

Description of the RasNik DB25 cables

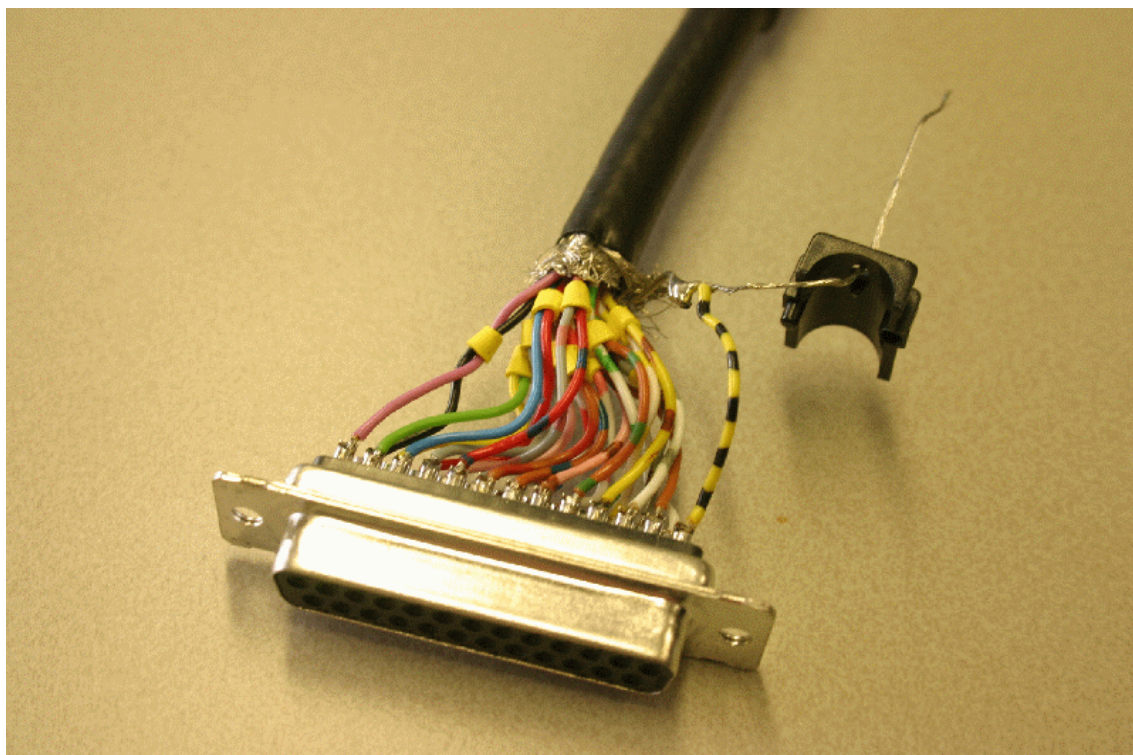


Figure 1

Cable types:

For experimental use and test set ups we used Belden cable 8112, 12 pairs +1 wire. A flexible wire runs along with the shield.

In Atlas the LSFROH (low smoke, fire retardant, zero halogen) type is used: SCEM 04.21.48.324.9, type MCA24P, 12 pairs. Conductors are 24 AWG. A solid wire runs along the shield. Outer diameter is 11.2 mm, weight 0.175 kg/m.

Belden (grey) cable:

- Remove the outer insulation for 150 mm.
- Put a suitable heat-shrinking tube on the 11.2 mm thick cable. 150 mm long. Keep 35 mm of the cable free.
- Open the braid. Use part of the braid or an extra earth wire to connect to the metalized shell. Solder a longer flexible wire to the earth wire. This connects to pin 1. The extra single grey wire also connects to pin 1.
- Keep the wire pairs together with (shrinking or non shrinking) pieces of tube. For the color coding see table below.
- Strip the wires suitable for soldering or crimping (2 to 2.5 mm). When using crimp connectors, check whether the crimp really holds (by pulling the wire) and if the pins are really fixed in the connector.
- After complete cable assembly, check the cable with a cable tester. We use Cable Eye M3, the procedure is described in an other paper.

Temporary/ experimental (grey) cable: The tables below are the same, use whatever is more convenient.

Blue/WhiteStripe	2	14	White/BlueStripe
Orange/WhiteStripe	3	15	White/OrangeStripe
Green/WhiteStripe	4	16	White/GreenStripe
Brown/WhiteStripe	5	17	White/BrownStripe
Gray/WhiteStripe	6	18	White/GrayStripe
Blue/RedStripe	7	19	Red/BlueStripe
Orange/RedStripe	8	20	Red/OrangeStripe
Green/RedStripe	9	21	Red/GreenStripe
Brown/RedStripe	10	22	Red/BrownStripe
Gray/RedStripe	11	23	Red/GrayStripe
Blue/BlackStripe	12	24	Black/BlueStripe
Orange/BlackStripe	13	25	Black/OrangeStripe
Shield connects to shell and pin 1			

Stripe	Color			Stripe	Color
White	Blue	2	14	Blue	White
	Orange	3	15	Orange	
	Green	4	16	Green	
	Brown	5	17	Brown	
	Gray	6	18	Gray	
	Red	Blue	7	19	
Orange		8	20	Orange	
Green		9	21	Green	
Brown		10	22	Brown	
Gray		11	23	Gray	
Black		Blue	12	24	Blue
	Orange	13	25	Orange	
Shield connects to shell and pin 1					

ATLAS installation (blue) cable:

- Remove the outer insulation for 150 mm if that end connects to a RasMux. Ninety mm if it connects to a MasterMux.
- Put a suitable heat-shrinking tube on the 11.2 mm thick cable. 150 mm long at a RasMux end, 90 mm at the MasterMux side. Keep 35 mm of the cable free.
- Open the braid. Use part of the braid to connect to the metalized shell, cut away the rest.
- Keep the wire pairs together with (shrinking or non shrinking) pieces of tube. For the color coding see table below.
- Strip the wires suitable for soldering or crimping (2 to 2.5 mm). When using crimp connectors, check whether the crimp really holds (by pulling the wire). And check if the pins are really fixed in the connector by pushing them.
- Put on the shell, when the cable is on the bottom, pin 1 is on top. See Figure 2. We refer to this orientation as *type A* (always for MasterMux and TopMux (Usa15Mux)). *Type B* has pin 1 on the other side and *type C* goes straight out. All cables are made as *type A*, occasionally shells may have to be rotated in situ.
- After complete cable assembly, check the cable with a cable tester. We use Cable Eye M3, the procedure is described in an other paper.

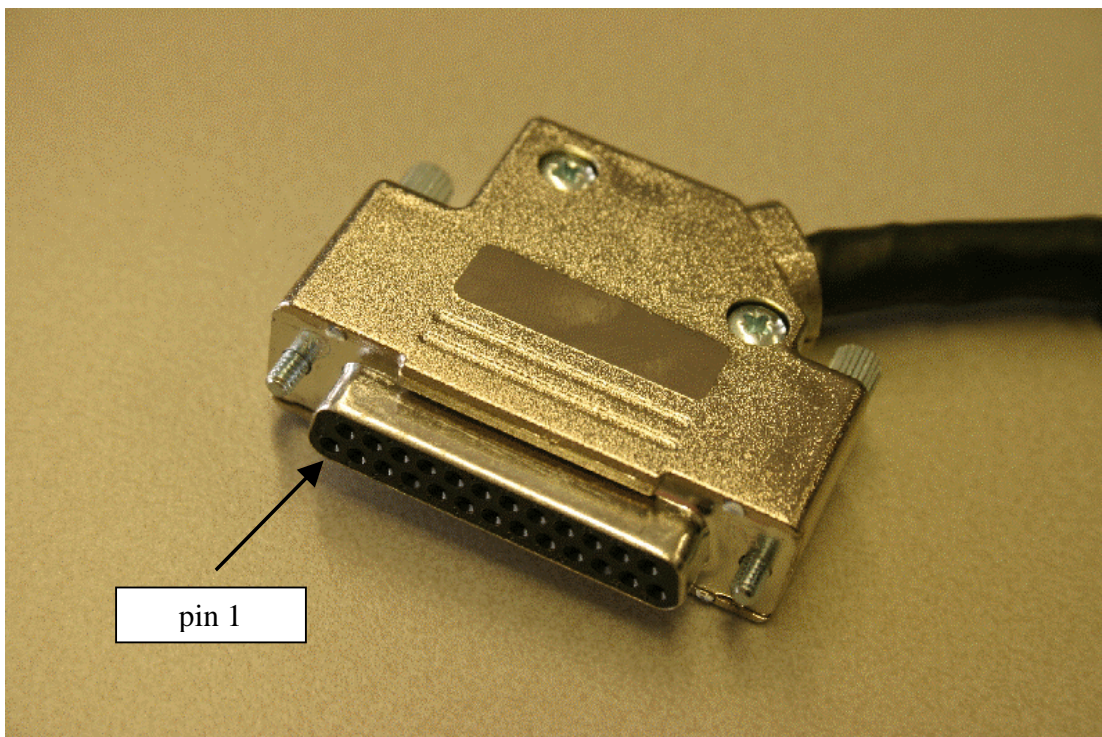


Figure 2, cable type A

Atlas installation (blue) cable: The tables below are the same, use whatever is more convenient.

brown	2	14	white
grey/brown	3	15	grey/white
yellow/brown	4	16	Yellow/white
green/brown	5	17	Green/white
pink/brown	6	18	pink/white
blue/brown	7	19	blue/white
red/brown	8	20	red/white
red/blue	9	21	grey/pink
grey	10	22	Pink
blue	11	23	Red
green	12	24	Yellow
purple	13	25	Black
Cable shield connects to shell Pin 1 is not used (may be connected to shield)			

	brown	2	14	white	
brown stripe	grey	3	15	grey	White Stripe
	yellow	4	16	yellow	
	green	5	17	green	
	pink	6	18	pink	
	blue	7	19	blue	
	red	8	20	red	
	red/blue	9	21	grey/pink	
	grey	10	22	pink	
	blue	11	23	red	
	green	12	24	yellow	
	purple	13	25	black	
Shield connects to shell Pin 1 is not used (may be connected to shield)					