

Infinity Black Widow™ Tone Arm

**The only thing better
would be no tone arm at all.**

The ideal record-playing system, theoretically, would be simply this:

A cartridge suspended from an infinitely rigid *nothing*, which would (a) take some of the cartridge's weight off the stylus, leaving the optimum tracking pressure; (b) obviously create and transmit no resonance of its own; and (c) leave the stylus in proper position against both sides of the record groove, wherever that groove might lead (up and down on a warped disc, back and forth on an imperfectly centered one) without a heavy

counterweight to resist first and overcompensate an instant later.

Other tone arms have achieved proper vertical tracking force — period.

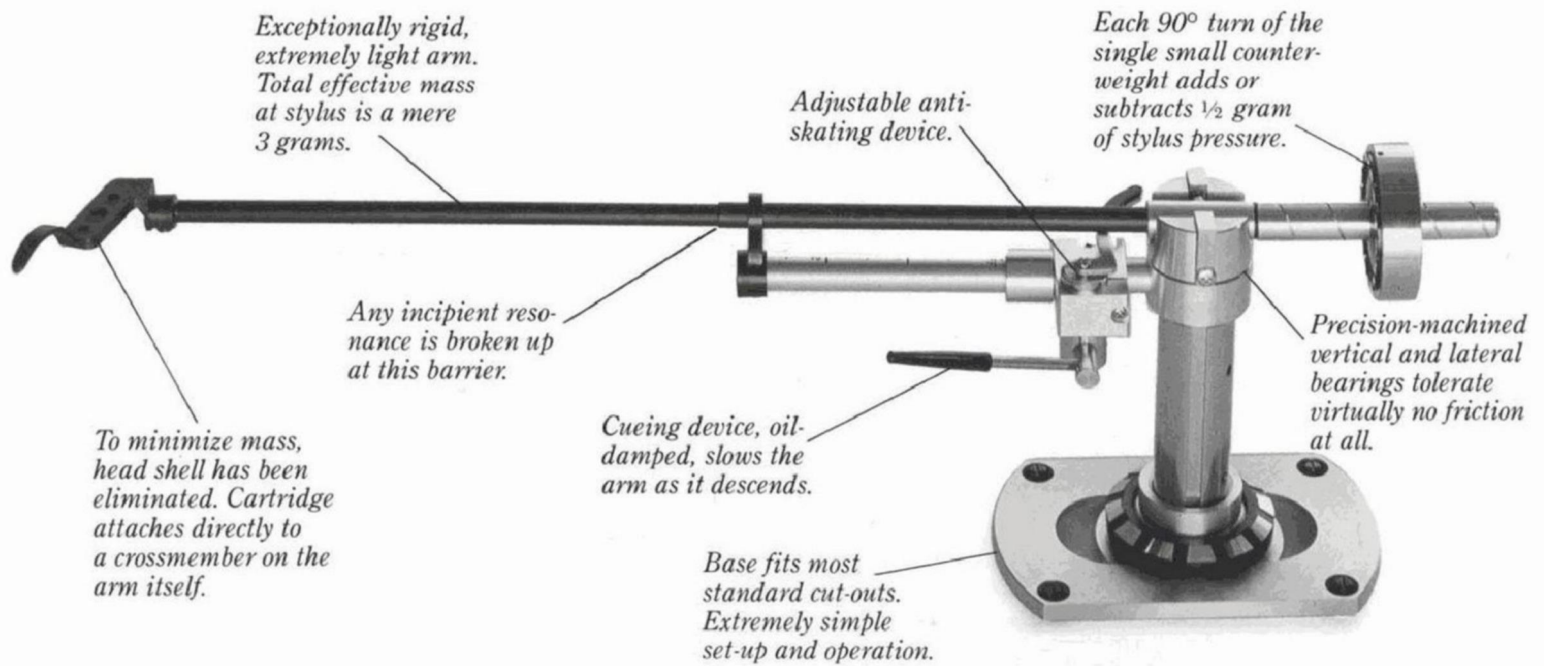
**Infinity™ introduces
the closest approach
to the *entire* ideal.**

The first tone arm designed by Infinity is an exceptionally rigid lever which is (a) extremely low in mass, especially toward the stylus end, where the conventional head shell has been eliminated; (b) impeded at the point where the arm's diameter changes, creating a transmission line that effectively breaks up any incipient resonance; and (c) minimal in arm weight *and counterbalance weight*.

This advanced audio component will improve the operating specifications of any modern cartridge, and reveal inner voicings and an openness you have never heard before in your favorite recordings.

We call this slender wand The Black Widow.™ And we eagerly invite you to compare it with other tone arms. The Black Widow will eat them alive.





A phonograph record is not a precision instrument. So the Infinity Black Widow™ has to be.

Records aren't perfectly flat or perfectly centered. But no other manufacturer of tone arms has fully dealt with that fact. So what happens? With an ordinary tone arm, every time a warp in a disc forces the stylus up, the combined mass of arm plus head shell plus correspondingly heavy counterweight creates a distorting press-and-release, press-and-release action of the stylus.

And during every revolution of the disc, with the "center" hole and/or grooves actually off-center, that inertial mass forces the stylus against one side of the groove and then the other.

These forces can cause mistracking and distortion, as well as degrading the crosstalk and spoiling the accuracy of the stereo image.

Modern lightweight high-compliance cartridges could never perform up to their potential and their manufacturers' promises until somebody removed the inertial stubbornness and excess weight from a tone arm.

That is what Infinity has done. That, and more.

Our tone arm won't add tones to those already on your record.

As a turntable rotates, and as the stylus in the cartridge on the tone arm is excited to reproduce an array of frequencies, most tone arms feel

an overwhelming urge to add vibration and resonances of their own.

Infinity has at last eliminated that source of distortion.

Where the circumference of our Black Widow Tone Arm changes, a transmission-line effect is created; that is, resonances are neither passed along nor reflected back to the stylus, but instead are attenuated at the barrier.

Perhaps all tone arms should be designed the way ours is. But only ours is.

The Black Widow elevates tone-arm specs and standards to a level others may find simply unreachable. Sorry.

Infinity's insistence on compliance — with our own preposterously high standards, and with recorded music's almost unlimited variety of demands — is obvious in every feature of the Black Widow and in the totality of its response.

Item: Plugs and cable tips have been gold-plated, to eliminate intermittent contacts.

Item: The tiny ball bearing at the head of the horizontal pivot and the knife-edge bearing of the vertical

fulcrum have been machined with such a degree of precision that friction is no longer even a consideration.

Few tone arms approach the price of this one. None approaches the absolute musical honesty of this one.

Black Widow Specifications

Description:

The Infinity "Black Widow"™ Tone Arm is an ultra-light-weight low-inertia high-tracking jointed-pipe damped-knife-edge-fulcrum system.

Cartridge weights accommodated:
4 to 8.5 gm.

Stylus force adjustment:
± 2 gm per revolution of single-weight vernier. (90-degree rotation adds or subtracts 1/2 gm of vertical tracking force.)

Inside force cancellation (anti-skating):
Fine spring adjustment, calibrated for co-ordination with stylus pressure.

Bearing sensitivity at stylus point:
Vertical bearing (knife edge) 0.005 gm.
Lateral bearing (fine miniature ball bearing) 0.01 gm.

Sliding base adjustment:
± 10 mm (quick slideset and lock type).

Low-capacitance output cord:
50 pF per 1.5 m.

Effective mass of arm:
3 gm.

Specifications and prices are subject to change without notice.



We get you back to what it's all about. Music.

Er ist so spindeldürr wie ein Spinnenbein, und einigen Abtastsystemen verhilft er zu einem neuen Leben: der Black Widow-Tonarm von Infinity.

Schwarze Witwe

Seine ersten Lautsprecher baute Arne Nudell, Amerikaner und Physiker, in einer Doppelgarage zusammen. Das war vor acht Jahren. Inzwischen ist er Boß eines Unternehmens, das seinen Sitz in Kalifornien hat und 250 Mitarbeitern die Sorgen um den Arbeitsplatz nimmt. Denn die HiFi-Produkte von Infinity — was auf deutsch so viel wie „unendliche Größe“ bedeutet — genießen in den USA einen guten Ruf.

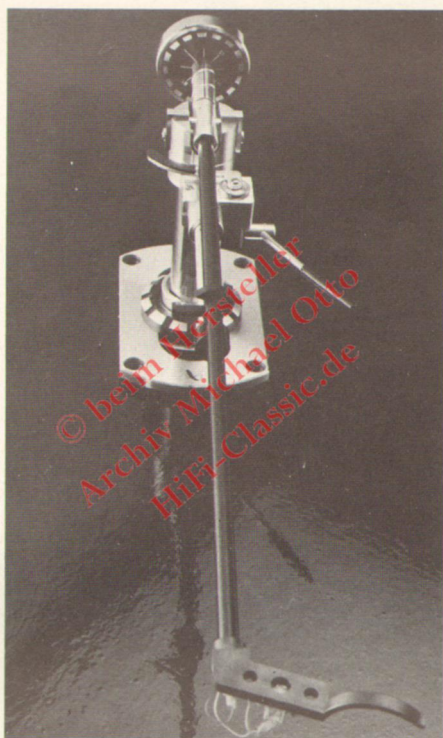
Jüngst brachte die deutsche Vertretung, die Frankfurter Firma Audio Int'l, den neuen Infinity-Tonarm auf den Markt, der auf den schönen Namen „Black Widow“ hört, offensichtlich wegen seines spindeldünnen Aussehens nach der Schwarzen Witwe, einer Spinnenart, benannt.

Als Arne Nudell den Arm entwarf, versuchte er, extrem kleine Trägheitsmomente zu erreichen, die eine exakte Abtastung der Plattenrinne erleichtern. So findet sich am Ende des kaum bleistift-dicken Röhrchens aus Carbonfiber außer einem Quartett haarfeiner Anschlußdrähte nur eine kurze Lasche mit zwei Löchern, in die das Abtastsystem installiert wird; da die Lasche nicht abschraubbar ist, müssen ein wenig Geduld und Geschick investiert werden.

Dafür ist die Montage des Arms um so einfacher; er paßt auf praktisch alle Laufwerke und besitzt bereits von Haus aus einen Fuß, der identisch ist mit den Abmessungen des SME-Tonarms, des wohl meistverbreiteten separaten Arms. Simple funktioniert auch die Antiskating-Einstellung, die sich stufenlos und präzise justieren läßt. Das Auflagegewicht wird mit einem Gegengewicht in 0,25-Pond-Schritten reguliert, weicht jedoch vom realen um minus zehn Prozent ab.

Vor allem in der Zusammenarbeit mit einem Abtastsystem hoher Nadelnachgiebigkeit (compliance) fühlt sich der Black Widow wohl. Obwohl nicht zusätzlich gedämpft, zeigte er im Test keine unkontrollierten Schwingungen im subsonischen Bereich, also dem Tiefbaß un-

terhalb der Hörgrenze. Auch akustische Rückkopplungs-Probleme waren ihm fremd, wofür die winzigen Angriffsflächen verantwortlich sind, die das dünne Tonarmrohr Schallwellen bietet.



Ließ Streichern den harzigen Charakter: der Black Widow

Die musikalische Prüfung absolvierte die dürre Witwe mit Bravour. Sie erzeugte beispielsweise mit einem AKG-System P8ES oder dem Micro-Acoustics 2002-e ein ungemein sauberes und unverfälschtes Klangbild, wobei sie beiden Abtastern zu wahren Spitzenleistungen verhalf. (Daß beide Fabrikate unterschiedliche Pegel der Orchesterglocken auf der Meßplatte Shure TTR 101 bei unterschiedlichen Auflagegewichten sauber abtasteten, läßt keine Rückschlüsse auf ihre Klangqualität zu.)

Der gezupfte Baß der Platte „Live at the festival“ (siehe AUDIO-Referenzplatten) kam perlend und konturenscharf mit

Steckbrief Black Widow

Preis: um 750 Mark
Vertrieb: Audio Int'l,
Gonzenheimer Straße 2b,
6 Frankfurt 56

selten gehörter Wärme; Cembalomusik klang silbrig, und Streichern ließ der Black Widow den harzigen Charakter.

Probeweise mit einem Ultimo B, einem vorzüglichen Abtaster geringer Nadelnachgiebigkeit, betrieben, rutschte die Baßresonanz derart weit in den Hörbereich, daß die Tieftonwiedergabe zum Desaster wurde, abgesehen von einer bunten Vielfalt von Verzerrungen in den Höhen. So schien es ratsam, das Ultimo wieder in einen Arm vom Schlage des Dynavector zu transplantieren, der neben dem Black Widow wie eine gußeiserne Dampfmaschine wirkt, dem Ultimo aber zu höchster Leistung verhilft.

Heinrich Sauer

*** AUDIO-COMPUTER-MESSERGEBNISSE ***

Tonarm Black Widow

Abtastfaehigkeit 80my bei:	0.95p
(mit AKG P 8ES)	
Abtastfaehigkeit 80my bei:	1.45p
(mit Micro MA 2002e)	
Hoehenabtastfaehigkeit:	Level 4
(mit AKG P 8ES bei 0.95p)	
Hoehenabtastfaehigkeit:	Level 2
(mit Micro MA 2002e bei 1.45p)	
(level 1-4, orch. bells SHURE TTR101)	

the absolute sound T.M.

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INFINITY BLACK WIDOW TONE ARM

Manufacturer: Infinity Corp., 7930 Deering Ave., Canoga Park, Calif. 91304 **Source:** Manufacturer's loan. **Serial No.:** 198. **Cost:** \$200.

I don't think I shall waste your time and my time discussing the first version of the Infinity tone arm that was mentioned prematurely in Issue 8. At that time I (and the rest of the staff) was led to believe that this was the final version of the Black Widow—which is why we referred to it.

This tone arm is striking in its appearance. It is extremely simple, it is extremely slender, it is black with a very small carbon-fiber cartridge mount. It has an elegantly simple, yet convenient to use, antiskate mechanism. More on this later.

In the last five years, we have seen a proliferation of tone arms. I think we may have seen just the beginning of the onslaught, not the end. The secret of a good arm seems to be low mass, low friction, low inertia, low warp-wow factors, and high stability, regardless of a cartridge's weight or compliance. Anyone who is astute in tone arm design knows that it is almost impossible to design a tone arm in which all of these factors reach their optimum. Some tone arms (the M&K Rabco, the B&O 4002) have come extremely close to that optimum but even these are sensitive to cartridge applications, or, as in the case of the B&O, only one cartridge, a rather disappointing one, can be used.

But with the advent of the M&K and the B&O, many reviews began to realize that there was more to be found in the record groove than the SME (a long-term reference standard) could provide. There was a sense of air and subtle inner definition that these two new arms provided and the SME did not. There was a taut quality to timpani and bowed bass that I had not heard before.

Last year the Grace 707 and the Mayware Formula 4 came along. Both pivoted tone arms demonstrated an ability to recreate qualities of "air" and "tautness," (The Mayware is not without problems. Its inner-groove tracking ability is only fair and it provides only about half the air of the servo-tracking arms.)

Enough digression. I am here to tell you that the Infinity Black Widow comes very close to doing everything I have described, those things the radial tracking arms do, and without the inherent flaws of those two radial tracking arms.

I have yet to find a cartridge that does not track perfectly in the Infinity Black Widow, and the cartridges I have tried have been manifold. They include the EMT, the Supex, the Sonus, the Grado, the Micro-Acoustics, the Denon and the XLM. In every case, inner-groove distortion, warp-wow factors and overall airiness were improved when these cartridges were used in this tone arm.

The Black Widow tone arm does amazing things for most cartridges: It helps them re-create the sense of depth and breadth. When you couple this ability with the awesome sense of air that this arm lends to any cartridge, you have opened up a whole new listening experience. Most of the grain and most of the roughness you hear in the higher mass arms are gone. Gone, too, are the lower midrange colorations that the SME is still noted for, especially with cartridges like the XLM and the Sonus.

I have been the subject of some scattered reader criticism for underestimating the amount of time that things take to do (i.e., 45 minutes to mirror image the Dahlquist), but I do not exaggerate when I say that it took only 10 minutes to set up the Black Widow tone arm. There were no instructions with the arm, but you really do not need any instructions, because the process is rather straightforward. The overhang is standard and the protractor provided with the arm does a fine job. Antiskating adjustments are made very easily on this arm, since the needle is actually placed on the record, and the skating mechanism is easily adjusted while the tone arm is tracking the record. Very few tone arms provide this feature. A small sliding collar on the tone arm's rest provides the tracking adjustment. (Other than the fact that I measured it as reading approximately .25 grams low, the device works flawlessly.) The counterweight markings were approximately 10 per cent off when checked using either

reference or the Shure stylus gauges. (This is not a significant error.) The arm is mounted using a standard SME mounting template, so those readers who are now utilizing an SME will not have to drill any new holes whatsoever. The Infinity tone arm seems extremely insensitive to jarring and acoustic feedback in all but the most extreme of circumstances. If a heavy moving-coil cartridge with a low compliance stylus is used with the tone arm and if the turntable suspension system is less than adequate, severe feedback problems can be encountered. The obvious solution is to use a set of the Audio-Technica AT-605 isolation feet or the recently reviewed Netronics Acoustimount base to solve the feedback problem.

The tone arm's hydraulic cuing works as it should—smoothly and without flaw. Infinity has thought things out—they provide a cuing lift which is long enough to span the entire record, and to enable lifting and lowering the tone arm and the supporting of the arm when it is placed in its rest, a feature that arms like the Mayware and the J-H do not have and should have.

Overall, I cannot think of a finer pivoted tone arm available anywhere in this world today. I would recommend the Infinity Black Widow tone arm over arms like the M&K Rabco, if for no other reason that the obvious ease in setting it up and maintaining accurate adjustments (not to mention the tremendous difference in cost). The M&K Rabco is no longer available and, if it were available, it would cost about \$500. The adjustment process to set that arm up takes, regularly, 20 to 30 minutes per cartridge. Enough said. My congratulations to Mr. Nudell and his cohorts, they have given us the gift of good music.

—PHD

HP Comments:

I have no exception to take with PHD's description of this arm's virtues.

Maybe I should add that the staff of this magazine has, for the first time since the Audio Research SP-3a-(whatever) pre-amplifier, unanimously coveted this piece of equipment. That makes the second time we've been in such a state of heavenly harmony among ourselves. It's a rare component that gets this kind of endorsement from us.

There do, however, seem to be some inconsistencies (in looks and material) among the arms we have received. If these bespeak a deeper inconsistency, we shall return to the subject later.

(The Absolute Sound™ is an independent publication about sound and music for audiophiles and musicians. Subscriptions for four issues are available for \$12 via 3rd class mail, or \$14 via 1st class mail, or \$16 via 1st class airmail outside North America, from The Absolute Sound, P.O. Box 5, Northport, N.Y. 11768.)

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