

Specification for USB cable between Sequoia camera and drone.

1. Introduction

Parrot recommends the following specifications for any custom cable to connect the Sequoia camera body to a drone. These specifications are given for reference only and should not be regarded as a validation of any custom connection cable not provided by Parrot.

Failure to meet these specifications may lead to product malfunctions resulting in permanent damages of the Sequoia camera. Parrot shall not be liable for any nature of damage that may result from this.

2. Reference

Universal Serial Bus Specification Revision 2.0 April 27, 2000

Micro USB Specification to the USB 2.0 Specification, Revision 1.01 April 4, 2007

3. Connectors

J1 connector: USB A/M Solder type

- The current rating of J1 must be 3 A
- USB-A plug in assignments:

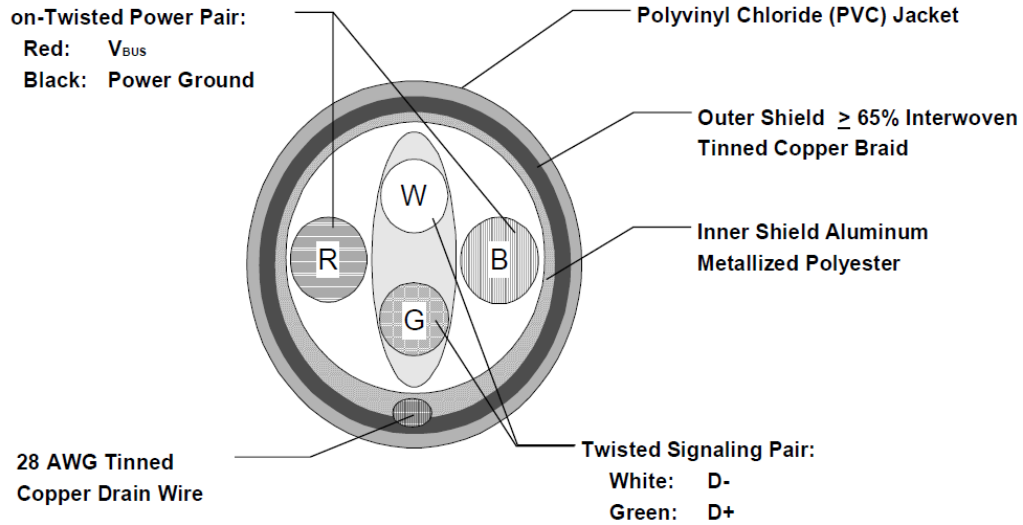
Contact number	Signal name	Typical Wiring Assignment
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black
Shell	Shield	Drain Wire + Braid

J2 connector: Micro USB 5P B/M

- The current rating of P2 must be 2.5 A
- Micro-B plug in assignments:

Contact number	Signal name	Typical Wiring Assignment
1	VBUS	Red
2	D-	White
3	D+	Green
4	ID	Not Connected
5	GND	Black
Shell	Shield	Drain Wire + Braid

4. Cable



4.1 Definition

The cable consists of one 24 AWG non-twisted power pair and one 28 AWG twisted data pair with an aluminum metallized polyester inner shield, 28 AWG stranded tinned copper drain wire, > 65% tinned copper wire interwoven (braided) outer shield, and PVC outer jacket.

4.2 Construction

Non-Twisted Power Pair:

Wire Gauge:

American Wire Gauge (AWG)	Nominal Conductor Outer Diameter	Stranded Tinned Conductors
24	0.610 mm (0.024")	7x32
	0.582 mm (0.023")	10x34

Signal Pair:

Wire Gauge:

American Wire Gauge (AWG)	Nominal Conductor Outer Diameter	Stranded Tinned Conductors
28	0.381 mm (0.015")	7x36
	0.406 mm (0.016")	19x40

Aluminum Metallized Polyester Inner Shield:

Substrate Material: Polyethylene terephthalate (PET) or equivalent material

Metallizing: Vacuum deposited aluminum

Assembly:

1. The aluminum metallized side of the inner shield must be positioned facing out to ensure direct contact with the drain wire.
2. The aluminum metallized inner shield must overlap by approximately one-quarter turn.

Drain Wire:

Wire Gauge: Minimum 28 AWG stranded tinned copper (STC) non-insulated.

American Wire Gauge (AWG)	Nominal Conductor Outer Diameter	Stranded Tinned Conductors
28	0.381 mm (0.015")	7x36
	0.406 mm (0.016")	19x40

Interwoven (Braided) Tinned Copper Wire (ITCW) Outer Shield:

Coverage Area: Minimum 65%.

Assembly: The interwoven (braided) tinned copper wire outer shield must encase the aluminum metallized PET shielded power and signal pairs and must be in direct contact with the drain wire.

Outer Polyvinyl Chloride (PVC) Jacket:

Assembly: The outer PVC jacket must encase the fully shielded power and signal pairs and must be in direct contact with the tinned copper outer shield.

6. Length

The length is **500mm max.**

7. Temperature range

The operating temperature range is from -30°C to +85°C

8. USB Grounding

The shield must be terminated to the connector plug for completed assemblies. The shield and chassis are bonded together.