result when the correct de-emphasis curves are set on the FM 222. The corresponding knob setting of the "Turnover Frequency" and the "10kHz Attenuation" on the FM Phono Linearizer is also indicated.

The variable de-emphasis is not only useful for older records. Using this feature, records that lack in accuracy can be improved quite astoundingly. It is not just a matter of correcting frequency response errors, but as much the correction of phase errors that are created by the wrong de-emphasis circuits.

The cutting lathes used prior to 1968 were unable to cut the very high velocities present at frequencies above 12 kHz. mastering engineers had to balance trade offs: more noise (less head room) achieving wider frequency response or reduced frequency response with lower noise (higher headroom).

To circumvent this problem, many mastering engineers somewhat attenuated the higher part of the music spectrum. This often resulted in a slight lack of airiness on the uppermost frequencies in the final record. It is amazing how much of the sound made it on record but discs of this area can lack a bit in transparency. With the continuously variable de-emphasis of the FM ACOUSTICS Phono

Preamplifiers it is now possible to compensate for such effects by fine tuning the de-emphasis curve. By varying the attenuation control on the front panel the attenuation at 10 kHz can be reduced to less (or increased to more) than the 13.7 dB of the RIAA curve. This feature will revive some records that previously sounded dull and lifeless, providing a wonderful musical experience. And the opposite also holds true: In the late 70's and 80's one can find cuts with excessive high frequency levels on some records. By increasing the 10 kHz attenuation these records sound much more acceptable.

Even a recording that lacks in "warmth" (not just bass!) can be corrected by moving up the turnover frequency knob to a mildly higher settings. This way the entire frequency band above and below the turnover frequency is affected linearly. It is not just the harmonic content that is reproduced more realistically: the positive effect on depth and width information as well as the transparency is most captivating.

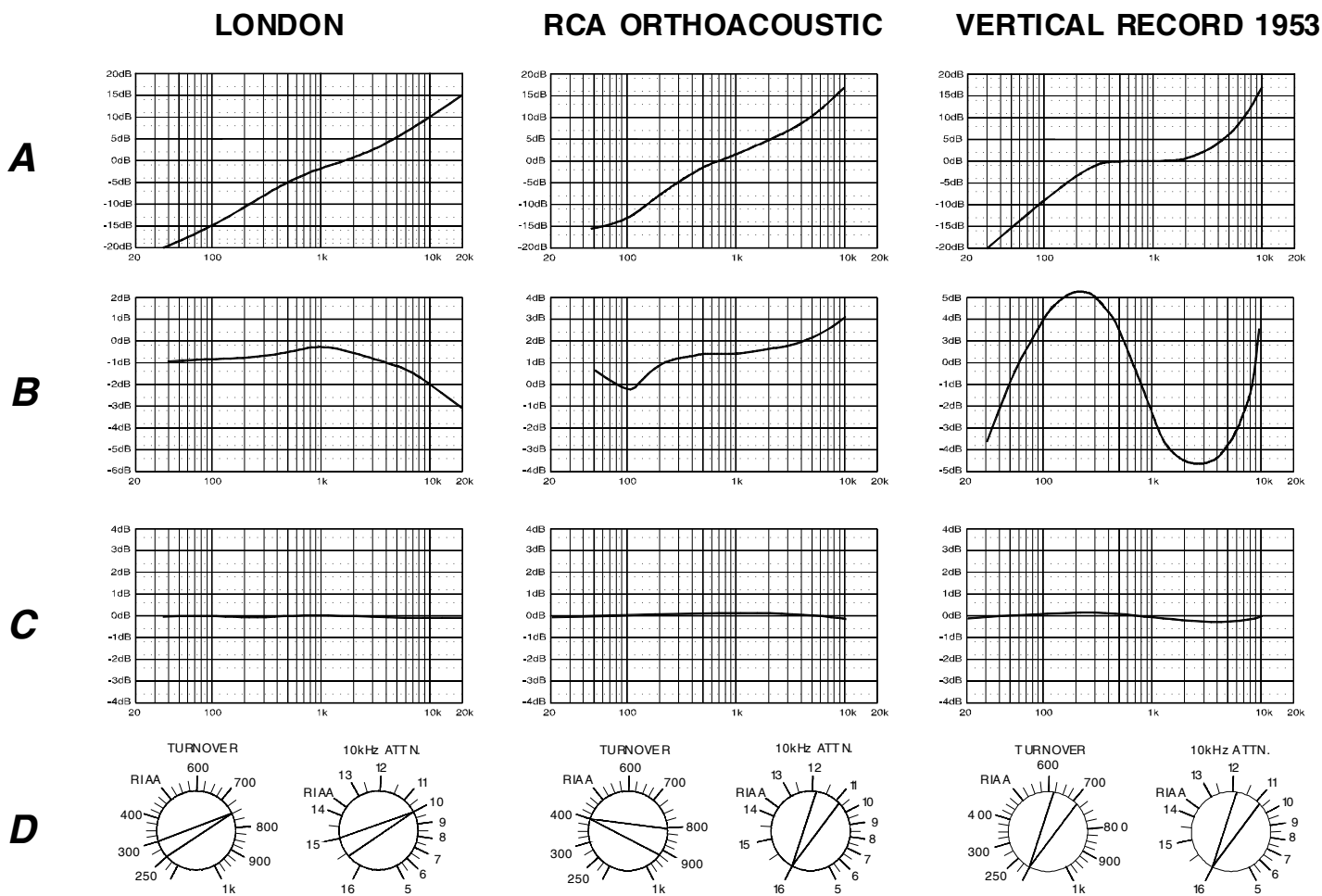
While some of the older LP's have high surface noise, by far not all of them do. Some of them are recorded superbly, some include stellar performances. There are quite a few treasures to be uncovered.

Optimal performance of FM ACOUSTICS enhanced Class A circuits guarantee the ultra precise de-emphasis curves for each Label and type of record. The de-emphasis curves can now be calibrated perfectly. *Unlimited* variations in turnover frequencies and rolloff curves allow most exact compensation for any curve ever used in cutting records. The table below and on the next page show some of the typical settings for some records. One has to realize, however, that producers and engineers sometimes varied this de-emphasis and that these values are not cast in stone and do not always conform with the curves published by the Labels. Therefore, experimenting with the two controls will lead to optimal results. The best judge is the trained ear assisted by the information contained in the FM ACOUSTICS phono linearizer's Instruction Manual (a few typical examples are indicated below).

It is amazing how much the sound of older records is improved with the FM 222. Once this has been experienced, one realizes that none of the existing preamplifiers are capable of retrieving the full information which is embedded in the record grooves.

Here are a few examples of some approximate turnover Frequencies and Rolloff curves used on earlier LP's:

Label	Turnover Frequency	Rolloff at 10kHz in dB	Speed
ANGEL	500	12.0	33
ATLANTIC	500	16.0	33
BLUE NOTE	400	12.0	33
COLUMBIA	750	16.0	33
HMV	300	5.0	78
LONDON	700	10.0	33
MERCURY	300-400	12.0	78
MERCURY	400	12.0	33
VICTOR	800	10.0	33
VOX	750	16.0	33



**Fig. 4:** The importance of accurate de-emphasis curves:

- A** = Recording Characteristic
- B** = Response error when played with standard RIAA Filter used in all other preamplifiers
- C** = Response with correct de-emphasis set on FM ACOUSTICS Phono Linearizers
- D** = Correct setting of the "Turnover Freq." and the "10kHz Attenuation" on FM 122 & FM 222 Phono Linearizers

For the last 40 years (almost) the entire audio field has simply disregarded the fact that before 1959 (and in some instances up to 1964 and later...) record companies employed various different pre-emphasis curves (= cutting curves). This requires phono preamplifiers that are able to mirror-image the many different de-emphasis curves. With the exception of the FM 122 and the FM 222 there is no preamplifier that has this all-important capability. With all other preamplifiers such records are therefore reproduced wrongly.

By providing literally unlimited de-emphasis curves FMACOUSTICS' phono linearizers can *faithfully* replay every record ever made. For the first time ever, records can be heard as they were meant to be heard; and what a difference this makes!

*"Isn't it kind of ironic that audio reviewers the world over marvel at the "wonderful" characteristics of a cable, the "punchy mid-bass" of an amplifier or the "liquidity" of a cartridge and so on, while at the same time the basis on which they judge all this equipment is utterly flawed and in some aspects absolutely wrong! That, in fact, the entire audio press has neglected these points and not written about the importance of facts such as correct de-emphasis and the tremendous difference that it makes, does not really speak well for today's audio journalism whose duty would be to **inform** their readers rather than bombarding them with flashy reviews. The fact is that all these glowing reviews are inaccurate as the source which these components were checked with is inaccurate! Better take such reviews with a big grain of salt and trust your own ears".*

*Audiophile based in the U.S.A. Name withheld by request.*

The FM 122 & FM 222 Phono Linearizers provide an entirely new dimension in the reproduction of vinyl records. They clearly are the culmination of preamplifier design. With their singular features and fine tuning possibilities far more information from record grooves can be extracted than ever thought possible. For the first time one can *truthfully* replay *all* treasures of vinyl and shellac. The proprietary enhanced Class A circuits allow a listening experience that can only be described as breathtaking. With the FM 222 record collections gain an entirely new life and value.

*"Finally I had the opportunity to listen to the FM 122. To say it very simple, I am absolutely knocked out. This I did not expect. Never before in my life, have I heard so much music from a record. It is just a shame that none of the reviews and reports do justice or even remotely explain the full capabilities of the FM 122. Congratulations!"*

*Dr. Reinhold Martin, Munich, Germany*

Frank Ferlesch of Hi-Fi Burg, situated in the heart of picturesque Rapperswil, Switzerland, recently commented on his experiences:

*"There is an other reason why FMACOUSTICS units cannot be compared with the usual "high-end". They do not hum. There is absolutely no background noise and when you switch them on they work perfectly... They are a different world!"*

On the FM 222 Phono Linearizer he has quite a simple comment:

*"The FM 222? Yes, yes and yes again! Simply ingenious!"*

## FM 122 MKII: NEW FEATURES

For certain applications these additional features are a great help. Located on the backpanel of the FM 122 MKII you will find:

- the RESISTOR module: so far this had been located inside the FM 122. It is now easily accessible on the back panel should a different set of resistances be required. Just unplug the existing module on the back panel and plug in different one to obtain 4 additional resistance loads.
- Also on the back panel you will now find a GAIN switch. With a flick of this switch, the gain can be reduced or increased as required.

The above features are also useful for clients who have two cartridges which require different gain settings, for instance, a low output and a high output moving coil cartridge. The standard gain settings are 56dB and 46dB. However, provision has been made inside the unit to easily vary these gain settings in a range between -10dB and +6dB.

*"These products are a godsend!*

*Some people probably do not realize what incredible improvements FMACOUSTICS Phono Linearizers bring and how important the variable RIAA is - not just for Non-RIAA standard recordings - but for many of today's recordings as well."*

*Robert Bruce III  
USA*

## RESURRECTING CUBAN MUSIC



An FM122 Phono Linearizer has been installed in a new studio located in La Habana, Cuba.

Bernhard Nemoff of Acustilab, Caracas has been working with the customer for over a year to put the finishing touches on the studio. The FM 122 was selected by the client to be used for accurate playback and remastering of historic Cuban music treasures. A whole series of these is planned and will become available soon.

## FOR SHELLAC COLLECTORS

Unbeknownst to many, even today mono cartridges are available to satisfy the needs of collectors of mono LP's. Many mono's - much so in Jazz and early Pop - are preferred to their Stereo issues. These cartridges have all the advantages of MC designs but are optimized for mono and/or shellac records. When such a MC cartridge is combined with FMACOUSTICS' Phono Linearizers/the reproduction is awesome! Never would one have believed that such dynamics and realism are possible from mono's and shellac's.

The variable emphasis feature of the FM 122 & FM 222 allows precise mirror imaging of each and every cutting curve ever used. For the first time it is now possible to precisely hear how the record was meant to be heard.

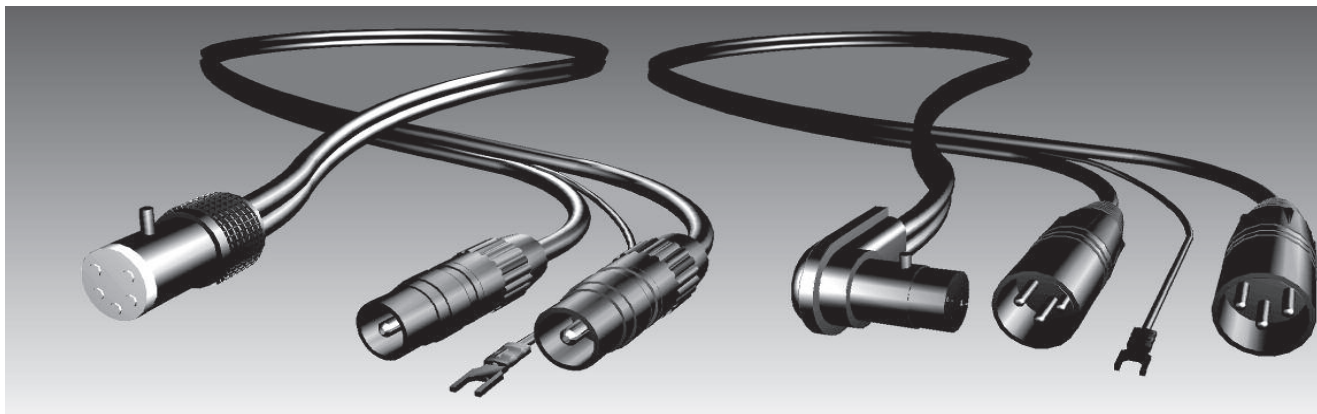
When reproduced correctly, some 78's can provide quite amazing dynamics with - for a shellac - astounding low-mid and midrange. These MC cartridge-FM 122/222 combinations extract the ultimate from record grooves. Dozens of collectors who combined these mono cartridges with the FMACOUSTICS' Phono Linearizers are thrilled by the magnificent results.

One of the world's most prominent collectors states:

*"for any serious record collector there really is no way around these phono linearizers; it really is the best investment in one's collection."*



## Precision Interface Technology® Phono cables



So far, not enough attention has been paid to the interconnection between phono cartridges and preamplifiers. As cartridges differ widely in characteristics such as output level and impedance, phono interconnect cables must take these differences into full account. To obtain optimal reproduction and guarantee no signal degradation of the very low level signal between the cartridge and the preamplifier, dedicated cables must be designed. It is quite obvious that the characteristics of phono cables must differ from those used in high level interconnection, something that is not really addressed in the cables currently on the market.

A whole line of dedicated phono interconnect cables is now available in the P.I.T. range. These have been specifically optimized for different cartridge/ tonearm/ turntable combination. A totally neglected fact is that MM cartridges need a *different* interconnection standard than MC cartridges. No other manufacturer seems to care about such "details". FM ACOUSTICS does and thereby can provide their clients not only with the ultimate phono interconnect cable, but in this way can guarantee the optimal solution for any cartridge-preamplifier combination.

Just by exchanging the phono cable in an audio system one can realize massive improvements, improvements that are sometimes larger than what is obtained by exchanging the cartridge or the tonearm!

P.I.T. Phono Interconnect cables use proprietary technology that:

- ♪ achieves lowest crosstalk
- ♪ provides floating earth and floating shield
- ♪ avoids time smear
- ♪ eliminates skin effect
- ♪ guarantees extremely high rejection of magnetically and electrically induced coupling
- ♪ provides extreme flexibility and avoids strain on connectors

A series of Phono cables for MC and for MM cartridges, each one optimized for its specific task is available. The cables come with various connectors such as 5-Pin DIN tonearm connectors (straight or angled), RCA-Phono, XLR etc. so an optimal solution for any phono interconnection is guaranteed. P.I.T. cables are handmade in Switzerland and are available in different lengths (standard lengths are 0.6m - 3.0m, special lengths are available on order).

- |                                                        |                                                  |
|--------------------------------------------------------|--------------------------------------------------|
| - CA 25141-25143, Phono M - XLR M, for MC              | - CA 25301-25303, Phono M - XLR M, for MM        |
| - CA 25151-25153, 5-Pin angled DIN - XLR M, for MC     | - CA 25311-25313, Phono M - XLR M, for MM        |
| - CA 25161-25163, 5-Pin straight DIN - XLR M, for MC   | - CA 25321-25323, Phono M - XLR M, for MM        |
| - CA 25171-25173, 5-Pin angled DIN - Phono M, for MC   | - CA 25191-25193, 5-Pin angled DIN - Phono M, MM |
| - CA 25181-25183, 5-Pin straight DIN - Phono M, for MC | - CA 25201-25203, 5-Pin straight DIN-Phono, MM   |
| - CA 25211-25213, Phono M - Phono M, for MC            | - CA 25221-25223, Phono M - Phono M, to MM       |

Due to multi-faceted shielding the cables guarantee absolutely superb interference- and hum rejection. In addition correct earthing and grounding is guaranteed (which is not the case with many other cables!). P.I.T. cables carry a lifetime warranty. For further information contact your distributor or FM ACOUSTICS.

*"Your phono cable is remarkable. I have tried all of the recommended high end cables from Europe and the USA. None of them are capable of the detail, space, timbre and the naturalness which yours is. This is a significant and worthwhile investment in musicality."*

*Dr. P. Russell, Oxford, U.K.*

## "SWEETER THAN TUBES!"



A music lover who owns an ultra expensive tube amplifier recently asked a friend of his - owner of an FM 266/ FM 611 combination - if he could come and listen to his - by some high end magazines highly touted - >U\$200'000.00 tube amplifier setup. After a first listening session, both agreed that the amplifier did not seem to perform that well.

It was decided to try the 3 times less expensive FM 266/ FM 611 combination. The difference was shocking:

*"You cannot believe how much better the FM 266/FM 611 combination sounds. I do not have any intention to put any brands down but this is an entirely different world. If you listen to a vocal or a small ensemble, the tube amplifiers can be quite alright but the moment you put something on with a few more instruments and some dynamics or with a wider frequency range such as a full orchestra, they limit quite terribly; there are no dynamics, no bass, not even midbass. There is harshness and the whole sound gets mushy. What a difference the FM ACOUSTICS' 266/611 combination makes!"*

All other components were left identical and loudspeakers of good efficiency were used, so it was a fair comparison. None of the units ever came close to clipping.

*"What differences in line stages! You can really hear why your preamplifiers are so superior to other brands. I had been sent an Everest master copy. I played it before the FM ACOUSTICS preamplifier was installed and it was alright but I felt it lacked some realism and bass fundamentals. When I played it with the FM preamp in the system it was like night and day. Suddenly the bass was realistic and the sound was just unbelievable for music recorded 36 years ago."*

*Ruth Whyte, wife and "right hand" of the late Bert Whyte, renown recording engineer, Centereach NY, USA*

## TRADEMARKS

All trademarks mentioned in this publication belong to their respective owners. Additional company and product names may be trademarks of the individual companies and are respectfully acknowledged.

## COMPONENT QUALITY VS. RELIABILITY

The requirements to achieve and maintain high quality standards in electronic products are really quite high. As an example let's look at an audio preamplifier that contains a total of say 500 components: if 1% of the components had an error the chances of the completed product functioning are less than 1%! Lowering the error tolerance to 0.1% per component, the finished preamplifier will most likely still **not** work. Only with an extremely low error rate which has to be expressed by a factor of  $10^6$  component error acceptance, a realistic result is achieved (with 99.5% of the finished units working on switch-on).

This shows what extreme care has to be taken and it is one of the reasons why at FM ACOUSTICS we spend so much time and effort in component tests and selection. Using MIL (military) certified parts is one ingredient to superior reliability. With the additional careful fine tuning of the products in combination with a 200 hour burn-in and a one hour vibration test to *every single* unit, FM ACOUSTICS products get as close to perfection as humanly possible.

Of course, these efforts embody massive additional costs and reflect in the product's price.

Other manufacturers claim that they are selecting their components, some even claim "to as close tolerances as FM ACOUSTICS". It's easy to make claims but the "proof of the pudding lies in the eating". At FM ACOUSTICS, selection is obvious everywhere. Look inside an FM ACOUSTICS and you will see some indications, e.g. precision capacitors selected to 0.1%, semiconductors that each and every one have been subjected to 5 different analyses and tests, etc.

While others make big promises, FM ACOUSTICS delivers and *guarantees* performance for each and every single unit that leaves the factory.

## SPECIFICATIONS

To choose a product, a simple comparison of spec sheets can be most misleading! Specifications are often misunderstood, misused or utilised only to sell a product instead of indicating its actual capabilities.

"Typical" specifications will not tell you much about the true value of a certain component. Only *guaranteed minimum* specifications together with carefully controlled listening tests, will point out the differences and will lead to the correct choice.

The guaranteed specifications indicate the absolutely unique standard of FM ACOUSTICS products and show those performance aspects that can be measured. But words cannot describe the truly breathtaking difference between an FM ACOUSTICS and the rest. Only a controlled audition using the absolutely best associated equipment will reveal the facts.

At FM ACOUSTICS all specifications are *guaranteed minimum figures* for every single product that leaves the factory. Detailed test reports on each unit are kept on file for reference and documentation.

# Introducing the *Classic Series*



The recently introduced *Classic Series* power amplifiers emphasize FMACOUSTICS' design philosophy of creating products that provide lasting value.

Accuracy, natural reproduction and optimized technical performance are the features that have drawn music aficionados to the *Classic Series*. Described as: "as warm as the best tube amplifiers but with true bass control, dynamics and natural high frequency extension", the *Classic Series* provides transparent, musically relevant reproduction.

The *Classic Series* amplifiers provide excellent value for investment.

The design goal of the *Classic Series* was to achieve natural sonic and optimal technical performance in a discrete housing of somewhat lower cost than the famous *Resolution Series*®.

The *Classic Series* reproduces music with uncanny naturalness, amazing dynamics and control.

The *Classic Series* consist of three different amplifiers that carry the following continuous power ratings:

- F-10B stereo amp: 80W - 200W / 8-2 Ohm
- F-30B stereo amp: 150W - 400W / 8-2 Ohm
- F-50B mono amp: 450W - 2200W / 8-1 Ohm

FM ACOUSTICS' ultra conservative power rating means that these amplifiers provide much higher clean SPL (Sound pressure Level) and this at lower distortion than other amplifier claiming similar power.

The *Classic Series* features balanced inputs which allow optimal connection to true balanced and unbalanced equipment. Signals from unbalanced and pseudo-balanced preamplifiers are automatically converted to balanced right at the input of the amplifier.

Drawing from technologies employed in the *Resolution Series*® amplifiers, the massive power supplies feature high current capability and ultra-low impedance. Therefore, the output stages can supply highest peak currents without limitation or time smear.

Perfect signal transfer as well as freedom from dynamic compression and distortion is guaranteed.

Ruggedly constructed, the *Classic Series* is reliable. It is fully stable with any known speaker load (including electrostatics). It provides unmatched music reproduction without the typical limiting, compression, clamping or other negative influences on the audio signal that are generated by the usual amplifier protection systems. Elaborate onboard controls protect the amplifiers and their load from abuse and fault conditions.

To guarantee outstanding performance and no unit to unit variation, amplifier stages are fine-tuned and hand-calibrated for optimal performance, much like a master instrument. This extremely time-consuming procedure is done prior to a heavy-duty 200 hour burn-in and a proprietary one hour vibration test. The amplifier is then moved back to another test-bench where its performance is completely rechecked.

The exceptional quality and unique selection methods of components used in FMACOUSTICS' products are the base for their outstanding performance and long-term stability.

The *Classic Series* is handmade by the same craftsmen who build the world renowned *Resolution Series*®.

With the new *Classic Series*, FMACOUSTICS reinforces its commitment to continuous implementation of results from advanced Research and Development providing products that serve the client with a superb price/performance relation.

An advantageous long term investment is guaranteed.



# BRANDNEW

## THE *Resolution Series*® LINEAR-PHASE ELECTRONIC CROSSOVERS



*Usual electronic crossovers differ little from each other. Their test book circuits, IC-based technology and standard filter curves are unable to provide optimal performance in quality audio systems.*

*The FM 330 Series of Linear-Phase Electronic Crossovers offer an exiting entirely different approach. Crossover technology takes a large step forward with the result that thanks to the new FM 330 series audio systems can be dramatically improved by simply replacing existing electronic crossovers.*

*The Resolution Series® crossovers are truly singular and offer features not found in any other electronic crossover:*

- ♪ Unmatched accuracy and reproduction superior to any other crossover
- ♪ Perfect step response with absolute freedom of overshoot and ringing
- ♪ 90dB(!) attenuation = reduced intermodulation distortion
- ♪ No speaker lobing irregularities thanks to perfect in-phase response and blending of drivers
- ♪ Discrete true balanced Class A input featuring a CMRR of >90dB!
- ♪ Lower distortion of drivers thanks to reduced diaphragm excursion
- ♪ Proprietary precision Linear-Phase filters
- ♪ No IC's, hybrids, op-amps, discrete op-amps or transformers in the audio path
- ♪ Pure discrete enhanced Class A circuitry throughout;
- ♪ Separate crossover frequency for each low-pass and high-pass filter
- ♪ 25 high-pass and 25 low-pass crossover frequencies. FM ACOUSTICS produces any specific crossover frequency to customer request.
- ♪ Ultra-precise crossover frequencies are selectable via plug-in modules on frontpanel
- ♪ Automatic output muting during crossover module change
- ♪ Superb discrete Class A balanced output buffers automatically sense optimize the interface to any load, be it balanced, pseudo-balanced or unbalanced
- ♪ The outputs drive longest cables, including high capacitance/high inductance loads with absolute stability
- ♪ Outputs are true symmetrical/balanced
- ♪ Up to +27dBu (50V<sup>PP</sup>) output capability and 10dB channel gain allow very high output drive voltages = superb signal to noise ratio
- ♪ Delayed turn-on circuitry avoids switch-on transients, thumps and instability
- ♪ Groundlift feature; ground loops and ground induced problems are avoided
- ♪ The result: a vast improvement of the sound of bi-amplified, tri-amplified and quad-amplified audio systems allows their theoretical advantages
- ♪ By replacing existing crossovers with an FM 330 Series, truly massive improvements of audio systems are possible.

### AVAILABLE IN 3 VERSIONS:

- FM 332 Series: stereophonic 2-way crossover
- FM 333 Series: monophonic 3-way crossover
- FM 334 Series: monophonic 4-way crossover



## FOR PROFESSIONAL USERS

# ClassAmp<sup>®</sup> M-1 MICROPHONE PREAMPLIFIER

## THE ClassAmp<sup>®</sup> IN HK & CHINA

*"Your ClassAmp<sup>®</sup> M-1 Mic preamplifier has been tested extensively. I have used them with all my mikes, AKG's, Sennheiser's, Pearl's, VTL's; playing with the adjustment on the ClassAmp<sup>®</sup> M-1, and the results:*

**- Stunning! -**

*One of the most famous recording engineers and directors in Taiwan came to Hong Kong to help me launch one of the three shows we produce for the yearly "Hong Kong Art Festival". I told him about my findings and played him segments of test recordings. Looking into his wild eyes, I knew he was touched as much as I was. He begged me to let him use the ClassAmps. A few days afterwards, he came back and said: "I know they are expensive, but I do not think I can live without them!". The result was again*

**- Stunning! -**

**Leo Fung, HK, Engineer and writer.**

Amongst many other activities, Leo Fung has devoted himself to record traditional Chinese music. He travels to mainland China regularly to capture a variety of great artists performing, thereby preserving this important musical heritage that is threatened by the indifference of a part of the younger generation who turned their attention to western disco style and show (too) little interest in their own music.

Leo Fung decided to assure that this music would not be lost forever. His fine recordings are available on the "WaveMotion" label.

*"When recording critical percussion instruments the pair of ClassAmp<sup>®</sup> M-1's showed an incredible stereo separation and imaging, that one just was not able to achieve with anything else than the M-1's. With the ClassAmps everything sounds real and natural."*

## YO YO MA

### THRILLED BY THE ClassAmp<sup>®</sup>

The singular cellist YoYoMa used the ClassAmp<sup>®</sup> M-1 for a recording session in Nashville.

Engineer and producer John Ca tchings reports:

*"YoYo Ma selected my U-47 and the ClassAmp M-1 from a room full of equipment in what is quaintly referred to as an equipment "shoot-out". YoYo Ma commented that "it was the best sound he has ever recorded with his Stradivari! Congratulations to FMAACOUSTICS!"*

And here the report of a renown engineer (and consultant to another manufacturer of mic preamplifiers...):

*"I have used the ClassAmp<sup>®</sup> M-1 on a recording of pianoforte at the Academia Bartolomeo Cristofoli, in Florence, Italy's most important museum and laboratory for pianoforte."*

**Results:** *the ClassAmp<sup>®</sup> M-1 gives a clear, stable image with no phase shift at any frequency range. The attack was fast, but equal for every frequency. This unusual feature gave the sound picture true colours with no artificial "bumps", "thumps", "shinings" or simply "mellow shades". With the ClassAmp<sup>®</sup> M-1 I had the chance to entirely reproduce the timbral structure and character because of its unique and astounding linear transient response that is non-frequency-dependent.*

*This unit brings you what is needed: "what you hear is what you get". The musicians' intonation and nuances in the playing become suddenly undoubtedly obvious. It is a big step forward." (sic)*

**Michael Seberich,  
Classical recording engineer, Bolzano, Italy**

## ADVERTISED SPECIFICATION AND REALITY

On the datasheet, the noise level of a well-known microphone preamplifier is specified as 4dB worse than that of the ClassAmp<sup>®</sup> M-1. After measuring the preamp and subsequent field tests it turned out to be no less than 12dB worse! 12dB lower noise makes quite a difference: it means that on the ClassAmp<sup>®</sup> the noise level is **16 times lower!** This is another example that proves that one must not blindly trust specification sheets. Most manufacturers only state "typical" data and will not *guarantee* that each and every unit adheres to the specifications. Such "typical" specifications are useless but now (too) common in the audio- and not only audio- world.

When famous bass virtuoso

## ANTHONY JACKSON

replaced his preamplifier with a *ClassAmp*® M-1 we were very gratified as he is justly famous not only for his unique artistry but also for the demands he puts on his equipment. He explains:

*"I've been using the ClassAmp® M-1 live as well as in the studio. The studios have all been industry standard - Hit Factory (New York), Carriage House (Stamford, Conn.) and Westlake (Los Angeles). The reactions of the engineers on each project - respect to Frank Wolf, Phil Magniotti and Elliot Scheiner - were unanimous regarding the quality of my sound. Notwithstanding my attempt to keep things to the highest standards at all times anyway, the ClassAmp® M-1 has indeed made a tremendous difference. Every one hears it - including the all-pervasive "12AX7-6DJ8" tube effaciousness crowd.*

*For concert work, the reaction of FOH engineers has been the same. Even considering the ongoing and considerable refinement of my present instrument, I can't be hyped; I know what I'm hearing, and I can discern the essential contribution of the ClassAmp® M-1. I won't play without it...*

*Clearly, this is a product far beyond the appreciation and sensibilities of nearly all "electric bass players". There must be considerable artistic evolution, as well as a willingness to make some financial sacrifices. No matter. Let those who can hear, hear and they will, sooner or later!*

*My compliments and best wishes to your staff."*

*Anthony Jackson, world renown bass virtuoso  
New York, USA*

## DECCA

used *ClassAmp*'s to record violinist *Pamela Frank* with Maestro *David Zinman* conducting the Zurich Tonhalle orchestra. Manuel Huber, director of FM ACOUSTICS, was present and was pleased indeed noticing the engineers using the famous "Decca Tree" microphone arrangement that has produced so many wonderful and much sought after recordings in the 1950's and 1960's. The Decca "T"ree arrangement uses 3 microphones, two spaced apart and one in front above the conductor, the arrangement looking much like a "T". It is gratifying to see that after the "multi-mike" recording era, which often brought rather mediocre results for many record companies, Decca has "returned to its roots" so to speak.

The engineers were astounded how much more detail and hall ambience they perceived with the microphones connected directly to the *ClassAmps*. Thanks to the better transparency and detail the spot microphone that usually has to "highlight" the violinist was no longer needed with a resulting more natural blend between the solo violin and the orchestra.

## RECORDING ARTURO SANDOVAL

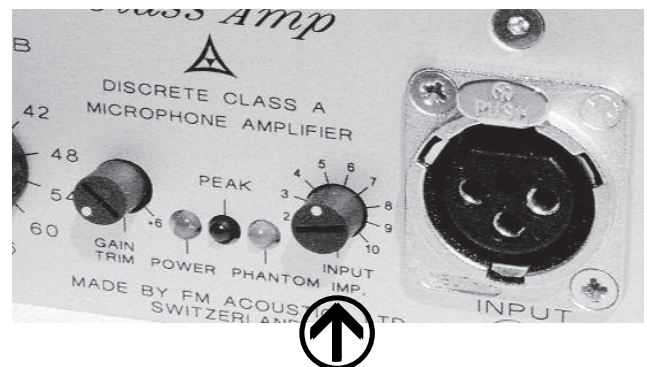
*"The last few days we've been doing trumpet and flugelhorn solos. We are both completely knocked out by the sound we're getting using the ClassAmp®."*

*"I've been recording Arturo Sandoval for the last 3 years and used to keep him far off the microphone because he plays so loud. This week, Arturo has been blowing solos 7 or 8 centimeters from the mike which gives the richest and most present tone and I've had absolutely no headroom problems. I think your microphone preamplifier allows whatever is plugged into it to live up to its full potential".*

*"...Thanks, for allowing me to try out this wonderful piece of recording hardware. I've been raving about it to everyone I know."*

*Ron Taylor, Producer/Engineer  
Miami, USA*

## UNIQUE TO THE *ClassAmp*® M-1: VARIABLE INPUT IMPEDANCE



Unique to the *ClassAmp*® is an *input impedance* control that allows optimization of the loading impedance for the microphone. The importance of this has simply been overlooked in other preamplifier designs. To hear for yourself the astounding difference that proper microphone loading makes, you can try the following:

Have a person talk into the microphone. At the same time, have him slowly turn the impedance control of the M-1 from "0" to fully clockwise. While the test person turns the impedance control ask him to talk, e.g. announce the positions on the dial: "one - one and a half - two - two and a half etc." The difference that the impedance control makes will be quite obvious and the correct loading for any microphone can be determined quickly. It is interesting that *all* listeners agree on similar impedance settings. At a certain setting of the impedance control the sound becomes "just right".

Even experienced engineers are astonished to hear the improvement that correct loading makes on the microphone's impulse response, three dimensionality, stereo imaging etc.

## BRUCE LEEK ON THE CLASSAMP

Recording/mastering engineer Bruce Leek's credentials range from 16 years as french horn player in professional musical organisations, to recording, disk mastering for 20 years- with clients ranging from Brahms to Beatles- and responsible for most audiophile mastering work of Delos, Telarc, CBS half speed, RCA, Nautilus etc. Since 1983 he runs his own recording company working for Klavier, BMG, Pro Arte, Delos, Telarc etc. He is known to be demanding both on the musicians and his equipment. He reports:

*... "Technology is a wonderful tool; it helps us define recordings that are truly wonderful, or merely good, from the mostly unlistenable!..."*

*My specialty has been in classical recording; a natural, since most of my musical training was in classical music. As an independent recording engineer, I get to travel extensively for several different companies and clients, recording everything from symphony orchestras to chamber music, and from pipe organs to wind ensembles. I hope I know what the music should sound like, and I certainly do know what I want my recordings to sound like!*

*I pick all of my equipment after thorough listening tests, and listening has convinced me that a recording console is not the most accurate place from which to amplify a microphone. The distance between a microphone and the recording console often exceeds 50 meters, and there is serious degradation in the microphone's signal with that distance.*

*But microphone preamps are fascinating little gadgets. They will be found between the microphone and the recording console - and as close to the microphone as possible. And they can make an enormous difference in the quality of the signal as presented to the console. In the last ten years, I have probably tried at least fifteen different microphone preamps, and have been pleased with the sound quality of several of them. I have come to expect a certain "sound". But when I auditioned the FM ACOUSTICS Class Amp's, I knew that I was dealing with a different classification entirely! As an engineer, the most basic concepts I deal with in a mix are soundstaging, integration, and timbre. The size or dimensionality of a group creates the "soundstage" in a recording. It is very easy, as an engineer, to make an eighty piece orchestra "sound" like a thirty piece chamber orchestra. It is also easy to make a thirty piece chamber orchestra "sound" like they take up only one meter of space on a stage. The trick is to keep the proper dimensions of the group - side to side and front to back. The Class Amps have the largest "soundstage" that I have ever heard! Even the size of the hall increases dramatically compared to the other preamps. The retrieval of musical information is nothing short of spectacular! The integration of a "mix" is equally important. Each instrument in the orchestra should*

*sound "solid" in a mix. The placement and size of the instruments and groups must be convincing and accurate. Far too often, the image in a mix seems to wander, in terms of size or position. Again, the Class Amps have an uncanny ability to stabilize and integrate each instrument faithfully. An exceptional performance!*

*And finally, the harmonic timbre and frequency response presented by an orchestra is nearly impossible to duplicate in a recording. There is no "perfect" recorded sound, but the Class Amps are far superior to anything that I have ever heard before. This is the "sound" of an orchestra!*

*The FM Acoustics Class Amps are undoubtedly the most expensive microphone preamps built. But when you consider the ratio of cost vs. performance, they become truly an amazing bargain."*

## A THOROUGH TEST

The performance of any system is always limited by its weakest link. An interesting experiment took place at the recording studios of the University of California in San Diego. Here a comparison of 5 different brands of mic preamplifiers was done, using a methodical approach under carefully controlled real-world conditions.

Precisely the same setup was used for testing the different mic preamplifiers. One pair of microphones were left in exactly the same position. Only the mic preamplifiers were exchanged. Nothing else was touched.

To guarantee the identical audio signal, a pianist played some pieces on a grand piano fitted with the DisKlavier® system. The DisKlavier® stores every detail of the pianist's movements onto a disk. Later the disk controls the mechanical system of the grand piano and replays the pieces precisely as they were originally played. This replay capability guarantees that the source signal for each of the preamplifiers was exactly the same, so all of the variations heard are attributable to the only thing that changed: the microphone preamplifiers.

All present at the comparison and those who heard the tape commented upon the astounding differences between the sound of the the Class Amp® M-1 compared with the various other microphone preamplifiers.

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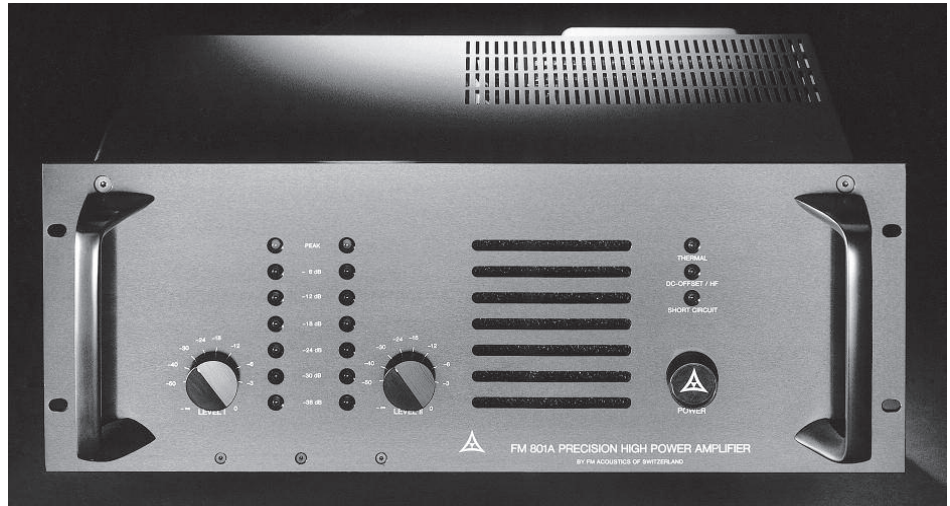
We are trying to avoid double mailings. There is too much paper wasted in this world, so there is no need to contribute to this situation. In the event that you should receive more than one copy of FM ACOUSTICS NEWS, please send us a short fax or postcard so that we can correct this. Please indicate the correct name and address as well as the other names and addresses under which you received your other copy. The world's trees thank you for your cooperation.

## EAST IRIS INSTALLS FM 801A'S

East Iris studios of Belle Mead, Tennessee decided not to compromise and go for the top. They installed three of the large FM ACOUSTICS' professional stereo power amplifier in their new studios.

Here, one channel of each stereo amplifier is used to drive the dual 15" TAD woofers while the other channel drives the high frequency driver through the proprietary crossover.

The amplifiers are located directly below the monitors guaranteeing very short connections. Optimal damping and tight control of the diaphragm is thus assured.



*The FM 801A: the reference amplifier in hundreds of studios the world over*

*"...this is the first 5-channel system where you get amazing homogeneity of sound throughout the room. The system also does not succumb to the usual phase effects. It is a new world for 5-channel music reproduction and surround sound."*

*Engineer's comment on East Iris' new 5-channel room*

## PROFESSIONAL MONITORING

In the pro audio market a strange situation has developed in recent years in that quite a number of today's consumer music systems are superior to existing studio monitor systems. This is not the way it should be. In many recording studios massive sums are spent on flashy decor and enormous mixing desks rather than where it really matters: the monitoring and the acoustics. The studio's main aim, after all, should be to provide an environment in which the musicians can get realistic and musically relevant results.

Monitoring equipment that allows the musicians to hear *exactly* how they are playing and which indicates precisely where potential limitations and mistakes lie should be an important, if not *the* most important, ingredient of a music studio.

As an example let's take post production: no engineer in his right mind would monitor a post production on a cheap black and white TV! Instead, professionals invest in the most advanced high resolution technology to assure they are able to detect the smallest flaws.

Is it just a coincidence that on many of today's recordings - played on an accurate system - one becomes painfully aware of the limitations in the studio's recording- and monitoring chain? Not really, when considering that many studios' "reference" consist of cheap amplifiers, which have been designed for discotheque & P.A. use, which are driving some mini monitors...

In any other occupation, professionals employ technology that is superior to what is used by their audience, but in professional audio this is not the rule anymore.

In many studios there is quite a bit of room for improvement in this respect.

## MISSING & STOLEN PRODUCTS

The following products have been deemed missing. If you are ever offered any FM ACOUSTICS product always check the serial numbers! Never acquire a product where the serial No. is defaced or missing. You can get further information from FM ACOUSTICS by giving the unit's details including Serial Number. *Never* acquire a product where the serial number was removed or defaced.

Should you have any knowledge of the whereabouts of the units listed below, please contact us.

Model	Ser. No.	Date/Location
FM 212A	2325364	1980's
FM 214	803028	September 1991, Germany
FM 214	702004	1987, USA
FM 216	710008	1987, USA
FM 222	608016	August 1997, France
FM 244C	004030	1993, Hamburg
FM 266	411060	August 1997, France
FM 300A	906138	May 1995, London
FM 600A	385	1988's
FM 600A	404	1992, London
FM 611X	208108	November 1999, Austria
FM 800A	148/194	all between
	277/295/328	1981 and 1989
FM 1000	503028	1989, London

While all information is believed to be correct FM ACOUSTICS cannot guarantee any of the statements herein.



## IMPROVING THE "IRS"

and similar systems. No, this is not about the (in)famous department in the U.S.A.... The following is a report from a client who had acquired an Infinity IRS system previously owned by a renowned American reviewer.

As the client was never fully satisfied with the performance of his system he decided to modify it. Carefully analysing the speaker he found somewhat poor wiring inside, so the cabinets were rewired, the crossovers moved out of the cabinets and some further minor modifications were made. After a discussion with FM ACOUSTICS engineers he decided to embark on a special project on his own. He attributed the remaining non-satisfactory sound of the IRS to the electronic crossover, the passive crossover and the amplifiers.

After consideration, the client decided to invest in an FM ACOUSTICS Linear-Phase Electronic Crossover which has unique features like precision Class A buffer circuits and allows ultra-precise fine tuning of crossover frequencies.

Two FM 611 stereo power amplifiers are connected. On each of them one channel drives the bass towers (all six 12" bass drivers of each cabinet are wired up in parallel and connected to a *single channel* of an FM 611 (!!!) - *do not* try that with another make of power amplifiers!). The other channel of each FM 611 supplies signal for the

mid- and high-frequency drivers. These drivers were left as originally connected but rewired with better cables. An FM 266 true balanced line stage is used to preamplify the signal. Here the client's comment:

*"There is a total transformation!*

*They (the IRS) have become entirely different loudspeakers which no one has ever heard correctly!"*

While this is not a "cheap" solution in overcoming the IRS' and other similar designs "limitations", this client was very happy because the massive initial investment in his IRS was not lost.

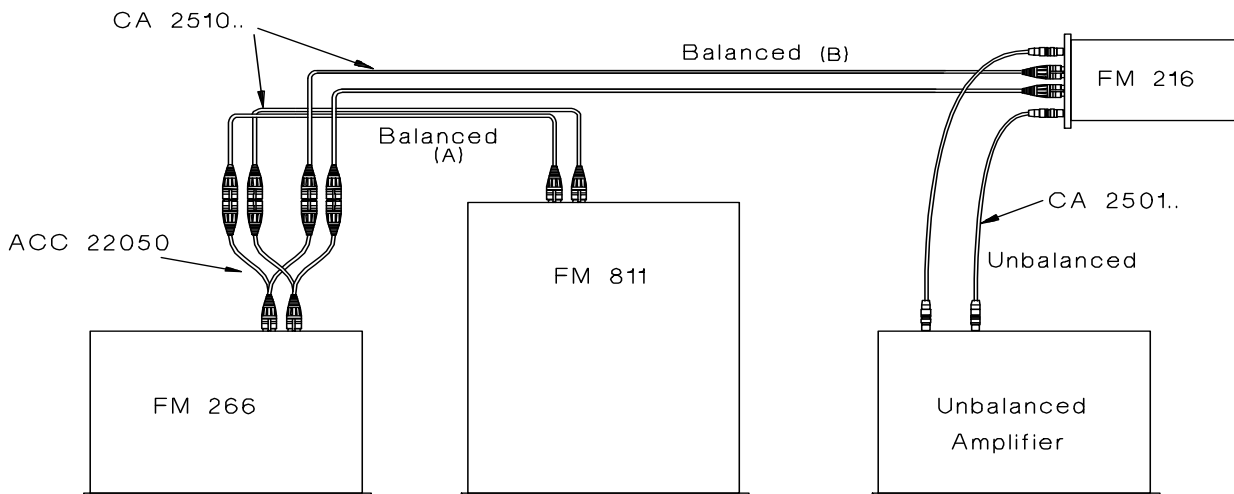
He elaborates:

*"I kept the positive aspects of the speaker and eliminated the non-optimal characteristics."*

The client strongly pledged us to do owners of Infinity IRS and speakers of similar design a favour and inform them about this experience with this modification (which is done hereby).

While other similar systems of different brands have been modified in the same way with great success, please note that FM ACOUSTICS cannot endorse the modification of any product.

### INSTALLATION TIP



When two power amplifiers are to be connected to the output of an FM 255 or an FM 266 line stage/preamp, the "Y" adapter "ACC-25050" will provide two outputs from the unit's single XLR output connector. Typical "Y" connections are often degrading the performance but with FM ACOUSTICS circuitry, this Y-Adapter works optimally as long as both power amplifiers are either balanced or unbalanced.

However, when using a combination of a balanced and an unbalanced power amplifier, both interconnections will automatically become unbalanced. To keep the balanced interface between the FM 255/266 and the balanced power amplifier (in the sketch above the FM 811) the correct solution is as depicted above: an FM 216 line level balanced interface is installed as a "buffer" between the true balanced FM 266 and the unbalanced amplifier. This effectively isolates the FM 266's output from the unbalanced amp's input. The FM 216 is located next to the unbalanced power amplifier. The interface up to the FM 216 - and the one up to the FM 811 - will then be truly balanced and both amplifiers will receive the optimal audio signal.

## CAREFULLY CHOOSE FROM WHOM YOU BUY

One must be careful when choosing an audio dealer. In certain countries some dealers are not independent. They are not only supplied by -but often also backed by -a certain manufacturer. This way the manufacturer can control the dealer's recommendations and make sure his products are clearly favoured. This may not really be in the interest of a consumer and it is unlikely the consumer will get unbiased advice...

Of course, this is also true in other fields say e.g. automobiles. But there, it is obvious to everyone that a dealer for a certain car manufacturer is not an "independent" dealer.

The ideal person to help the mature buyer choose the right top class audio system is less a "dealer" in the established sense but more of an "independent advisor", still a rather rare breed in the audio field.

## GETTING THE OPTIMAL DEMO

FM ACOUSTICS' precision audio components will bring improvements in practically any audio system but the improvement in quality becomes truly astounding when the entire system is accurate. Accurate means not just sounding "nice" or "attractive at first glance" but - as the word implies - "true to the original".

Only if the associated equipment is able to achieve this goal can FM ACOUSTICS' units unfold their full capabilities and outstanding neutrality. So, when auditioning an FM ACOUSTICS' component insist on hearing it on a *full* FM ACOUSTICS system. A single non-optimal component or cable can limit the performance capabilities of the FM ACOUSTICS units.

## THE FORCELINES CONCEPT

FORCELINES are an integral part of every *Resolution Series*® power amplifier (the FM411, FM611, FM 611X, FM 811 and the FM 2011). All of these need FORCELINES speaker cables as with all other cables damping and control of the speaker diaphragm will be lost. This dynamic control over the diaphragm is one of the unique characteristics that make FM ACOUSTICS amplifiers so special and is very, very difficult to achieve! The conventionally specified "damping fader" is very easy to increase by just increasing feedback (with subsequent negative effects on reproduction). This is NOT what FM ACOUSTICS dynamic damping is about at all. This is the reason why orders for *Resolution Series*® power amplifiers are only confirmed when an accompanying order for one stereo pair of FORCELINES cables is received. There have been occasions where a dealer tried to sell the client more expensive cables of other brands just to maximize profits and at the expense of optimal performance. With the above policy clients are assured of optimal interfacing and optimal control of the diaphragms.

## BULLDOG OPENS THE WORLD'S FIRST HIDLEY-DESIGNED 5-CHANNEL STUDIO

Located in Franklin, Tennessee, Bulldog Studios applied advanced solutions in acoustics and a unique "total system" approach which allows the accurate replay of the new discrete multi-channel music formats. Despite financially *very* attractive offers from other amplifier manufacturers Bulldog owner Trevor Johnson decided not to compromise and selected 5 Kinoshita monitor systems powered by FM ACOUSTICS' precision power amplifiers.

Studio designer Tom Hidley explains:

*"full bandwidth surround sound music reproduction introduces a new listening format for the home, one of putting the listener in the centre of the musicians on stage, in a concert hall, or in a studio."*

Bulldog is the first studio to have a 5-Channel built-in and physically - not electronically! - time aligned control room as a purpose designed facility. The five main monitors are Kinoshita 24Hz single woofer system and are powered by five new FM ACOUSTICS power amplifiers. All five monitors are flush mounted and have precise time and phase relationships.

## REPORTS OF LITTLE VALUE

"Cost Effective", "ergonomic", "intuitive", "user friendly" ... In a recent issue of a British Pro audio magazine, a reviewer is describing the features of a new digital mixing desk in detail 5 pages long! One paragraph follows another explaining the various DSP facilities, the links, the full colour display, the ergonomics etc., but in all of these thousands of words, there is not a single word about *sound quality*!

Obviously some manufacturers are able to sell professional audio products without even considering sound quality ..., maybe an achievement in marketing but not a step towards the ultimate goal: accurate music reproduction.

This example speaks volumes about how far removed from reality such superficial magazine reports can be and why any review should be put into perspective. The conclusions of such reviews must be taken with a grain of salt. The above also is an indication of the wrongly set priorities of some of today's audio manufacturers.

## WHAT KIND OF MUSIC?

When reading a review or hearing a report *always* relate the review or report to what kind of music was used to arrive at the conclusions. Is it the same music you are listening to? If not, the review is not only irrelevant, it can be outright misleading!

## OLD EARS?

Often it is claimed that older people cannot "hear as well" as the young. This may be correct when simply checking with steady state sine waves as is usually done. When *music* is used as a source signal, older people - even those whose hearing of high frequencies is limited according to the orthodox measurements - are often acute listeners. They can discern better and are able to point out fine details and characteristics in the music.

While at first baffling, these results can be explained: many older people have not abused their hearing by being exposed to the extreme sound levels presented by the "walkman"-type personal audio devices and many of today's discotheque and P.A. systems. Also, many have been subjected to unamplified or reasonably amplified live music all through their lives. This keeps the ears well trained and sharpens acuity.

A recent example proves the case in point: a senior person, whose hearing was clearly limited according to conventional medical checks, turned out to be the one most sensitive of a group of thirty experienced listeners. In a number of piano recordings he was the most astute in pointing out details like small pitch variations between adjacent strings, the non-perfect intonation of certain piano registers and small resonances.

## NOT QUITE UP FRONT...

An example of what sometimes is going on behind the scenes...

A while ago at a major professional exhibition one of the large Japanese manufacturers built a replica of the front of a recording studio complete with large monitors and with their own power amplifier magnificently presented right in the center of the "studio" front. Of course, all visitors assumed that this was the amplifier through which they heard the quite decent monitor sound.

In reality, however, the manufacturer's amplifier was not connected to the speakers at all. It was kind of nice to realize that the amplifier that *really* was driving the monitors was an FM ACOUSTICS precision power amplifier which "just" happened to be located on the floor behind the wall where nobody would notice it...

## A LONELY PLACE

Concert halls can be a lonely place...

It is quite rare to meet "audiophiles" at a live concert. Reviewers for audio magazines are an even rarer sight, not to speak of retailers...

This just seems somewhat like those who claim to be captains but never have been at sea...

Well, if with the above we can help fill up some empty concert hall seats the sentence has done its job even if some journalists may not view this sentence as "politically correct"...

## GOLD MEDAL AWARD GOES TO FM ACOUSTICS

FM ACOUSTICS received the Gold Millennium award from the internationally acclaimed German high end magazine Image HiFi. Out of hundreds of contenders the finalists were selected by the crew at Image.

The award was presented to FM ACOUSTICS in recognition of its breakthrough in vinyl and shellac reproduction: the FM 222 Phono Linearizer which as Image says:

*"without exaggeration writes HiFi history".*

## LEARNING FROM OTHERS...

It has been brought to our attention that several other manufacturers have acquired FM ACOUSTICS units for study and copying. If they apply some of the things they find it will be good news for end users.

Realizing that many designers would just love to copy an FM ACOUSTICS we made sure that there are some good ideas visible so there *is* something to copy.

However, in FM ACOUSTICS' products for the really important points, special precautions have been taken to make copying impossible.

Investing in *the original* is a better idea as it assures you of getting *the best*.

## DELIVERY TERMS

While certain FM ACOUSTICS products indeed have considerable delivery terms, by far not all of them do.

Delivery is no longer ex stock at FM ACOUSTICS but it is not as bad as some make it out to be. Take for example, the hi-fi dealer that told a customer a delivery term of 2 years for an FM ACOUSTICS', just to steer the client to a product that he represented (this was not an FM ACOUSTICS dealer).

So, if you are quoted delivery terms of more than 3 months or so, it is a good idea to verify with the official distributor or the factory.

Of course, when the demand for certain units exceeds supply, delivery terms will increase (at present some products are backordered for up to 9 months) but this is never the case for all of our product line).

FM ACOUSTICS products are entirely made by hand in a very elaborate and time consuming, artistic-like process, so there is no way of a "more efficient" production without affecting the performance of the products.

Patience for an FM ACOUSTICS, however, is rewarded by immaculate musicality, performance and reliability.

FM ACOUSTICS is going to send newsletters in future also by email. If you prefer to receive the next newsletter per email, please tell us your email address.

## AVAILABLE LITERATURE

- **"Les Muses d'Or"**: Reprint from "L'Audiophile" magazine, France (English translation available).
- **"Like a Swiss Watch"**: Bert Whyte's report on the *Resolution Series*® in "Audio" magazine, USA.
- **"Component of the year"**: Article about FM 155 in "Audio Land", Hong Kong (no translation).
- **"Best Buy"**: Review in "Stereo Sound" magazine, Japan (no translation).
- **"FM ACOUSTICS Resolution Series® 411 Power Amplifier"**: Review on the FM 411 in "Stereo Sound" magazine, Japan (no translation).
- **"FM 611X"**: Review on the FM 611X in "Audio Land" magazine, Hong Kong (bilingual).
- **"Swiss Clockwork"**: Review on the FM 122 in "FI Magazine, Issue 5, 1997, USA.
- **"Vinyl korrekt entzerrt"**: Report on the FM 122 in "Sound" magazine, (English translation available).
- **"FM ACOUSTICS Resolution Series® 122 Phono Preampfier"**: Review on the FM 122 in "Stereophile" magazine USA, Volume 20 No. 3.
- **"FM ACOUSTICS 122&222 Phono Linearizers/ Preampifiers"**: 2 part report in "Image Hi-fi".
- **"FM 222"**: Report on the *Resolution Series*® 222; "Suono Magazine", Italy (English transl. available).
- **"FM 222"**: Review of the *Resolution Series*® FM 222; "Audio Land", Hong Kong, (bilingual).
- **"Balancing Act I & II"**: Review on the FM 222 & FM 266 in "Audio" magazine, USA.
- **"FM 266"**: User report on the FM 266 in "Audio Land" magazine, Hong Kong (bilingual).
- **"Swiss Neutrality"**: Description of the *Resolution Series*® FM 266; "Audio" magazine, USA.
- **"The Resolution Series® 266 & 811"**: Review in "Stereo Sound" magazine Japan, (no translation).
- **"FM ACOUSTICS Resolution Series® 811"**: in "Suono Magazine", Italy (English transl. available).
- **"Resolution Series® 244 & 811"**: in "La Nouvelle Revue du Son", France (English transl. available).
- **"ClassAmp M-1"**, Tom Jung's report on the *ClassAmp M-1* in Pro Audio Magazine, U.S.A.
- **"Resolution Series® 222"**, report in "Referencias Hifi" Magazine, Spain (no English translation).
- **"Hot News"**: The *Resolution Series*® 2011 and the *Inspiration System*® XS-I in "Stereo Sound", Japan
- **"FM 155 & F-10 B"**: report in "Image Hifi", Germany
- **"FM 155 & FM 214"**: report in "Stereo Sound" Magazine, Japan (no English translation)
- **"The Classic Series"**: report on the F-10B & F-30B & F-50 in "Stereo Sound", Japan (no translation)
- **"La sublime alliance"**: review on FM 266 & FM 611X in "Haute Fidelité", France (no translation)
- **"FORCELINES 5"**: a technical evaluation and listening report on various speaker cables in "Sztereo" Magazine, Hungary (no translation)
- **"Les Sourdoues"**: review on FM 155 & F-10 in "Haute Fidelité", France (no translation)
- **"FM 266", "FM 155", "FM 222"**: reports in "Audio Land" Magazine, Hong Kong (bilingual)

## NEW DATA SHEETS

- *Resolution Series*® 155 Line Stage/Preampfier
- *Resolution Series*® 255 Precision Preampfier
- *Resolution Series*® 330 Series of Electr. Crossovers
- The *Classic Series* Power Amplifiers
- *Inspiration Systems*®

## CONTACT NUMBERS

Country	Telephone
Australia	.61-2-94174096
Austria	.43-1-332093444
China (Domestic Products)	..852-25263431
China (Professional Products)	..86-10-68829956
Honk Kong	..852-25263431
Greece	..30-1-642 9655
Indonesia	..65-3390330
Italy	..39-0373-970485
Jamaica	..1-876-9273525
Japan	..81-3-54100071
Malaysia	..65-3390330
Mexico	..52-5-5544161
Philippines	..852-25263431
Singapore	..65-3390330
Spain	..34-91-8513230
South Korea	..82-2-5488571
Taiwan	..886-22-7788001
Thailand	..66-76-391964
U.S.A.	..1-847-5261660

For other countries:



### FM ACOUSTICS LTD.

Seestrasse 5A  
 CH-8810 Horgen / Switzerland  
 Telephone: ..41/1/ 725 77 77  
 Facsimile: ..41/1/ 725 77 90  
 www.fmacoustics.com



# The *Inspiration Systems*®

The *Inspiration Systems*® are thrilling more and more music enthusiasts. At all of their recent presentations in Las Vegas, Frankfurt, Tokyo, Lucerne, Italy, Singapore, Hong Kong, Thailand etc. there was grand applause for the *Inspiration Systems*®. Music lovers left the presentations with renewed enthusiasm for their hobby.

The *Inspiration System*® is a complete audio system that provides the most natural and accurate reproduction of musical events.

Conventional measurements indicate outstanding system performance, however the *Inspiration System's*® actual reproduction of music is far more realistic than any measurement can indicate. One of the unique characteristics is that, for the first time in audio reproduction, a totally holographic image of the recording venue is achieved. The speaker's become invisible creating a totally "true to the original" reproduction. Three dimensionality is exactly as in the original recording venue. Closely miked studio recordings are correctly reproduced upfront, with defined instrument localization. Recordings in concert halls are reproduced precisely with the original acoustics while the real reverb and reflection characteristics are represented perfectly. There can be tremendous depth and width but only if the original recording contains these characteristics. Nothing is artificially added and nothing is taken away. The original presence and dynamics are kept. The *Inspiration System*® is what an "optimal monitoring system" should be: reproducing exactly what is captured on the original recording.

Another peerless characteristic of the *Inspiration System*® is that the system provides ultra accurate "pinpoint" stereo image, giving the ability to locate musicians and singers to the centimeter. The system is capable of depicting a stereo image even when standing on one side of the system and this even at an angle of 40° off axis.

The sound stage extends to almost 180° (only a handful of special recordings achieve this however). Music reproduction is lifted to a never before achieved dimension of realism.

The *Inspiration System*® is based on FM ACOUSTICS' *Resolution Series*® electronics. The unique characteristics of the *Resolution Series*® power amplifiers, the unrivalled capabilities of their output stage with their unique ultra high dynamic damping, direct coupling and unprecedented drive capability (< 1 Ohm!) offers entirely different possibilities in system design.

FM ACOUSTICS' true balanced circuitry allows the use of proprietary crossover design.

The *Inspiration System*® employs an entirely different concept than any existing high-end hi-fi system. The system is powered by a pair of FM ACOUSTICS *Resolution Series*® stereo amplifiers, one stereo amplifier being used for the left side, one for the right side. One channel of each amplifier supplies bass signals directly to the bass driver via ultra low-loss wiring guaranteeing phase accuracy, freedom of ringing and ultimate control of the diaphragm. The second channel supplies all mid, upper-mid, high and ultra-high frequency signals. Linear-phase electronic crossovers/linearizers separate the frequency bands for the various drivers. Gone are all limitations inherent in the usual system configurations, gone are the compromises. No more need for error correction, as in the *Inspiration System*® errors are avoided in the first place. No more room dependent variations of the speakers performance. The *Inspiration System*® is completely tuneable to any room; gone are the usual problems of speaker location.

The entire system operates as an entity. This way, each component can be optimized without a single compromise as all variables can be carefully controlled. Variations due to the interaction of different components' characteristics, interconnection difficulties, grounding problems etc. are absolutely avoided.

The result: a realism of music reproduction far surpassing anything ever heard.

The *Inspiration System*® is versatile and can be installed in practically any domestic environment. Multiple controls allow linearization for each driver and fine tuning to every acoustic environment. Optimal fine tuning is even possible for nonsymmetrical rooms and/or rooms with difficult acoustics.

The *Inspiration System*® cannot be produced in quantity. Why? Experience shows that one can achieve a certain standard by defining all the variables, optimizing, incorporating great ideas etc., but what *really* makes the big difference is the most careful selection of *each individual* component and fine tuning to the absolute optimum. These selection and fine tuning processes require a tremendous amount of time and experience and result in a large percentage of rejected components thereby setting definite limits on the number of *Inspiration Systems*® that can be built. The whole process is much like crafting the ultimate cello, piano or violin.

The *Inspiration System*® is a once in a lifetime investment. Only made to order, it comes in a finish that is alternately lacquered and hand polished many times. It is finally triple sealed with a high gloss (or - on special request - matt) transparent lacquer after which it is hand polished and buffed.

The *Inspiration System*® is truly unique.

The set-up of the *Inspiration Systems*® is done by a few carefully selected distributors. Individual service and fine tuning will be provided to each client to assure that his system is operating to its optimum.

Manuel Huber, director of FM ACOUSTICS explains:

*"We regard it as our duty to assure top reproduction for our selected clientele of dedicated music lovers. It is indeed a very nice conclusion of 25 years of the most intensive R&D which led to the breakthrough, the *Inspiration System*®. Actually, it is the first time in my life that I personally have been completely satisfied with a music system, so pleased, in fact, that I have not found need to change or modify a single point. This sentiment has not just been here for weeks and months but for over two years now!*

*To myself and those who have experienced the *Inspiration System*® it is quite obvious that this is the final answer to the prayers of serious music lovers.*

*The *Inspiration System*® will not be a major business for FM ACOUSTICS. Each one is handbuilt to order by highly trained and specially selected craftsmen. We are not going to be a speaker manufacturer, but for me personally, the *Inspiration System*® has become very important. Never before in my life have I been able to enjoy music to this degree and intensity. So even though it is not a "commercial" product I am giving an immense amount of time and effort to make this product available to a few other enthusiasts. I plan to visit every client personally to assure system set up and perfect reproduction so they can duplicate my listening experience".*



The *Inspiration System*® consists of:

- Two speaker enclosures housing 4 (XS-II) or 7 (XS-I) listening selected, handmade precision drivers
- 2 active and passive crossovers
- 4 pairs of speaker interconnects (special FORCELINES cables)
- 1 pair of Special multi conductor speaker cables
- All interconnect cables between the preamplifiers and the crossovers, the crossovers and the power amplifiers
- Special isolators
- Individual packing of the components
- Installation and calibration / fine tuning of the system in clients room

To complete an *Inspiration System*® one FM 266 true balanced preamplifier or FM 255 true balanced preamplifier and two stereo power amplifiers of clients choice from the FM ACOUSTICS *Resolution Series*® (either the FM 411, FM 611, FM 611X or FM 811) are required additionally.

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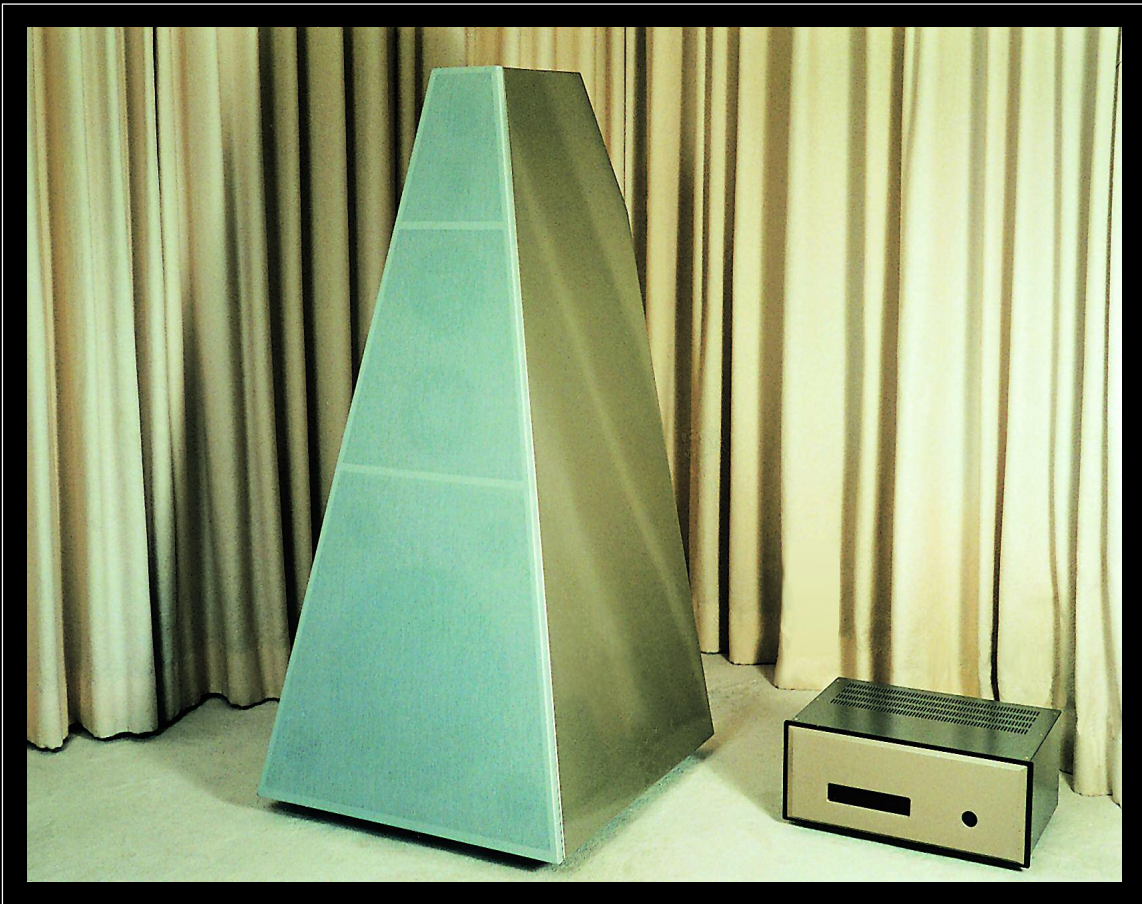
## FRONT PAGE

Hano Burtcher is an artist in the true sense of the word, combining unique creativity, craftsmanship and professionalism. We were indeed overwhelmed when he presented us with this outstanding painting for the 25th anniversary of FM ACOUSTICS. Hano Burtcher's paintings are full of symbols: "the universe has somewhere a window through which inspiration from other dimensions can reach us. Certain people can capture and pass on this inspiration to others. In his painting the symbol for this is the descending notes, that some might recognize.

The Matterhorn represents all earthly matter and the absolute top. On the right a listener is immersed in the music. Above, resembling the divine order, the symbol for harmonic balance - out of which grows the frequency band that in case of FM ACOUSTICS break all barriers". Some might recognize Hano Burtcher's name, as for 25 years he has been the chief designer at IWC (International Watch Company) of Switzerland. World famous timepieces including such Masterworks as the "Da Vinci", the "Portugieser" and the "Grande Complication" come from his hand.

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## WHY NOT THE BEST?



Comments received on the *Inspiration System*®:

- ♪ "Absolutely incredible."
- ♪ "Music like never heard before."
- ♪ "Far above any audio system ever heard."
- ♪ "With this system one can finally enter the world of REAL music reproduction."
- ♪ "Honestly, after all these years in the business, I have never heard anything else coming anywhere close to what I heard here"
- ♪ "an absolutely astounding holographic image of the recording venue be it a symphony hall, a studio or a jazz club"
- ♪ "This is sonic Nirvana."
- ♪ "I am literally blown away."
- ♪ "Such sound can only be dreamt about."
- ♪ "Music in its purest form. For the first time in all these years my wife has finally understood why I indulge in this hobby."
- ♪ "It is far beyond anything I have ever heard. The longer you listen to it, the clearer it becomes: this is THE REFERENCE."
- ♪ "This is another world, a world far away from any known music reproduction system"

And here a comment from a client who traded-in his 6-figure system to an *Inspiration System*®XS-II:

"After having listened to all contenders during the last three months I finally had the chance to experience the *Inspiration System*®XSII. I did expect a lot as I had heard it at your presentation in the Palace Hotel in Lucerne. But what I experienced in my home during these days of quasi-continuous listening to the widest range of music both from Vinyl and CD was not just very impressive but can only be described as absolutely phantastic. The slight nasality that was always believed of being a part of older records just vanished completely. The realism and absolutely perfect placement of every single instrument together with the systems' capabilities of recreating even the most tiny movements of an artist on stage or in the studio is far ahead of any other audio system I have ever heard and owned. I do not really find words to describe the incredible musicality of the *Inspiration System*®. Everything else - and I am talking about the world's leading brand names here - pales terribly in comparison. There is clearly nothing like it anywhere. This is one phantastic breakthrough".

Owner of an *Inspiration System*®, Switzerland, Name withheld by request



## COMPONENT OF THE YEAR!



To fulfill the dream of many music enthusiasts who would love to own an FM ACOUSTICS Line Stage but have not been able to afford one, here comes the solution: the Resolution Series® FM 155 (top) and the FM 255 (bottom).

It's quite a success story: just after its introduction, the FM 155 won the deep appreciation of numerous reviewers the world over and was awarded as the "Hi-Fi Component of the Year".

- "I certainly consider the FM 155 pre-amplifier as being the No. 1 product...".
- "The FM 155 is a super musical amplifier..." reports a renowned reviewer.
- "This fine Swiss jewel performs stunningly in any system" another report explains. "At the same time it guarantees you total neutrality and absolutely transparent reproduction. The characteristics of the system are not influenced whatsoever, yet everything in the music becomes much more transparent".
- "The FM 155 is an extremely high performance product and good value for money".

The FM 155 is offered at an incredibly appealing price. Made to the same standard as all FM ACOUSTICS precision electronics it employs fully discrete Class A circuits and is housed in the attractive chassis of the FM 122. At a net price of US\$ 5'500.00 the FM 155 provides by far the best price/performance of any Line Stage on the world market.

The rather large gap between the FM 155 and the FM 266 has now been filled with the introduction of the FM 255. The FM 255 contains most features and characteristics of the FM 266, the de-facto world standard in Line Stage/preamplification. Compared to the FM 266, cost savings have been achieved in the FM 255 by incorporating 2 true balanced and 3 single-ended inputs (instead of 6 true balanced inputs on the FM 266). Furthermore, the true balanced tape loop of the FM 266 is laid out for single-ended connection in the FM 255 (as most tape decks used domestically have single ended inputs, expensive true balanced circuitry in the tape loop is not required). In other aspects the preamplifiers are practically identical.

The FM 255 is an instant success as various statements confirm:

*"After installing the FM 122, I was totally happy with my system and was sure that any further improvement would be very minor. Then your local representative gave me the chance to listen to the new FM 255 at home. I installed it in my system and... was literally overwhelmed: with my previous system I had been missing half of the music! This difference was achieved by simply replacing what is often considered not to be that important: the line stage! The FM 255's dramatically increased transparency and information content is nothing short of breathtaking. All other line stages I have heard provide far less music than the FM 255."*

*G. Klement, Switzerland*

*"The FM 255 is amazing, absolutely amazing. Only now one realizes how other line stages actually compress the music signal. There is no comparison in spatial reproduction either. Everything is there, nothing hidden or coloured. The FM 255 gives you all the music you want.."*

*Mario Dupont, Portugal*