



ORDERING INFORMATION

- *Mail to: 11731 Stillwater Creek Road, Nevada City, CA 95959
- *Phone (530)470-8650 (fax)470-8651 <michael@percyaudio.com>
- * You may call at anytime but we are usually unable to answer the phone, so email & fax are preferred. Sorry no onsite sales.
- *\$25.00 minimum order exclusive of shipping!
- *Check/MO in advance or COD, credit cards for US & 37 countries by PayPal (please add 2% fee USA, 3% foreign) www.paypal.com or by www.BidPay.com. We cannot accept CC payments directly.
- *\$7.50 shipping/handling per order, based on UPS ground delivery, surcharge as noted for heavy items, +\$7.50 for COD's
- *AK, HI, PR, Canada, overseas, inquire about shipping costs.
- *California residents add 7.25 % or current basic state sales tax!
- *UPS air, Express Mail, Federal Express, extra cost options

I maintain a very good inventory of virtually all products listed and make every effort to ship orders promptly, usually within 2 - 3 days, occasionally longer if business is particularly heavy or your order requires termination or other preparation. If your need is immediate write & highlight "urgent" outside the envelope on mailed in orders! If you wish to contact me by phone, please accept my apologies in advance, as the current volume of business leaves me very limited time to answer the phone, email or fax is much preferred. Check our web page frequently for catalog updates! www.percyaudio.com.

My apologies for any delay in replying to your emails and faxes. We are experiencing an extremely high volume of emails, and it is almost impossible to answer all of them. Please be patient, and inquire again if you do not receive a response within a few days.

INTERCONNECT & SPEAKER CABLE

- *Audioquest S-Video: S1 cable @\$3.25 per foot, S2 @\$10.50 per foot, S-20 connector @\$19.95 per pair (older Video S/X closeout .5M/\$25, terminated)
- *Belden 89259: 22ga stranded 75Ω RG59 FFEP insulated coax cable, currently popular for various audio projects... \$1.95 per foot (deduct 10% for 50'+)
- *CANARE Star Quad: The L4E6S four conductor (21ga) 6mm D microphone cable makes an excellent balanced or single ended budget audio interconnect and has exceptionally good EM & RF rejection, 44Ω, 57pF/foot, black 6mm D... 95¢ mono foot (50'+ deduct 10%, 100'+ deduct 20% for any Canare cable)
- *CANARE Video/Digital Coax: LV61S, 75Ω, 21pF/foot, black 6mm D, best buy quality digital/video use... 60¢ foot (50'+ less 10%, 100'+ less 20% any Canare cable) LV61S terminated with Canare's own 75Ω RCA, F, or BNC's (requires special crimp tools), add \$24.00 per cable (two ends installed), specify connector type!
- L5CFB Video Coax: Highest performance 7.5mm D 75Ω, foil shield + braided copper shield... 95¢ foot ("F", BNC, 75Ω RCA, add \$24 for two ends installed)
- DA-206 AES/EBU Digital: 110Ω cable for balanced digital applications, two conductors with a braided shield, 7.5mm D blue... \$1.75 per foot
- *CARDAS AUDIO: All Cardas interconnect and speaker cables are available except the Golden. The Hexlink and Quadlink are available as factory terminated pairs only, please phone for a price quote on the length you need. The models below are available as bulk wire. All Cardas cable products utilize the highest possible purity copper litz multistrand multi-gauge construction with Teflon insulation. Crosslink cables feature polypropylene insulated unenameled high purity copper stranded conductors.
- 2 x 21.5ga: Two Teflon insulated conductor bundles with a tinned copper spiral wrap shield, dark blue, 5mm D... \$3.50 per mono foot
- 300B Microtwin interconnect: Four multistrand conductors with spiral wrap copper & conductive tape shield, grey, 75pF foot, 7.7mm D ... \$4.95 mono foot
- Microtwin makes an excellent AES/EBU balanced digital cable as it has the ideal 110Ω impedance preferred for this application.
- Twinlink speaker cable: Two 15.5ga multistrand conductors with shield (shield not used for speaker cable application), grey, 9mm... \$4.95 per mono foot
- Crosslink Interconnect: Entry level Cardas 19.5ga double shielded 8mm D cable using their patented Constant Q Golden Section stranding... \$3.50 mono foot
- Crosslink Speaker cable: Entry level 10ga four conductor 9.5mm D cable featuring 120 discrete strand tubular Crossfield pure copper construction... \$3.50 mono foot
- *Goertz Alpha-Core: G-HT 14ga ribbon speaker cable, two .31" W x .010" thick polyester terephthalate insulated copper ribbons covered with a white jacket, can be terminated with Goertz RH plated connectors or ribbons can be notched for direct attachment to screw terminals or binding posts, 5mΩ R, .4nF, 12nH per foot... \$2.95 ft.
- M1-1 13ga OFC ribbon speaker cable, two 0.375" W x .010" thick polyester terephthalate insulated copper ribbons, 4.4mΩ, 0.5nF, 10nH per foot... \$3.95 per foot
- M1-2 10ga OFC ribbon speaker cable, two 0.750" W x 0.010" thick polyester terephthalate insulated copper ribbons, 2.2mΩ, 0.95nF, 6nH per foot... \$6.95 per foot
- Micro Purl OFC ribbon interconnect, two 0.050" W x 0.010" thick signal conductors sandwich on either side of a copper ground plane. The three layers are then twisted and embedded in a thick transparent polymer sheath. Excellent interconnect, microphone, and patch cable... \$5.95 per foot
- *KIMBER: High purity 5/9 copper and 5/9 silver interconnect & speaker cable designs, chassis wires for rewiring the inside of components are listed on page two.
- 4TC: 13ga. speaker cable made from eight (4+ & 4-) runs of the Teflon varistrand 19ga Kimber TCSS braided together... \$8.00 per mono foot
- 8TC: 9ga. speaker cable made from sixteen (8+ & 8-) runs of the Teflon insulated varistrand 19ga Kimber TCSS braided together... \$14.00 per mono foot.
- 4VS: 13ga./eight wire weave... \$3.30 ft. 4PR: 14ga./eight wire weave ... \$1.80 ft. 8VS: 10ga./sixteen wire weave... \$6.40 ft. 8PR: 11ga./sixteen wire weave... \$3.40 ft
- GO-TCSS: four wire braid of the TCSS, for line level and moderate speaker level applications... \$5.80 per foot
- This wire is very easily terminated with the Canare F-10 RCA's for a low cost, high performance cable pair, with only minimal soldering skills required.
- KC-1: Shielded version of the PSB interconnect, useful where an unshielded cable cannot be used, 45pF foot... \$6.50 per mono foot
- SILVER STREAK: A three wire braid interconnect, SSSE, single ended @\$24 ft. (one AGSS + two TCSS), SS-BAL, balanced @\$42 ft. (two AGSS + one TCSS)
- *MOGAMI 2534: Four conductor (24ga) 6mm D shielded microphone cable OFC Neglex copper, excellent for low cost interconnects... \$1.15 per foot (50'+ less 10%)
- *MUSIC METRE IV: IAR #59 praised this interconnect for its "transparency, neutral lack of coloration, and clean purity". This is a quasi solid core design comprised of four insulated strands, 3x28ga & 1x34ga per + & -, utilizing a high purity Teflon insulated OF copper, foil shield (40pF foot shielded), grey, 7mm D... \$7.50 mono foot
- *VAMPIRE Cast Copper Interconnect: CCC-II with twin 22ga polyethylene insulated conductors, copper braid shield and 7mm black PVC jacket @\$2.60 per mono foot
- Cast Copper 12ga Speaker Cable: ST-1 with six PVC insulated multi-gauge conductors twisted around a central core and 11.5mm black PVC jacket @\$6.50 per mono foot
- *XLO AUDIO Type 625 speaker cable: flat/under carpet type... \$.95 foot (closeout special)

CHASSIS WIRE

Acrotec: 99.99997% (6N) purity stress free copper wire from Nippon Mining, Japan

*40µ (4.2Ω/ft.) copper wire with polyester varnish insulation. Many people believe this to be the best wire available for rewiring tonearms or any application given a sufficient number of paralleled strands. For most tonearms parallel about 15 ccw wound strands of this 46ga wire, or use fewer for ultra delicate applications, difficult to work with but incredible performance... 85¢/foot. Deduct 10% for 100+ feet, 20% for 250+ feet.

Cardas chassis wires: A Teflon jacketed 6N copper multi-strand litz design drawn between ceramic rollers in a nitrogen atmosphere and enameled to prevent oxidation.

*9.5ga/\$3.25 per foot *11.5ga/\$2.95 per foot *15.5ga/\$1.65 per foot *17.5ga/\$1.55 per foot *20.5ga/\$1.50 per foot *23.5ga/\$1.45 per foot

We stock two colors in each of the gauges above, typically red and black, depending on availability, so specify your preference for one or two colors.

*33ga... For rewiring tonearms, an industry standard for this application, specify white, red, blue, green, black colors (no preference we'll give black)... \$1.50 ft.

*T2... a PVC jacketed dual concentric design with 2 multi strand litz outer layers spiraled in opposite directions and separated by Teflon tape from 2 inner multi strand litz layers also counter spiraled... 15T2 is effectively two 15ga conductor bundles @\$2.95 per foot, and the 9T2 is effectively two 9ga conductor bundles @\$4.95 per foot

*2 x 21.5ga... Two conductors plus shield, 5mm overall diameter, excellent budget interconnect or shielded chassis wire, blue... \$3.50 ft.

*2 x 24ga... Two conductors plus shield, 3mm D, 45pF foot shielded, superb for shielded super flexible tonearm cables, blue... \$3.00 foot

*4 x 24ga... 3.5mm diameter shielded four conductor version of the wire described above, blue... \$5.75 foot

*Single strand litz wire... The individual urethane enameled "magnet wire" strands used to build all other Cardas wire & cable, sold in fixed length or weight spools.

18ga/100' @\$23 29ga/100' @\$7 & \$250' @\$16 31ga/100' @\$6 & 250' @\$14 33ga, 35ga or 37ga 30-50gr @\$18 38ga, 39ga... please inquire

All Teflon insulated Cardas chassis wires are tested to 5000 VDC, superb for use inside electrostatic speakers or any high voltage application. These enameled wires require a hot soldering iron (800°F+, broad tip) or a solder pot. Deduct an additional 10% for 100'+ of any individual wire gauge except single strand litz.

Kimber TCSS: 7 strands of three gauges comprising a 19ga. TFE insulated Cu wire of 5N purity, specify white/black/red/green/blue... 85¢ ft. (100'+ @75¢ color mix ok)

Kimber TCX: 15ga. cable formed from three uninsulated TCSS bundles contained within a single TFE jacket, specify black/green/red/blue... \$2.50 ft.

Kimber SF23: 2:1 ratio 23ga flat KS Intrinsic copper wire with clear V-Teflon insulation... \$1.90 per foot (100'+ deduct 10%)

Kimber AGSS & AGSC: AGSS 7 strand 19 ga. silver with clear V-Teflon insulation... \$18.50/foot AGSC solid core 25ga silver with clear V-Teflon insulation... \$12.00/foot

18ga solid core copper: Teflon insulated .9999 solid core copper, specify red or black... 75¢ per foot deduct 10% for 50'+ or 20% for 100'+.

Solid Core Silver: Solid core silver wire... For all gauges listed, deduct 10% for 50', 15% for 100' or more per gauge 34 ga (.9999) clear Teflon insulated silver @\$3.95 foot

16ga (.9999) Teflon insulated silver, red or black @\$4.95 foot 21ga (.9999) Teflon insulated silver, red or black @\$3.50 22ga (.9999) Teflon silver, red & black @\$4.95

30ga or 26ga (.9999) purity uninsulated silver wire @\$.75 foot. 22ga (.9999) uninsulated silver wire @\$.95 foot 20ga (.9999) uninsulated silver wire @\$1.95 foot

18ga (.9999) uninsulated silver wire @\$2.50 per foot 16ga (.999) purity uninsulated silver wire @\$3.95 foot. 14ga (.9999) purity uninsulated silver wire @\$4.95 foot

12ga (.9999) purity uninsulated silver wire @\$8.50 foot (excellent high current buss wire for audio/power supply common ground)

24ga (.9999) Cardas uninsulated silver wire, super high purity, drawn through custom diamond dies and reduction oven annealed, finest silver available @\$1.50 foot

21ga (.9999) Cardas uninsulated silver wire, super high purity, drawn through custom diamond dies and reduction oven annealed, finest silver available @\$2.50 foot

16ga (.9999) Cardas uninsulated silver wire, super high purity, drawn through custom diamond dies and reduction oven annealed, finest silver available @\$5.95 foot

Vampire Cast Copper Wire: Extremely high purity (exceeding 6/9) copper wire, cast as opposed to drawn, single crystal (125 meters per crystal) copper.

22ga stranded (21 strands x approximately 36ga) with polyethylene insulation @\$2.00 per foot, available in clear or red insulation

18ga stranded (43 strands of three gauges), PVC insulation (500VAC) \$1.00 per foot, black or red 12ga stranded (420 x 38ga), PVC jacket... \$1.50 per foot, black or red

Single strand clear polyurethane coated cast copper "magnet wire" 50' minimum order per gauge: 26.5gauge (\$.25 foot), 21gauge (\$.35 per foot), 20gauge (\$.50 per foot)

Sorry - no more discounts on the cast copper magnet wire, price has quadrupled and minimum order impossibly high, so we are discontinuing - check on availability first!

Wonder Wire: A proprietary design high performance 19ga solid core, silver clad high purity copper with a unique crystal structure, uninsulated... 75¢ per foot

Insulated type with a special high voltage (9000VDC) clear dielectric... \$1.25 per foot Deduct 10% for 100'+, 20% for 250'+ any type Wonder Wire.

XLO: Ultra High purity Teflon insulated 6N copper, the wire used in construction of the top model XLO cables. (Most gauges are not currently available.)

30 gauge single strand with Teflon insulation @ask foot 26 gauge single strand with Teflon insulation @ask foot 23ga single strand with Teflon insulation @ask foot

21 gauge (3 x 30ga + 3 x 28ga Teflon insulated conductors spiral wound around a core, .075" D)@ask (XLO chassis wire is not currently available)

16 gauge (6 x 23ga Teflon insulated conductors spiral wound around a core, .088" D) \$4.95 per foot, purple or green

Headshell leads: Audioquest silk wrapped pure copper litz, 1-5/8" long...\$16.95 set/four

Cardas 33ga with gold plated PCC-E economy clips @\$22/four 33ga with Ag/Rh plated PCC-E clips @\$52/four 33ga with premium PCC Ag/Rh clips @\$73/four

BRAID, TUBING, HEAT SHRINK

Copper Braid: Finely stranded tinned copper tubular braid suitable for shielding audio signal carrying wire against RFI and electro-magnetic interference:

1/16" (48 x 36ga)/30¢ foot 1/8" (120 x 36ga)/35¢ 11/64" (120 x 34ga)/40¢ foot 13/64" (192 x 34ga)/45¢ 1/4" (384 x 36ga)/75¢ foot

1/2" (528 x 36ga)/\$.95 foot Deduct 10% for 50+ feet, 20% for 100'+ per individual size.

Polyester Mesh Braid: Provides a neat finished appearance and insulation over cable assemblies shielded with copper braid or as an attractive covering for bundled wires and wire harnesses of any type, will expand about 50% over nominal diameter with good coverage, tight weave type, solid black color. Please note that you may require length of this product beyond the actual dimension of the wire you are covering. As the braid is expanded it shortens. This is especially a consideration for the larger sizes, e.g. a length of the 1-1/4" braid will only cover about 70% of its length measured flat when expanded to cover a cable with 1-1/4" diameter. Best to order extra length.

1/4" @45¢ per foot 3/8" @60¢ per foot 1/2" @75¢ per foot 3/4" @95¢ per foot 1-1/4" @\$1.95 per foot Deduct 10% for 50'+, 20% for 100'+ per size.

Fiberglass Cloth Sleeving: Soft, flexible, completely opaque black tubular sleeving, exceptionally nice appearance, my first choice for power supply umbilicals or short ravel free coverings inside components, choose diameter carefully as this type will not expand, excellent for extreme temperatures, will withstand 500°C

1/8" @45¢ foot 1/4" @75¢ foot 3/8" @95¢ 1/2" @\$1.25 foot 3/4" @\$1.75 foot 1" @\$2.25 foot Deduct 10% for 50'+ per individual size.

Meltable Inner Wall Semi-rigid Polyolefin Heat Shrinkable Tubing: This is a 3:1 ratio heat shrink which is rigid enough to provide substantial support for any type of encapsulated connector-capacitor-adaptor etc. assembly or strain relief for cable-connector junctions, black color only.

1/4" @\$2.75 per foot 3/8" @\$3.00 per foot 1/2" @\$3.50 per foot 3/4" @\$5.75 per foot 1.0" @\$6.95 per foot packed in one foot long sections

Adhesive lined Heat Shrink: A flexible 3:1 ratio heat shrink with an adhesive lining which melts when heated and will bond to most materials providing excellent flexible strain relief for cable-connector junctions etc., black only... 1/4" @\$1.50 ft. 3/8" @\$1.75 ft. 1/2" @\$2.00 ft. 3/4" @\$3.50 ft. 1" @\$5.00 ft. packed in one foot pieces

Polyolefin Heat Shrink: High quality, high temperature tolerant (not PVC junk!) 2:1 heat shrink for all-purpose application as insulation, strain relief, etc., specify color:

clear, red, or black, sold only in 4' sections, price per four foot length... 1/8" @\$1.50 1/4" @\$2.50 3/8" @\$2.95 1/2" @\$3.25 3/4" @\$3.95 1" @\$4.95

Teflon tubing: Excellent high temperature insulation for resistor and capacitor leads, uninsulated Wonder wire, etc., thin wall type, natural white translucent color.

22ga/25¢ per foot 20ga/30¢ 18ga./35¢ 16ga/40¢ 14ga/50¢ 12ga/55¢ 10ga/60¢ 8ga/90¢ 6ga/\$1.10 4ga (.2"ID)/\$1.60 (50+ feet per gauge @ -10%, 100' @ -25%)

MALE CABLE MOUNT RCA

Cardas SRCA: Top of their line 9mm silver/rhodium plated brass, spring reinforced ground contact for long term snug fit... \$25.00 pair
 Cardas GRMO: 9mm silver/rhodium plated brass, similar to SRCA but without spring reinforced ground and slightly smaller body... \$16.00 pair
 Cardas SLVR: 9mm silver over brass (.525" length center pin on all Cardas)... \$14 pair. GRGM: 6mm silver/rhodium... \$14 pair AGMO: 9mm gold plated version... \$14 pair
 Cardas GRNO: 9mm silver/rhodium plated right angle male for tight clearances behind components... \$19.00 per pair

Canare F-10: Gold plated, 8mm brushed chrome plated brass shell, Teflon dielectric, very nicely machined connector at a reasonable cost... \$9.95 pair (12+ pair, less 10%)

Eichmann Bullet Plugs: Low mass contact RCA, superior performance for cables up to 9mm diameter... \$35.95 gold plate set of four solid silver contact type... call for \$\$

Vampire: Five piece style connector with gold plated oxygen free copper contacts. The ground/strain relief comes pre-notched (9mm only) for soldering the negative conductor of twinax cable designs, solid .125" D center pin .590" long... \$19.95 per pair, specify 5mm, 7mm or 9mm shell

Vampire 800C: 8mm cable size OFC copper with heavy direct gold plating, one piece style + outer black shell (shell slides over cable first), thick splined ground crown with .125"D center pin, .560" long, Teflon dielectric, a superb connector, possibly best available... \$27.95 per pair

Vampire 808: 8mm cable size plug similar to 800C in design but gold plated brass, Teflon dielectric... \$15.95 per pair

Vampire LRCA: Clone of the WBT locking RCA, but with a properly long .555" center pin, gold plated brass; for cables to 8mm... \$19.50 pair.

Vampire 557: 5mm cable size plug with spring strain relief or up to 7mm without spring, black shell, gold plated... \$6.95 per pair

WBT: #0144 midline solderable 9mm plug @\$36.50 per pair, #0101 topline solderable 9mm plug @\$58.50 per pair

Cardas & Vampire male and female RCA... deduct 10% for 6+ pair per model, 20% for 12+ pair, 25% for 25+ pair Eichmann... call for volume \$\$

FEMALE CHASSIS MOUNT RCA

Cardas GRFA: Silver/rhodium plated brass (60μ Ag, ≤3μ Rh) Teflon dielectric, outside nut style, requires a 7/16" (.440") chassis hole if used with supplied isolation washers, or a 3/8" hole w/o washers, available in two lengths, standard accommodates chassis to .10" thick, long up to .35"... standard/\$14.50 pair long/\$16.50 pair

Cardas PC Mount: Ag/Rh plated, right angle or straight... \$20.00 pr.

Cardas RCA Caps: Non-shorting caps to cover unused RCA inputs @\$3.00 each or \$35.00/twelve Free UPS ground shipping for any order that includes a set of 12 RCA caps!

Kimber: Premium quality brass chassis mount with Kimber's proprietary Ultraplate finish (probably Ag/Rh but Kimber won't say), Teflon dielectric, inside nut mount, tab machined from plug body for direct soldering of grounds, 25/64" body diameter requires .50" hole using supplied isolation washers... \$29.50 pair

Vampire: Our most popular jacks, most feature nickel free gold plating plating and Teflon dielectric (used by Audio Research and other high-end manufacturers) CMHex... .310"D brass body, requires 3/8" chassis hole with isolation washers, inside nut mount w/hex outer shape, Teflon dielectric, Cu/Ag/Au plating, \$10.50 pr.

CM1F... .310"D brass body, requires 3/8" chassis hole with isolation washers, inside nut mount w/round outside, Teflon dielectric, Cu/Ag/Au plating, \$10.50 pr.

CM2F... .388"D brass body, requires 1/2" chassis hole with supplied isolation washers, outside nut mount style, Teflon dielectric, Cu/Ag/Au plating, \$12.50 pair

CM1F/OFC... .310"D Cu body, requires 3/8" chassis hole with washers, inside nut w/round outside, Teflon dielectric, direct gold over OF copper \$20.00 pr.

CM2F/OFC... .388"D Cu body, requires 1/2" chassis hole with washers, outside nut mount style, Teflon dielectric, direct gold over OF copper \$24.00 pair

CM7F... .310"D brass body, requires 3/8" chassis hole with isolation washers, inside nut style with hex outer shape, Delrin dielectric, nickel/gold plating, \$6.95 pair

PC mount... Choose straight or right angle mount, also has nut and threaded collar to fit 1/2" chassis hole size, \$12.50 per pair

WBT: #0201E chassis mount style, chassis hole size .475", electroless nickel/gold plate, Teflon dielectric, active spring contact... \$54.00 per pair #0208 solderless/\$59 pair

MISCELLANEOUS CONNECTORS & ADAPTORS

NEUTRIK XLR: Gold or silver plated 3 pin NC3XB type XLR cable mount or panel mount, black shell... \$4.95 each Gold plated assumed if you do not specify silver.

4 pin NC4FXB female cable @\$7.95, 4 pin NC4MXB male cable @\$5.95, 4 pin NC4FP-1-B female panel mount @\$7.95, 4 pin NC4MP-B male panel mount @\$5.95

5 pin NC5FXB female cable @\$8.95, 5 pin NC5MXB male cable @\$6.50, 5 pin NC5FP-1-B female panel mount @\$10.95, 5 pin NC5MP-B male panel mount @\$7.95

You may find these four and five pin XLR's useful for power supply umbilical connections. Use female panel mounts for output and male panel mounts for input (safer).

VAMPIRE XLR: Gold plated 3 pin black shell XLR cable mount @\$5.95 or panel mount @\$5.50, male & female nickel free gold plate (except female grounds), 12+ mix deduct 10% The panel mounts have the same flange size and mounting hole layout as our Neutrik. The cable mounts can be used to easily make RCA/XLR adaptors, ask us how!

XLO XLR: Signature series with direct gold plated beryllium copper contacts, identical style/chassis hole pattern as the most commonly used two hole Neutrik.

male cable mount/not available male chassis mount/\$6.95 each female cable mount/not available female chassis mount/\$9.95 each

AUDIOQUEST BNC & F: 9mm solderable cable mount BNC and F connectors, gold plated... \$15.50 per pair BNC or F type

1/4" phone plugs: Vampire gold plated mono or stereo phone plug... \$7.50 ea. Neutrik NP2C nickel plated 1/4"... mono/\$3.50 each stereo/\$5.50 each

Neutrik NJ3FP6C-BAG, 1/4" phone socket for mono or stereo application, silver plated contacts, locking type with black rectangular mounting flange... \$6.95 each

VAMPIRE "Y" adapter: A one piece gold plated "Y" adapter (male to double female RCA, one female in line & one at 90°) ... \$15.95 per pair

VAMPIRE 90° adapter: A one piece gold plated right angle adapter with a male and female RCA offset 90° from each other... \$15.95 pair

VAMPIRE double female RCA: A one piece gold plated double female RCA for joining two male terminated cables... \$15.95 per pair

Cartridge clips: Cardas PCCE gold plated brass clips to fit most cartridges @\$1.00 each VdHul 1.0mm gold plated copper clips @\$1.00 each. (1.0mm size fits most headshell or tonearm pins). Kit of four PCCE or VdH with color coded heatshrink and Wonder Solder... \$6.50 Cardas super premium cartridge clips, silver rhodium plate, spring tensioned... \$37/40

Tonearm connectors: Five pin female tonearm plug with Teflon dielectric, aluminum case... Cardas straight/\$27.95 Cardas right angle/\$61.95 (other male & female types - email)

CARDAS termination box: #CPIB, Black anodized box with Cardas RCA, ground posts, no wire or tonearm plug... \$79 #CPTB-ST, same box with flex lead and tonearm plug \$125

SMC Connectors: 75Ω panel mount male and RG59 cable mount female connectors... SMC male panel/\$7.95 SMC female cable mount/\$14.95

Stereo Mini plug: Canare brand, highest quality we have found, will accept cables to 6mm with spring strain relief, 8mm without, nickel plated contacts... \$6.95

Audioquest 1.0M cable with gold plated male stereo-mini plug to a pair of gold plated male RCA plugs... with OFHC copper/\$37.95 with FPC6 6/9 copper/\$71.50

Fischer: 3 pin cable connectors for cables to 8.7mm, used with Cello and other components, male/\$54 each, female/\$60 each Fischer S104 speaker connectors/\$39.00 each

Neutrik PowerCon: AC power connectors, NAC3MPA (input) & NAC3MPB (output) panel mounts @\$3.95 each, NAC3FCA (in) & NAC3FCB (out) cable mounts @\$6.95 each

Lemo Camac: Lemo RG58 5mm male cable mount connector @\$14.95 each

Lemo Camac Adaptor: Female RCA to male Camac adaptor (allows RCA cables to be used with Camac inputs) ... \$22.95 each (as shown)





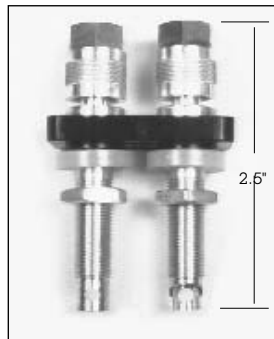
MUSIC POSTS

Classic favorite five way binding post. Machined from solid tellurium copper rod stock (99.37% cu), these unplated posts are fitted with a tightly bonded clear Lexan mounting plate which requires 1/2" diameter holes spaced .75" apart in your amplifier or speakers. Use a coin or large screwdriver to tighten these onto spade lugs or bare wire, and they will compress around a banana plug. A matching unplated adjustable (set screw in slotted tip controls expansion) copper banana plug is also available.

- * Long size (pictured) fits speaker cabinets up to 7/8" thick, or more if broken out of their Lexan mounting plates.
- * Short size fits amplifier chassis or mounting plates on speaker cabinets up to 3/8" thick w/ mounting plate & washers.

\$35.00 per stereo set, or deduct 10% for four or more sets (a stereo set is 4 posts for \pm L & R channel)

Music Post bananas @\$8.50 each... currently not in production, inquire before ordering



CARDAS BINDING POSTS

CCBP & CCGR machined five way binding post, available in unplated or silver/rhodium plated tellurium copper, (app. 60 μ Ag, \leq 3 μ Rh) with gold plated lock nut. Both are available in two lengths and mounted in a removeable "no turn" black plastic plate to fit .5" holes on standard .75" centers, or as individual posts in a .310" hole. Choose short model to accommodate chassis thickness up to .175", or the long (pictured) for up to .900", an additional .250" gained if used individually without insulators. Deduct 10% for four or more sets. (a stereo set is 4 posts for \pm L & R channel) short or long CCBP unplated posts \$49.00 per stereo set (2 prs.) CCGR plated posts \$75/long, \$65/short per stereo set

CPBP insulated posts (not pictured) with low mass contacts to fit spade lugs or bare wire, mounts with a single screw, and clamps spade with a single knurled knob, available in a short version for metal chassis, or long for speaker cabinets, specify length and Ag/Rh plated or bare copper... \$35.00 per stereo set Deduct 10% for four or more sets.

SPADE LUGS, BANANA PLUGS, BINDING POSTS

Audioquest spade: Specify direct gold or silver plate copper, 3/16", 1/4", or 5/16" opening, all .040" thick for 10-12 ga wire... 75¢ each (25+ @65¢ each)

P-8M spade lug, a heavier duty direct gold or silver plated OFHC 8ga angled spade lug for 1/4" or 5/16" post... \$3.50 each (deduct 10% for 12+)

Cardas spade lugs: ① GRS angled two piece spade with separate crimp sleeve, specify bare copper or Ag/Rh plated type for 1/4" binding post (\$2.50), or plated only model with 9mm opening (\$2.95) (10+, deduct 10%) ② CCMS premium milled spade lug, .085" thick, .150" or .245" non-crimpable solderable hole for wire, specify unplated or Ag/Rh plated model sized to fit 1/4" (\$6.95 each) or plated only for 9mm binding post (\$8.50), or plated only to fit 1/8" barrier strip screw terminals (\$6.95)

Cardas banana plugs: A silver/rhodium plated banana with a very durable pin structure. Designed to accommodate a spade lug, bare wire, or you can solder directly to them singles/\$10.95 each duals/\$21.50 each with removable mounting plate to hold them on standard .750" centers. (6+ pair less 10%)

Cardas Magy pin: Quality silver/rhodium plated pin which replaces the connectors used between the xover and panels on Magnepans... \$4.00 ea.

Cardas pin connector: Nickel plated angled pin connector with notches, to fit spring type speaker wire receptacles... \$1.00 each

Eichmann Bayonet banana plugs: Same low mass technology as their superb RCA connectors, gold plated CuTe... \$42.50 set of four

Eichmann CablePod binding posts: Same low mass technology as their superb RCA connectors, gold plated CuTe... \$45.00 stereo set (two pairs or four posts)

Vampire cut rings: #2 ga. gold plated/silver subplate copper ring lug cut to form a spade lug (.360" crimp barrel, .650" overall width, .275" opening)... \$4.50 ea.

Vampire 6 ga. HDS angled spade lug: Oxygen Free copper lug with heavy direct gold plate, .405" overall width with .250" opening, .072" thick... \$2.50 each

This spade lug is also available with a .475" overall width and a .325" opening to accommodate larger diameter binding posts... \$2.50 each

A lighter straight version of this spade lug with a .325" overall width and a .165" opening is available to fit screw terminals... \$1.95 each, also to fit 3/8" post @\$1.95 each

Vampire banana plugs: Very sturdy nickel/gold plated solid brass two piece banana plug which can be used with its thumb screw to secure heavy gauge bare wires or pin terminated cables; banana leaves are machined from the body of the plug and will insure a long term tight connection.

Singles are all metal, solderable & stackable /\$11.50 pair Duals encased in a plastic holder, non-solderable & non-stackable/\$14.50 pair (two duals)

Vampire pin connector: Gold plated flat pin for use on speaker cables connecting to spring type receptacles... \$1.00 each

Vampire binding posts: Machined of gold plated brass, five way binding posts with removable black plastic mounting plate to fit standard .50"D holes on .75" spacing. With mounting plates the short size will fit chassis thicknesses up to 5/16", long size up to 13/16"... \$25.00 per stereo set, specify long or short (four posts and two mounting plates) (4+ stereo sets, deduct 10%, 8+ sets, deduct 20%) (We also have a direct gold plate OFC short version @\$75/stereo set)

WBT Binding Posts: #0763 gold plated, stereo set (4)... \$69.00 set WBT #0700 heavy duty style, gold plated, stereo set (4)... \$180.00 set

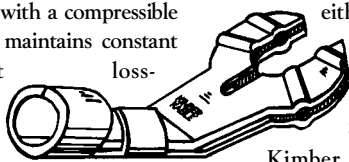
For panels close to 1/2" or thicker, purchase the WBT #0715 extensions for the above binding posts... \$32.00 set of four

WBT bananas: lockable design, gold plated OFC alloy... #0600/\$126 set of four #0644/\$63 set of four #0645 angled banana/\$72 set of four

XLO banana plugs: Direct gold plated brass, contact fingers machined from body of plug, ... \$7.95 pair New! insulated version... \$21.00 pair

Economy locking solderable single bananas from Luminous Audio @\$6.95 pair

KIMBER POSTMASTER: A two layer copper spade lug with a compressible wafer fitted between the two contact parts. The wafer maintains constant dynamic pressure on the binding post preventing contact loss- es due to vibration or temperature fluctuation and binding posts need only be finger tightened. The radial ridges concentrate contact pressure for a gas tight fit. Available



either in unplated copper or with Kimber's proprietary Ultraplate finish, PM-25 fits 1/4" posts, PM-33 fits 5/16" posts, overall width is .535", accepts up to six gauge wire. Supplied with heat shrink & Wonder solder. Specify unplated copper or Ultraplate finish and size.

Kimber Postmaster... \$20.00 per pair

Canare 75 Ω BNC & RCA: True 75 Ω panel mount female BNC & RCA connectors, to replace the non-75 Ω RCA jacks or 50 Ω BNC's usually found on digital & video equipment, chassis isolated, available in an R1 style direct chassis mount or RU style bulkhead mount. BNC's have gold plated center pin, RCA's are all gold plate.

And, yes, the 75 Ω Canare RCA does sound audibly better on digital components than the much more expensive WBT/Cardas/etc. RCA male or female!

R1-BNC/\$6.95 RU-BNC bulkhead mount/\$9.95 R1-RCA @\$6.95 RU-RCA bulkhead mount/\$9.95 75 Ω RCA/75 Ω BNC adaptor @\$10.50



(female RCA to female BNC)

RELIABLE CAPACITOR

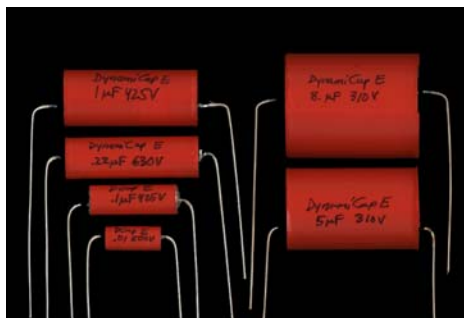
*Highest quality axial lead film capacitors designed by Richard Marsh, in collaboration with, and manufactured by Reliable Capacitor. Various types are available, including Teflon, Polystyrene, film & foil Polypropylene, and metallized Polypropylene, some using their popular multi-section coaxially wound "MultiCap" construction, others with very high voltage films.

*Nominal tolerance is $\pm 10\%$ ($\pm 5\%$ typical), add 50¢ per capacitor for 1% matched pairs (pairs within 1% of each other, absolute value is not guaranteed).

*Exclusively for our customers we have measured for & marked the outer foil lead end of most larger value capacitors with a black dot for optimum orientation. For most series signal path applications I recommend orienting the outer foil lead toward the load, as though the signal were exiting the cap at the end with the dot. For shunt and power supply bypass applications, orient the black dot toward ground. At the very least, observe the same alignment in the left & right channels.

*Deduct 10% for \$250+, 15% for \$500+, any combination of Rel-Caps.

Exotica Teflon & Tin Foil (TFT)				Exotica Polypropylene & Copper Foil (PCU)			
.10µF.....200VDC	\$21.50	.21" D x .53" L		.10µF.....200V	\$20.95	.38" x 1.00"	
.01µF.....400V	23.95	.21" x .75"		.10µF.....600V	26.50	.65" x 1.00"	
.01µF.....600V	25.95	.27" x 1.0"		.22µF.....200V	41.95	.51" x 1.00"	
.022µF.....200V	22.50	.25" x .75"		.22µF.....600V	49.95	.90" x 1.00"	
.022µF.....400V	25.50	.28" x .75"		.33µF.....200V	61.50	.70" x 1.30"	
.022µF.....600V	27.50	.31" x 1.0"		.33µF.....600V	73.50	1.0" x 1.30"	
.033µF.....200V	23.50	.28" x .75"		.47µF.....200V	79.00	.80" x 1.25"	
.033µF.....400V	25.95	.28" x 1.0"		.47µF.....600V	95.00	1.2" x 1.25"	
.033µF.....600V	28.50	.38" x 1.0"		.68µF.....200V	104.00	.98" x 1.25"	
.047µF.....200V	24.50	.32" x .75"		.68µF.....600V	137.00	1.1" x 1.75"	
.047µF.....400V	26.95	.32" x 1.0"		1.0µF.....200V	141.00	.93" x 1.75"	
.047µF.....600V	30.50	.44" x 1.00"		1.0µF.....400V	156.00	1.2" x 1.75"	
.068µF.....200V	25.95	.31" x 1.00"		2.0µF.....200V	255.00	1.35" x 1.70"	
.068µF.....400V	28.95	.38" x 1.00"		2.0µF by special order only (8 weeks).			
.068µF.....600V	31.50	.45" x 1.25"		No 1% matches for TFT/PCU due to limited inventory.			
.10µF.....100V	25.50	.35" x .80"		although we do pair them up as best we can at N/C			
.10µF.....200V	28.95	.37" x 1.00"					
Teflon & Tin Foil, direct gold plate OFC leads							
.10µF.....400V	\$31.50	.46" x 1.00"					
.10µF.....600V	36.95	.54" x 1.25"					
.15µF.....100V	39.50	.55" x 1.75"					
.15µF.....600V	54.95	.62" x 1.25"					
.22µF.....100V	49.50	.60" x 1.00"					
.22µF.....200V	55.95	.46" x 1.25"					
.22µF.....400V	63.95	.57" x 1.25"					
.22µF.....600V	70.95	.71" x 1.50"					
.33µF.....100V	59.95	.80" x 1.00"					
.33µF.....200V	69.50	.55" x 1.25"					
.33µF.....400V	82.50	.62" x 1.50"					
.47µF.....100V	71.95	.75" x 1.25"					
.47µF.....200V	82.95	.65" x 1.50"					
.68µF.....100V	95.95	.90" x 1.00"					
.68µF.....200V	131.50	.70" x 1.50"					
1.0µF.....100V	159.50	1.0" x 1.25"					
1.0µF.....200V	184.95	.82" x 1.50"					
MultiCap Film & Foil Polystyrene (RTX)							
.01µF.....400VDC	\$3.50	.40" D x .80" L		.68µF.....400V	\$17.95	1.15" x 1.80"	
.01µF.....600V	4.95	.45" x 1.00"		.75µF.....400V	17.95	1.20" x 1.80"	
.022µF.....600V	5.95	.55" x 1.00"		1.0µF.....100V	14.95	.80" x 1.80"	
.029µF.....600V	6.50	.55" x 1.25"		1.0µF.....200V	17.95	1.20" x 1.80"	
.033µF.....600V	6.50	.63" x 1.05"		1.0µF.....400V	26.95	1.20" x 2.30"	
.047µF.....100V	5.50	.55" x .800"		1.5µF.....200V	22.95	1.35" x 1.80"	
.047µF.....600V	6.95	.60" x 1.20"		2.0µF.....200V	27.95	1.35" x 2.30"	
.068µF.....100V	5.95	.40" x 1.00"		3.0µF.....200V	38.95	1.55" x 1.80"	
.068µF.....600V	7.95	.70" x 1.30"		Highest quality, very low ESR polystyrene & tin foil construction. Arguably their best MultiCap design			
MultiCap Film & Foil Polypropylene (PPFX)							
.10µF tin.....400VDC	\$5.50	.50" D x 1.00" L		4.0µF tin.....200V	\$31.95	1.20" x 1.80"	
.10µF tin.....600V	6.95	.60" x 1.00"		5.0µF tin.....200V	36.95	1.35" x 1.80"	
.15µF.....400V	4.50	.60" x 1.10"		6.0µF tin.....200V	38.95	1.50" x 1.80"	
.22µF tin.....200V	4.95	.50" x 1.00"		8.0µF tin.....200V	48.95	1.45" x 2.30"	
.22µF tin.....400V	7.95	.65" x 1.00"		10.0µF tin.....200V	49.95	1.65" x 2.30"	
.22µF tin.....600V	8.50	.70" x 1.30"		High current film & foil polypropylene construction, excellent for power supply and speaker crossover applications. Where "tin" is noted these are the PPFX-S tin foil type, others are aluminum foil construction.			
.22µF tin.....800V	13.95	.90" x 1.30"					
.33µF tin.....400V	8.25	.65" x 1.30"					
.33µF tin.....600V	8.95	.80" x 1.30"					
.47µF tin.....400V	11.50	.75" x 1.30"					
.47µF.....600V	8.50	.80" x 1.80"					
MultiCap Metallized Polypropylene (PPMFX)							
.10µF.....200VDC	\$3.50	.37" D x .55" L		.60µF.....200V	\$12.50	1.00" x 1.80"	
.10µF.....400V	3.95 (\$3.20)	.40" x .725"		.60µF.....400V	20.95	1.50" x 1.80"	
.10µF.....600V	5.95	.50" x .750"		.70µF.....200V	14.95	1.00" x 1.80"	
.22µF.....200V	3.50	.80" x .460"		.80µF.....200V	15.50	1.10" x 1.80"	
.22µF.....400V	4.25 (\$3.75)	.55" x .725"		.90µF.....200V	16.95	1.10" x 2.00"	
.22µF.....600V	6.50	.60" x 1.00"		10.0µF.....200V	18.50 (\$14.25)	1.10" x 2.00"	
.33µF.....200V	3.75	.50" x .800"		15.0µF.....200V	22.95	1.40" x 2.00"	
.33µF.....400V	5.95 (\$4.50)	.60" x 1.10"		20.0µF.....200V	27.95	1.50" x 2.00"	
.33µF.....600V	7.95	.70" x 1.00"		30.0µF.....200V	38.95	1.60" x 2.80"	
.47µF.....200V	3.95	.45" x 1.00"		Metallized polypropylene, compact, self healing, moderately priced. Same size lower cost PPMF-2 two section design, priced in (\$...). All other MultiCaps except values below .10µF are ten sections.			
.47µF.....400V	5.95	.65" x 1.00"					
.47µF.....600V	8.95	.70" x 1.30"					
.68µF.....200V	4.50	.55" x 1.00"					
AudioCap Metallized Polypropylene (PPMF)				AudioCap Metallized Polypropylene (PPMT)			
40µF.....100VDC	\$31.95	1.5" D x 2.0" L		.10µF.....1500VDC	\$12.95	.50" D x 1.75" L	
50µF.....100V	36.50	1.6" x 2.3"		.10µF.....2400V	15.95	.72" x 1.75"	
60µF.....100V	41.50	1.6" x 2.8"		.22µF.....1500V	15.95	.72" x 1.75"	
70µF.....100V	46.50	1.6" x 3.3"		.22µF.....2400V	20.95	1.1" x 1.75"	
80µF.....100V	52.95	1.6" x 3.3"		.33µF.....1500V	16.95	.80" x 1.80"	
100µF.....100V	57.95	1.8" x 3.3"		.47µF.....1500V	20.50	1.1" x 1.75"	
Polystyrene & Tin Foil 5% (RT)							
.001µF.....600VDC	3.95	.25" x .60"		.068µF.....200V	\$5.50	.40" x 1.0"	
.0015µF.....600V	3.95	.25" x .80"		.068µF.....600V	6.50	.60" x 1.5"	
.0022µF.....600V	3.95	.25" x .80"		.10µF.....200V	5.50	.42" x 1.25"	
.0033µF.....600V	3.95	.25" x .80"		.10µF.....600V	7.50	.64" x 1.75"	
.0039µF.....600V	3.95	.30" x .75"		.22µF.....200V	5.95	.55" x 1.50"	
.0047µF.....600V	3.95	.30" x .80"		.22µF.....400V	6.95	.65" x 1.50"	
.0056µF.....600V	3.95	.20" x .75"		.22µF.....600V	10.95	.90" x 1.80"	
.0062µF.....600V	3.95	.35" x .75"		.33µF.....200V	7.95	.60" x 1.50"	
.0068µF.....600V	3.95	.35" x .80"		.33µF.....400V	9.95	.75" x 1.80"	
.0082µF.....200V/\$1.95	600V/\$3.95	.40" x .80"		.47µF.....200V	9.95	.75" x 1.80"	
.01µF.....200V	2.75	.21" x .52"		.47µF.....400V	11.95	.90" x 1.80"	
				.47µF.....600V	14.95	1.1" x 2.3"	
				Very popular sweet sounding Polystyrenes.			



TRT DYNAMICAP & WONDERCAP

- *TRT's superbly transparent DynamiCap design, and a small selection of the previous generation lower cost WonderCaps. DynamiCap features unique construction with metal end caps, and individually hand soldered 19ga silver clad copper Wonder Wire leads. These are the finest metallized capacitors available today.
- *Tolerance typically $\pm 5\%$, DynamiCap $\leq .033\mu\text{F}$ are exotic film & foil construction. WonderCap $\leq .7800\mu\text{F}$ are polystyrene film & foil. All DynamiCap & WonderCap $\geq .10\mu\text{F}$ and larger values are metallized polypropylene.
- *If bypassing DynamiCaps use no more than 1/100 the value of the main capacitor value to avoid spectral overlap. You may find bypassing is not required at all with these very transparent capacitors.
- *Two DynamiCap types are available for values $\geq .10\mu\text{F}$, E for coupling and power supplies in electronics, and the L type which is specifically made only for passive crossovers in loudspeaker systems.
- *Please specify type E (electronics) or L (speaker) when ordering. Sizes listed are for the highest voltage (larger).

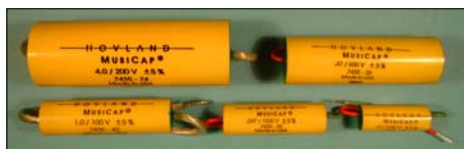
.0024µF 1% InfiniCap. 630V.....	.24" D x .80" L	\$14.95
.013µF DynamiCap . . .500V - E only .....	.29" x .65"	\$11.95
.033µF DynamiCap . . .500V - E only .....	.43" x .675"	\$15.95
.10µF DynamiCap . . .425V-E/310V-L.....	.35" x 1.1"	\$12.95
.22µF DynamiCap . . .630V-E/310V-L.....	.48" x 1.6"	\$14.95
.33µF DynamiCap . . .425V-E/310V-L.....	.40" x 1.6"	\$13.95
.47µF DynamiCap . . .425V-E/310V-L.....	.48" x 1.6"	\$14.95
.68µF DynamiCap . . .425V-E/310V-L.....	.60" x 1.6"	\$15.95
1.0µF DynamiCap . . .425V-E/310V-L.....	.65" x 1.6"	\$17.95
2.0µF DynamiCap . . .425V-E/310V-L.....	1.0" x 1.6"	\$21.95

3.0µF DynamiCap . . .310V-E/310V-L..	1.2" x 1.6"	\$26.95
4.0µF DynamiCap . . .425V-E/310V-L..	1.33" x 1.6"	\$29.95
5.0µF DynamiCap . . .310V-L only	1.0" x 1.6"	\$27.95
6.0µF DynamiCap . . .310V-E or L.....	1.1" x 1.6"	\$29.95
7.0µF DynamiCap . . .310V-E or L.....	1.20" x 1.6"	\$32.95
8.0µF DynamiCap . . .310V-E or L.....	1.25" x 1.6"	\$35.95
10.0µF DynamiCap . . .310V-E or L.....	1.4" x 1.6"	\$40.95

Deduct 10% for \$250+, 15% for \$750+ mix of values.
Ask about specials on remaining stock of Signature InfiniCaps.

750pF 2% Wonder . . .630V.....	.225" x .650"	\$5.95
2400pF 2% Wonder . . .630V.....	.250" x .700"	\$5.95
4800pF 2% Wonder . . .630V.....	.350" x .700"	\$5.95
7000pF 1% Wonder . . .630V.....	.350" x 1.00"	\$5.95
7800pF 1% Wonder . . .630V.....	.350" x 1.00"	\$5.95
.10µF 10% Wonder . . .210V.....	.285" x .525"	\$1.95
.10µF 10% Wonder . . .425V.....	.360" x 1.20"	\$3.75

Add 50¢ per capacitor for 1% matched pairs



HOVLAND MUSICAP

- *Film & Aluminum Foil Polypropylene capacitors of extremely high quality and musicality for coupling and speaker crossover applications, $\pm 5\%$ nominal tolerance but typically closer so further matching not usually required.
- *22ga stranded silver plated Cu Teflon insulated axial lead termination except for items in bold which have 16ga stranded silver plated Cu high current leads for loudspeaker crossovers. Add 50¢ per capacitor for 1% matched pairs.

.01µF.....	1600VDC ..	.39"D x 1.17"L	\$8.95
.022µF.....	1000V .....	.44" x 1.25"	\$8.95
.033µF.....	600V .....	.35" x 1.28"	\$7.25
.047µF.....	1000V .....	.54" x 1.75"	\$10.95
.10µF.....	400V .....	.41" x 1.28"	\$7.95
.10µF.....	600V .....	.50" x 1.75"	\$10.50
.15µF.....	400V .....	.43" x 1.25"	\$10.25
.22µF.....	400V .....	.55" x 1.50"	\$10.75
.22µF.....	600V .....	.62" x 2.00"	\$13.25
.33µF.....	600V .....	.57" x 2.25"	\$16.50
.47µF.....	400V .....	.59" x 2.00"	\$11.50
.47µF.....	600V .....	.80" x 2.50"	\$19.50
.68µF.....	400V .....	.76" x 2.00"	\$15.95

1.0µF.....	100V .....	.55" x 2.00"	\$15.95
1.0µF.....	200V .....	.67" x 2.00"	\$14.50
1.0µF.....	400V .....	.78" x 2.50"	\$20.50
1.5µF.....	100V .....	.70" x 2.00"	\$18.95
1.8µF.....	100V .....	.66" x 2.25"	\$19.95
2.0µF.....	100V .....	.70" x 2.25"	\$21.50
2.0µF.....	400V .....	.98" x 3.00"	\$25.95
2.2µF.....	100V .....	.75" x 2.25"	\$21.95
2.2µF.....	200V .....	.85" x 2.80"	\$22.25
2.7µF.....	100V .....	.80" x 2.25"	\$22.50
3.0µF.....	100V .....	.75" x 2.88"	\$22.95
3.0µF.....	200V .....	.92" x 2.88"	\$25.50
3.3µF.....	100V .....	.82" x 2.88"	\$23.50

4.0µF.....	100V .....	.85" x 2.88"	\$26.95
4.0µF.....	200V	1.05" x 3.00"	\$30.50
4.0µF.....	200V	1.05" x 3.00"	\$31.50
4.0µF.....	400V	1.05" x 3.25"	\$33.95
4.7µF or 5.0µF	100V .....	.95" x 2.88"	\$28.95
5.0µF.....	200V	1.15" x 3.25"	\$32.95
6.0µF.....	100V .....	.94" x 3.25"	\$32.50
7.0µF.....	100V	1.05" x 3.25"	\$35.50
8.0µF.....	100V	1.10" x 3.25"	\$38.50
9.0µF.....	100V	1.20" x 3.25"	\$41.95
10.0µF.....	100V	1.35" x 3.25"	\$45.50

Deduct 10% for \$250+, 15% for \$500+ mix of values.



SOLEN & AXON CAPACITORS

Add 50¢ per capacitor for 1% matched pairs.
Deduct 10% for ten or more pieces per value.

- *Manufactured in France by Societ  de Condensateurs Record, 250VDC, 630VDC, 1200V+DC metallized polypropylene, and 630VDC polypropylene film & tin foils, 5% tolerance, but typically measure closer to 2%.
- *Excellent economical choice for loudspeaker crossovers & high voltage power supplies, 630V generally have best sonics, 250V are more compact and less expensive. Solen & AEON have nearly identical sonic characteristics. Parallel with a smaller premium InfiniCap/Rel-Cap/Hovland for improved transient response & transparency.
- *Film wound under high tension for tight wrap and low microphonics, core and ends filled with polyurethane resin for improved damping. All are tape wrap except metallized 630V SCR which have a thick PVC outer wrap.
- *All axial lead except 51µF 1500V & 100µF 630V Solen which are in aluminum cans with radial solder lugs. Lead Diameter... 250V AEON $\leq 6.8\mu\text{F}/.030"$, $8.2\mu\text{F} - 41\mu\text{F} /.035"$, $47\mu\text{F} - 62\mu\text{F}/.040"$, $\geq 75\mu\text{F}/.060"$ except $82\mu\text{F}/.040"$ bare tinned copper leads. All 630+VDC AEON/.035" pvc insulated copper leads. Solen .10µF - 2.7µF/.030", 22µF - 47µF 400V/.047", 47µF 630V & all $\geq 56\mu\text{F}/.060"$ bare tinned copper leads.

.10µF SOLEN.....	630V .....	.38" D x .70" L	\$1.40
.15µF SOLEN.....	630V .....	.38" x .80"	\$1.45
.22µF SOLEN.....	630V .....	.43" x .85"	\$1.50
.22µF AEON film & foil.....	630V .....	.55" x 1.20"	\$4.65
.33µF SOLEN.....	630V .....	.50" x .90"	\$1.55
.33µF AEON film & foil.....	630V .....	.60" x 1.20"	\$5.25
.47µF SOLEN.....	630V .....	.50" x .90"	\$1.60
.47µF AEON film & foil.....	630V .....	.60" x 1.50"	\$5.95
.68µF SOLEN.....	630V .....	.55" x 1.00"	\$1.65
.68µF AEON film & foil.....	630V .....	.75" x 1.50"	\$7.25
1.0µF SOLEN.....	630V .....	.60" x 1.00"	\$1.95
1.0µF AEON film & foil.....	630V .....	.90" x 1.50"	\$8.75
1.0µF AEON.....	630V .....	.60" x 1.10"	\$2.75
1.5µF AEON.....	630V .....	.70" x 1.00"	\$2.85
1.5µF AEON film & foil.....	630V	1.0" x 1.60"	\$11.95
1.8µF SOLEN.....	630V .....	.70" x 1.05"	\$2.35
2.0µF AEON.....	250V .....	.50" x 1.00"	\$1.95
2.2µF AEON.....	630V .....	.70" x 1.30"	\$2.95
2.7µF AEON.....	250V .....	.57" x 1.0"	\$2.25
2.7µF SOLEN.....	630V .....	.80" x 1.35"	\$2.70
3.0µF AEON.....	250V .....	.60 x 1.00"	\$2.35
3.3µF AEON.....	630V .....	.80" x 1.25"	\$3.25
3.9µF AEON.....	250V .....	.65" x 1.15"	\$2.50
3.9µF AEON.....	630V .....	.95" x 1.40"	\$3.50
4.7µF AEON.....	250V .....	.75" x 1.1"	\$2.75
4.7µF AEON.....	630V	1.05" x 1.45"	\$3.95
5.1µF AEON.....	250V .....	.70" x 1.20"	\$2.95
5.6µF AEON.....	250V .....	.75" x 1.23"	\$3.15

5.6µF AEON.....	630V	1.03" x 1.53"	\$4.25
6.0µF AEON.....	250V .....	.76" x 1.20"	\$3.25
6.8µF AEON.....	250V .....	.80" x 1.20"	\$3.50
6.8µF AEON.....	630V	1.15" x 1.75"	\$4.50
8.2µF AEON.....	250V .....	.85" x 1.30"	\$3.75
8.2µF AEON.....	630V	1.20" x 1.70"	\$5.25
9.1µF AEON.....	250V .....	.88" x 1.30"	\$3.95
10µF AEON.....	250V .....	.90" x 1.30"	\$4.25
10µF SOLEN.....	630V	1.30" x 1.70"	\$5.75
12µF SOLEN.....	630V	1.30" x 1.70"	\$5.95
13µF AEON.....	250V	1.00" x 1.50"	\$4.50
15µF SOLEN.....	630V	1.35" x 2.40"	\$7.50
16µF AEON.....	250V	1.00" x 1.50"	\$5.25
18µF AEON.....	250V	1.05" x 1.50"	\$5.50
20µF AEON.....	250V	1.15" x 1.50"	\$5.95
20µF AEON.....	1200V	1.45" x 2.20"	\$19.95
22µF AEON.....	250V	1.10" x 1.70"	\$6.50
22µF SOLEN.....	630V	1.50" x 2.30"	\$9.50
24µF AEON.....	250V	1.20" x 1.70"	\$6.95
27µF AEON.....	250V	1.25" x 1.75"	\$7.50
30µF AEON.....	250V	1.20" x 1.90"	\$8.50
30µF SOLEN.....	400V	1.40" x 2.10"	\$9.95
33µF AEON.....	250V	1.25" x 1.90"	\$8.95
39µF AEON.....	250V	1.40" x 1.90"	\$10.25
39µF SOLEN.....	400V	1.50" x 2.40"	\$11.50
40µF AEON.....	630V	2.00" x 2.70"	\$15.95
41µF AEON.....	250V	1.40" x 1.90"	\$10.95
47µF AEON.....	250V	1.50" x 1.90"	\$12.25

47µF SOLEN.....	400V	1.50" x 2.40"	\$14.50
47µF SOLEN.....	630V	1.92" x 2.80"	\$15.95
51µF AEON.....	250V	1.50" x 2.10"	\$12.50
51µF SOLEN aluminum can.....	1500V	2.16" x 4.60"	\$38.95
56µF AEON.....	250V	1.55" x 2.15"	\$13.95
56µF SOLEN.....	400V	1.75" x 2.55"	\$15.95
62µF AEON.....	250V	1.50" x 2.30"	\$14.25
62µF SOLEN.....	400V	1.85" x 2.60"	\$16.95
68µF SOLEN.....	400V	1.90" x 2.60"	\$17.95
75µF AEON.....	250V	1.75" x 2.30"	\$17.50
75µF SOLEN.....	400V	2.00" x 2.60"	\$19.95
82µF AEON.....	250V	1.75" x 2.40"	\$18.95
91µF AEON.....	250V	1.85" x 2.30"	\$20.50
91µF SOLEN.....	400V	2.10" x 2.85"	\$22.95
100µF AEON.....	250V	1.95" x 2.30"	\$21.95
100µF SOLEN.....	400V	2.20" x 2.80"	\$27.50
100µF SOLEN aluminum can.....	630V	2.55" x 4.55"	\$36.95
100µF AEON.....	630V	2.60" x 4.40"	\$31.95
120µF AEON.....	250V	2.00" x 2.55"	\$27.50
120µF SOLEN.....	400V	2.30" x 2.85"	\$32.95
150µF SOLEN.....	400V	2.40" x 3.30"	\$36.95
180µF SOLEN.....	250V	2.40" x 2.55"	\$42.95
200µF SOLEN.....	400V	2.30" x 4.30"	\$48.95
270µF SOLEN.....	250V	2.20" x 4.40"	\$59.95
330µF SOLEN.....	250V	2.45" x 4.30"	\$72.50



All radial wire leads except:
(+ = snap-in), (* = solder lug)

BLACK GATE ELECTROLYTICS

*Unrivalled performance in a unique graphite impregnated electrolytic design with ESR 1/5 to 1/20 that of ordinary electrolytics, minimal phase delay, and extremely low noise floor, exceeding -160dB for some models. No other electrolytic compares for low distortion, sonic purity, and extremely long life (up to 10X other electrolytics).

*WKZ is a premium polarized capacitor for the B+ supply in vacuum tube audio equipment up to 500VDC.

*WK 220µF 200V "Power Tank" is a unique asymmetrical non-polar design for high current applications.

*VK and FK are the top model Black Gate polarized types for low noise applications up to 350VDC.

*Standard and ultra compact PK polarized provide Black Gate high performance at lower cost.

*AC series are 50V ±10% bi-polar types for speaker crossovers, very compact size with film capacitor performance.

*N, NX, NH are superb, ultra low noise non-polar caps for the most critical coupling & power supply applications.

*85° C rated, nominally ±20% tolerance (except type AC ±10%), but typically closely matched and ±5-10% of value.

WKZ High Voltage Polarized

47µF/47µF*	500V	99.00	35mm x 65mm
100µF/100µF*	350V	94.00	35mm x 60mm
100µF*	500V	92.00	35mm x 65mm
100µF/100µF*	500V	122.00	35mm x 120mm
220µF/220µF*	350V	113.00	35mm x 100mm

VK Polarized & WK "Power Tank"

22µF*	350V VK	\$10.95	22mm x 25mm
47µF	160V VK	9.95	12.5mm x 25mm
150µF*	350V VK	19.95	30mm x 25mm
220µF*	200V WK	36.00	30mm x 25mm

FK Polarized

47µF	16V	\$5.25	10mm x 12.5mm
100µF	25V	5.95	10mm x 20mm
100µF	50V	6.95	12.5mm x 20mm
100µF	100V	15.50	18mm x 35mm
220µF	16V	9.25	12.5mm x 20mm
220µF	25V	9.50	12.5mm x 25mm
470µF	16V	10.50	16mm x 25mm
1000µF	16V	14.50	16mm x 32mm
1000µF	50V	27.95	22mm x 40mm
2200µF	35V	24.50	18mm x 35mm
2200µF*	63V	47.95	30mm x 50mm
10,000µF*	63V	170.00	40mm x 100mm
10,000µF*	80V	205.00	50mm x 75mm
10,000µF*	100V	230.00	50mm x 83mm

PK Compact Polarized

10µF	50V	\$4.9	4mm x 7mm
22µF	50V	.49	4mm x 7mm
33µF	50V	.49	4mm x 7mm
47µF	50V	.65	4mm x 7mm
1.0µF	100V	.75	4mm x 7mm
2.2µF	100V	.75	5mm x 7mm
3.3µF	50V	.75	5mm x 7mm
3.3µF	100V	.95	6.3mm x 7mm
4.7µF	50V	.75	5mm x 7mm
10µF	50V	.95	6.3mm x 7mm
22µF	50V	.95	6.3mm x 7mm
33µF	35V	.95	6.3mm x 7mm
47µF	25V	.95	6.3mm x 7mm
100µF	10V	.95	6.3mm x 7mm
220µF	4V	.95	6.3mm x 7mm

Standard Polarized

3.3µF	250V	\$4.25	10mm x 15mm
4.7µF	100V	1.50	8mm x 11mm
10µF	16V	1.00	5mm x 11mm
10µF	50V	1.50	8mm x 13mm
10µF	100V	1.75	10mm x 13mm
10µF	250V	5.50	12.5mm x 25mm
22µF	16V	1.25	6.3mm x 11mm
22µF	100V	2.75	10mm x 20mm
33µF	16V	1.50	6.3mm x 11mm
33µF	160V	6.95	12.5mm x 20mm
47µF	16V	1.85	8mm x 11mm
47µF	50V	1.85	10mm x 16mm
47µF	100V	3.75	12.5mm x 25mm
100µF	16V	2.25	10mm x 13mm
100µF	50V	2.95	12.5mm x 20mm
100µF	100V	4.75	16mm x 25mm
100µF	160V	ask	16mm x 36mm
220µF	16V	2.95	10mm x 20mm
220µF	50V	6.95	16mm x 25mm
220µF	100V	12.95	18mm x 40mm
470µF	16V	3.25	12.5mm x 25mm
470µF	50V	6.50	16mm x 36mm
470µF	100V	30.95	22mm x 42mm
470µF*	160V	43.95	30mm x 45mm
1000µF	16V	4.75	16mm x 25mm
1000µF	25V	5.75	16mm x 36mm
1000µF	50V	15.50	22mm x 42mm
2200µF	16V	8.50	16mm x 31mm
3300µF	16V	13.50	18mm x 36mm
4700µF	16V	13.95	18mm x 36mm
4700µF*	35V	32.95	40mm x 40mm
4700µF*	50V	99.95	40mm x 50mm

N, NX, NH Non-Polar

Deduct 10% for 10+ per individual value
except for WKZ (no discount)

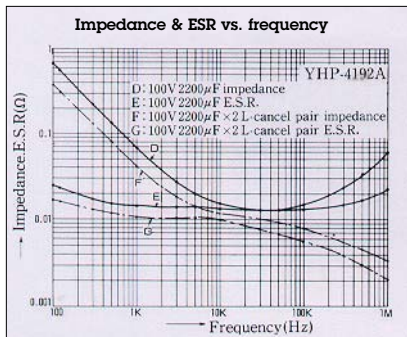
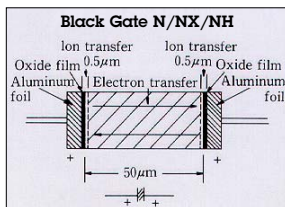
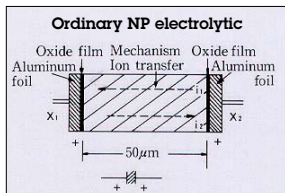
We have been advised that Black Gate
production has ceased - get them while
you can - there is no equivalent!

10µF	50V NX HiQ	\$1.85	4mm x 7mm
47µF	50V NX HiQ	1.95	4mm x 7mm
1.0µF	50V N	2.65	5mm x 12mm
4.7µF	50V N	3.25	5mm x 12mm
10µF	50V N	4.25	8mm x 11mm
22µF	6.3V NX HiQ	2.25	5mm x 7mm
33µF	16V N	4.50	6.5mm x 11mm
47µF	6.3V NX HiQ	2.50	6mm x 7mm
47µF	50V N	9.95	13mm x 26mm
68µF*	350V NH	37.95	30mm x 25mm
100µF	6.3V NX	5.25	6mm x 12mm
100µF	16V N	10.95	13mm x 20mm
100µF	50V N	12.00	16mm x 31mm
100µF*	160V NH	24.95	22mm x 25mm
150µF*	350V NH	52.50	35mm x 25mm
220µF	6.3V NX	6.25	8mm x 11mm
220µF*	160V NH	32.50	30mm x 25mm
330µF	100V N	46.50	18mm x 36mm
470µF	6.3V NX	13.95	13mm x 24mm
470µF	16V N	12.50	16mm x 24mm
680µF	35V NX	13.95	16mm x 24mm
1000µF	25V NX	12.50	16mm x 24mm
1000µF	50V N	57.95	22mm x 36mm
1500µF	10V NX	11.95	16mm x 25mm
2200µF	6.3V NX	26.95	18mm x 35mm
2200µF*	100V N	299.00	30mm x 110mm
4700µF*	35V N	132.00	40mm x 40mm

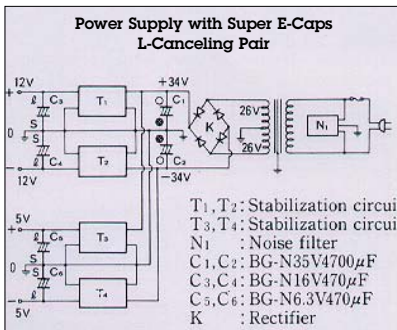
AC Non-Polar for speakers ±10%

6.8µF	50V	\$12.50	16mm x 32mm
10µF	50V	12.95	16mm x 36mm
15µF	50V	16.95	18mm x 36mm
22µF	50V	22.95	22mm x 41mm
47µF	50V	33.95	25mm x 51mm

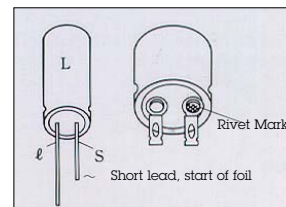
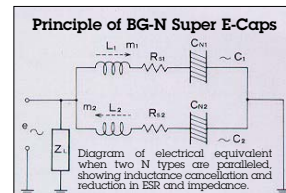
While one could theoretically use the N series Black Gates for ultra high efficiency speaker applications, they are physically very small and not suitable for higher current demands. Use the AC series for crossovers. We carry almost all Black Gates currently manufactured except a few PK & C types. With those exceptions, if you don't see it listed here, they probably don't make it! We are noted for our excellent BG stock, although the future manufacture is currently uncertain. Additional literature, including a detailed discussion of "Super E-Caps," is available on request.



Additional performance can be obtained from the N/NX/NH non-polar types by configuring them as an "L Canceling Pair". This involves paralleling two identical capacitors so that the starting foil lead of one is connected to the ending foil lead of



the other and vice versa. This arrangement lowers the ESR, cancels the internal inductance, and eliminates resonance, allowing the Black Gates to function as pure C into the GHz range. This combination is the "Super E-Cap".



JUPITER BEESWAX & PAPER CAPACITORS

*USA manufactured "condensers" featuring aluminum foil, beeswax and untreated kraft paper construction for classic vacuum tube audio projects 19ga bare pure copper leads, approximately 10% tolerance, large plate area, non-microphonic, absolutely no plastics used in construction

0.01µF 600V (15mm x 33mm) @\$14.50	0.047µF 600V (15mm x 33mm) @\$14.50	0.10µF 600V (21mm x 42mm) @\$14.95
0.22µF 600V (18mm x 46mm) @\$15.00	0.47µF 600V (23mm x 49mm) @\$18.00	1.0µF 600V (31mm x 52mm) @\$23.00
1.5µF 300V (34mm x 82mm) @\$27.95	2.2µF 600V (26mm x 90mm) @\$29.95	3.3µF 300V (48mm x 88mm) @\$35.95
		4.7µF 600V (37mm x 87mm) @\$39.95

Do not use these capacitors in applications with any appreciable AC voltage, such as AC line filters and the like, but they are fine for speaker crossover application.



NICHICON ELECTROLYTICS

- * Low distortion, mechanically damped, designed specifically for audio, superb sonics at very reasonable cost.
- * The Nichicon Muse acoustic series comprise types **KZ**, **FA**, **FG**, **FX**, and **FS** polarized, and the **ES** non-polar electrolytics covering a range of .47 μ F to 22,000 μ F at up to 100VDC. The KZ is their premier small, board mount cap with the FA/FG very close in quality. The more compact FX and FS permit higher capacitance and voltage ratings not available in the KZ, FA/FG. All feature radial wire lead termination, $\pm 20\%$ tolerance, 85°C .
- * The **DB** $\pm 20\%$ and **GB** $\pm 10\%$ series are 50V bi-polar capacitors for speaker crossovers. 68 μ F maximum value.
- * The **Great Supply** series **II** & **IV** and **KG Gold Tune & Super Through** series large can electrolytics are Nichicon's premier power supply types for high end audio equipment up to 100VDC rating. The (GS II - KG Gold), and (GS IV - KG Super) are comparable in quality. All are solder lug except some smaller KG types which are snap-in (\diamond) where noted. The Super Through have gold plated solder lugs. All are $\pm 20\%$, 85°C .
- * The **NT** series are not specifically designed for audio, but are quality screw terminal cans for high voltage applications. They are $\pm 20\%$ and have an extended 105°C rating, screw terminals, clamps are included..

KZ, FA/FG, FX, FS polarized

10 μ F	.....50V FG	.....\$ .65	.....5mm D x 11mm H
10 μ F	.....100V KZ	......75	.....8mm x 11.5mm
22 μ F	.....25V FG	......65	.....5mm x 11mm
22 μ F	.....50V KZ	......70	.....8mm x 12.5mm
47 μ F	.....10V FG	......65	.....5mm x 11mm
47 μ F	.....50V KZ	......75	.....10mm x 16mm
47 μ F	.....100V KZ	......95	.....12.5mm x 20mm
100 μ F	.....10V FG	......45	.....6.3mm x 11mm
100 μ F	.....25V FG	......70	.....8mm x 11.5mm
100 μ F	.....25V KZ	......75	.....10mm x 16mm
100 μ F	.....50V KZ	......95	.....12.5mm x 20mm
100 μ F	.....100V KZ	.....1.50	.....16mm x 25mm
220 μ F	.....16V FG	......70	.....10mm x 12.5mm
220 μ F	.....25V KZ	......85	.....12mm x 20mm
220 μ F	.....50V KZ	.....1.10	.....16mm x 25mm
220 μ F	.....100V KZ	.....1.75	.....16mm x 35.5mm
330 μ F	.....25V KZ	......95	.....12.5mm x 25mm
470 μ F	.....16V FG	.....1.15	.....10mm x 20mm
470 μ F	.....25V KZ	.....1.25	.....16mm x 25mm
470 μ F	.....35V FG	.....1.35	.....12.5mm x 25mm
470 μ F	.....50V KZ	.....1.75	.....16mm x 35.5mm
470 μ F	.....100V FG	.....2.95	.....18mm x 35.5mm
1000 μ F	.....16V FG	.....1.65	.....12.5mm x 25mm
1000 μ F	.....25V KZ	.....1.75	.....16mm x 35.5mm
1000 μ F	.....50V KZ	.....2.15	.....18mm x 40mm
1000 μ F	.....100V FG	.....2.25	.....18mm x 40mm
2200 μ F	.....16V FG	.....1.95	.....16mm x 25mm
2200 μ F	.....25V FG	.....2.25	.....16mm x 35.5mm
2200 μ F	.....35V FG	.....2.50	.....18mm x 35.5mm
2200 μ F	.....63V FG	.....2.50	.....18mm x 40mm
3300 μ F	.....25V FG	.....2.95	.....18mm x 40mm
3300 μ F	.....50V FG	.....2.95	.....20mm x 40mm
4700 μ F	.....16V FG	.....2.75	.....18mm x 35.5mm
4700 μ F	.....35V FG	.....2.95	.....18mm x 40mm
6800 μ F	.....25V FG	.....2.95	.....20mm x 40mm
10,000 μ F	.....6.3V FX	.....2.75	.....16mm x 31mm
10,000 μ F	.....6.3V FA	.....4.50	.....18mm x 40mm
10,000 μ F	.....16V FX	.....2.95	.....18mm x 40mm
15,000 μ F	.....10V FX	.....3.50	.....18mm x 40mm
22,000 μ F	.....6.3V FX	.....3.75	.....20mm x 40mm

KZ, FA, FG, FX, FS, EX, DB, GB quantity discounts
 10+ per value, deduct 10% 25+ per value, deduct 25%
 100+ per value, deduct 35% 500+, request quote

Great Supply KG & NT quantity discounts
 10+ per value, deduct 10% 25+ per value, deduct 15%
 100+ per value, request quote
 Special orders that meet factory minimums are welcome.
Clamps... 40mm/\$1.50 50mm/\$1.80 63mm/\$2.25 76mm/\$2.75

ES series non-polar for electronics

4.7 μ F	.....50V ES	......45	.....6mm x 11mm
10 μ F	.....50V ES	......65	.....8mm x 11.5mm
22 μ F	.....50V ES	......95	.....10mm x 12.5mm
47 μ F	.....50V ES	.....1.10	.....10mm x 20mm
100 μ F	.....50V ES	.....1.50	.....12.5mm x 25mm
220 μ F	.....50V ES	.....2.25	.....16mm x 25mm
470 μ F	.....35V ES	.....2.25	.....16mm x 25mm
1000 μ F	.....25V ES	.....2.25	.....16mm x 31.5mm

DB/GB bi-polar for speakers

22 μ F	.....50V GB	.....\$2.75	.....22mm x 40mm
33 μ F	.....50V GB	.....3.25	.....25mm x 40mm
47 μ F	.....50V DB	.....1.95	.....18mm x 35mm
68 μ F	.....50V DB	.....3.25	.....22mm x 40mm

Great Supply & KG polarized

2200 μ F	KG+Gold	.....100V	.....\$6.95	.....30mm x 50mm
4700 μ F	KG+Gold	.....35V	.....2.95	.....30mm x 30mm
4700 μ F	KG+Gold	.....63V	.....5.95	.....30mm x 50mm
4700 μ F	KG+Gold	.....80V	.....7.95	.....35mm x 50mm
6800 μ F	KG+Gold	.....35V	.....3.95	.....30mm x 35mm
6800 μ F	KG+Gold	.....63V	.....6.95	.....35mm x 50mm
10,000 μ F	KG+Gold	.....35V	.....4.95	.....35mm x 40mm
10,000 μ F	KG Gold	.....50V	.....9.95	.....35mm x 80mm
10,000 μ F	KG Super	.....50V	.....16.95	.....40mm x 100mm
10,000 μ F	KG Gold	.....63V	.....13.95	.....40mm x 80mm
10,000 μ F	KG Super	.....63V	.....21.95	.....50mm x 80mm
10,000 μ F	KG Gold	.....80V	.....19.95	.....50mm x 80mm
10,000 μ F	KG Super	.....80V	.....36.95	.....63mm x 80mm
10,000 μ F	KG Gold	.....100V	.....32.95	.....50mm x 100mm
10,000 μ F	GSIV	.....100V	.....44.95	.....63mm x 100mm
15,000 μ F	KG Gold	.....50V	.....16.95	.....40mm x 80mm
15,000 μ F	KG Super	.....50V	.....26.95	.....50mm x 100mm
15,000 μ F	KG Gold	.....63V	.....23.95	.....40mm x 100mm
15,000 μ F	KG Super	.....63V	.....37.95	.....63mm x 80mm
15,000 μ F	KG Gold	.....80V	.....30.95	.....50mm x 100mm
15,000 μ F	KG Super	.....80V	.....43.95	.....63mm x 100mm
15,000 μ F	KG Gold	.....100V	.....41.95	.....63mm x 80mm
15,000 μ F	KG Super	.....100V	.....49.95	.....76mm x 100mm
22,000 μ F	GSII	.....50V	.....24.95	.....50mm x 80mm
22,000 μ F	KG Super	.....50V	.....42.95	.....63mm x 80mm
22,000 μ F	KG Gold	.....63V	.....25.95	.....50mm x 100mm
22,000 μ F	KG Super	.....63V	.....49.95	.....63mm x 100mm
22,000 μ F	KG Gold	.....80V	.....30.95	.....63mm x 100mm
22,000 μ F	KG Super	.....80V	.....52.95	.....76mm x 100mm
22,000 μ F	KG Gold	.....100V	.....69.95	.....76mm x 100mm

♦ marked are snap in, all other KG & NT are solder lug

NT high voltage polarized

220 μ F	NT	.....450V	.....\$12.95	.....35mm x 80mm
470 μ F	NT	.....500V	.....39.95	.....51mm x 80mm
1000 μ F	NT	.....450V	.....32.95	.....51mm x 100mm

NT series have screw terminals and come with clamps

ALUMINUM ELECTROLYTIC CAPACITORS
KZ
 Premium Grade Type, For Audio Equipment

- Premium grade "Nichicon MUSE" acoustic series.
- Ideally suited for first class audio equipment where qualitative and quantitative performance is required.

ALUMINUM ELECTROLYTIC CAPACITORS
FG
 High Grade Type, For Audio Equipment

- "Fine Gold" MUSE acoustic series suited for high grade audio equipment, using state of the art etching techniques.
- Rich sound in the bass register and clearer high end, most suited for AV equipment like DVD, MD.

ALUMINUM ELECTROLYTIC CAPACITORS
FX
 Miniature Sized, For Audio Equipment

- Miniature sized "Nichicon MUSE" acoustic series.
- Suited for use in audio devices where higher, thinner, shorter and smaller capacitors are required.

ALUMINUM ELECTROLYTIC CAPACITORS
ES
 Bi-Polarized, For Audio Equipment

- Bi-polarized "Nichicon MUSE" acoustic series.
- Suited for audio signal circuits.

ALUMINUM ELECTROLYTIC CAPACITORS
DB,GB
 Bi-Polarized, For Speaker Network

- Bi-polarized series.
- Designed specifically for crossover networks in Hi-Fi sound systems.

ALUMINUM ELECTROLYTIC CAPACITORS
KG
 High Throughput Terminal Type, For Audio Equipment

- Designed for high grade audio equipment, giving priority to high fidelity sound quality.
- This series has following 2 series:
 Gold Tune: High tone quality type with newly developed materials, suited for pre-main amplifier, CD, MD.
 Super Through: High grade type with lug terminals with new materials, suited for high grade audio amplifier.
 Terminals are gold-plated for high tone quality.

ALUMINUM ELECTROLYTIC CAPACITORS
NT
 Screw Terminal Type, Wide Temperature Range

- Load life of 5,000 hours (2,000 hours for 10V-250V) application of ripple current at 105°C .
- Extended voltage range from 10V up to 450V.
- Extended range up to 100-250 μ F.

NT series come with clamps.

You may download data sheets for most of these types from the Nichicon USA web site www.nichicon-us.com, or we will email the PDF files to you directly on request, or enclose printed copies with any order. Specify model.



ASC OIL FILLED POLYPROPYLENES: Excellent for high voltage power supply applications. These are the X386S series non-inductively wound metallized non-polar polypropylene, Spearinol III oil filled aluminum cans. 440VAC/800+VDC, operating temperature to $+70^\circ\text{C}$. ASC's design includes a partial impregnation technique utilizing a non-toxic natural oil based coolant that avoids the problems of swelling and premature failure which can occur with polypropylene films immersed in more commonly used synthetic hydrocarbon and petroleum based oils.

20 μ F 440VAC $\pm 10\%$ (45mm D x 110mm H) @\$10.95

40 μ F 440VAC $\pm 10\%$ (50mm x 132mm) @\$13.95



Unlytic Polypropylenes: Specifically designed as a replacement for high voltage electrolytics. Features include 10X greater current density than a typical electrolytic, 3X greater overvoltage protection, non-polar construction, ten year shelf life, and -55°C to 85°C operating temperature range, 1/4-28 screw terminals. Note large diameter!

50 μ F 1000VDC $\pm 10\%$ (76mm x 90mm) @\$42.95

100 μ F 750VDC $\pm 10\%$ (76mm x 90mm) @\$49.95

260 μ F 600VDC $\pm 10\%$ (76mm D x 115mm H) @\$78.95

76mm clamps @\$4.50 each

measurements are to the top of the terminals for ASC & Unlytics

THE FIRST FILM DIELECTRIC CAPACITOR REPLACEMENT FOR ELECTROLYTIC CAPACITORS AND A NEW STANDARD FOR HIGH POWER SYSTEM DESIGNERS.

WITH OUR PATENTED ADVANCES IN DRY FILM TECHNOLOGY, THE IMPROVEMENT IS NOW PRACTICAL!
 Now the actual device the need to use the capacitor is replaced by the capacitor itself.

UNLYTIC VERBODEN ELECTROLYTIC
 • 10X greater current density
 • 3X greater overvoltage protection
 • Higher voltage rating
 • 10 year shelf life
 • 100% performance over temperature
 • 100% reliability
 • Dry construction (no harmful electrolyte)
 • No venting

• VOLTAGE TO 1000VDC
 • RMS CURRENT TO 50 AMPS
 • CAPACITANCE TO 1000 μ F

SOLO & ALPHA-CORE COPPER FOIL AIR CORE INDUCTORS

*Unique 5% tolerance 16ga, 14ga & 12ga inductors wound from an ultra-thin .003" 4N copper foil with polyester & polypropylene insulating materials and a varnish dip coating, made in the USA by Solo (Solo out of business, phasing out) & Alpha-Core.

*Low DC & AC resistance, very low power loss, minimal phase shift and skin effect resistance to 100kHz, no hysteresis distortion, the most transparent inductor made today, rapidly becoming the inductor of choice in high end speaker systems.

*All values listed below are stock, sorry due to manufacturer's new high minimum line item requirements, custom values no longer available.

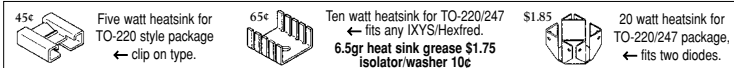
*16ga are 1.0" High (no more 16ga after our stock is gone), 14ga are 1.25-1.42" High, 12ga are 2.0" High, diameter approx. as listed.



.015mH.....14ga.....	.024Ω DCR.....1.10" D.....	\$5.50	.75mH.....16ga.....	.308Ω.....2.30".....	9.75	2.20mH.....12ga.....	.300Ω.....3.75".....	37.50
.05mH.....16ga.....	.062Ω.....1.30".....	3.95	.75mH.....14ga.....	.214Ω.....2.45".....	13.95	2.50mH.....14ga.....	.380Ω.....3.60".....	27.95
.05mH.....14ga.....	.048Ω.....1.35".....	5.50	.75mH.....12ga.....	.140Ω.....2.65".....	20.75	2.50mH.....12ga.....	.320Ω.....3.90".....	42.50
.068mH.....16ga.....	.077Ω.....1.35".....	4.95	.82mH.....16ga.....	.320Ω.....2.35".....	9.95	2.70mH.....14ga.....	.400Ω.....3.75".....	28.50
.068mH.....14ga.....	.052Ω.....1.40".....	6.50	.82mH.....14ga.....	.227Ω.....2.50".....	14.50	2.70mH.....12ga.....	.330Ω.....4.00".....	42.95
.11mH.....14ga.....	.069Ω.....1.55".....	8.25	.82mH.....12ga.....	.150Ω.....2.69".....	20.95	3.00mH.....14ga.....	.425Ω.....3.82".....	32.95
.15mH.....14ga.....	.078Ω.....1.60".....	8.95	.90mH.....16ga.....	.340Ω.....2.40".....	10.50	3.00mH.....12ga.....	.320Ω.....4.15".....	49.50
.18mH.....14ga.....	.095Ω.....1.75".....	8.95	.90mH.....14ga.....	.210Ω.....2.56".....	14.95	3.30mH.....14ga.....	.450Ω.....3.88".....	33.50
.20mH.....16ga.....	.136Ω.....1.65".....	6.25	.90mH.....12ga.....	.160Ω.....2.90".....	22.50	3.30mH.....12ga.....	.370Ω.....4.25".....	50.50
.20mH.....14ga.....	.098Ω.....1.65".....	9.25	1.00mH.....14ga.....	.220Ω.....2.63".....	15.50	3.90mH.....14ga.....	.480Ω.....4.03".....	37.50
.22mH.....16ga.....	.144Ω.....1.70".....	6.50	1.00mH.....12ga.....	.161Ω.....2.75".....	22.95	3.90mH.....12ga.....	.400Ω.....4.38".....	56.95
.22mH.....14ga.....	.100Ω.....1.80".....	9.50	1.10mH.....16ga.....	.390Ω.....2.90".....	11.50	4.70mH.....14ga.....	.520Ω.....4.28".....	43.95
.22mH.....12ga.....	.070Ω.....1.90".....	13.75	1.10mH.....14ga.....	.235Ω.....2.80".....	16.50	4.70mH.....12ga.....	.430Ω.....4.63".....	65.95
.27mH.....14ga.....	.110Ω.....1.75".....	9.95	1.10mH.....12ga.....	.175Ω.....3.15".....	24.95	5.60mH.....14ga.....	.560Ω.....4.40".....	51.50
.27mH.....12ga.....	.080Ω.....2.10".....	14.50	1.20mH.....14ga.....	.250Ω.....3.00".....	16.95	5.60mH.....12ga.....	.490Ω.....4.75".....	76.95
.30mH.....16ga.....	.176Ω.....1.85".....	7.25	1.20mH.....12ga.....	.180Ω.....3.38".....	25.50	6.20mH.....14ga.....	.600Ω.....4.50".....	65.95
.30mH.....14ga.....	.125Ω.....1.95".....	10.25	1.30mH.....14ga.....	.275Ω.....3.10".....	18.95	6.20mH.....12ga.....	.500Ω.....5.00".....	98.95
.30mH.....12ga.....	.085Ω.....2.12".....	14.95	1.30mH.....12ga.....	.190Ω.....3.44".....	26.95	6.80mH.....14ga.....	.640Ω.....4.74".....	82.50
.33mH.....14ga.....	.130Ω.....1.81".....	10.50	1.40mH.....16ga.....	.445Ω.....3.10".....	12.95	6.80mH.....12ga.....	.520Ω.....5.18".....	120.95
.33mH.....12ga.....	.090Ω.....2.06".....	15.50	1.40mH.....14ga.....	.280Ω.....3.20".....	18.95			
.39mH.....14ga.....	.145Ω.....2.10".....	10.50	1.40mH.....12ga.....	.200Ω.....3.45".....	26.95			
.39mH.....12ga.....	.100Ω.....2.30".....	15.95	1.50mH.....16ga.....	.465Ω.....3.15".....	13.50			
.47mH.....16ga.....	.234Ω.....2.05".....	7.95	1.50mH.....14ga.....	.290Ω.....3.25".....	19.95			
.47mH.....14ga.....	.150Ω.....2.15".....	10.95	1.50mH.....12ga.....	.210Ω.....3.50".....	27.50			
.47mH.....12ga.....	.110Ω.....2.30".....	16.95	1.60mH.....16ga.....	.477Ω.....3.20".....	13.95			
.50mH.....16ga.....	.236Ω.....2.10".....	8.50	1.60mH.....14ga.....	.300Ω.....3.30".....	21.50			
.50mH.....14ga.....	.168Ω.....2.25".....	11.50	1.60mH.....12ga.....	.225Ω.....3.55".....	26.95			
.50mH.....12ga.....	.115Ω.....2.30".....	17.50	1.70mH.....16ga.....	.500Ω.....3.25".....	14.50			
.56mH.....14ga.....	.180Ω.....2.30".....	11.95	1.70mH.....14ga.....	.310Ω.....3.35".....	21.50			
.56mH.....12ga.....	.120Ω.....2.30".....	17.95	1.70mH.....12ga.....	.240Ω.....3.60".....	31.95			
.62mH.....16ga.....	.276Ω.....2.20".....	8.95	1.80mH.....14ga.....	.320Ω.....3.38".....	21.95			
.62mH.....14ga.....	.165Ω.....2.25".....	12.95	1.80mH.....12ga.....	.250Ω.....3.65".....	32.50			
.62mH.....12ga.....	.125Ω.....2.45".....	18.95	2.00mH.....14ga.....	.340Ω.....3.44".....	24.50			
.68mH.....14ga.....	.195Ω.....2.40".....	13.50	2.00mH.....12ga.....	.275Ω.....3.70".....	\$36.50			
.68mH.....12ga.....	.130Ω.....2.63".....	\$19.50	2.20mH.....14ga.....	.360Ω.....3.50".....	25.50			

High Speed Soft Recovery (FRED) Diodes

Fast Recovery Epitaxial Diode. These high speed soft recovery diodes are the high speed device of choice for building diode bridges. Their fast response time and high current capability is desirable, but their soft recovery and lack of ringing and overshoot places them a big step beyond other high speed diodes which have much higher noise and distortion. Replacing your diode bridges with these (4 usually required) will yield significant improvements including increased dynamics, dramatically lower noise, and reduced grain and glare. Use the 1000V/1200V types where your B+ is above 350VDC or so, thereby allowing for turn on surges. We carry diodes of this type from IXYS, and Fairchild, including the exceptionally soft recovery "Stealth" types. Please note that the soft recovery characteristic of these diodes is far more important than the absolute speed (trr) of one or the other. Heat sinking is required for high current applications, either to your chassis or with individual heatsinks. As the back of each diode is also the cathode, mica insulators are required for electrical isolation when chassis mounting or sharing a common heat sink. We also have full wave bridge packages from IXYS constructed using FRED technology... great for power amp upgrades! Ask for data sheets.



4A.....600V TO-220.....Fairchild**.....<20ns.....\$1.25	30A.....600V TO-247.....Harris.....<40ns.....\$3.95
8A.....600V TO-220.....Fairchild**.....<25ns.....\$1.35	60A.....600V TO-247.....IXYS.....<35ns.....\$9.50
8A.....1200V TO-220.....Fairchild**.....<32ns.....\$1.95	** Fairchild Stealth diode
15A.....600V TO-220.....Fairchild**.....<30ns.....\$2.95	
18A.....1200V TO-247.....Fairchild**.....<45ns.....\$3.25	

12+ per type, deduct 10% 25+ per type, deduct 20%

20A.....600V.....IXYS bridge.....<80ns.....\$16.95
27A.....600V.....IXYS bridge.....<35ns.....\$19.95
68A.....600V.....IXYS bridge.....<35ns.....\$23.50
32A.....1200V.....IXYS bridge.....<40ns.....\$22.50
20A.....2000V.....IXYS bridge.....<70ns.....\$37.95

International Rectifier
APPLICATION NOTES
AN-989

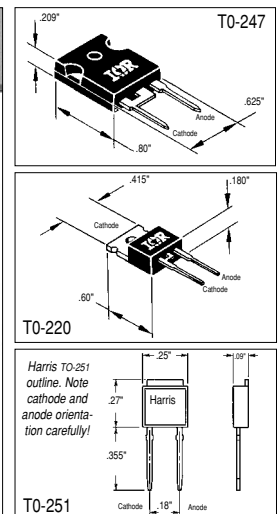
The HEXFRED™ Ultrafast Diode in Power Switching Circuits
(HEXFRED is a trademark of International Rectifier)
by Y. Kharazmi, M. Robinson, D. Gutierrez

Introduction
This application note describes the benefits of using the International Rectifier 600 volt, 15 amp, ultra-fast recovery epitaxial diode (HEXFRED) in power switching circuits. This device, the first from a broad product family, provides a wide range of current and voltage ratings, is based on the new HEXFRED technology developed by International Rectifier. Diodes produced using this technology exhibit extremely fast reverse recovery times, high-voltage reverse recovery current, and low reverse leakage current. The benefits of this technology are summarized in Figure 1.

The benefits of reverse recovery are contrasted, followed by laboratory measurements taken from an IGBT driver circuit. Finally, guidelines are provided for calculating power losses in slow turn-off.

Figure 1: Typical switching characteristics of the HEXFRED diode.

Figure 2: Typical t_{rr} comparison of 15A 600V HEXFRED and conventional fast recovery diodes.



Analog Devices/Burr Brown IC's Popular op-amp replacements for the NE-553x and others found in CD player output stages, power supplies, and other IC's.

AD711JN (single) @\$2.95	AD712JN (dual) @\$4.00	AD 744JN (single) @\$5.95	AD-797AN (single) @ask	AD-8005AN (single) @\$4.50	AD-811AN (single) @\$6.95	AD-812AN (dual) @\$4.95
AD815AY (SIP pkg.) @\$12.95	AD-817AN (single) @\$4.25	AD-823AN (dual) @\$6.50	AD-826AN (dual) @ask	AD-827JN (dual) @ask	AD-843JN (single) @\$8.95	AD-847JN (single) @\$4.95
AD-848JN (single) @\$5.95	OP-176 (single) @\$1.95	OP-275 (dual) @\$6.95	Burr-Brown OPA2604AP (dual) @\$3.95	Burr Brown OPA2132PA (dual) @\$5.50	OPA2134PA (dual) @\$2.75	

Burr Brown OPA627AP (single) @\$18.95 LT1364CN8 (dual) @\$6.95 8 pin IC sockets, 10u gold plated beryllium copper pins and 30u gold plated contacts... 65¢ each (25+ @49¢ each)

Burr Brown BUF-634: High speed buffer in an 8 pin dip package, 180MHz bandwidth, 2000V/μs slew rate, ±2.25V to ±18V supply voltage with max 15mA supply current, drives capacitive loads, 250mA drive current, excellent for buffered passive preamp designs, op-amp current booster, etc... \$6.95 each

Linear Technology Regulators: LT1033CT 3A negative/\$4.95 LT1085CT 3A positive/\$6.50 LT337AT 1.5A negative/\$3.95 LT317AT 1.5A positive/\$3.95
LT1083CP 7.5A positive/\$12.95 Linear Technology LT1034-2.5 micropower dual reference @\$4.95

IC's are not returnable!!!

ROEDERSTEIN RESISTA RESISTORS

German metal film resistor used extensively in high end audio equipment, copper leads, ferrous end-caps, 1% tolerance, 50ppm TCR, very reliable. MK3 no longer manufactured, so quantities limited for some .5W values.



1.0Ω	80.6Ω	374Ω	806Ω	1.58K	3.16K	5.90K	11.0K	26.1K	52.3K	97.6K	182K	340K	634K	2.21M
1.69Ω	84.5Ω	392Ω	825Ω	1.62K	3.24K	6.04K	11.5K	27.4K	53.6K	100K	187K	348K	649K	2.49M
3.01Ω	90.9Ω	402Ω	845Ω	1.65K	3.32K	6.19K	12.1K	28.7K	54.9K	102K	191K	357K	665K	2.80M
3.32Ω	97.6Ω	422Ω	866Ω	1.69K	3.40K	6.34K	12.4K	29.4K	56.2K	105K	196K	365K	681K	3.01M
4.99Ω	100Ω	453Ω	909Ω	1.74K	3.48K	6.49K	13.0K	30.1K	57.6K	107K	200K	374K	698K	3.32M
5.00Ω	110Ω	475Ω	931Ω	1.78K	3.57K	6.65K	13.7K	30.9K	59.0K	110K	205K	383K	715K	3.65M
7.50Ω	121Ω	499Ω	953Ω	1.82K	3.65K	6.81K	14.0K	32.4K	60.4K	113K	210K	392K	732K	4.02M
10.0Ω	130Ω	511Ω	976Ω	1.87K	3.74K	6.98K	14.7K	33.2K	61.9K	115K	215K	402K	750K	4.32M
12.1Ω	137Ω	523Ω	1.00K	1.91K	3.83K	7.15K	15.0K	34.0K	63.4K	118K	221K	412K	768K	4.53M
15.0Ω	140Ω	536Ω	1.02K	1.96K	3.92K	7.32K	15.4K	34.8K	64.9K	121K	226K	422K	787K	4.75M
17.4Ω	150Ω	549Ω	1.05K	2.00K	4.02K	7.50K	16.2K	35.7K	66.5K	124K	232K	432K	806K	4.99M
20.0Ω	162Ω	562Ω	1.07K	2.10K	4.12K	7.68K	16.5K	36.5K	68.1K	127K	237K	442K	825K	5.62M
22.1Ω	174Ω	576Ω	1.10K	2.21K	4.22K	7.87K	16.9K	37.4K	69.8K	130K	243K	453K	845K	5.76M
24.9Ω	187Ω	590Ω	1.15K	2.26K	4.32K	8.06K	17.4K	38.3K	71.5K	133K	249K	464K	866K	6.81M
30.9Ω	200Ω	604Ω	1.18K	2.37K	4.42K	8.25K	17.8K	39.2K	73.2K	137K	255K	475K	887K	7.50M
33.2Ω	210Ω	619Ω	1.21K	2.43K	4.53K	8.45K	18.2K	40.2K	75.0K	140K	261K	487K	909K	10.00M
34.8Ω	221Ω	634Ω	1.24K	2.49K	4.64K	8.66K	18.7K	41.2K	76.8K	143K	267K	499K	931K	
40.2Ω	243Ω	649Ω	1.27K	2.55K	4.75K	8.87K	19.1K	42.2K	78.7K	147K	274K	511K	953K	
45.3Ω	249Ω	665Ω	1.30K	2.61K	4.87K	9.09K	19.6K	43.2K	80.6K	150K	280K	523K	976K	
49.9Ω	261Ω	681Ω	1.33K	2.67K	4.99K	9.31K	20.0K	44.2K	82.5K	154K	287K	536K	1.00M	
54.9Ω	274Ω	698Ω	1.37K	2.74K	5.11K	9.53K	21.0K	45.3K	84.5K	158K	294K	549K	1.21M	
60.4Ω	287Ω	715Ω	1.40K	2.80K	5.23K	9.76K	22.1K	46.4K	86.6K	162K	301K	562K	1.37M	
64.9Ω	301Ω	732Ω	1.43K	2.87K	5.36K	10.0K	23.2K	47.5K	88.7K	165K	309K	576K	1.50M	
68.1Ω	316Ω	750Ω	1.47K	2.94K	5.49K	10.2K	24.3K	48.7K	90.9K	169K	316K	590K	1.65M	
69.8Ω	332Ω	768Ω	1.50K	3.01K	5.62K	10.5K	24.9K	49.9K	93.1K	174K	324K	604K	1.78M	
75.0Ω	348Ω	787Ω	1.54K	3.09K	5.76K	10.7K	25.5K	51.1K	95.3K	178K	332K	619K	2.00M	

* MK3/.5W (300VMax) stocked in all of the values listed.
 all MK3 values @25¢ each except 4.75M and above @55¢ each
 * MK4/.75W (400VMax) only for values marked with a † @40¢ each
 * MK5/1W (500VMax) only for 3.01K, 30.1K @65¢ each

* MK8/2W (500VMax) only in values marked with a Δ... \$1.95 each
 * 25+ pieces per value deduct 10%, 50-99 per value deduct 20%
 * 100+ pieces per value... deduct 25% 10% maximum discount for MK8
 Values marked "PRP" indicate the MK3 has been replaced with a PRP at \$.45 each.

HOLCO RESISTORS

Due to changes in construction we are phasing these out and slowly restocking with the superb PRP non-magnetic metal films.



*Highly praised by Hi Fi News & RR, mfg. by Holsworthy of Devon, England. Name is derived from whole Copper.
 *Metal film on a ceramic substrate with gold plated ends joined to end caps and .032"D copper leads.
 *H4 (RN-60) .5 watt @70°C, 300VMax, TCR is 50ppm *H2 (RN-70) 1.0 watt @70°C, 350VMax, TCR is 50ppm
 *Tolerance is specified at 1% but in reality I find they are usually within .25% of their nominal value.
 *Caution!!! As the failure rate with these increases with voltage, I recommend limiting the maximum applied voltage to 150VDC or less.

1.00Ω	210Ω	649Ω	1.33K	2.74K	5.49K	11.0K	29.4K	59.0K	115K	228K	432K	825K
3.01Ω	221Ω	665Ω	1.37K	2.80K	5.62K	11.5K	30.1K	60.4K	118K	232K	442K	845K
5.00Ω	232Ω	681Ω	1.40K	2.87K	5.76K	12.1K	30.9K	61.9K	121K	237K	453K	866K
5.11Ω	243Ω	698Ω	1.43K	2.94K	5.90K	12.4K	32.4K	63.4K	124K	243K	464K	887K
10.0Ω	249Ω	715Ω	1.47K	3.01K	6.04K	13.0K	33.2K	64.9K	127K	249K	475K	909K
15.0Ω	274Ω	732Ω	1.50K	3.09K	6.19K	13.7K	34.0K	66.5K	130K	255K	487K	931K
20.0Ω	287Ω	750Ω	1.54K	3.16K	6.34K	14.0K	35.7K	68.1K	133K	261K	499K	953K
22.1Ω	301Ω	768Ω	1.58K	3.24K	6.49K	14.7K	36.5K	69.8K	137K	267K	511K	976K
24.9Ω	316Ω	787Ω	1.62K	3.32K	6.65K	15.0K	37.4K	71.5K	140K	270K	523K	1.00M
30.9Ω	332Ω	806Ω	1.65K	3.40K	6.81K	15.4K	38.3K	73.2K	143K	274K	536K	1.21M
40.2Ω	348Ω	825Ω	1.69K	3.48K	6.98K	16.2K	39.2K	75.0K	147K	280K	549K	1.50M
49.9Ω	357Ω	845Ω	1.74K	3.57K	7.15K	16.9K	39.2K	76.8K	150K	287K	562K	1.78M
54.9Ω	374Ω	866Ω	1.78K	3.65K	7.32K	17.4K	40.2K	78.7K	154K	294K	576K	2.00M
60.4Ω	392Ω	887Ω	1.82K	3.74K	7.49K	17.8K	41.2K	80.6K	158K	301K	590K	2.21M
68.1Ω	402Ω	909Ω	1.87K	3.83K	7.68K	18.2K	42.2K	82.5K	162K	309K	604K	2.49M
75.0Ω	412Ω	931Ω	1.91K	3.92K	7.87K	18.7K	43.2K	84.5K	165K	316K	619K	2.74M
84.5Ω	422Ω	953Ω	1.96K	4.02K	8.06K	19.1K	44.2K	86.6K	169K	324K	634K	3.01M
90.9Ω	432Ω	976Ω	2.00K	4.22K	8.25K	19.6K	45.3K	88.7K	174K	332K	649K	3.32M
100Ω	453Ω	1.00K	2.10K	4.32K	8.45K	20.0K	46.4K	90.9K	178K	340K	665K	3.65M
110Ω	475Ω	1.02K	2.21K	4.42K	8.66K	21.0K	47.5K	93.1K	182K	348K	681K	4.02M
121Ω	499Ω	1.05K	2.26K	4.53K	8.87K	22.1K	48.7K	95.3K	187K	357K	698K	4.99M
130Ω	511Ω	1.07K	2.37K	4.64K	9.09K	23.2K	49.9K	97.6K	191K	365K	715K	
140Ω	523Ω	1.10K	2.43K	4.75K	9.31K	24.3K	51.1K	100K	196K	374K	732K	
150Ω	549Ω	1.15K	2.49K	4.87K	9.53K	24.9K	52.3K	102K	200K	383K	750K	
162Ω	562Ω	1.21K	2.55K	4.99K	9.76K	25.5K	53.6K	105K	205K	392K	768K	
174Ω	576Ω	1.24K	2.61K	5.11K	10.0K	26.1K	54.9K	107K	210K	402K	787K	
187Ω	604Ω	1.27K	2.67K	5.23K	10.2K	26.7K	56.2K	110K	215K	412K	806K	
200Ω	619Ω	1.30K	2.70K	5.36K	10.5K	27.4K	57.6K	113K	221K	422K		

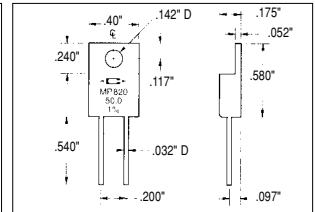
Values marked "PRP" indicate the H4 value has been replaced with a PRP.

* H4 .5W available in all values listed above except 4.02M & 4.99M
 * H2 1.0W available only in values highlighted in bold, no others!
 * 1.0Ω and 3.01Ω H4 or through 5.11Ω H2 = \$1.85 each (all PRP are 45¢)
 * 10Ω through 15Ω H4 or H2 = 65¢ each (all PRP are 45¢)
 * 20Ω through 976K H4 = 45¢ each 20Ω through 976K H2 = 65¢

* 1.0M through 1.78M H4 or H2 = 65¢ each
 * 2.0M through 3.65M H4 or H2 = 80¢ each H2 ≥4.02M = \$1.95
 * 25 - 50 pieces per value deduct 10%
 * 50 - 100 pieces per value deduct 20%, 100+ per value deduct 25%
 All sales final on Resista, Holco & PRP resistors, no returns please!

CADDOCK MP-820/821 Kool-Tab Power Film Resistor

- * Non-Inductive, 50ppm TCR $\geq 5\Omega$, 100ppm $\leq 4\Omega$, values $\geq 10\Omega=1\%$, $\leq 8\Omega=5\%$, Micronox film bonded to copper tab.
- * 20 Watts at 25°C if resistor is mounted on appropriate heat sink or chassis, 2.25W at 25°C in free air without a heat sink.
- * 300V maximum working voltage, momentary permissible overload is 2X rated power @1.5 x VMax for 5 seconds.
- * Superb transparency for tweeter networks, perhaps too fragile for some midrange/woofer networks, excellent in electronics.
- * Heatsinks... 20W (2" x 2" x 1.25") @ \$1.85, 10W (1" x 1" x 1.5") @ \$0.65, 5W clip on 1" square @ \$0.45, 6.5gr heat sink grease @ \$1.75
- * Deduct 10% for 10+ per value. (special purchase... 2.0Ω Caddock MP-816 @ \$2.50)

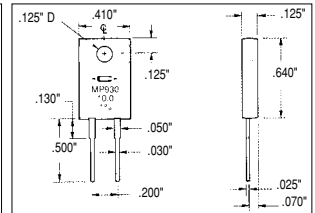


.10Ω.....\$10.95	3.50Ω.....9.50	7.00Ω.....9.50	22.1Ω.....8.50	200Ω.....8.50	499Ω.....8.50	866Ω.....8.50	2.00K.....8.50	4.53K.....8.50	7.50K.....8.50
.50Ω.....10.95	4.00Ω.....9.50	7.50Ω.....9.50	33.2Ω.....8.50	221Ω.....8.50	549Ω.....8.50	909Ω.....8.50	2.21K.....8.50	4.75K.....8.50	8.06K.....8.50
1.00Ω.....9.50	4.50Ω.....9.50	8.00Ω.....9.50	49.9Ω.....8.50	249Ω.....8.50	604Ω.....8.50	953Ω.....8.50	2.49K.....8.50	4.99K.....8.50	8.45K.....8.50
1.50Ω.....9.50	5.00Ω.....9.50	10.0Ω.....8.50	75.0Ω.....8.50	301Ω.....8.50	619Ω.....8.50	1.00K.....8.50	2.74K.....8.50	5.49K.....8.50	9.09K.....8.50
2.00Ω.....9.50	5.50Ω.....9.50	12.0Ω.....8.50	100Ω.....8.50	332Ω.....8.50	681Ω.....8.50	1.21K.....8.50	3.01K.....8.50	6.04K.....8.50	9.53K.....8.50
2.50Ω.....9.50	6.00Ω.....9.50	14.0Ω.....8.50	150Ω.....8.50	402Ω.....8.50	750Ω.....8.50	1.50K.....8.50	3.48K.....8.50	6.49K.....8.50	10.0K.....8.50
3.00Ω.....9.50	6.50Ω.....9.50	16.0Ω.....8.50	174Ω.....8.50	453Ω.....8.50	825Ω.....8.50	1.74K.....8.50	4.02K.....8.50	6.98K.....8.50	



CADDOCK MP-930 Kool-Pak Power Film Resistor

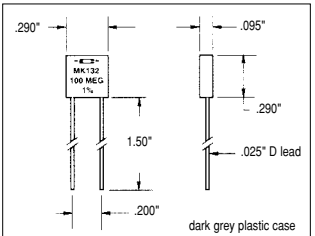
- * Non-Inductive, 1% tolerance, TCR 100ppm, 250V max. working voltage, Micronox film fired onto a flat ceramic substrate.
- * 30 Watts at 25°C if resistor is mounted on appropriate heat sink or chassis, 2.25W at 25°C in free air without a heat sink.
- * Momentary permissible overload is 1.5X rated power @1.5 x 250VMax for 5 seconds, leads are copper paddle type.
- * Values 5.0K and above are MP-925 type, identical to MP-930 except are 25W with a higher maximum voltage of 500V.
- * Less Expensive alternative to MP-820 within range of values produced with somewhat higher power rating.
- * See MP-820 above for heat sinks. All values are \$5.50 each. Deduct 10% for 10+ per value



.10Ω	1.0Ω	3.0Ω	7.5Ω	20.0Ω	50.0Ω	200Ω	560Ω	3.00K	7.50K	25.0K	47.0K	75.0K
.20Ω	1.5Ω	3.3Ω	8.0Ω	25.0Ω	75.0Ω	250Ω	750Ω	3.30K	10.0K	30.0K	50.0K	82.0K
.33Ω	2.0Ω	4.0Ω	10.0Ω	30.0Ω	100Ω	330Ω	1.00K	4.00K	15.0K	33.0K	56.0K	100K
.50Ω	2.5Ω	5.0Ω	15.0Ω	40.0Ω	150Ω	470Ω	2.00K	5.00K	20.0K	40.0K	68.0K	

CADDOCK MK-132 Precision Power Film Resistor

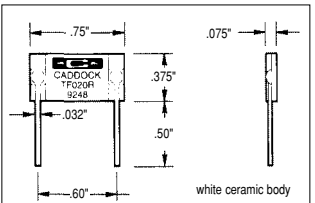
- * Non-Inductive, 50PPM Temperature Coefficient (5Ω-5MΩ), 1% tolerance, .75W full power rated to 125° C, 400VMax.
- * Constructed with Caddock Micronox film fired onto ceramic substrate with tinned copper round wire radial leads.
- * Excellent resistor for moderate power applications, very conservative .75W rating in a very compact package. These are an excellent alternative to the Vishay S102 where higher power is required, or to the Caddock TF-020 where smaller size, power, or values below 1.0K are required. Extended life stability is typically better than .1% per 1000 hours.
- * All values listed below are stock, the widest inventoried assortment from any supplier. If you would like a data sheet on our Caddock resistors, please send a S.A.S.E. or request enclosure with any parts order. Deduct 10% for 10+ per value.



1.0Ω.....\$6.95	174Ω.....3.95	845Ω.....3.95	2.87K.....3.95	6.04K.....3.95	9.53K.....3.95	27.4K.....3.95	71.5K.....3.95	221K.....4.50	549K.....4.50	2.21M.....5.95
4.99Ω.....6.95	200Ω.....3.95	909Ω.....3.95	3.01K.....3.95	6.19K.....3.95	9.76K.....3.95	28.7K.....3.95	75.0K.....3.95	232K.....4.50	562K.....4.50	2.49M.....5.95
7.50Ω.....6.95	221Ω.....3.95	1.00K.....3.95	3.16K.....3.95	6.49K.....3.95	10.0K.....3.95	30.1K.....3.95	78.7K.....3.95	249K.....4.50	576K.....4.50	3.01M.....5.95
10.0Ω.....6.95	249Ω.....3.95	1.10K.....3.95	3.32K.....3.95	6.65K.....3.95	10.5K.....3.95	31.6K.....3.95	82.5K.....3.95	261K.....4.50	604K.....4.50	3.32M.....5.95
15.0Ω.....6.95	301Ω.....3.95	1.21K.....3.95	3.48K.....3.95	6.81K.....3.95	11.0K.....3.95	33.2K.....3.95	86.6K.....3.95	274K.....4.50	619K.....4.50	4.02M.....5.95
22.1Ω.....6.95	332Ω.....3.95	1.31K.....3.95	3.65K.....3.95	6.98K.....3.95	12.1K.....3.95	34.0K.....3.95	90.9K.....3.95	287K.....4.50	649K.....4.50	4.99M.....5.95
24.9Ω.....6.95	365Ω.....3.95	1.40K.....3.95	3.83K.....3.95	7.15K.....3.95	13.0K.....3.95	35.7K.....3.95	95.3K.....3.95	301K.....4.50	681K.....4.50	7.49M.....5.95
30.1Ω.....4.50	402Ω.....3.95	1.50K.....3.95	4.02K.....3.95	7.32K.....3.95	14.0K.....3.95	38.3K.....3.95	100K.....4.50	316K.....4.50	715K.....4.50	10.00M.....5.95
40.2Ω.....4.50	453Ω.....3.95	1.62K.....3.95	4.32K.....3.95	7.49K.....3.95	15.0K.....3.95	41.2K.....3.95	110K.....4.50	332K.....4.50	750K.....4.50	
49.9Ω.....4.50	475Ω.....3.95	1.74K.....3.95	4.53K.....3.95	7.68K.....3.95	16.2K.....3.95	44.2K.....3.95	121K.....4.50	348K.....4.50	806K.....4.50	
60.4Ω.....4.50	499Ω.....3.95	1.82K.....3.95	4.75K.....3.95	7.87K.....3.95	17.4K.....3.95	47.0K.....3.95	130K.....4.50	365K.....4.50	845K.....4.50	
68.1Ω.....4.50	549Ω.....3.95	1.91K.....3.95	4.99K.....3.95	8.06K.....3.95	18.2K.....3.95	49.9K.....3.95	140K.....4.50	383K.....4.50	909K.....4.50	
75.0Ω.....4.50	602Ω.....3.95	2.00K.....3.95	5.11K.....3.95	8.25K.....3.95	19.1K.....3.95	52.3K.....3.95	150K.....4.50	402K.....4.50	953K.....4.50	
84.5Ω.....4.50	649Ω.....3.95	2.10K.....3.95	5.23K.....3.95	8.45K.....3.95	20.0K.....3.95	54.9K.....3.95	162K.....4.50	422K.....4.50	1.00M.....5.95	
100Ω.....3.95	681Ω.....3.95	2.21K.....3.95	5.36K.....3.95	8.66K.....3.95	21.0K.....3.95	57.6K.....3.95	174K.....4.50	453K.....4.50	1.21M.....5.95	
110Ω.....3.95	715Ω.....3.95	2.32K.....3.95	5.49K.....3.95	8.87K.....3.95	22.1K.....3.95	60.4K.....3.95	187K.....4.50	475K.....4.50	1.50M.....5.95	
121Ω.....3.95	749Ω.....3.95	2.49K.....3.95	5.62K.....3.95	9.09K.....3.95	24.9K.....3.95	64.9K.....3.95	200K.....4.50	499K.....4.50	1.74M.....5.95	
150Ω.....3.95	806Ω.....3.95	2.74K.....3.95	5.76K.....3.95	9.31K.....3.95	26.2K.....3.95	68.1K.....3.95	210K.....4.50	523K.....4.50	2.00M.....5.95	

CADDOCK TF020 Ultra-Precision Film Resistor

- * Non-Inductive oxide design, 15ppm/°C TCR, 1% tolerance, .33 Watt to 70° Centigrade, 300V maximum operating voltage.
- * Constructed with Caddock Tetrinox film for long term stability of .01%/1000 hours, tinned copper round wire radial leads.
- * Excellent alternative to the more costly Vishay S102, and preferred over the S102 by some, particularly at higher Ω values where there is also a considerable cost savings. This is absolutely the most transparent resistor Caddock manufactures and ideal for ultra critical applications where the best possible sound is required. Values below 1.00K are identical USF340, but 0.1% & 5ppm Please take careful note of large physical size (.750" wide by .375" high). Deduct 10% for 10+ per value.



50Ω.....\$6.95	1.82K.....5.95	4.02K.....5.95	6.81K.....5.95	9.76K.....5.95	27.4K.....5.95	68.1K.....5.95	174K.....6.50	383K.....6.50	750K.....8.50
100Ω.....6.95	1.91K.....5.95	4.32K.....5.95	6.98K.....5.95	10.0K.....5.95	28.7K.....5.95	71.5K.....5.95	187K.....6.50	402K.....6.50	787K.....8.50
200Ω.....6.95	2.00K.....5.95	4.53K.....5.95	7.15K.....5.95	10.5K.....5.95	30.1K.....5.95	75.0K.....5.95	200K.....6.50	422K.....6.50	806K.....8.50
350Ω.....6.95	2.10K.....5.95	4.75K.....5.95	7.32K.....5.95	11.0K.....5.95	31.6K.....5.95	78.7K.....5.95	210K.....6.50	453K.....6.50	845K.....8.50
400Ω.....6.95	2.21K.....5.95	4.99K.....5.95	7.49K.....5.95	12.1K.....5.95	33.2K.....5.95	82.5K.....5.95	221K.....6.50	475K.....6.50	909K.....10.95
500Ω.....6.95	2.32K.....5.95	5.11K.....5.95	7.68K.....5.95	13.0K.....5.95	35.7K.....5.95	86.6K.....5.95	232K.....6.50	499K.....6.50	953K.....10.95
700Ω.....6.95	2.49K.....5.95	5.23K.....5.95	7.87K.....5.95	14.0K.....5.95	38.3K.....5.95	90.9K.....6.50	249K.....6.50	523K.....8.50	976K.....10.95
1.00K.....5.95	2.74K.....5.95	5.36K.....5.95	8.06K.....5.95	15.0K.....5.95	41.2K.....5.95	95.3K.....6.50	261K.....6.50	549K.....8.50	1.0M.....10.95
1.10K.....5.95	2.87K.....5.95	5.49K.....5.95	8.25K.....5.95	16.2K.....5.95	44.2K.....5.95	100K.....6.50	274K.....6.50	562K.....8.50	1.21M.....10.95
1.21K.....5.95	3.01K.....5.95	5.62K.....5.95	8.45K.....5.95	17.4K.....5.95	47.0K.....5.95	110K.....6.50	287K.....6.50	576K.....8.50	1.50M.....10.95
1.31K.....5.95	3.16K.....5.95	5.76K.....5.95	8.66K.....5.95	18.2K.....5.95	49.9K.....5.95	121K.....6.50	301K.....6.50	604K.....8.50	1.74M.....10.95
1.40K.....5.95	3.32K.....5.95	6.04K.....5.95	8.87K.....5.95	19.1K.....5.95	54.9K.....5.95	130K.....6.50	316K.....6.50	619K.....8.50	2.00M.....10.95
1.50K.....5.95	3.48K.....5.95	6.19K.....5.95	9.09K.....5.95	20.0K.....5.95	57.6K.....5.95	140K.....6.50	332K.....6.50	649K.....8.50	
1.62K.....5.95	3.65K.....5.95	6.49K.....5.95	9.31K.....5.95	22.1K.....5.95	60.4K.....5.95	150K.....6.50	348K.....6.50	681K.....8.50	
1.74K.....5.95	3.83K.....5.95	6.65K.....5.95	9.53K.....5.95	24.9K.....5.95	64.9K.....5.95	162K.....6.50	365K.....6.50	715K.....8.50	

VISHAY Bulk Foil Resistors

- *S102 series non-inductive bulk metal foil resistor, TCR ± 2.0 ppm max, radial lead package, copper leads.
- *Nominal tolerance is 1% but measures typically $\leq 25\%$, Current noise $< 0.025\mu\text{V/volt}$ of applied voltage.
- *Values below 100K = .6W/70°C, values above 100K = .4W/70°C, 300VDC maximum voltage.
- *Superb for cartridge loads, feedback, and any critical application. All values below are stock, any custom value from 1 Ω -250K is available for a 10% surcharge, allow two - four week lead time.

Vishay 1280G trimming potentiometers: Bulk metal foil pc mount type, much superior to any cermet or conductive plastic trimmer, the best available... .75W, 15ppm, 26 turns for ultra-precise adjustment... \$8.50 each except 10 Ω @\$9.50

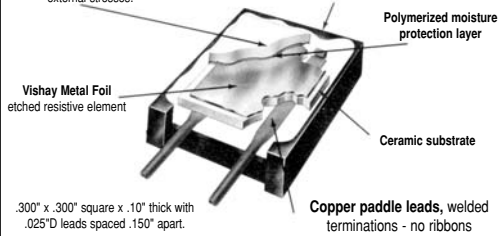
10 Ω 20 Ω 50 Ω 100 Ω 200 Ω 500 Ω 1.0K 2.0K 5.0K 10.0K 20.0K

actual size



Silicone rubber encapsulation
Provides a cushioning layer which isolates the resistive element from external stresses.

One-piece transfer molded case
Affords maximum protection against all environmental conditions



Vishay Metal Foil
etched resistive element

Polymerized moisture protection layer

Ceramic substrate

Copper paddle leads, welded terminations - no ribbons

.300" x .300" square x .10" thick with .025" D leads spaced .150" apart.

1.00 Ω\$11.50	121 Ω.....11.50	499 Ω.....11.50	1.15K.....11.50	2.74K.....11.50	6.49K.....11.50	14.0K.....11.50	38.3K.....13.95	121.0K.....25.95
4.99 Ω.....11.50	130 Ω.....11.50	511 Ω.....11.50	1.21K.....11.50	2.87K.....11.50	6.81K.....11.50	15.0K.....11.50	44.2K.....13.95	127.0K.....25.95
10.0 Ω.....11.50	150 Ω.....11.50	549 Ω.....11.50	1.31K.....11.50	3.01K.....11.50	6.98K.....11.50	16.2K.....11.50	47.0K.....13.95	130.0K.....25.95
15.0 Ω.....11.50	174 Ω.....11.50	619 Ω.....11.50	1.37K.....11.50	3.32K.....11.50	7.15K.....11.50	17.4K.....11.50	49.9K.....13.95	137.0K.....25.95
20.0 Ω.....11.50	200 Ω.....11.50	681 Ω.....11.50	1.40K.....11.50	3.65K.....11.50	7.49K.....11.50	17.8K.....11.50	53.6K.....17.95	140.0K.....25.95
25.0 Ω.....11.50	210 Ω.....11.50	698 Ω.....11.50	1.50K.....11.50	3.90K.....11.50	7.87K.....11.50	18.2K.....11.50	54.9K.....17.95	150.0K.....25.95
30.0 Ω.....11.50	221 Ω.....11.50	715 Ω.....11.50	1.54K.....11.50	4.02K.....11.50	8.06K.....11.50	19.1K.....11.50	57.6K.....17.95	162.0K.....27.95
35.0 Ω.....11.50	249 Ω.....11.50	750 Ω.....11.50	1.62K.....11.50	4.32K.....11.50	8.25K.....11.50	20.0K.....11.50	64.9K.....17.95	174.0K.....27.50
40.0 Ω.....11.50	274 Ω.....11.50	787 Ω.....11.50	1.74K.....11.50	4.75K.....11.50	8.45K.....11.50	21.5K.....12.50	68.1K.....17.95	182.0K.....27.95
50.0 Ω.....11.50	301 Ω.....11.50	825 Ω.....11.50	1.82K.....11.50	4.99K.....11.50	9.09K.....11.50	22.1K.....12.50	75.0K.....17.95	200.0K.....27.95
60.0 Ω.....11.50	332 Ω.....11.50	845 Ω.....11.50	1.91K.....11.50	5.11K.....11.50	9.53K.....11.50	24.9K.....12.50	82.5K.....22.95	221.0K.....32.50
68.1 Ω.....11.50	374 Ω.....11.50	866 Ω.....11.50	2.00K.....11.50	5.22K.....11.50	10.0K.....11.50	25.5K.....12.50	90.9K.....22.95	249.0K.....32.50
75.0 Ω.....11.50	390 Ω.....11.50	909 Ω.....11.50	2.10K.....11.50	5.49K.....11.50	10.5K.....11.50	27.4K.....12.50	94.5K.....22.95	
90.9 Ω.....11.50	402 Ω.....11.50	976 Ω.....11.50	2.21K.....11.50	5.62K.....11.50	11.0K.....11.50	28.7K.....12.50	100.0K.....23.95	10+ per value deduct 10%
100 Ω.....11.50	432 Ω.....11.50	1.00K.....11.50	2.40K.....11.50	6.04K.....11.50	12.1K.....11.50	31.6K.....13.95	110.0K.....25.95	
110 Ω.....11.50	475 Ω.....11.50	1.10K.....11.50	2.49K.....11.50	6.19K.....11.50	13.0K.....11.50	33.2K.....13.95	115.0K.....25.95	

Vishay VSH bulk foil radial lead resistors, now available in all of the values above from 5.0 Ω to 120K, .3W

Basically an S102 chip with a conformal coating, excellent sonics, not quite the equal of the S102 above... 5 Ω to ≤ 50 K @\$3.95 ≥ 51 K to ≤ 75 K @\$4.95 ≥ 76 K to 120K @\$6.50

MLLS Non-Inductive Wire Wound Resistors

- * MR-200-8 (2 watt) low reactance type for high speed pulse, minimum phase shift applications copper leads, 1000V Maximum, 1% tolerance, 10ppm TCR, .50" Diameter x 2.0" Long
- * MRA-5 (5watt) non-inductively wound, very compact size for its power rating, copper leads 200V Maximum, 1% tolerance, 50ppm TCR $< 10\Omega$, 20ppm $> 10\Omega$, .167" Diameter x .650" Long
- * MRA-12 (12W) non-inductively wound, very compact size for its power rating, copper leads, 400V Maximum, 1% tolerance, 50ppm TCR $< 10\Omega$, 20ppm $> 10\Omega$, .312" Diameter x 1.28" Long
- * Superb resistors for electronics and loudspeaker crossovers. Deduct 10% for 25+ pieces per value.

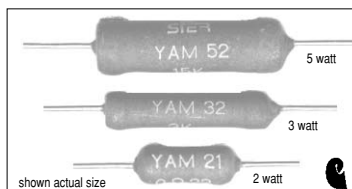


MR-200	40.0K	499K	7.95	4.0Ω	\$2.15	200Ω	\$2.15	1.21K	\$3.15	6.19K	\$3.85	MRA-12	6.0Ω	\$3.50	68.1Ω	\$3.50	1.50K	\$3.95	16.2K	\$5.40	
1.00K	56.2K	549K	7.95	5.11Ω	2.15	221Ω	2.15	1.30K	3.15	6.49K	3.85	10Ω	\$3.50	6.5Ω	3.50	75.0Ω	3.50	2.00K	3.95	17.4K	5.40
1.50K	61.9K	604K	9.50	6.00Ω	2.15	249Ω	2.15	1.37K	3.15	6.81K	3.85	22Ω	3.50	7.0Ω	3.50	90.9Ω	3.50	2.21K	3.95	18.2K	5.75
2.21K	68.1K	750K	9.50	7.50Ω	2.15	274Ω	2.15	1.43K	3.15	7.49K	3.85	33Ω	3.50	7.5Ω	3.50	100Ω	3.50	2.49K	3.95	20.0K	5.75
2.49K	75.0K	1.0M	14.95	10.0Ω	2.15	301Ω	2.15	1.50K	3.15	8.25K	3.85	50Ω	3.50	8.0Ω	3.50	121Ω	3.50	3.01K	4.95	22.1K	5.75
3.01K	82.5K			12.5Ω	2.15	332Ω	2.15	1.74K	3.15	8.66K	3.85	75Ω	3.50	9.0Ω	3.50	150Ω	3.50	3.32K	4.95	24.9K	5.75
3.32K	90.9K			15.0Ω	2.15	374Ω	2.15	2.00K	3.15	9.53K	3.85	100Ω	3.50	10.0Ω	3.50	174Ω	3.50	4.02K	4.95	27.4K	5.75
4.75K	100K			17.5Ω	2.15	402Ω	2.15	2.21K	3.50	10.0K	3.85	125Ω	3.50	11.0Ω	3.50	200Ω	3.50	4.75K	4.95	30.1K	5.75
4.99K	110K			20.0Ω	2.15	453Ω	2.15	2.49K	3.50	11.0K	3.85	150Ω	3.50	12.0Ω	3.50	221Ω	3.50	4.99K	4.95	33.2K	5.75
7.50K	121K			22.1Ω	2.15	475Ω	2.15	2.74K	3.50	12.1K	3.85	175Ω	3.50	13.0Ω	3.50	249Ω	3.50	5.49K	4.95	36.5K	5.75
10.0K	150K			27.0Ω	2.15	499Ω	2.15	3.01K	3.50	13.0K	3.85	200Ω	3.50	14.0Ω	3.50	301Ω	3.50	6.49K	4.95	40.2K	5.75
12.1K	162K			33.0Ω	2.15	549Ω	2.15	3.32K	3.50	14.0K	3.85	220Ω	3.50	15.0Ω	3.50	332Ω	3.50	7.49K	4.95	44.2K	5.75
15.0K	174K			40.2Ω	2.15	576Ω	2.15	3.65K	3.50	15.0K	3.85	250Ω	3.50	16.0Ω	3.50	402Ω	3.95	8.25K	5.40	49.9K	5.75
17.4K	187K			47.0Ω	2.15	602Ω	2.15	4.02K	3.85	16.2K	3.95	270Ω	3.50	18.0Ω	3.50	453Ω	3.95	8.66K	5.40	54.9K	5.75
20.0K	200K			50.0Ω	2.15	649Ω	2.15	4.32K	3.85			300Ω	3.50	20.0Ω	3.50	499Ω	3.95	9.09K	5.40	60.4K	5.75
22.1K	221K			68.0Ω	2.15	698Ω	2.15	4.75K	3.85			330Ω	3.50	22.0Ω	3.50	549Ω	3.95	9.53K	5.40	68.1K	5.75
24.9K	249K			75.0Ω	2.15	750Ω	2.15	4.99K	3.85			350Ω	3.50	24.0Ω	3.50	604Ω	3.95	10.0K	5.40	75.0K	5.75
27.4K	274K			1.0Ω	2.15	90.9Ω	2.15	825Ω	3.15	5.11K	3.85	4.0Ω	3.50	30.9Ω	3.50	681Ω	3.95	11.0K	5.40	82.5K	5.75
30.1K	301K			1.5Ω	2.15	100Ω	2.15	909Ω	3.15	5.36K	3.85	4.5Ω	3.50	34.8Ω	3.50	750Ω	3.95	12.1K	5.40	90.9K	5.75
33.2K	332K			2.0Ω	2.15	121Ω	2.15	953Ω	3.15	5.49K	3.85	4.7Ω	3.50	40.2Ω	3.50	825Ω	3.95	13.0K	5.40	98.5K	5.75
38.3K	402K			2.5Ω	2.15	150Ω	2.15	1.00K	3.15	5.62K	3.85	5.0Ω	3.50	49.9Ω	3.50	909Ω	3.95	14.0K	5.40		
44.2K	475K			3.0Ω	2.15	174Ω	2.15	1.10K	3.15	6.04K	3.85	5.5Ω	3.50	60.4Ω	3.50	1.00K	3.95	15.0K	5.40		

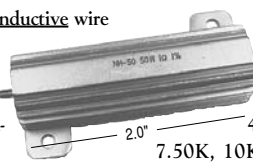
BE YAMAMURA Non-Inductive Wirewound Resistors: Manufactured by the SFernice division of Vishay to the specifications of Be Yamamura, these superb resistors are very popular with Japanese audiophiles. Four types represented here, the YAM-21 & 22 two watt, YAM-32 three watt, and YAM-52 five watt, all 5%.

10 Ω 2W.....\$7.50	4.0 Ω 2W.....9.95	56 Ω 2W.....9.95	470 Ω 2W.....12.95	5.6K 3W.....14.95
10 Ω 5W.....9.95	15 Ω 2W.....9.95	68 Ω 2W.....9.95	500 Ω 2W.....12.95	6.5K 2W.....12.95
22 Ω 2W.....7.50	20 Ω 2W.....9.95	75 Ω 2W.....9.95	560 Ω 2W.....12.95	6.8K 3W.....14.95
22 Ω 5W.....9.95	22 Ω 2W.....9.95	82 Ω 2W.....9.95	1.8K 2W.....12.95	
50 Ω 2W.....7.50	27 Ω 2W.....9.95	180 Ω 2W.....9.95	2.0K 2W.....12.95	
1.0 Ω 2W.....7.50	30 Ω 2W.....9.95	200 Ω 2W.....9.95	2.2K 2W.....12.95	
1.5 Ω 2W.....7.50	33 Ω 2W.....9.95	220 Ω 2W.....9.95	3.9K 3W.....14.95	
2.0 Ω 2W.....7.50	39 Ω 2W.....9.95	300 Ω 2W.....9.95	4.7K 3W.....14.95	
3.0 Ω 2W.....9.95	47 Ω 2W.....9.95	330 Ω 2W.....12.95	5.0K 3W.....14.95	

Quantities limited and these resistors are no longer in production, so best to check before ordering.



50W NI POWER RESISTORS: 1%, 50ppm, 50 watt, 890VDC, non-inductive wire wound resistors with gold anodized aluminum finned case custom made for our 50 watt rating at 25°C applies only if mounted on a 12" x 12" x .059" aluminum panel or equivalent heat sink. Derate to 20 watts at 25°C if not mounted on a heat sink. Tinned copperweld eyelet terminals, .625" Diameter x 2.0" Long.



.50 Ω , 1.0 Ω , 1.5 Ω , 2.0 Ω , 2.5 Ω , 3.0 Ω , 3.5 Ω , 4.0 Ω , 4.5 Ω , 5.0 Ω , 5.5 Ω , 6.0 Ω , 6.5 Ω , 7.0 Ω , 7.5 Ω , 8.0 Ω , 9.0 Ω , 10 Ω , 12 Ω , 14 Ω , 15 Ω , 16 Ω , 18 Ω , 20 Ω , 22 Ω , 25 Ω , 30 Ω , 40 Ω , 50 Ω , 60 Ω , 75 Ω , 100 Ω , 121 Ω , 150 Ω , 174 Ω , 200 Ω , 221 Ω , 249 Ω , 300 Ω , 400 Ω , 499 Ω , 600 Ω , 750 Ω , 875 Ω , 1.0K, 2.0K, 3.01K, 4.99K, 7.50K, 10K, 15K, 20K, 50K... \$5.95 each Deduct 10% for 10+ per value.

ROTARY SWITCHES/ATTENUATOR KITS

ATTENUATORS: I stock 45 position Shallco and 24 position Elma rotary switches for building attenuators. There are three configurations commonly used that you may opt for in building attenuators with these controls. Any of these assembled with Holco and or Vishay resistors will outperform an off the shelf pot from any manufacturer (P&G included)! Enclosed with any attenuator kit are instructions and a spreadsheet showing the correct resistor for each position and a graph of the attenuator taper. You may specify any impedance you require and custom tapers are available for all applications.

*Ladder L-Pad: usually constructed as a pair of mono controls, this type control features a switchable series and shunt resistor for each position so the audio signal passes through only a single series element no matter how many dB of attenuation, input impedance is constant, output impedance varies, absolutely the best choice for interstage use in electronics where constant load is desired, excellent for passive preamps too, Vishays can be used for primary positions.

*Fixed series/variable shunt: stereo or dual mono commonly used, eliminates switch contacts for the series element which is permanently soldered single resistor, making use of a Vishay cost effective, switches only the shunt element, purist design, but input impedance varies with every setting, not desirable interstage in electronics but workable in a passive design, particularly with more limited ranges of attenuation. For budget applications this design is occasionally used with a pot for the shunt element rather than a costly rotary switch and discrete resistors.

*Series Attenuator: for compact stereo attenuators, a string of resistors encircles the control, the sum of which equals the impedance of the control, the greater the degree of attenuation, the greater the number of resistors the signal must pass through, input impedance is constant so use interstage in electronics is a common application, good for passive preamps also and the sonics are surprisingly good if quality resistors are used, practical budget alternative to an L-Pad.

Please note that assembling an attenuator with either the Shallco or Elma switches requires a high degree of soldering skill and a great deal of care and precision!

SHALLCO rotary switches: For constructing mono L pads, series style attenuators, and selector switches, I stock the 45 position two deck, single pole per deck shorting type featuring solid silver contacts, silver alloy bifurcated wipers, 10A rating $\leq 002\Omega$ contact resistance, 3/8" bushing mount, 1/4" shaft. Standard taper for attenuators is 1db per step starting from 0dB attenuation with a few bigger steps at the lowest volume settings. Fully assembled each Shallco attenuator requires a footprint 2.25" square by 4.00" deep behind your faceplate.

*45 position shorting switch for attenuators (2.25" square x 3.75" deep)... \$95.00 each

*Complete dual mono ladder L-Pad attenuator kit with two 45 position switches and 176 Holco resistors, specify impedance... \$273.00

*Stereo series attenuator kit with one 45 position switch and 90 Holco resistors, specify impedance... \$136.50

ELMA rotary switches: Compact Swiss made rotary switches with 10 μ m silver coated, .2 μ m gold flashed copper and brass contacts, 2A rated, <10m Ω R, 32-33mm D, 3/8"+ bushing mount, 6mm shaft diameter, available in single pole per deck to 24 positions, and up to six poles per deck with fewer positions, shorting and non-shortng. Excellent for selector switches and for building more compact attenuators Below are stock, others are available with 2-3 week lead time (send S.A.S.E. for data sheet). Several 24 position types are stocked for attenuator applications. The 04-2130 features their standard premium grade construction but does exhibit some slight contact bounce which may cause varying degrees of transient noise when switching between positions, usually insignificant but this could be a problem in some applications so beware! The BV switches were specifically designed for attenuator applications and have no contact bounce: they utilize PC boards for each deck with special trace material for the contacts.

*(BV22568) 24 position special attenuator switch for mono Ladder L-Pads, shorting single pole per deck, two deck... \$60.00 each

Dual mono L-Pad kit with two BV22568 Elma's and 92 Holco H4 resistors... \$161.50 (requires 2.25" depth, 1.50" diameter when assembled)

*(BV22569) 24 position special attenuator switch for stereo Ladder L-Pad, shorting single pole per deck, five deck... \$136.50 each

Stereo L-Pad kit with a single BV22569 and 92 Holco H4 resistors... \$178.00 (requires 4.25" depth, 1.5" diameter when assembled)

Specify the impedance required, BV22569 switch best for L-Pad configuration, somewhat more difficult to wire in series configuration, easy as an L-Pad.

*(BV22561) 24 position special attenuator switch for mono fixed or series resistor control, shorting single pole per deck, single deck... \$34.00

*(04-2130) two deck shorting 24 position for mono L-Pads or stereo series attenuators, see note above regarding contact bounce... \$53.50

Dual mono L-Pad kit with two 04-2130 Elma's and 92 Holco resistors... \$144.50 (requires 2.25" depth, 1.25" diameter when assembled)

Stereo series attenuator with a single 04-2130 Elma and 46 Holco resistors... \$74.50 (requires 2.125" depth, 1.25" diameter when assembled)

*(04-1130) single deck shorting 24 position for mono series attenuators or fixed series/variable shunt type, see note above... \$32.50

*(04-1121) 12 position, useful as a mono selector, switching hot of a single channel, non-shortng, single pole, single deck... \$31.50

*(04-2121) 12 position, useful as a stereo selector switch, non-shortng, single pole per deck, two deck... \$52.50

*(04-1261) 6 position, useful as a stereo selector switch, non-shortng, two pole per deck, single deck... \$34.00 (most popular selector switch)

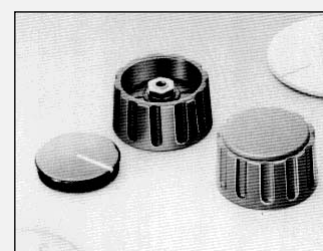
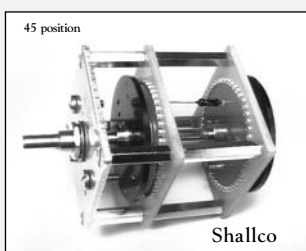
*(04-2261) 6 position, useful as a stereo selector switch for those who wish to switch both hots and grounds or for use in balanced equipment as a stereo selector switching inverting and non inverting signals, non-shortng, two pole per deck, two deck... \$56.00

*(04-4121) 12 position, stereo selector switch for those who wish to switch both hots and grounds or for use in balanced equipment as a stereo selector switching inverting and non inverting signals, non-shortng, single pole per deck, four deck... \$94.50

*All 6-12 position switches come with a stop pin to limit rotation to fewer positions if required.

*For attenuators any custom taper in a wide range of impedances is available, ask if unsure about your application.

ELMA knobs: 36mm D, matte black finish, collet fixture (not a set screw!) for positive non slip attachment, specify 6mm (Elma, Alps, & Noble) or 1/4" (Shallco & most US rotaries) shaft diameter... \$3.75 each 28mm D smooth finish black 6mm knob with clear dial & black numbers 1-24... \$3.75



TKD Stepped Attenuator: The best off the shelf assembled attenuator that you can buy. Discrete resistive elements are used for each position in a series configuration assuring very precise tracking between channels. Mounting is accomplished by three standoffs and screws on the front of the control so only a hole large enough for the 6mm shaft is required in your faceplate. Each stereo control requires a footprint 2.125" H x 1.75" W and 2.0" deep behind your front panel. The shaft extends one inch beyond the back of the panel to which the control is mounted. 40 steps (1dB steps to -24dB, 1.5dB steps to -31.5dB, -33.5, -37.5, -39.5, -42, -45, -48.5, -53, -58, -65dB) Specify 10K, 25K, 50K, 100K or 250K impedance.... \$249.00/stereo attenuator \$169.00/mono attenuator Our cost on these doubled 12/2002, so we will not restock after these are gone!

50K mono only - no more stereo

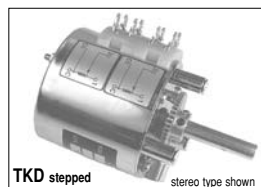
TKD Potentiometers: Conductive plastic element CP2511 model attenuators and balance controls, 25mm square by 27mm deep black plastic body with 9mm threaded bushing mount, non-detented, solder lug eyelets, log taper 10K, 25K, 50K, 100K, or 250K... \$62.50/stereo pot \$42.50/mono pot \$73.00/balance

15°/2dB, 30°/4dB, 45°/6dB, 60°/8dB, 75°/10dB, 90°/12dB, 105°/14dB, 120°/16dB, 135°/18dB, 150°/20dB, 165°/22dB, 180°/24dB, 195°/26dB, 210°/28dB, 225°/30dB, 240°/32dB, 255°/34dB, 270°/37dB, 285°/42dB, 300°/50dB, 315°/∞

ALPS Black Beauty Potentiometers: Popular 40mm high end potentiometer, some are detented, some smooth, no longer manufactured: 34mm high x 40mm wide x 30mm deep, 8mm threaded bushing mount, 6mm D x 32mm L solid round aluminum shaft, solder lug eyelets, easily cut to desired length. 50K/100K/250K mono potentiometer/\$30.00 50K/100K/250K balance controls... \$39.00

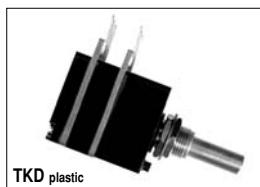
25mm blue Alps motorized pots 10K @\$45.00 **Test all TKD/Alps/Noble pots with clip leads first, once soldered, not returnable!**

NOBLE Potentiometers: Excellent low cost potentiometer, 27mm square x 30mm deep black metal case, 8mm threaded bushing mount, 6mm solid round aluminum shaft, not detented, stereo, pc mount, log taper, specify 10K, 25K, 50K, 100K, 250K... \$19.95 Balance in 100K only... \$19.95 each (10+ all same part number less 10%)

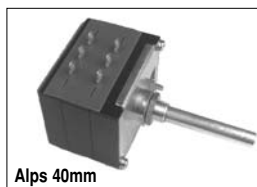


TKD stepped

stereo type shown



TKD plastic



Alps 40mm



Alps 25mm balance



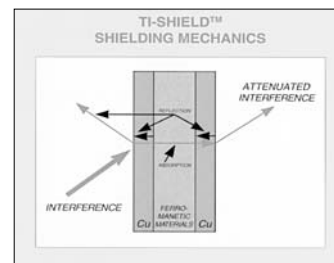
Noble

TOCOS Toggle Switches: Superior quality silver contact, 6A/125V, 3A/250V rated, solder lug terminal miniature toggle switches, available with short or long chrome paddle handles. ~~The DPDT on/on long paddle is also available with pc mount terminals to replace the very similar type of toggle switch found on ARC amps & preamps, fits the same circuit board cycle spacing.~~ Short handle type supplied if you do not specify.

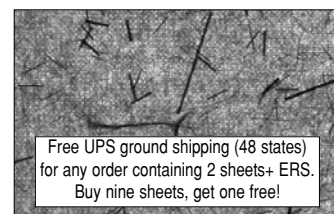
SPDT on/on... \$3.95 DPDT on/on... \$5.95 DPDT on/off/on... \$6.50 4PDT on/on... \$11.50 4PDT on/off/on... \$11.50



TI SHIELD: Unique composite shielding material from Texas Instruments for blocking EMI & RFI interference. Conventional shielding materials excel either in electrical conductivity or magnetic permeability, but not both. Steel is not conductive enough to be effective at blocking high frequencies, while copper and aluminum are not effective at absorbing low frequency EMI. No single material met both of these requirements until TI developed this copper/alloy 49/copper composite material. TI Shield is effective from below 10Hz up to 10GHz and is currently available only in .014" thickness. Counterpoint utilized similar technology in construction of their chassis' and found significant audible benefits were to be derived from surrounding audio circuitry with materials that shield against both EMI & RFI. MicroSorb (pg. 18) could be used to adhesive back this material and provide mechanical damping of the chassis as an additional benefit. Unlike Mu-Metal, this material may be cut and bent into convenient shapes without requiring annealing to restore its shielding properties. 12" x 12"/\$27.95, 12" x 24"/\$54.50



Stillpoints ERS EMI/RFI Suppression Cloth: In appearance a grey cloth like material impregnated with carbon fibres that are wash coated with metals in a proprietary process. This material not only shields from and reflects EMI/RFI, but absorbs it, so merely laying a sheet on top of, or wrapping, noise emitting components (anything digital, AC junction boxes, power supplies, transformers) can have dramatic results. Even speaker drivers, crossovers, and turntable platters may benefit with this treatment. Users have reported spectacular reductions in glare, hash, background noise, etc. The polyester fabric will insulate the core of ERS, to some degree, but can be easily penetrated with sharp edges. Caution should be exercised when used in close proximity to circuitry. See Positive Feedback & Stereo Times articles. 8.5" x 11" sheets @\$19.95 each



Free UPS ground shipping (48 states) for any order containing 2 sheets+ ERS. Buy nine sheets, get one free!

AQ RF Stoppers: RF suppressing ferrite clamps to fit around power and signal cables; they add 240Ω of impedance at 100MHz which AQ claims is 40% more attenuation than the TDK and similar products... Jr.'s fit cables to 9mm \$31.50/set 8 Sr.'s fit cables to 10mm \$45.95/set of 4 12.5mm ID one piece EMI suppressor core with heat shrink @\$4.95 each This is the RF Stopper Audioquest used on their AC-12 power cord.

SIDEWINDER POWER RESISTORS: Economical choice for speaker system crossovers, useful for experimentation parallel two for higher wattages and to achieve other values. 25W ceramic encapsulated wire wounds, 5% axial leads, .5" square by 2.5" long... 95¢ each 2.2Ω 2.7Ω 5.6Ω 6.8Ω 12Ω 15Ω 20Ω 25Ω

Picofarad values: Poly-styrene/propylene types (almost all are styrene) surplus from various manufacturers, all copper leads, most are 500/630V 2-5%, a few are 10%, where marked with a * they are ≤160V, 85¢ each. Please note that as these are surplus purchases, the stock varies and values come and go as available!

47pF, 54pF*, 69pF*, 71pF*, 73pF*, 76pF, 80pF, 82pF, 86pF, 88pF, 89pF, 91pF*, 100pF, 100pF*, 120pF, 130pF*, 133pF, 150pF*, 180pF*, 200pF*, 200pF, 240pF*, 270pF*, 330pF, 330pF*, 360pF, 360pF*, 365pF*, 390pF*, 430pF*, 453pF, 536pF*, 560pF*, 604pF, 604pF*, 619pF, 750pF*, 787pF*, 820pF*, 820pF, 909pF*, 931pF, 1000pF*, 1100pF*, 1200pF*, 1210pF, 1300pF, 1500pF, 1600pF*, 1690pF*, 1800pF, 1800pF*, 1910pF*, 2200pF, 2700pF, 3000pF, 3900pF, 4700pF, 5600pF, 6800pF, 7500pF, 8200pF, 10,000pF, 12000pF*

Smarter Speaker Support: A rugged glass reinforced nylon support for wall mounting speakers weighing up to 50 pounds, and completely adjustable in both horizontal and vertical axis without having to release any clamps or screws. Two screws attach the mounting plate to your speaker, and two more the wall bracket. Ideal for video surround sound applications, and in any environment where wall mounting of speakers is desirable. Elegantly simple, formed from low cost highly reinforced materials, this is the best moderately priced support I have found. Two per speaker could be used for heavier applications, or greater rigidity when mounting taller boxes... \$29.50 per pair



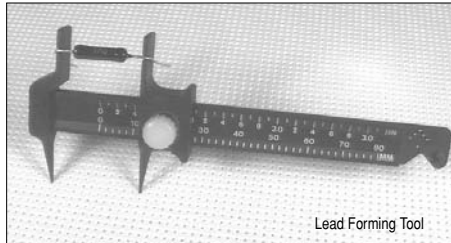
SOLDERING AIDS & TOOLS

Solder Dispenser: Extremely handy refillable dispenser holds about 2oz of solder, prevents oil from your hands contaminating the solder and lead in the solder from contaminating you... \$10.00 each Preloaded with about 12' of 16ga Wonder Solder... \$13.95

Soder-Wick: Flux impregnated copper braid for removing solder from circuit boards and connectors. Quite frankly, no desoldering tool works better than solder wick, and it functions as a heat sink while you are desoldering board components. Essential if you are doing rework on older equipment and replacing circuit board components or cleaning up connectors for reuse... 10' spool of .110" wide desoldering braid... \$4.95 each

Unibit: A thirteen position stepped drill bit for making hole sizes from 1/8" to 1/2" in 1/32" increments, essential for drilling clean holes in equipment chassis, especially useful for enlarging existing holes as this type of bit will not jam or wander and cut eccentric shapes as will standard twist drills... \$inquire

Lead Forming Tool: Essential for PCB work! This tool comprises a pair of pointed calipers which fit inside pc eyelets to precisely measure component lead spacing and a framework which tracks the caliper setting to allow precise forming of component leads to fit the measured eyelet spacing exactly. Eliminates having to straighten and re-bend resistor or capacitor leads that you bent just a millimeter too short or too long to fit the circuit board eyelet spacing.... inquire about availability & price



Silver Conductive Ink, Grease, Epoxy, Flux Remover

*Conductive Pen: A pen type device containing a specially formulated silver bearing polymer, designed to make electronic connections, traces, and terminations, extremely handy for repair applications, solderable!... \$15.50

*Conductive Epoxy: Two part quick setting silver bearing epoxy for solderless connections, high strength bonding of heat sensitive components that cannot withstand the thermal stress of soldering or won't solder easily (aluminum ribbons), trace repair, etc.... \$20.50

*Conductive Grease: Silver bearing grease with excellent electrical and thermal conductivity (252°C rated), 6.5grams... \$15.95

*Overcoat Pen: For repairing solder mask after soldering and repair and creating spot areas of conformal insulation, clear... \$12.50

*Flux Remover Pen: For spot removal of solder fluxes from circuit boards, two types, specify for water soluble or rosin flux... \$12.50



NON-INDUCTIVE DUMMY LOAD: 8Ω, 250 watt power resistor in gold aluminum heat sink case for amplifier dummy loads. This high power non-inductive resistor is a perfect choice for an amplifier load during critical distortion testing, setting AC balance, testing frequency response, etc.... \$74.95 each (four or more, deduct 10%)

Wonder™ Ultraclear Solder: An audibly superior solder with superb working properties and a pleasure to use. While the exact blend is proprietary I understand the alloy mix is similar to SN62 (tin-lead-silver) in a close to eutectic mix with a moderately active flux. Several audio manufacturers have reported, after listening tests using Wonder Solder, significant sonic improvements over identical components assembled with their prior favorite solders. Use of Wonder Solder will provide greater transparency without the glare and brightness often associated with silver bearing solders. Available in 16ga (1.2mm/.050") and 21ga (.66mm/.030") .

16ga... \$39/ pound, \$21/.5 pound, \$11/.25 pound 21ga... \$44/pound, \$24/.5 pound, \$13/.25 pound
Wonder bar solder for solder pots... \$15.00/ 7+ ounce pound bar Cardas bar solder... 7+ ounce bar/\$8.00 Cardas rosin flux... 2 ounce jar/\$4.25

CARDAS SOLDER: George Cardas' own proprietary SN62 blend, tin, lead, silver, copper, 20ga. eutectic with low 338°F melting point, excellent working properties and sonics, very little shrinkage as it cools, so especially useful for large solder joints and heavy gauge wire terminations... \$42.50/pound, \$23/half pound, \$12/quarter pound
Cardas lead free solder... \$45.50/pound, \$25/half pound, \$13/quarter pound

WBT solder: 4% silver content, lead free tin/silver alloy, halogen free flux, 180°C melting point, 1.2mm D... \$16.00/100gr \$69.00/500gr roll

MusiCoat: Unique fluid product from TRT, the developers of the InfiniCap and Wonder Solder. Use this product to coat resistors, transistors, IC's, even circuit boards, cure the aggressive artificial glare of solid state and digital gear, and transform the sound of your system. It works by compensating for the poor dielectric properties of the materials used to encapsulate circuit components and reduce the multiple internal reflections that create glare. While extremely costly and time consuming to manufacture, only a tiny amount is required to adequately treat a single hi-fi component. One small vial (about the size of a very small perfume sample) will adequately treat a typical preamp or CD player. This would be the coup de grâce after finishing a capacitor and other parts upgrade to a high end component... \$99.00 per vial of MusiCoat Deluxe

TUBES

I carry a small selection of the most popular tubes in current manufacture from RAM Labs and a few n.o.s. Gold Aero as well as an occasional other type or two. Neither of these companies are tube manufacturers as such, both specialize in purchasing tubes in large quantities from various sources they believe to manufacture the best tube of a particular type, then they test and match these tubes to a very high standard. This process assures you of the lowest noise possible in their highest grade tubes, as well as very close matching and extremely low gas for power tubes, all backed by a 90 day warranty. My primary stock is from RAM Labs as they offer the best pricing on graded



tubes and Gold Aero is out of business. A RAM Labs "LN" grade 6DJ8, for example, is typically the best one in ten; a "SLN" would perhaps be the best of a hundred tubes tested. Even their Standard grade tubes are quieter than an average off the shelf tube. You may find the same tube for less elsewhere but you have no guarantee as to its noise level and might have to purchase several to find a quiet one. RAM Labs publishes a very informative white paper on the necessity of careful power tube matching even if you have individual bias for each tube, copies on request.

RAM Labs Twin Triodes			
Triode	Super Low Noise	Low Noise	Standard
6DJ8.....	\$50.00	\$25.00	\$16.95
6922.....	\$50.00	\$25.00	\$16.95
12AX7.....	\$50.00	\$25.00	\$16.95
12AU7.....	\$50.00	\$25.00	\$16.95
12AT7.....	\$50.00	\$25.00	\$16.95
12BH7.....	\$41.95	\$33.50	\$25.00
5751.....	\$50.00	\$25.00	\$16.95
5965.....	\$50.00	\$25.00	\$16.95
6FQ7.....	\$41.95	\$33.50	\$25.00
7044.....		\$33.50	\$25.00
5AR4.....	one grade \$25.00		

RAM Labs 6DJ8 are being phased out so stock is limited, replace with 6922.

Matched Pair Output Tubes

6550 Chinese (RAM)	\$59.00	5881 Sylvania (RAM)	\$78.00
6550 Sovtek (Gold Aero) ..	\$100.00	6L6 Chinese (RAM)	\$50.00
EL-34 Chinese (RAM)	\$42.00	6SN7 singles (RAM)	\$21.50
EL-34 Siemens (RAM)	\$84.00		

6DJ8 are mostly Russian, a few Yugo, all 6922's are Russian, 12AX7/AU7/AT7's are Yugo & other. 7199 tubes that work in most Dyna are hard to find. Specify instead the R-99 tube which is available with reusable adaptor for plug in replacement for the 7199... \$50 w/adaptor, \$35 alone.

SLN, LN, S grades reflect individual section grades of dual triodes. the Standard grade is a good choice for high level stages and cathode followers and is quieter than a typical ungraded tube. If lowest possible noise is not required do not spend unnecessarily on a higher grade tube!

RAM matched pair power tubes are computer matched for bias current ($\pm 5\%$) and transconductance ($\pm 10\%$) to a very tight standard. Close matching under in circuit simulation at typical working voltages is essential for amplifiers even with AC balance and bias adjustment for each tube, otherwise asymmetrical clipping and power loss may occur.

NOS TUBES: Philips USA 6922: Industrial grade 6DJ8 equivalent, untested, sold "as is" ... \$6.95 ea. Amperex 6DJ8: marked USA "Hewlett Packard" ... \$6.95 each
RCA 7199: Limited stock of hard to find tube, markings on tube say "made in Germany", while supplies last, boxed, untested, sold "as is" ... \$25.00 each

TUBE SOCKETS

9 Pin Miniature chassis mount (figure #1), gold plated contacts in a white glazed ceramic base, requires .725" chassis hole for top mounting with 1.125" spacing for mounting screws... \$5.95 each (10+ deduct 10%, 25+ deduct 25%)

9 Pin Miniature PC mount type, gold plated contacts, white glazed ceramic, pins on .775" D hole pattern... \$5.95 each (10+ less 10%, 25+ less 25%)

9 Pin Miniature chassis mount unglazed ceramics with possibly silver plated eyelet lug contacts... \$2.95 (10+ less 10%, 25+ less 25%)

9 Pin Shielded Miniature chassis mount phenolic with tinned copper contacts and aluminum shield... \$3.50 each (10+ less 10%, 25+ less 25%)

7 Pin Miniature chassis mount top mount to fit 0.625" hole with 0.825" screw spacing, silver plated contacts... \$4.95 each (10+ less 10%, 25+ less 25%)

5P UY, 6P UZ five pin and six chassis mount glazed ceramic sockets with silver plated contacts... \$6.50 each (10+ less 10%, 25+ less 25%)

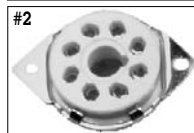
Octal: Chassis mount white glazed ceramic (figure #2) with gold plated contacts, mounts from underneath the chassis and requires 1.10" diameter chassis hole with mounting screw holes spaced on 1.5" centers... \$7.95 each (10+ less 10%, 25+ less 25%)

Octal: Bottom mount high quality black Celanex socket w/tinned phosphor bronze contacts ... \$2.50 ea. (10+ less 10%, 25+ less 25%)

300B Sockets: Chassis mount white glazed ceramic UX4, bottom mount, four pin ceramic (figure #3) with gold plated contacts... \$8.95 each

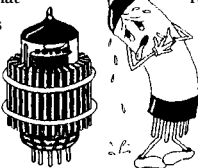
Super Premium Tube Sockets: Where only the very best in the world will do! Machined Teflon or epoxy impregnated wood laminate, 9 pin chassis mount, octal, UX4 and other types with removable gold plated machined phosphor bronze or silver plated brass contacts, call for \$\$.

Plate Caps: Teflon insulated, call for \$\$



A few other ceramic types with silver contacts available, 7PMT, 6PUZ, 5PUY... ask for

PEARL TUBE COOLERS: Heat sinks for tubes! In some circumstances, particularly for amplifier power tubes, these can greatly extend tube life. Along with the general destructive properties of high temperatures, there is evidence that the tube glass envelope becomes somewhat porous at high temperatures allowing the penetration of air into the envelope, which greatly hastens the tube deterioration. Coolers are available for a variety of octal and nine pin types. The octal power tube coolers come in a standard (PSF) and close spacing (PCF) type; if your power tubes have less than 1.05" inch spacing between each glass envelope or less than .95" spacing between them and a nine pin type on which you have installed a cooler, then specify the PCF close fitting style coolers. The PCF close fitting coolers work with envelope

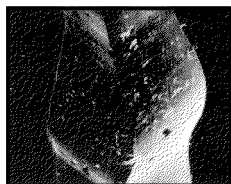


spacing as close as .60". The 9 pin coolers will work with envelope spacing as close as .60" with the outer band removed or .85" with bands installed. Specify type carefully! Two bands are supplied for use with each standard fitting Tube Cooler. They are not used with the close fitting types, thereby allowing very tight spacing between tubes.

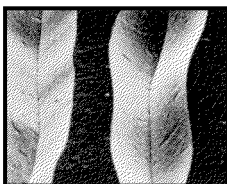
- *OSF-8 (fits octal small signal tubes, 6SN7, 6SL7, 6BL7, 6BX7, 5691, 5692) \$4.95 ea.
- *PSF-200 & PCF-200 (fits 2"D bottles)... \$8.95 each
- *PSF-150 & PCF-150 (fits 1.5"D bottles)... \$8.95 each
- *PSF-125 & PCF-125 (fits 1.25" bottles)... \$8.95 each
- *PCF-250 (fits 2.5" D bottles, 211, 813, 845 tubes)... \$11.95 each
- *MSF-9 (fits 9 pin small signal tubes, 12AX7, 12AU7, 12AT7, 6DJ8, 7199)... \$5.95 each
- *MPSF-9 (fits 9 pin power tubes, 6BQ5, 6FQ7, EL84, 7119)... \$5.95 each

Silicone Tube Dampers: High temperature (450° F) silicone rings which can be slipped over small triodes such as 6DJ8, 12AX7 etc. to mitigate the microphonic properties of tubes. These won't dry out and crack like the neoprene types. Two per tube will reduce vibrational feedback and reduce hysteresis distortion... 60¢ each or ten pieces for \$5.00

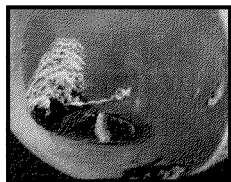
Fybrglass Eraser... no more complete brushes, but we do have some refills left @\$2.75 per pair for those of you who have purchased the brushes in the past.



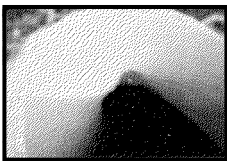
Untreated record groove after 50 plays



LAST treated record after 200 plays



Stylus tip with "baked on" deposits



STYLAST prevents this stylus tip wear

RECORD, CD & TAPE TREATMENT

LAST Power Cleaner: New record cleaner for first play (will remove mold release) and extra strength cleaning; 1/2oz size with microfiber applicators... \$30.95

LAST Formula 2: Record preservative, reduces friction between stylus and record groove for better tracking and virtual elimination of record wear 2 oz... \$31.95 16 ounce/\$190.00

LAST Formula 3: All purpose record cleaner for gentle cleaning anytime... \$18.50

LAST Formula 4: Stylus cleaner for safely cleaning of stylus and cantilever assemblies without attacking the elastomer suspension; 1/4 ounce size with cleaning brush... \$17.95

LAST Formula 5: STYLAST stylus treatment, reduces stylus tip/record groove friction and extends stylus tip life up to 10X normal; 1/4 ounce size with applicator... \$25.95

LAST 4+5 Kit: Combination kit with 1/4 ounce each cleaner & Stylast... \$36.95

LAST Formula 6: CD/Video disc cleaner with applicators for cleaning all digital discs & treating to reduce errors caused by minor scratches and surface imperfections... \$17.95

LAST Formula 9: INTERLAST Tape Head treatment, for application to open reel or cassette tape heads, extends head life, reduces flutter & IM distortion, 1/4 oz... \$31.95

LAST Formula 10: Tape preservative, cleans, preserves audio/video tape, 2 oz. w/applicators... \$38.50

LAST Applicators: For cleaning LP's, same as included with PC and #2 kits... \$23.95/ten

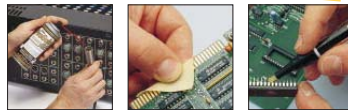
ProGold

CAIG
LABORATORIES, INC.



ProGold is the only product that actually penetrates plated surfaces, molecularly bonds to the base metals and seals & protects both surfaces.

NEW Mini-Spray!



CAIG LABS PROGOLD, DEOXIT, CAILUBE

Caig ProGold is a super high performance metal contact conditioner. It deoxidizes, cleans surface contamination, improves conductivity, penetrates plated surfaces, molecularly bonds to the base metals, and seals out oxygen to prevent oxidation.

ProGold G5 Spray: 5% solution in a purified petroleum naphtha solvent to enhance cleaning action. 200ml spray can/\$15.95, 20ml mini-spray can/\$8.95 (24" extension tube @50¢) (foam swabs @35¢)

GxL ProGold Spray: 5% GX high temp formulation for use to 400°C, best for tube pins and contacts subject to heat. 225ml spray can/\$25.95, 20ml mini-spray can/\$13.95 small nylon connector cleaning brush for RCA's, etc. @50¢

ProGold GxL Pen: Pen type applicator with 100% solution of high temp GX ProGold, very convenient to treat tube pins, edge contacts, IC pins, and other small connectors. 7ml pen applicator/\$21.95 ProGold GX wipes/50¢ each

ProGold GxL Liquid: 100% solution of the high temperature GX... 7.4ml bottle with brush applicator/\$21.95, 2ml tube/\$4.95

DeoxIT: Surface cleaner and preservative with highly concentrated deoxidizing action (20% deoxidizing ability vs. .5% for ProGold) follow with ProGold for maximum performance... 200ml 5% spray/\$10.50 or 100% liquid 7.4ml bottle w/brush/\$9.50

CaiLube MCL: Designed specifically to clean and lubricate plastic and carbon pots and sliders, unlike DeoxIT & ProGold which are specifically for metal contacts. Noisy pot? This may be just what you need! 5% solution 200ml spray can/\$9.95

CaiKleen 41: Pure, no residue contact cleaner and degreaser, excellent where only cleaning is desired 14 oz spray can/\$14.95

CONTACT CLEANERS & ENHANCERS

Titan Audio oil: Pure titanium contact cleaning and enhancing oil from Wakø Technical of Japan, 30cc plastic bottle... \$30.00

TPC Contact Cleaner: A single use "Wash N' Dri" type saturated cloth applicator which thoroughly cleans all electrical contacts by penetrating to the base metal, removing and preventing oxidation. XLO offers a double your money back guarantee... 49¢ per packet 1-10, 11-25 @\$.39, 26-50 @\$.29

UltraConnect 2: The latest environmentally safe contact cleaner from Audioquest, leaves no residue, one ounce bottle with 5 pipe cleaners... \$29.95

Socket Savers: Specially designed pair of nylon brushes for cleaning octal & miniature tube sockets, use with solutions above... \$12.95 set two

Super Silver Treatment: Conductive silver bearing contact enhancer from Walker Audio. Dramatically improves conductivity between electrical contacts. Very effective, but it must be used with extreme care, as unlike other contact enhancers, this product is highly conductive and you could short the connection... Super Silver Extreme @\$89.00 special for a small jar containing about a 1/2 teaspoon of product

QuickSilver Xtreme AV: Conductive silver bearing grease contact enhancer composed of cryogenically treated proprietary silver powder suspended in an antioxidant enriched carrier, lowers noise and improves transparency, especially in video applications... \$62.00 for a four gram jar



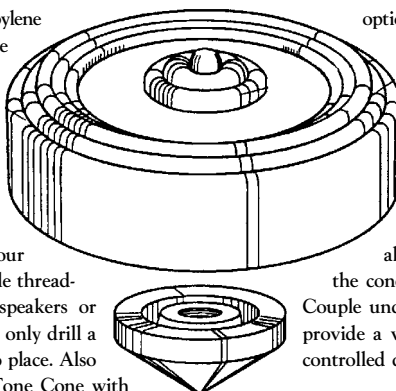
XLO Sytem Tune-Up CD: This 24K gold disc is the successor to their out of print best selling collaboration with Sheffield Labs. A step by step guide lead by Roger Skoff of XLO and Keith Johnson of Reference Recordings and other tracks on this disc will provide component demagnetization & burn-in, allow you to check absolute phase, soundstaging, speaker placement, wiring & polarity, and balance. It is surround sound compatible and ideal for home theater setups with Dolby Pro-Logic or similar systems. There are also six classical and jazz selections recorded by Keith Johnson, some with HDCD ... \$29.95 Auric Illuminator; CD treatment kit, surface and edge treatment for better sound @\$34.95



CD Blacklight: A new technology based on the science of CD Stoplight, this product combines an effective damping material in the familiar form of a CD mat impregnated with carbon traces, and a highly emissive, phosphorescent surface layer. The result yields mechanical damping of the disc, lowered electrostatic potential for reduced read interference, and reduced jitter. What you hear are improvements in dynamics and imaging, and reduced glare and edginess. The CD Blacklight mat is compatible with most drawer and top-loading mechanisms, but is not recommended for automotive or multi-disc changers. ... \$37.50



SIMPLY PHYSICS TONECONES: Molded from Polypropylene (PPN) with replaceable aluminum tips, these cones are far more inert than an all metal design, more attractive, and they won't corrode. The largest size Tone Cone features a hollow spoked body which can be filled with your choice of damping material, or Simply Physics molded Santoprene insert material. The large (2" H by 1.5" D) hollow Tone Cones, and the medium size cone (1.5" x 1") feature aluminum tips and are drilled to accept the optional 1/4"-20 machine thread studs so that you may attach these cones securely to your speakers and turntables. I can provide matching brass female threaded inserts which can be installed in the base of your speakers or turntable plinth with an absolutely flush neat fit. You need only drill a 5/16" hole 1/2" deep and press or hammer the insert into place. Also available is a small 1/2" high by 1.5" diameter all PPN Tone Cone with

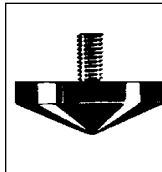


optional 1/4-20 stud which can be used on its own or in combination with the Simply Physics Isopod. The Isopods are 2-1/2" diameter by 1" thick "vinylex" feet which have a cutout sized to receive the small Tone Cone or Tone Cup in its base. This combination is known as a Cone Couple (shown here) and is Simply Physics ultimate isolation product for use under audio electronics. If you need to protect your floor or furniture from the sharp point of your cones Tone Cups are available, 1.5" diameter PPN or aluminum pucks with a conical depression in which to rest the cone point. Using the Isopod/Cone Cup version of the Cone Couple underneath a component that is perched on Tone Cones will provide a very high degree of isolation with great rigidity for tightly controlled deep bass performance and razor sharp imaging.



Large 2" Tone Cone with 1/4-20 stud... \$9.00
Large cone w/Santoprene inserts and stud... \$13.75
Medium 1.5" Tone Cone with 1/4-20 stud... \$7.50
Small .5" plain Tone Cone without stud... \$4.50
Small Tone Cone with 1/4-20 stud... \$5.00

protective polypropylene Tone Cup... \$4.00
plain aluminum Tone Cup... \$6.50
Isopod/small Tone Cone "Cone Couple"... \$13.50
Isopod/Cone Cup "Cone Couple"... \$13.50
Isopod only... \$9.50 (1/4-20 female brass threaded insert... 50¢)



Thread Adaptors: Converts all cones that accept a 1/4-20 stud to either 10-32, 5/16-18, 3/8-16, 6mm, or 8mm thread... \$6.80/4 pcs.

SIMPLY PHYSICS V2 DECOUPLER: The ultimate height adjustable isolation foot! Comprised of four parts, a female threaded polypropylene cup, male threaded aluminum alloy foot, brass lock ring, and replaceable aluminum or heat treated stainless tip. These are height adjustable and available in two sizes, V2 and V2 Jr. The V2 size which has a 2" diameter polypropylene cup adjusts overall foot height from 3" - 3.5" and the smaller 1.25" diameter V2 Jr. adjusts height from 2.35" - 2.65". The polypropylene cup is attached to the component with a bolt and washer or threaded fastener (to 1/2" D for V2, to 3/8" for V2 Jr.) of your choice. The polypropylene cups are black and the feet clear anodized. Black anodizing (add \$6 each) and heat treated stainless points (add \$20 each) are available options at additional cost. Presently I stock the V2 Jr., with the larger V2 feet available as required on a special order basis with approximately a 10 day lead time.

V2 Jr. Decoupler... \$45.00 each

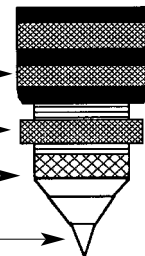
V2 Decoupler... \$75.00 each

Machined PPN Cap is attached with appropriate thread bolt and washer to component and is internally threaded for alloy foot allowing height adjustment.

Brass locking ring locks alloy foot to Delrin cup for maximum rigidity.

Alloy foot is threaded to mate PPN cup and is knurled for easy adjustment.

Replaceable aluminum tip, or optional heat treated stainless at extra cost.



Audio Points: Machined brass cones with 3/8" long threaded studs machined from cone body, excellent speaker and equipment feet. The 1.5" Audio Point is also available with a 3/4" long 1/4-20 stud as well as the standard 3/8" long version.

Large 1.5" long size with protective discs, specify 10-32, 1/4-20, 5/16-18, 3/8-16, or 8mm threaded studs... \$80.00 set of four
Small 7/8" long size with protective discs, specify 6-32, 10-32, or 1/4-20 thread... \$62.00 set of four
easy to install flush fitting press fit (require 5/16" D hole x 1/2" deep) 1/4-20 threaded brass inserts available @50¢ each

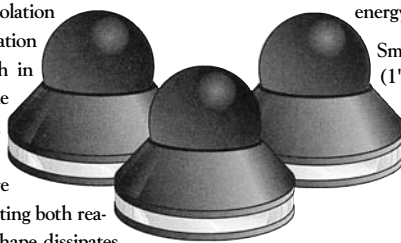


Vibrapod Isolators: Polymer cones and isolation cups for use under electronic components and speakers. The cups come in five weight ranges - #1 for 2-3 pounds per isolator, #2 for 4-8 pounds per isolator, #3 for 8-12 pounds per isolator, #4 for 14-18 pounds per isolator, #5 for 22-28 pounds per isolator, all are 2.5" diameter x 9/16" high. The cones are 1.6" diameter x 1.0" high.

Vibrapod Isolators (specify #)... \$20.00/set of four Vibrapod Cones... \$6.95 each



ISO-BEARING SUPPORT GLOBES: Uniquely shaped isolation feet for audio components. Each Iso-Bearing is a sphere of vibration absorbing elastomer material, cradled in a Delrin cup, which in turn rests on a thin mat of the same elastomer material as the sphere itself. The cups for the larger feet (shown) are trimmed in polished brass. The elastomer material used is rather dense, exhibits almost no rebound, and is extremely inert. These are one of the most effective isolation foot designs available, exhibiting both reasonable rigidity and a very high damping factor. The round shape dissipates



energy with greater efficiency than more conventional designs.

Small size suitable for loads up to 4.5 pounds per globe
(1" sphere in a 1.4" cup, 1.2" overall height)

Large size appropriate for loads up to 17 pounds per globe
(1.3" sphere in a 2.0" cup, 1.7" overall height)

Large Iso-Bearing... \$29.95 each

Small Iso-Bearing... \$19.95 each

FOCULPODS: From Spectra Dynamics, dark grey hemispherical feet formed from the same advanced low resilience polymer as their other products, with exceptional shock absorbing properties. Each foot is 2" in diameter and just over 3/4" thick. The maximum suggested load is five pounds per pod and it is recommended that you use four underneath each com-



ponent. Excellent beneath CD players, preamps, or any component that is vibration sensitive, our current favorite soft foot, and the most cost effective... \$6.00 each

New! Polipods, in appearance just like a small Foculpod, 1.5"D and just 1/2" thick, use for lighter loads where a thinner foot is required... \$2.95 each

AQ SORBOGEL FEET: These Sorbothane hemispheres provide a highly damped medium to isolate your components from vibration. Sorbothane feet are useful in many non audio applications as well, underneath typewriters, computer CPU, any vibrating or vibration sensitive equipment: available in two sizes:

Large are hemispherical 1.2" thick by 2.5" diameter, 10 Lb. load per foot... \$59.95/four Small are hemispherical 1.1" thick by 2.2" diameter, 5 Lb. load per foot... \$39.95/four

SPIKE FEET: An effective but economical choice for use beneath speakers, especially on thick carpet where a cone type foot won't penetrate to flooring below.

* small 1.50" L x 5/32" D steel spikes, .5" of it has 1/4-20 thread, supplied with nuts and .5" long press type female threaded brass inserts... \$5.00/four

* large 2.50" L x 1/4" D steel spikes, 1" of it has 3/8-16 thread, supplied with nuts and 1" long screw in type female brass inserts... \$7.50/four

Also available is an import gold plated .80" H x 1" D brass cone with 4mm metric female thread and protective disc for a bargain \$5.95 each.

DAMPING SHEETS, COMPOUNDS, MOUNTING HARDWARE

SORBOTHANE: Adhesive backed .1" thick 6" square sheets of Sorbothane which you can slice up and apply to tonearms, cartridge bodies, etc., especially effective in constrained layer applications where it is sandwiched between other materials... \$16.95 each

MICROSORB: A state of the art soft, compliant damping sheet material with a unique cellular construction formed from microscopic viscoelastic spheres which deform rather than compress when loaded. The result is shock attenuating power unsurpassed by any other material I am familiar with. The material itself is naturally adhesive throughout and therefore adheres on both sides, making it ideal for sandwiching with other materials for constrained layer damping. Used by itself, you will want to cover it with other damping materials or a layer of some type (such as TI Shield) to prevent its sticky surface from attracting dirt. Cut in small pieces it is an effective adhesive for mounting small parts, with the added benefit of superb damping, melting point exceeds 350°F, translucent and colorless, two thicknesses available:

1.5mm thickness, 12" x 24"/\$18.95 12" x 12"/\$9.50 3.0mm thickness, 12" x 24"/\$25.00 12" x 12"/\$13.00 5.0mm thickness, 12" x 24"/\$39.00 12" x 12" /\$20.00

BLACK HOLE PAD II: 70 mil thick self adhesive black flexible viscoelastic sheet material with a black fine leather grain pebble finish designed for damping speaker cabinet resonances, but useful to damp any type of audio equipment panel within its 50° to 100° F rating (meets UL 94 V-O flame resistance); attractive in appearance it may be used externally as well as hidden inside components, several layers may be laminated for additional damping, excellent for constrained layer construction, speaker gaskets etc., approximately 12" x 27" sheets... \$13.95 each

SOUNDCOAT Damping Compound: Non toxic water based emulsion vibration damping compound with maximum effectiveness between 10Hz and 20KHz, excellent for speaker enclosures, concentrate is diluted (dilute with white latex paint) for application, product can be troweled, sprayed, brushed, or poured into enclosure for application, request literature.... Quart/\$15.50 Gallon/\$55 East of the Rockies add \$8/gallon can shipping, + standard \$7.50 ship charge per order

EAR ISODAMP SD: Self-adhesive semi-rigid damping sheets from the industry leader in vibration, shock, and motion control. Maximum performance with minimum weight and thickness, low memory, resists cracking in tightly angled spaces, meets UL 94V-O certification for flame resistance. The best material available for free air damping of metal parts, circuit boards, and chassis covers and enclosures. SD-40 is greenish brown in color, SD-125 is black. Three variations of this material are available:

*SD40... .040" thick sheet, .37 pounds per square foot: 12" x 27"/\$22.50 or 9" x 12"/\$8.50

*SD40AL... .040" thick w/ 5 mil aluminum constraining foil for increased damping and flame resistance: 12" x 27"/\$36.00 or 9" x 12"/\$13.00

*SD125... .0125" thick sheet, 1.11 pounds per square foot: 12" x 27"/\$42.00 or 9" x 12"/\$15.00 or 9" x 6"/\$8.50 (my first choice for damping metal chassis)

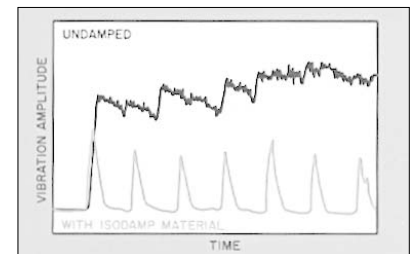
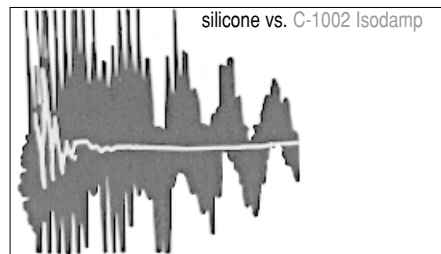
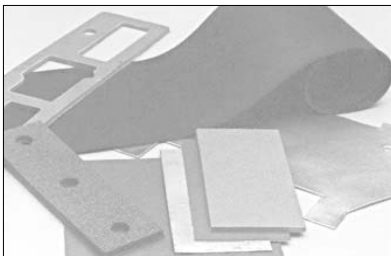
EAR TED: Economical self-adhesive .070" thick damping sheet material, low cost chassis damping, black... 12" x 40"/\$11.50, 12" x 20"/\$5.95, or 6" x 20"/\$3.00 each

EAR TAD Damping Foils: Composite extensional damping sheet consisting of viscoelastic pressure sensitive adhesive constrained by an aluminum foil layer, very light and flexible for weight sensitive applications, the .005" thickness is excellent for damping tone arms, .005" x 9" x 12"/\$2.95 each .010" x 9" x 12"/\$4.50 each

EAR C-1002 ISODAMP: Compliant sheet material for high performance constrained layer damping, low rebound, excellent for making shock mounts, turntable and isolation bases, available in a variety of thicknesses to accommodate any need, tough yet soft and flexible, blue color, adhesive back with MicroSorb if required.

.015"... 12" x 27"/\$11.50, 12" x 13"/\$6.00 .030"... 12" x 27"/\$12.95, 12" x 13"/\$6.50 .062"... 12" x 27"/\$14.95, 12" x 13"/\$7.50

.125"... 12" x 27"/\$26.50, 12" x 13"/\$13.50 .250"... 12" x 27"/\$54.50, 12" x 13"/\$27.50, 12" x 6.5"/\$14.00, 9" x 9.75"/\$15.00, 6.5" x 6"/\$7.50



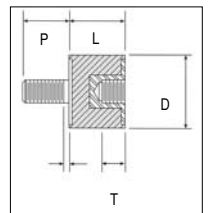
EAR Isoloss Sandwich Mounts: Male/female thread isolation mount which is ideal for mounting circuit boards or any component assembly that would benefit from vibration isolation. The Isoloss V material used in the construction of these is similar to Navcom and is vastly superior to the rubber or silicone compounds used in similar looking hardware. The 1/4-20 mount uses the denser H material. This style permits attachment to chassis' of any thickness with the appropriate length screw, and you may stack these on top of conventional standoffs if you need more clearance below your circuit board than a single mount will provide. Intended for compression load, limited shear strength for vertically mounted boards.

#4-40 thread, dimensions P = .200", L = .320", D = .280", T = .110", maximum compression load per mount 6oz., \$2.50 each

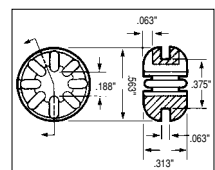
#6-32 thread, dimensions P = .375", L = .500", D = .405", T = .160", maximum compression load per mount 10oz., \$3.75 each

1/4-20 thread, dimensions P = .50", L = .625", D = .600", T = .360", maximum compression load per mount 12 pounds, \$4.95 (10+ -10%, 25+ -15%)

Add 5¢ per mount if you wish a nut & screw 4-40, 6-32, 8-32 only.

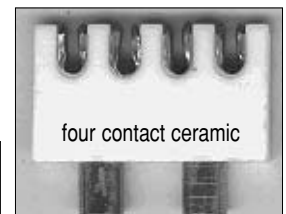
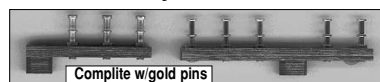


EAR Isoloss Grommets: Fabricated from Isoloss VL and HD urethane elastomers, a far more effective isolation material than used in any rubber or silicone grommet. Isoloss isolators act much like shock absorbers. The isolators start out stiffer at the beginning of an impact and become increasingly softer to bring motion to a controlled stop. They provide controlled deceleration, reducing peak forces during sudden stops and eliminate excessive rebound. These grommets feature a ribbed surface and are sized for a 3/8" hole and will accept screws up to 1/4". The maximum load per grommet for the softer, "lossier" VL type is one pound, for the harder HD type it is six pounds. Use enough grommets so as not to exceed the maximum load per unit, and do not overcompress the grommets by excessively tightening your hardware. Specify VL or HD type \$85 each 25+/75¢ 50+/65¢ See our Deflex washers for heavier applications (page 19).



EAR Equipment Feet: Replaces standard single screw mount rubber feet commonly found on most audio equipment. Formed from EAR Isodamp compound and available in two sizes. MF-1010 are black, 1.0" D x .5" H, load range 5-15 pounds... 50¢ each L-021 are blue, 1.5" D x .75" H, load range 10-20 pounds... \$2.50 each

Terminal Strips: I now have a selection of high quality ceramic terminal strips with two to eleven silver plated horseshoe style contacts and female threaded metric standoffs, much like the ones used in old Tektronix tube oscilloscopes, and a variety of insulated ceramic posts in various configurations. Prices for the strips run \$2.95/two contacts, \$3.95/four contacts (actual size shown at right), \$4.95/six contacts, \$6.25/eight contacts, and \$8.50/eleven contacts. These are ideal for mounting parts within chassis', particularly for hardwired construction, but useful with pc board based circuits as well. Also available are terminal strips formed from Teflon or Complite (resin impregnated wood laminate) with gold pins (examples pictured are smaller than actual size). Please call for pricing and and/or request enclosure of a descriptive data sheet with any order.



SPECTRA DYNAMICS DAMPING PRODUCTS

Deflex Panels: The most effective speaker enclosure damping material available. These rectangular polymer panels with a spherical concave segmented surface were specifically designed for controlling loudspeaker cabinet resonances. The polymer is specially formulated to absorb shock and vibration, and the surface emulation has been designed to help eliminate standing waves. These charcoal grey panels have a surface which appears as series of concentric rings with an overall thickness varying from about 3/8" at the edges, to less than 1/4" at the center, and a weight for the 8.25" x 11" size of almost a pound apiece. The Deflex panels are applied using a panel adhesive, ideally enough of them should be used to cover 80%+ of the interior surfaces of the speaker enclosure, although just covering the rear wall is quite effective. They can be easily cut to any shape. All the existing stuffing should be removed! Undamped speakers have a freer sound, giving a bigger sound even at lower levels. For the first time you can now realize that possibility without the lack of control and high coloration levels that removing the box stuffing would have resulted in. Independent tests with MLSSA show an energy gain of over 50%. Find out why these are so highly regarded by the British audiophile press, send a S.A.S.E. for copies of reviews, or request enclosure with any order. Any type of low odor latex based flooring adhesive such as DAP Weldwood can be used to bond panels.

Deflex Panels... (8.25" x 11" @\$11.95) (7" x 11" @\$9.95) (5.5" x 9.5" @\$6.95), 13.5" round Subwoofer Panels @\$22.50 each 12+ per type deduct 10%

Deflex Corner Blocks: Designed for use with the Deflex Panels, Corner Blocks will fit into any enclosure with unreinforced square corners. Every corner in an enclosure has the potential of reflecting sound back on its original path. 50mm size for small mini-monitors/\$1.25 each 75mm for all other boxes/\$2.50 each

Deflex Wrap: This is a ribbed damping material 15mm thick and is intended for damping flat panels in horn loaded and transmission line speaker systems and for wrapping port tubes or any curved surface inside speakers, easily bent to shape and cut, 8.25" x 11" sheets... \$22.50 each 10+ deduct 10%

Magnapad Gold: A complementary product from Spectra Dynamics designed to be glued to the back of speaker magnets and absorb unwanted vibration at the magnet structure and prevent further sound reflection. Advanced polymer material 8mm thick with the same concentric ring surface emulation characteristics as their Deflex Panels, available in three diameters... 75mm/\$2.50 125mm/\$3.95 175mm/\$4.95 225mm/\$9.95 each


Hexi-Flex Tiles: 100mm diameter x 6mm thick hexagonal Deflex tiles, excellent for automotive h-fi applications or covering any irregular surface... \$3.75 each

Deflex Sheets: Isolation/damping sheet material for any application, 8.25" x 11.0" in two thicknesses, excellent alternative to Navcom or Sorbothane for constrained layer damping configurations... 4mm thick sheets/\$10.50 each 8mm thick sheets/\$22.00 each

Isolation Blocks: Made of the same Deflex low reilience polymer, these blocks are superb isolators for applications ranging from speaker crossovers to electronic components. Three sizes available... 43mm round x 26mm H/\$2.95 75mm² x 20mm H/\$7.50 150mm² x 20mm H/\$21.50

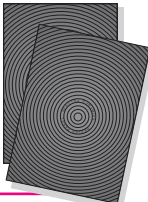
Deflex Washers: For isolating crossover and circuit boards, transformers, etc. (25mm D x 6mm Thick x 6mm hole @50¢) (14mm D x 2mm Thick x 6mm hole @20¢)

Deflex Gasket Strips: 3mm thick x 10mm wide strips for forming into gaskets to mount loudspeaker drivers or similar applications, ten foot roll... \$9.95

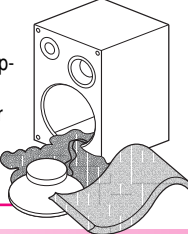


HOW to get the ultimate SOUND OUT of your existing speakers


Buy at least 2 Deflex Panels specially designed and patented by Spectra Dynamics.



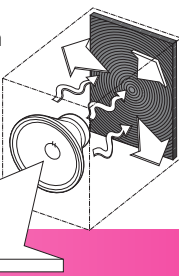
Remove foam and/or wool damping from the inside of your speaker (if fitted).



Place the Deflex panel thru' the speaker cut-out and stick to the inside of the cabinet.



Sit back and listen to extra detail in sound, and far less distortion when played loud.



TURNTABLE ACCESSORIES

Spectra Dynamics Turntable Mat: A 375 gram, 4mm thick x 11-7/8" diameter laminated mat comprising several materials and incorporating their polymer Deflex damping material, somewhat firmer to touch than the AQ Sorbothane mat, the best of the softer mats... \$69.00

Audioquest Record Brush: An indispensable accessory for removing dust from your records before each play. With over one million conductive fibres, the bristles of this brush will penetrate to the bottom of the record groove to scoop out dust particles and help discharge static buildup. Pads and cloths can only remove dust from the surface of the record, carbon fibre brushes are the only dry treatment that will reach deep into the record groove... \$11.00



DB Phono Alignment Protractor: The most versatile cartridge overhang alignment tool available. If you care to experiment with various alignment geometries this gauge can be used to optimize overhang for any two points on the record. There is no need to be able to find the center of your arm pivot with this gauge, but a cartridge body with parallel sides will make using this device somewhat easier. Excellent instructions are provided... \$46.95

Shure Stylus Force Gauge... Non-magnetic balance for adjusting cartridge tracking force, easy and quick to use, still my first choice for fast setup, nothing else really works better, final adjustment should always be by observing cantilever deflection anyway... \$19.50



Cardas Sweep Record: Newly revised 180gr LP produced by George Cardas, and mastered by Stan Ricker on a Neumann VM66 lathe with helium cooled SX-74 cutter head, using console and cutter head electronics designed by Keith Johnson. The record contains a series of standard tones, locked white noise grooves that repeat endlessly, tracks for degaussing your cartridge and playback chain, ultrasonically cleaning your cartridge, polarity checks, absolute phase, even a sync label to check platter speed... \$17.95

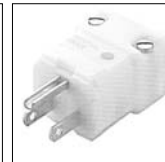


Allsop Orbitrac 2: Very handy record cleaning device, either used by itself, or as a first step for cleaning used/dirty records prior to using a record cleaning machine or other devices, thereby keeping contamination of those other devices to a minimum. Orbitrac 2 @\$39.95 set of two replacement cleaning pads @\$5.95

HOSPITAL GRADE AC RECEPTACLES & PLUGS: Superior quality connectors for better AC power transfer and better sound.

*Hospital grade Hubbell #8115V, 15 amp standard three prong male NEMA 5-15P power plugs, white clam shell case, will accept three wire cables up to 10ga, screw terminals but will accept heat of careful soldering for better contact... \$9.95 each.

*Hubbell 20A hospital grade duplex outlets, higher contact pressure and more rugged construction than standard wall receptacles, ivory color, use a plastic outlet box if isolated ground is desired (heavy duty 8300-I type!)... \$23.95 each



IEC POWER PLUGS: These are the type of connectors used on virtually all audio components that have detachable power cords. I have both the commonly used 10-15 amp style and the much better 20 amp connectors. Unfortunately almost no one uses the 20 amp type which has much larger, higher pressure, lower resistance contacts, but is not interchangeable with the 10 amp types. If you are converting equipment to utilize a detachable power cord, or are willing to replace the male connector on equipment that uses a 10 amp IEC connector, then by all means use the 20 amp style. The 20 amp male requires a 33mm x 25mm hole with 42mm hole centers for the mounting screws. This means enlarging the main opening significantly over the 10 amp type but the mounting screw holes need only be widened 1mm each beyond the normal spacing for the 10A type IEC so they can be reconfigured with little difficulty. Deduct 10% for ten or more pieces per individual type.

*10A Swiss made female for end of power cord, straight... \$8.95 10A male panel mount connector... \$2.00 each

*H320C, Hubbell 20A female for end of power cord, straight, clam shell case... \$10.50 H320B, Hubbell 20A male chassis mount... \$7.95

CORD STRAIN RELIEFS: Collet type strain relief for power cords or other cables, black nylon body with internal rubber seal, three sizes:

(cable size .16" to .31"/requires .60" chassis hole/\$2.75) (cable size .24" to .47"/.80" hole/\$3.50) (cable size .51" to .71"/1.12" hole/\$5.50)

**KIMBER WATTGATE POWER CONNECTORS**

Model 320 Economy IEC: At last, an IEC that will accept cable diameters over 16mm and 10ga conductors easily, and perhaps up to 6ga with modification. Features a polycarbonate housing and zinc plated brass contacts... clear or black housing @\$19.95

Model 350 IEC: Same as above but with triple plated OFC/Electroless Nickel/24K Gold contacts and Blue Star Audio Grade marking. Same 15A/125V, 10A/250V rating as the 320, but yields superior sonic performance... black only @\$77.00

Model 330 Power Plug: Same Audio Grade Blue Star construction as the 350 IEC in a NEMA 5-15P power plug @\$77.00

Model 381 Receptacle: 20A Duplex receptacle, grey color glass-filled nylon front and gold plated heavy duty contacts @\$147.00

Deduct 10% for six or more Wattgates, 20% for twelve or more, mix ok.

XLO HIGH PERFORMANCE POWER CORD

XLO PI-1000/ER10: 12ga (one hot, one neutral, two ground, drain wire, foil shield), 12mm diameter, black/green as available, stock varies... \$9.50 foot

XLO Ref 2 Type 10A: (Ultra 10), uncompromising performance, shielded 12ga (two hot, two neutral, two ground, drain wire, foil shield), purple, 12mm D... \$16.95 foot

Deduct 10% for 50' or more per type for any of our power cords. 12.5mm ferrite EMI suppressor core w/heat shrink, slips over any cord... \$4.95 each



Eichmann Express Power Strip: Matching power strip that attaches to the IEC end of the Express AC cable, or any other 10/15A IEC terminated cord. A high quality filter free six outlet strip without spike or surge protection... \$43.95

Returns: Most items are acceptable as a return for full credit toward other merchandise up to 60 days after purchase. If a cash refund is preferred a 5% restocking fee may apply. Please inquire before returning any item if you wish a cash refund. Metal film resistors, IC's, and cut lengths of wire, braid, etc. are not returnable. Any items which show obvious signs of wear or abuse, or have been soldered are not returnable unless defective. Tubes within warranty are exchangeable with the manufacturer. Replacement of IC's or parts that are static sensitive you believe defective should be returned to the manufacturer for inspection and replacement. Credit for returned capacitors does not include any fee charged for 1% matching or custom selecting to specific value. Please consult with me prior to returning any item to avoid possible misunderstanding. All returns must be packaged carefully! You must provide adequate packaging for returned parts. I've received any number of returns in plain unpadded envelopes with the contents damaged or torn out of the envelope by postal sorting machinery. If your return is damaged or lost in shipping you will not receive credit for it!

Notes on Export Shipments:

All prices listed in my catalog, and shipping charges, are based on delivery to destinations within the USA. Extra funds must be included with your order for shipping to other countries. You are encouraged to write/fax/email with a list of items and I will reply with a price quote which will include freight cost. Prepayment by International Money Order or bank check in US dollars is required, credit card payment is possible from a few countries through PayPal via the Internet. You may also wire funds to my bank but you must allow \$20.00 additional for the transaction fee my bank charges me for this method of payment, and the originating US bank fee. Any excess will be credited. Please realize that it will take about one week for my bank to confirm receipt of a wire transfer and that your order will not be shipped until I receive this confirmation.

In order to avoid the excessive customs' duties imposed by many countries I normally list a declared value much less than the retail value of the goods shipped, and mail the invoice under separate cover. This can result in a substantial savings for you. The drawback to this is that I cannot then insure the package for its full value. In many cases the insurance for packages sent by Air Parcel Post is limited to \$500.00 or less and, in some cases, not available at all (e.g. Indonesia). You must decide whether you wish full insurance coverage, (if available) and request it, or low customs charges; the risk of loss is yours. I might add that only three or four International parcels have been lost as of this catalog date.

I ship almost all my overseas packages by US Mail for packages up to 22 pounds (the maximum for many countries), and by United Parcel Service or Federal Express for heavier shipments. United Parcel Service shipping is often less expensive for heavier shipments (over 15 pounds or so depending on the country), and faster, but much more expensive for lighter packages. Personally I favor Express Mail shipping as the best compromise between fast delivery and cost. Like UPS & FedEx, Express Mail is barcoded and can be tracked. If you have any specific shipping instructions, state them; otherwise I will use my best judgement in determining the least expensive method and ship uninsured at your risk with low values declared.

Kiwame Carbon Film Resistors: Compact 1000VDC rated 5% 2W @70°C and 1200VDC rated 5% 5W @70°C types especially suited for tube electronics, low noise, very natural sound. Actual tolerance measures typically 0.5%. Both have 0.030" tinned copper leads. My customers rave about these!

Two watt (0.16" D x 0.50" L) @\$1.10 each

Five watt (.32" D x 0.95" L) @\$2.25 each

10% discount for 25 or more per value.

Kiwame 2W	100Ω	620Ω	3.90K	24.0K	150K
.150" D x .50" L	110Ω	680Ω	4.30K	27.0K	160K
10Ω	120Ω	750Ω	4.70K	30.0K	180K
12Ω	130Ω	820Ω	5.10K	33.0K	200K
15Ω	150Ω	910Ω	5.60K	36.0K	220K
20Ω	160Ω	1.00K	6.20K	39.0K	240K
22Ω	180Ω	1.10K	6.80K	43.0K	270K
24Ω	200Ω	1.20K	7.50K	47.0K	300K
30Ω	220Ω	1.30K	8.20K	51.0K	330K
33Ω	240Ω	1.50K	9.10K	56.0K	360K
39Ω	270Ω	1.60K	10.0K	62.0K	390K
47Ω	300Ω	1.80K	11.0K	68.0K	430K
51Ω	330Ω	2.00K	12.0K	75.0K	470K
56Ω	360Ω	2.20K	13.0K	82.0K	510K
62Ω	390Ω	2.40K	15.0K	91.0K	
68Ω	430Ω	2.70K	16.0K	100K	
75Ω	470Ω	3.00K	18.0K	110K	
82Ω	510Ω	3.30K	20.0K	120K	
91Ω	560Ω	3.60K	22.0K	130K	

Kiwame 5W	13Ω	180Ω	1.30K	8.20K	51.0K
.35" D x 1.0" L	15Ω	200Ω	1.50K	9.10K	56.0K
2.2Ω	16Ω	220Ω	1.60K	10.0K	62.0K
2.4Ω	20Ω	240Ω	1.80K	11.0K	68.0K
2.7Ω	22Ω	270Ω	2.00K	12.0K	75.0K
3.0Ω	24Ω	300Ω	2.20K	13.0K	82.0K
3.3Ω	27Ω	330Ω	2.40K	15.0K	91.0K
3.9Ω	30Ω	390Ω	2.70K	16.0K	100K
4.7Ω	33Ω	470Ω	3.00K	18.0K	120K
5.1Ω	39Ω	510Ω	3.30K	20.0K	150K
5.6Ω	47Ω	560Ω	3.60K	22.0K	200K
6.2Ω	56Ω	620Ω	3.90K	24.0K	220K
6.8Ω	68Ω	680Ω	4.30K	27.0K	240K
7.5Ω	75Ω	750Ω	4.70K	30.0K	270K
8.2Ω	82Ω	820Ω	5.10K	33.0K	470K
9.1Ω	91Ω	910Ω	5.60K	36.0K	1.0M
10Ω	100Ω	1.00K	6.20K	39.0K	
11Ω	120Ω	1.10K	6.80K	43.0K	
12Ω	150Ω	1.20K	7.50K	47.0K	

Auricap Metallized polypropylenes

0.007μF 1%	600V	\$10.95	.50" D x .55" L
0.01μF	600V	6.50	.36" x .40"
0.01μF	1500V	6.95	.50" x .70"
0.0206μF 1%	600V	9.95	.42" x .53"
0.022μF	600V	6.95	.45" x .53"
0.047μF	600V	7.50	.52" x .65"
0.068μF	600V	7.95	.58" x .65"
0.10μF	450V	6.95	.42" x .53"
0.10μF	600V	9.95	.65" x .78"
0.10μF	1500V	10.50	.86" x 1.0"
0.22μF	450V	7.50	.50" x .60"
0.22μF	600V	10.95	.75" x .94"
0.33μF	450V	7.75	.60" x .65"
0.33μF	600V	12.50	1.8" x 1.2"
0.47μF	450V	7.95	.60" x .78"
0.47μF	600V	12.95	1.0" x 1.2"
0.47μF	1500V	17.50	1.3" x 1.3"

0.68μF	450V	\$9.50	.69" x .87"
0.68μF	600V	16.95	1.1" x 1.2"
1.0μF	200V	9.50	.66" x .78"
1.0μF	450V	9.95	.77" x .90"
1.0μF	600V	19.95	1.3" x 1.4"
1.5μF	450V	10.95	.76" x 1.2"
2.0μF	200V	9.95	.78" x .90"
2.0μF	600V	31.95	1.5" x 1.7"
2.0μF	1500V	57.95	2.4" x 2.3"
2.2μF	200V	12.25	.80" x .90"
2.2μF	450V	15.95	.95" x 1.2"
3.0μF	200V	14.95	.90" x 1.0"
3.3μF	450V	16.50	1.1" x 1.4"
4.0μF	200V	15.50	.96" x 1.2"
4.0μF	450V	19.95	1.1" x 1.4"
4.0μF	600V	41.95	1.9" x 2.3"
4.0μF	1500V	82.95	2.8" x 3.0"
4.7μF	200V	15.75	1.0" x 1.2"
5.0μF	200V	16.95	1.1" x 1.2"

5.0μF	450V	\$19.95	1.2" x 1.5"
6.0μF	200V	18.95	1.1" x 1.4"
7.0μF	200V	20.95	1.1" x 1.4"
8.0μF	200V	21.95	1.2" x 1.4"
9.0μF	200V	22.95	1.3" x 1.4"
10μF	200V	24.95	1.3" x 1.5"
12μF	200V	27.95	1.4" x 1.6"
15μF	200V	31.95	1.5" x 1.7"
16μF	200V	32.95	1.5" x 1.7"
20μF	200V	44.95	1.7" x 1.7"
22μF	200V	45.95	1.7" x 1.8"

Excellent value, superior audio grade metallized polypropylenes. Black lead is outer foil, and manufacturer recommends this lead be source in coupling applications and at ground in power supplies.

All are 10% tolerance except where noted.

Deduct 10% for Auricap order over \$250.00, mix ok.



Eichmann Topper: The Topper controls resonance by preventing the accumulation of standing waves, attenuating standing waves and disrupting the transference of resonance to component areas that may be adversely affected. The result is cleaner, more focused sound, reduced upper bass haze, and increased low level detail. Position 3 Toppers on the top surface of components directly above the power supply and transformer, transport system of a CD/DVD player, and other vibration sensitive locations. Effective on speakers by positioning three on cabinet top, close to front baffle. Roughly 2" square by 1" high, 65 grams each
Box of six... \$35.00 closeout special, all sales final



Bybee Technologies

The A/C Solution

Half Moon Bay, California

About Bybee Technologies - And Bybee Quantum Purifiers

Jack Bybee, a theoretical physicist specializing in quantum mechanics and superconductivity, developed a series of esoteric wire and power purification technologies for the passive sonar systems of the U.S. Navy's atomic submarine fleet. Even the battery stored DC power used in these submarines required special filtration to lower the noise floor to a level that did not compromise sonar performance. Many of the military applications of this technology are still classified; however, continuing research has led Jack Bybee to the development of solutions specific to power and audio/video circuits: the Bybee Quantum Purifiers.

The Problem

There are many kinds of noise associated with electronics. In audio reproduction, electronic noise is often manifested as lack of detail, focus and resolution. In video, this noise creates obstacles to achieving industry standards for sharpness and color definition. The removal or reduction of noise in the conducting medium is our goal.

The Noise

Bybee Quantum Purifiers address several kinds of electronic noise. Thermal noise in electronic equipment is typically created by the excitation of phonons, which are resonances in conductors caused by the movement of electrons through the quantum well. Phonons are a type of noise in themselves; they are caused by a certain class of electrons colliding with the crystal lattice of conductors (silver, copper, etc.) through which they are being transmitted. Such phonons travel, not at the speed of light, but of sound, and therefore are instantly out of phase with the signal. Shot noise, which is generated by the operation of transistors, is similar in nature to thermal or white noise. Low-frequency (1/f) noise is always present, and increases as an inverse power of the frequency.

Electrons

The Bybee solution is based on principles derived from quantum mechanics, the study of how electrons behave at the subatomic level. Quantum physicists have learned that electrons have an intrinsic angular characteristic expressed in terms of spin (either up or down), which describes their orbital behavior around the nucleus of an atom. When subjected to Bybee's high-temperature near-superconductive material, electrons tend to join in a beneficial manner, increasing the velocity of propagation (VP) by forming what are known as Cooper's Pairs (one spin-up electron joined with a spin-down). Cooper's Pairs have the unique ability to tunnel through the crystal lattice of the conductor (such as a copper wire) essentially unimpeded, therefore eliminating virtually all quantum noise phenomena. To understand this effect, imagine a football game in which the player receiving the kick off could run straight down field to the goal line without being touched by any defenders.

The Bybee Quantum Purifiers

Bybee Technologies has developed devices fabricated from ceramics doped with oxides of rare-earth metals such as zirconium and neodymium. They achieve a VP of 92% of the speed of light, which is far higher than VPs of common conductors, which typically range from 50 to 70% of the speed of light.

In addition to being near-superconductive, Bybee Quantum Purifiers are electrically passive and stable in any circuit. They induce no phase shift whatsoever, and are totally non-reactive—meaning there is no reactance between capacitance and inductance.

These qualities are beneficial in numerous ways. When placed between an amplifier's power transformer and diode bridge, for example, the Quantum Purifier eliminates undesirable impedance mismatches. In an amplifier-to-speaker connection, the absence of reactance creates an optimal signal transfer and presents an easier load to the amplifier. When transmitting digital information, the Bybee Quantum Purifier eliminates the overshoot and ringing that can occur in the leading edge of the square wave. This type of distortion is a major contributor to the harshness and glare often associated with digital sound.

BYBEE QUANTUM PURIFIER DESCRIPTIONS

All Quantum Purifiers are specially shielded using ERS Stealth carbon fiber material and are cryogenically treated to enhance performance.

Large purifiers (typically used in AC applications, and with loudspeaker transducers): **\$83.50 each**

Length: 2 inches
Diameter: 1/2 inch
Leads: one inch, 14 gauge copper
Current-handling: 15 A Voltage: >1000 V

Small Slipstream Purifiers (typically used in lower-current AC circuits, non-AC analog and digital circuits, and smaller midrange drivers and tweeters where limited space prevents use of the large purifiers): **\$83.50 each**

Length: one inch
Diameter: 3/8 inch
Leads: one inch, 18 gauge copper
Current-handling: 4.3 A Voltage: >1000 V



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Power Wraps

GOAL

To reduce noise in power cords from airborne RF and from conducted RF on the AC power line.

APPLICATION

Power cords for Audio CD, DVD, and SACD players, transports and DACs.

Power cords for preamps and amplifiers.

Power cords for all Home Theater components.

GOAL

To reduce the noise generated by electronics back into the AC line.

APPLICATION

Power cords for video monitors, TVs, tuners, and digital components.

Power cords for fax machines, computers, peripherals, and printers.

GOAL

To reduce noise and brightness in cables carrying an audio or video signal.

APPLICATION

Audio interconnects, speaker wires, and digital cables.

Audio and video cables for Home Theater components.

Video cables for computer monitors and TVs.

GOAL

To reduce power line RF from other sources.

APPLICATION

Power cords for refrigerators and air conditioners.

Power cords for computers and computer monitors.

Power Wraps come in three sizes:

.375" diameter, 12-inch long Power Wrap @\$21.95

.56" diameter, 12-inch long Power Wrap @\$21.95

.328" diameter, 6-inch long All Clear @\$21.95/pair



Power Wraps are a unique product that turn your standard power cord into a true high-end power cable. Power Wraps are a very effective noise suppressor for all AC power cords. They allow you to use the AC cords that the equipment manufacturer provides and still reduce the noise from the AC line to your electronics. You can improve AC cords even if they are non-detachable.

One of the main entry points for noise and radio frequency interference (RFI) into an audio system is through the AC power lines. Filtering the audio frequency noise is generally handled in power supply filtering. However, the RF noise is harder to filter effectively. Power Wraps use a patented RF absorber in a special configuration developed for use on AC cords. The RF absorbers filter the RFI and kill the ringing in AC cords.

Power Wraps provide unique benefits that cannot be achieved any other way. Audiophiles try to correct for the sonic degradation of power line problems in a variety of ways with varying success. Power Wraps strike right at the heart of the problem and also give the most cost-effective solution.

Tuning (the positioning of the Power Wrap along the power cord) can optimize the performance of the Power Wrap. The AC cord has several fundamental ringing modes and many harmonic ringing modes resonating all the time. The position of the Power Wrap along the cable will determine which main modes and which harmonic modes are suppressed. The modes and frequencies that are suppressed will determine the sonic signature of the AC cord.

The most important AC cords to tune are the cords on the Digital Transport and the D/A converter (or the CD player). There is a double benefit from suppressing noise in the digital equipment. Power Wraps reduce the RF noise into the digital equipment and also reduce the digital noise fed back into the AC line.

The source equipment should always be the first to be tuned, because once noise is introduced into the system, it will propagate throughout the system. The digital transport and turntable benefit greatly from noise suppression. Once the source is tuned, add Power Wraps to the other components. Experiment for the best results.

Power Wraps also benefit audio and video interconnect cables. They improve the performance of low- and medium-priced cables for less than one would spend on a more expensive cable. They are especially helpful on non-shielded cables. The All Clear version of Power Wraps has a smaller diameter, which is more suited to interconnects.

*Power Wraps are recommended for 3 to 7 foot power cords.

*For AC power cord lengths over 7 foot, use two Power Wraps per cord, interleaved or end-to-end.

*Power Wraps are recommended for Digital cables due to the high level of digital noise on the cable.

*All Clears are recommended for 1 and 1.5 meter audio and video cables and Power Wraps for longer cables.

*All Clears come in sets of two so they can be used on separate left- and right-channel electronics, or so you can interleave them for more powerful RFI suppression. Both types may be intertwined or placed end-to-end on a cable to provide additional suppression.