

Guide to cable preparation for connecting MotoTRBO base station to the SmartPTT radioserver

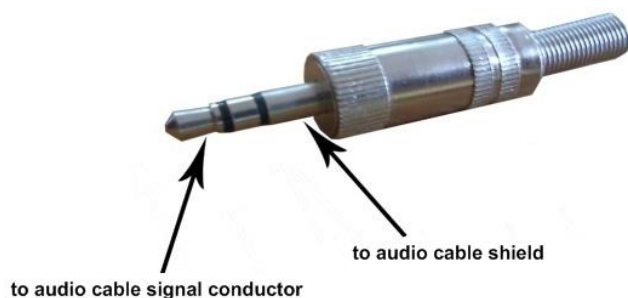
A MotoTRBO radio is connected to the radioserver via a special cable (item PMKN4016). This cable enables radio management and transfer of digital data. To transfer voice data, an additional adapter is required, connecting a DB-25 connector of PMKN4016 cable and into a PC sound card.

Components

Description	Quantity
PMKN4016 Programming Rear Accessory Cable for MOTOTRBO Mobile Radios	1
Double shielded sound cable	1 m
DB25 connector	1
DB25 connector enclosure	1
Stereo connector 3.5 mm	2
Resistor (100-150 Ohm)	1
Nonelectrolyte capacitor (2.2 microfarads or more)	1
PVC shrink tube (diameter 2.5 mm)	10 cm
PVC shrink tube (diameter 6 mm)	10 cm
Red PVC shrink tube (diameter 10 mm)	1.5 cm
Green PVC shrink tube (diameter 10 mm)	1.5 cm
Hot-melt glue	5 g

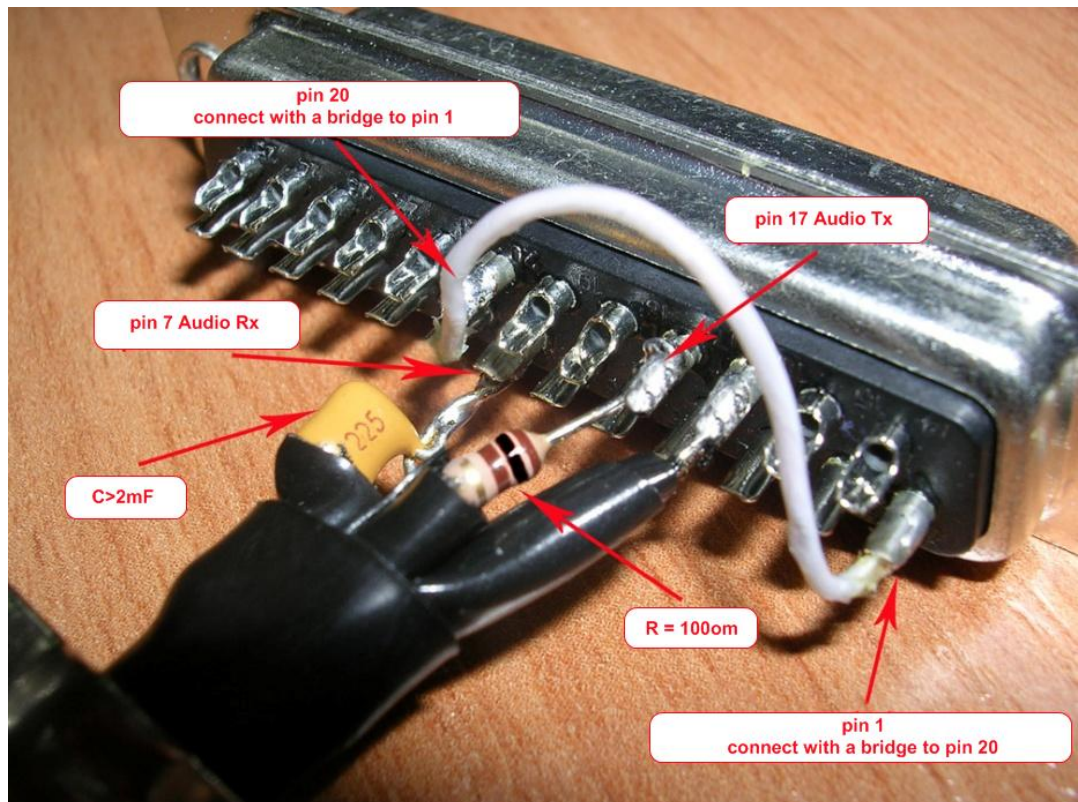
To make a cable, follow these steps:

1. Unsolder one sound cable end to 3.5 mm stereo connectors according to the following arrangement:
 - Audio cable signal conductor to the output of the first connector channel.
 - Audio cable shield cable to the connector grounding contact.

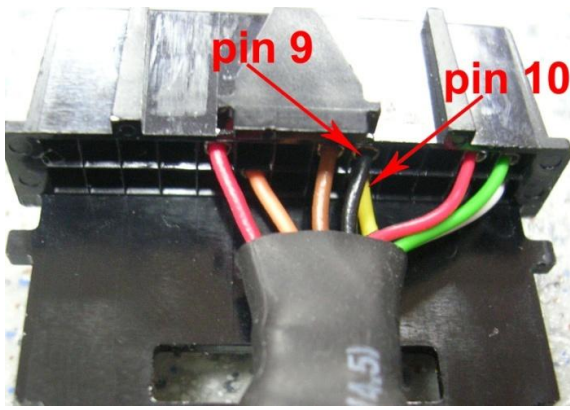


2. Unsolder the other end to a DB25 connector according to the following arrangement:
 - Shorten resistor and capacitor connecting outputs so that they fit into the DB25 connector enclosure.
 - Connect one of central conductors via series-connected resistor to pin 17, DB25 connector (mark the corresponding jack with green heat shrinkage)
 - Connect the second central conductor via series-connected capacitor to pin 7, DB25 connector (mark the corresponding jack with red heat shrinkage)
 - Connect both shield cables to pin 16, DB25 connector.
 - Close pin 1 and pin 20 of the DB25 connector with a bridge.

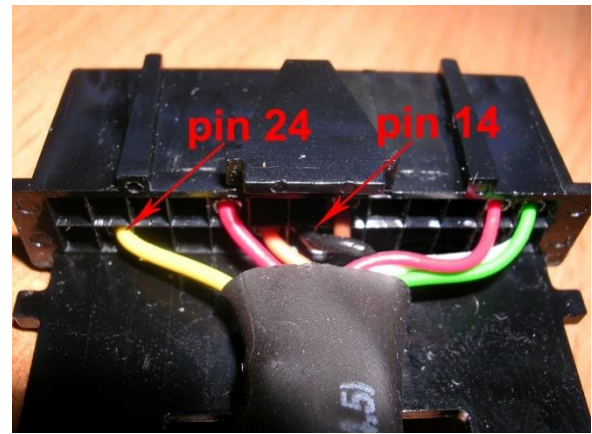
General view of unsoldering of the DB25 connector



3. Change location of conductors in a Motorola PMKN4016_ cable:
 - Change location of the black conductor in an accessory connector from output 9 to output 14.
 - Change location of the yellow conductor in an accessory connector from output 10 to output 24.

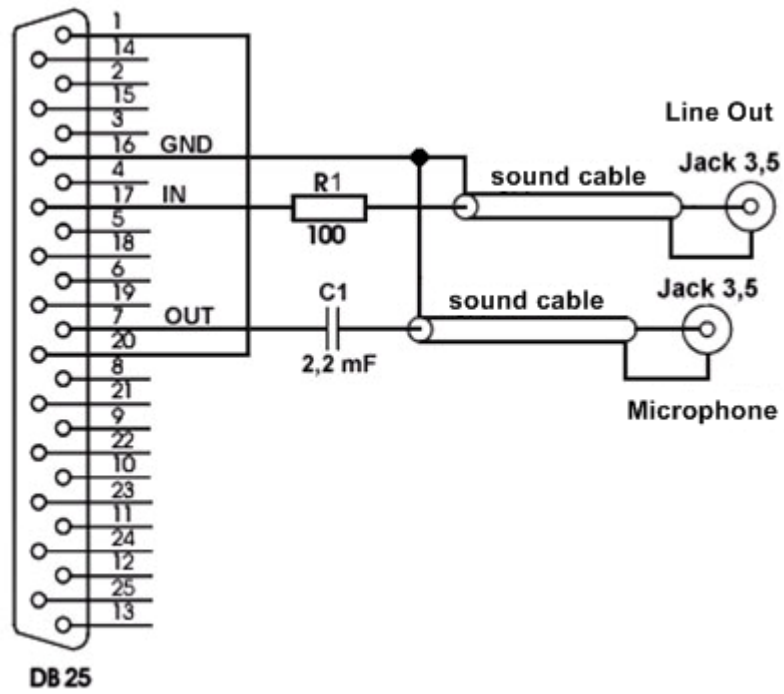


Before changing locations



After changing locations

General electrical circuit diagram of cable unsoldering

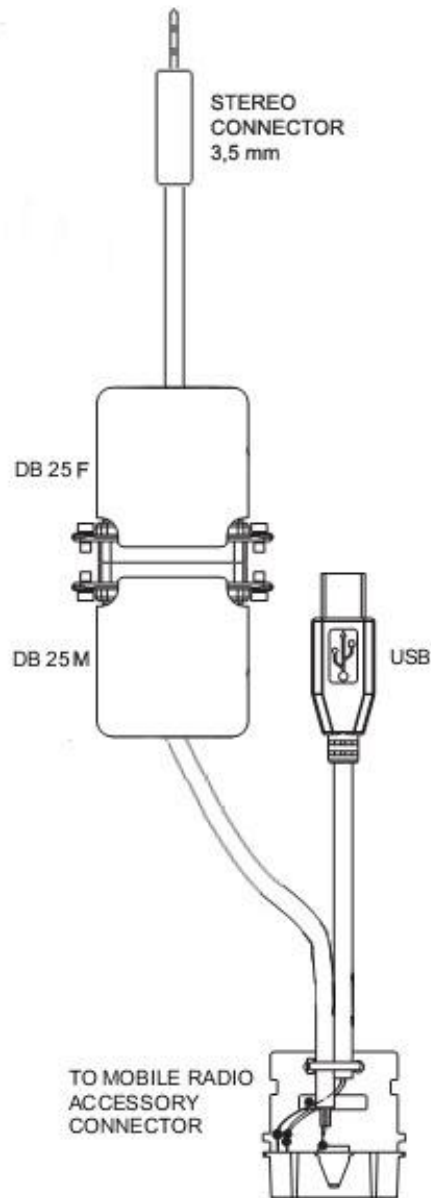


General view of the cable



Testing

Connect the cable via DB25 connectors as shown on the image



Conduct initial cable testing using a multimeter:

- Pin 16 of the PMKN4016_ cable accessory connector must have electric connection with the enclosure of both 3.5mm stereo connectors.
- Pin 11 of the PMKN4016_ cable accessory connector must have electric connection of 100 Ohm resistance with the central contact of one of the stereo connectors.