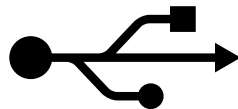
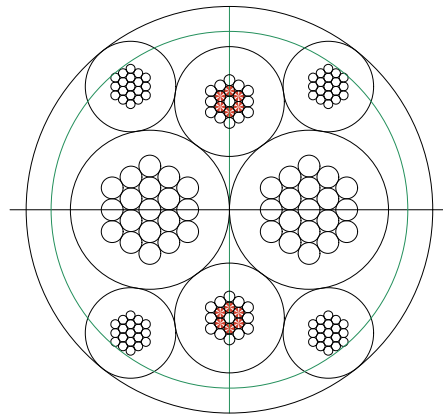


# ZU MISSION USB

Mk.I [Rev-A]



AD COPY + SPECIFICATIONS

8 | 2013



# MISSION USB AD COPY & SPEC'S

Zu Mission USB is positioned for market leader in both performance and value. It's designed to give the highest possible performance without getting into conducting nanotubs and other exotica while keeping signal and power contained within the same cable sheath. And because Zu Audio designed and builds every part of this cable (save the USB connector contacts) you know that it's flexible, reliable, super consistent from build to build and even better looking in real life than in photos.

- Totally know Zu Cable USB-2 specific cable technology and archetype. (Guaranteed to blow-your mind or your money back—after all, it's your job to decide and judge so take us up on our 60-day trial).
- Still can't get over how cool and eligenat this cable design is so we're mentioning it twice.
- A cable design that allows for completely symetric nulling of the power bus on the signal pair.
- Ground conductor arrangments that agment the cables natural RF immunity, furthers the bandwidth and signal propigation velociy (are we stoked on this cable or what).
- High precision / high conductance  $90\Omega$  signal pair impedance charactorisic.
- Might even blow your pants off (depends if that function is part of your DACs chipset).

## MEASURES 3.3' [1.0M] TERMINATED ASSEMBLY

### SIGNAL CABLE LEG

Signal High #20 pure silver over pure copper, heavy plate, Teflon/E-W.  
Signal Low #20 pure silver over pure copper, heavy plate, Teflon/E-W.  
Cp 100pF  
Ls 5 $\mu$ H  
DCr Signal High 0.029 $\Omega$   
DCr Signal Low 0.029 $\Omega$   
Z<sub>0</sub> [L/C<sup>0.5</sup>] 90 $\Omega$  (45 $\Omega$  high, 45 $\Omega$  low)  
Z<sub>0</sub> [modelled] 92 $\Omega$  (46 $\Omega$  high, 46 $\Omega$  low)  
Twist Rate ZuB3, non-standard.  
VF [modelled] 72%  
Vg 4.63ns/m [max cable length 5.61m (cable group delay A>B max = 26ns)]  
1:0.8 ground/return apect ratio

### POWER CABLE LEG

B+ #23 gauge [.41mm<sup>2</sup>] (2x26) for B+  
Ground #22 gauge [.41mm<sup>2</sup>] (4x28) ground  
Sheild #15 gauge [1.8mm<sup>2</sup>] (24x6/46) sheild



# MISSION USB AD COPY & SPEC'S

## FEATURES & BENEFITS

- Signal and bus power are physically and electrically separate and fully shielded, terminating into a single receiver-side connector (USB-B). This allows data to be transmitted without incursion of external noise and keeps noise and inductance of the bus feed from coupling to the signal pair that is typical within a single cable format.
- Signal pair features precise impedance, pure silver solid core conductors, clear Teflon (PTFE) insulation and high magnitude 98% coverage shielding. These features result in a signal cable that is very wide bandwidth, with very high signal propagation velocity with minimum group delay, that is free from deleterious effects of noise. And yeah, it's also reliable despite it being a solid-core construction. Real results give a listener increased transparency in their playback system yielding more intelligibility of complex tones and music over other cables with less advanced engineering.
- Power cable is designed to well exceed the possible current capacity,
- Connectors and termination are epoxy potted and strain relieved for decades of consistent service.
- Connector bodies are machined from 6061, hard anodized and engraved—because it's cool.
- Cable is nylon sheathed for high durability and a good feel.
- It's flexible, light, and sheath can be custom spec'ed (inquire for sheath color options).



# MISSION USB ENGINEERING NOTES

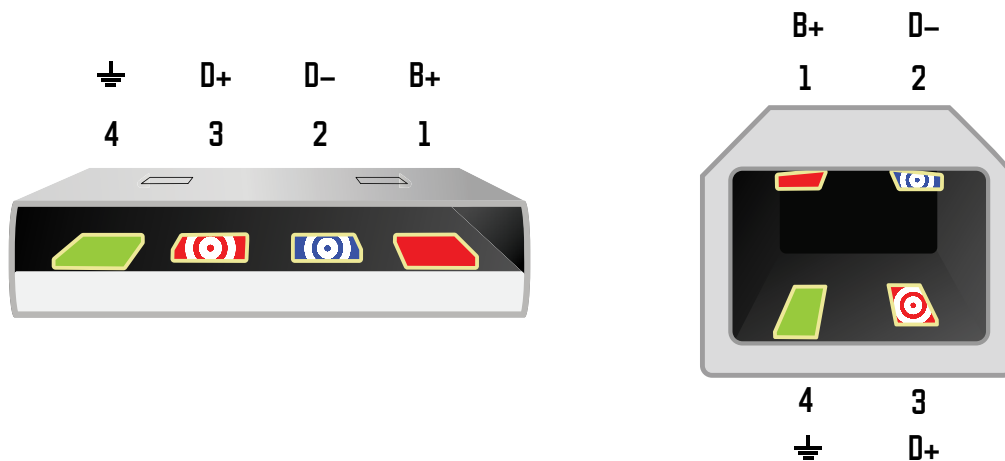
## USB-2 HIGH-SPEED INTERCONNECT SPECIFICATIONS

### SIGNAL

- Differential signal pair.
- $90\Omega$  ( $\pm 15\%$ ) characteristic impedance. In most cases the I/O device has a real impedance of  $45\Omega$  high and  $45\Omega$  low as per USB High-Speed (USB-2) and USB Super-Speed (USB-3) specification.
- Cable with a signal pair that falls below 90 ohms negatively impacts sound.
- Signal pair cable that has an asymmetric wave vectors increases standing wave ratios.
- Levels up to 3.6 volt possible.
- 480Mbits/s theoretic data rate (Firewire-1).
- Half duplexing signalling.
- All signalling is done on the data pair—signal high/low including high speed transmitter/receiver is done on the signal pair: data, token and handshake.
- Maximum cable loop delay is  $1.5\mu\text{s}$  which includes device communication.
- Maximum cable group delay is  $5.2\text{ns/m}$ .
- Group velocity of  $192,000\text{km/s}$  (64% the speed of light in a vacuum).
- Cable delay specification is  $26\text{ns}$ .
- Line code is classic NRZ binary.
- Clock tolerance is  $480\text{Mbit/s} \pm 500\text{ppm}$ .

### POWER

- 5 volt DC.
- 5 amps possible. Typical range is  $500\text{mA} - 1500\text{mA}$ . four-pin protocol.

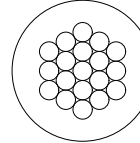




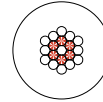
# MISSION USB ENGINEERING NOTES

MISSION USB [Mk.I Rev-A]

D+, D- #20 (Z oc 90) 1 TPI  
 B+ #26 (x2)  
 B- #28 (x4)



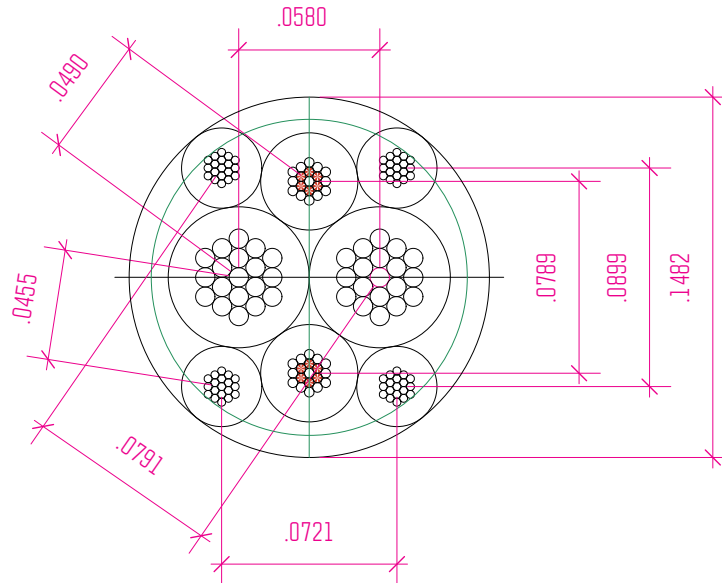
20 (19) .040 OD  
 [Ag-Cu/PTFE]



26 (19) .040 OD  
 [Ag-Cu/PTFE]



28 (19) .033 OD  
 [Ag-Cu/PTFE]



	DIMENSIONS ARE IN INCHES	PROPRIETARY AND CONFIDENTIAL PROPERTY OF ZU CABLE INC.	TITLE <b>MISSION USB Mk.I</b>			
	MATERIAL	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ZU AUDIO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ZU AUDIO IS PROHIBITED.	SHEET 1 / 1	SCALE 1:0.07	DATE 04/22/13	REVISION <b>A</b>



# MISSION USB WARRANTY

ZU AUDIO MISSION USB Mk.I [REV-A] CABLE ASSEMBLY

Zu products are designed and manufactured to the highest quality. However, if something does go wrong Zu will fix or replace the product free of charge. Zu Audio Mission USB have a limited lifetime warranty to the original owner. If under normal home use you have any problems we will fix or replace the product. If warranty is needed Zu will quickly fix or replacement the suspect cable.

While every effort is made to ensure a perfect finish that will last a lifetime, this warranty does not cover damage from impact and abrasion. Simply, cosmetic damage from use is excluded from warranty.

If in the highly unlikely event that a Zu product arrives to you dead on arrival (D.O.A.), and after discussing it with a Zu tech, we will ship another of the same product at our expense and arrange for the D.O.A. product to be collected.

Warranty does not apply to damage caused by operating the product outside the intended use, accident, another product, misuse, abuse, flood, fire, earthquake or any other external causes. Warranty does not cover damage caused by modification or service performed by anyone other than Zu.

## **WHAT YOU CAN EXPECT IF WARRANTY SERVICE IS NEEDED**

If warranty becomes necessary, you must call or email for a return of material authorization (R.M.A.) number. This provides opportunity to assist in diagnosing the problem and helps us to schedule for rapid turnaround in the event service or repair is needed. Upon factory inspection warranty eligibility will be determined. While service options, parts availability and response times will vary, we do our best to keep you happy. International customers should know that Zu will comply with all applicable export/import laws and regulations, you may be responsible for custom duties, taxes, broker fees, freight, and other charges. When shipping of product or part is required, repackage the complete product, or part, in its original packaging. If you have any questions about packaging please call or email. Until we have the product back in the shop and sign-off that it is eligible, the product is still your property, we recommend you insure or declare the full value when shipping. We also recommend that you only ship with a service that has a good reputation and offers tracking and insurance for the full amount.



**ZU AUDIO**

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[DESIGNED AND MADE BY US]