

LXNAV RS485 to RS232 Bridge

Installation manual Version 2.0



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1 Important Notices

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A Yellow triangle is shown for parts of the manual which should be read very carefully and are important for operating the system.



Notes with a red triangle describe procedures which are critical and may result in loss of data or any other critical situation.



A bulb icon is shown when a useful hint is provided to the reader.

1.1 Limited Warranty

This LXNAV product is warranted to be free from defects in materials or workmanship for two years from the date of purchase. Within this period, LXNAV will, at its sole discretion, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts and labour, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident, or unauthorised alterations or repairs.

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To obtain warranty service, contact your local LXNAV dealer or contact LXNAV directly.

March 2017

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2 Installations

2.1 Packing Lists

- 485 to232 bridge
- Pair of spring locks for RS485 splitter

2.2 Basics

LXNAV RS485 to Rs232 bridge (Bridge) is connected to the RS485 bus through a RS485 splitter DB9 connector. A RS485 splitter is not part of package. If you don` t have spare port on your RS485 splitter you must order another 485 splitter.

2.3 Installation

The RS485 splitter needs a small modification before the Bridge can be fitted. It is necessary to remove two HEX screws, where the Bridge is to be connected, and replace with the two spring locks that are in package.



After that small modification, fixing the Bridge to the RS485 splitter will be very easy.

On the other side of the Bridge is a RJ12 connector with standard IGC/FLARM pinout



1 2 3 4 5 6
Pin numbers

| Pin number | Description |
|-------------------|--------------------------------|
| 1 | (output) 12V DC, to supply GPS |
| 2 | 3.3V DC (max 100mA) |
| 3 | GND |
| 4 | Flarm Data Out |
| 5 | Flarm Data In |
| 6 | Ground |

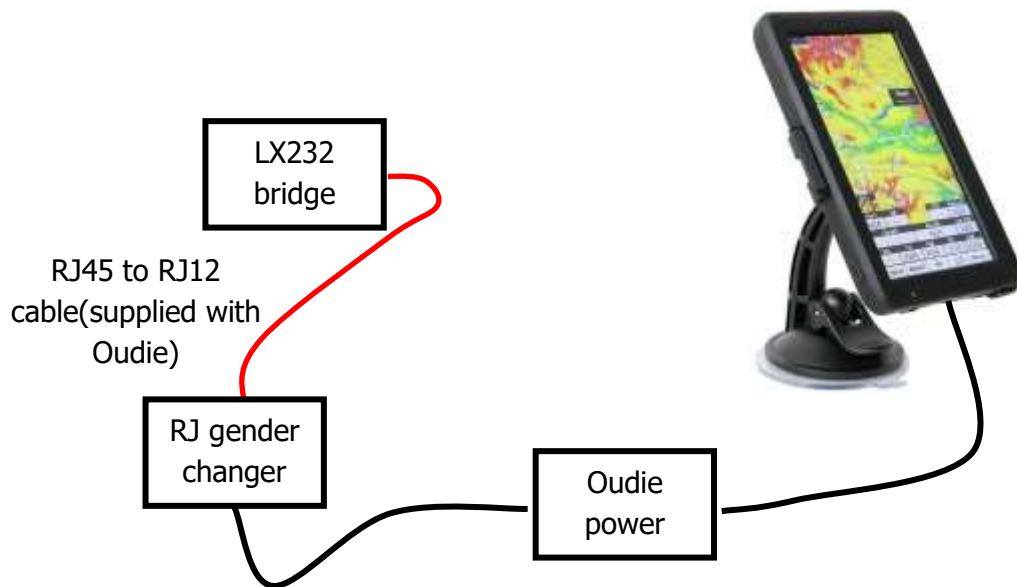
By default the Bridge is programmed to stream NMEA data at 4800bps. It streams standard GPS and Flarm data.

2.4 Wirings

The wiring diagrams show the minimum required connection for communication between a LXNAV instrument and a radio or transponder. The user should check the manual of the connected device for any further information.

2.4.1 NMEA bridge

2.4.1.1 Oudie



2.4.2 Radios

2.4.2.1 Funkwerk ATR833

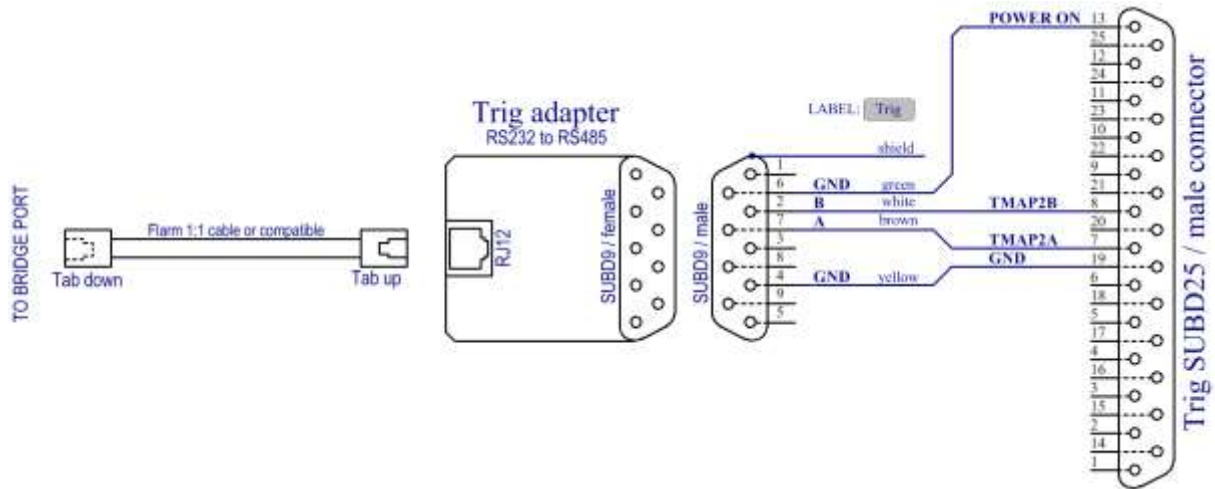


2.4.2.2 Dittel KRT2

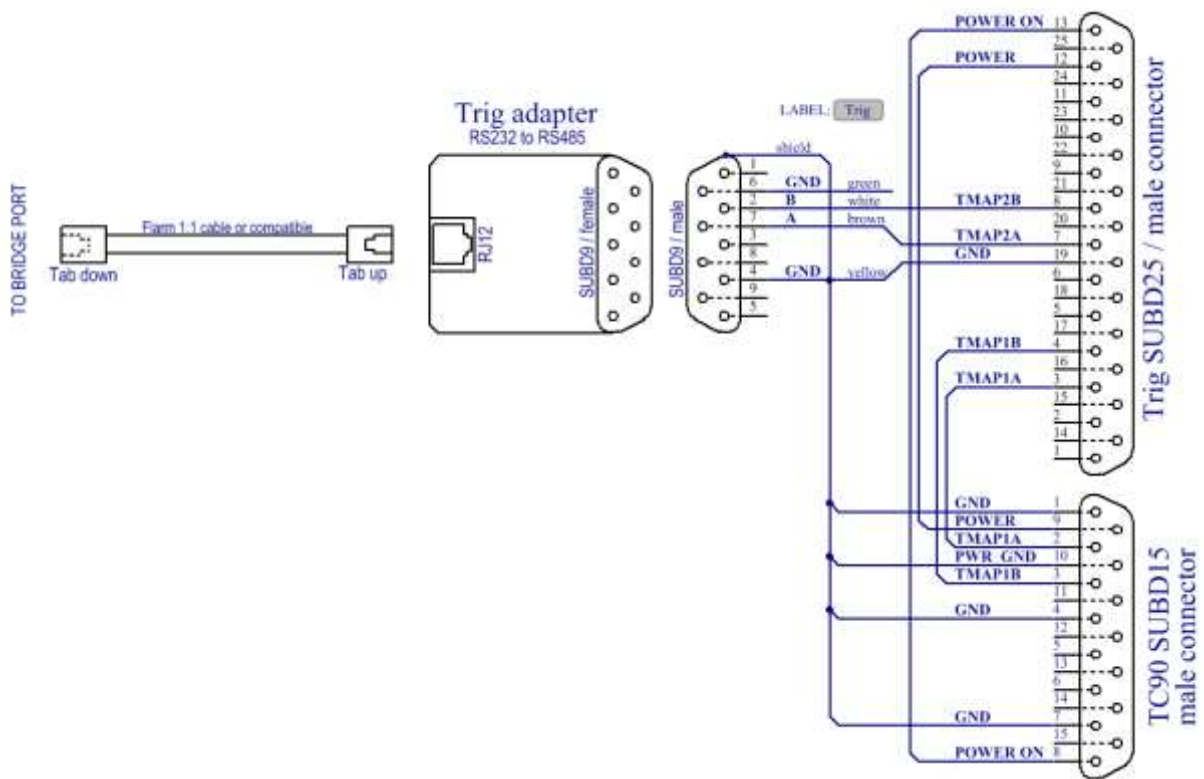


2.4.2.3 Trig TY 91/92

I. TY 91/92 without TC 90 head



II. Trig TY 91/92 with TC90 head



Minimum firmware versions for communication between Trig radio and RS485 to RS232 Bridge

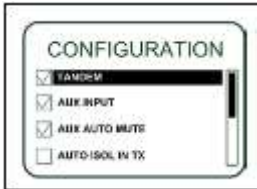


| Device | Minimum firmware version |
|-----------------------|--------------------------|
| TY 91/92 | 1.5 |
| TC 90 | 1.4 |
| RS485 to RS232 Bridge | 1.18 |

2.4.2.4 Becker AR6201 / RT6201

Remote control should be enabled on the Becker radio. Please check the Becker radio’s Manual, how to enable it.

From Becker manual:



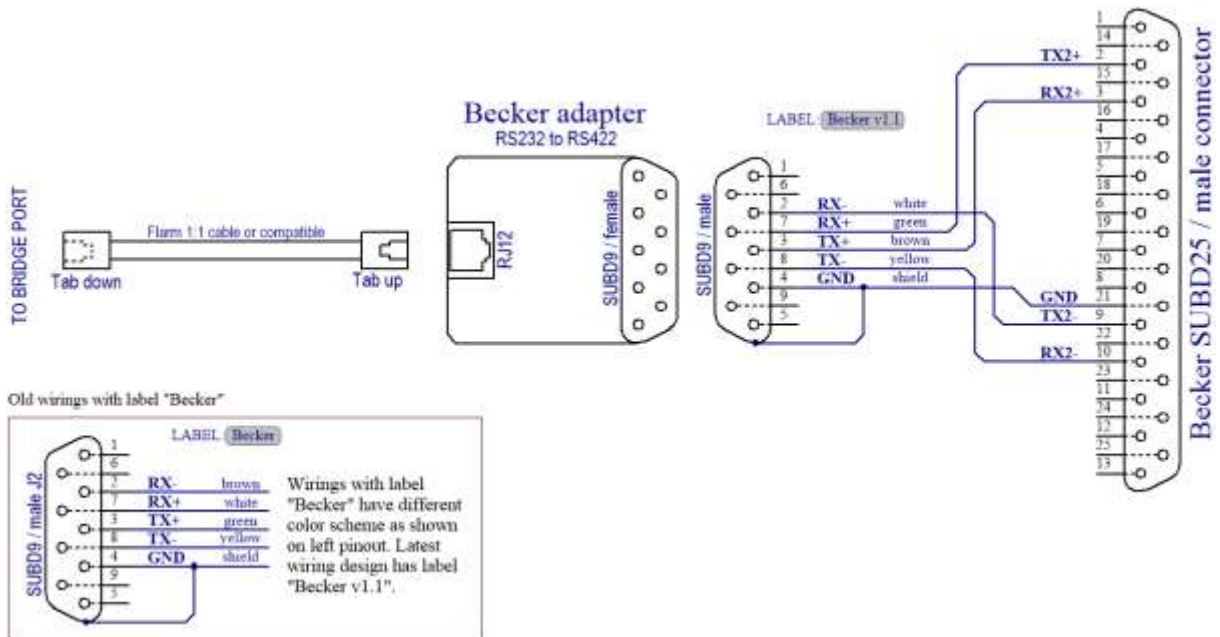
Try to enable "Tandem" mode on the radio itself. To do this, press MDE while turning on radio. Input password 6435 and press STO. Move to "Configuration" screen with SCN and enable "Tandem" checkbox there. Also, on the "SPKR VOL SRC" select "Both" option. Now you can turn off the radio (settings are saved on-the-fly) and check if the connection works now. If it still doesn't work or you can't find the menu items, please specify the exact model of Becker radio (the "PN" label on the device).

Minimum firmware version for communication between Becker and Bridge

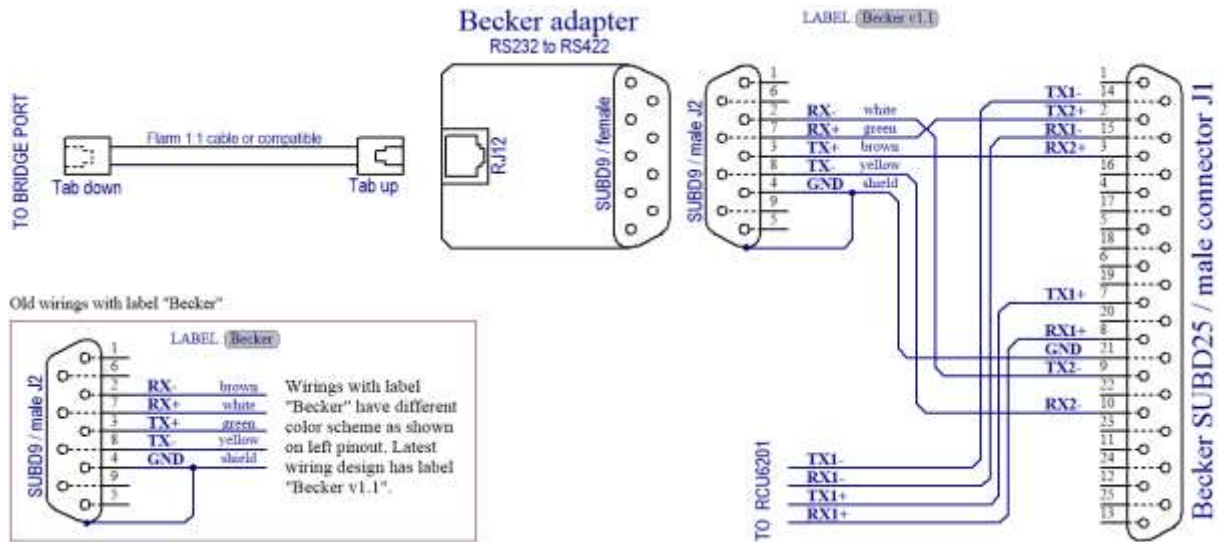


| Device | Minimum firmware version |
|-----------------------|--------------------------|
| RS485 to RS232 Bridge | 1.16 |

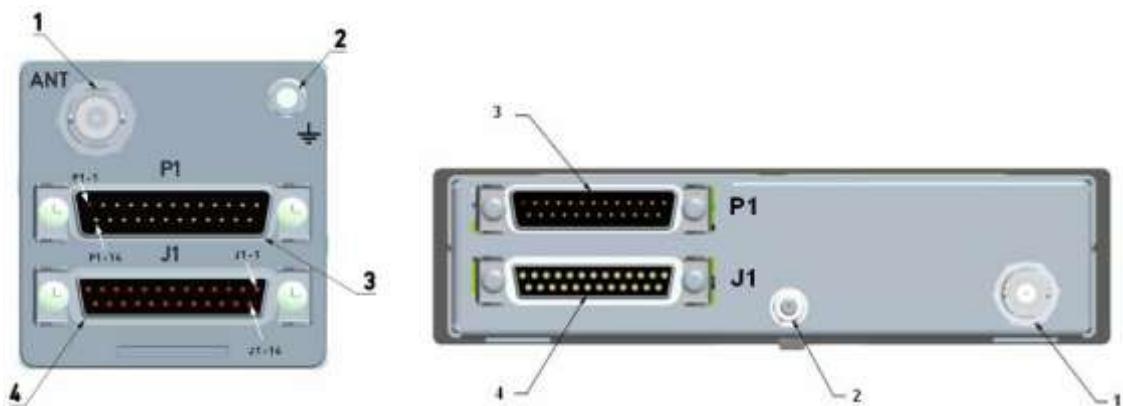
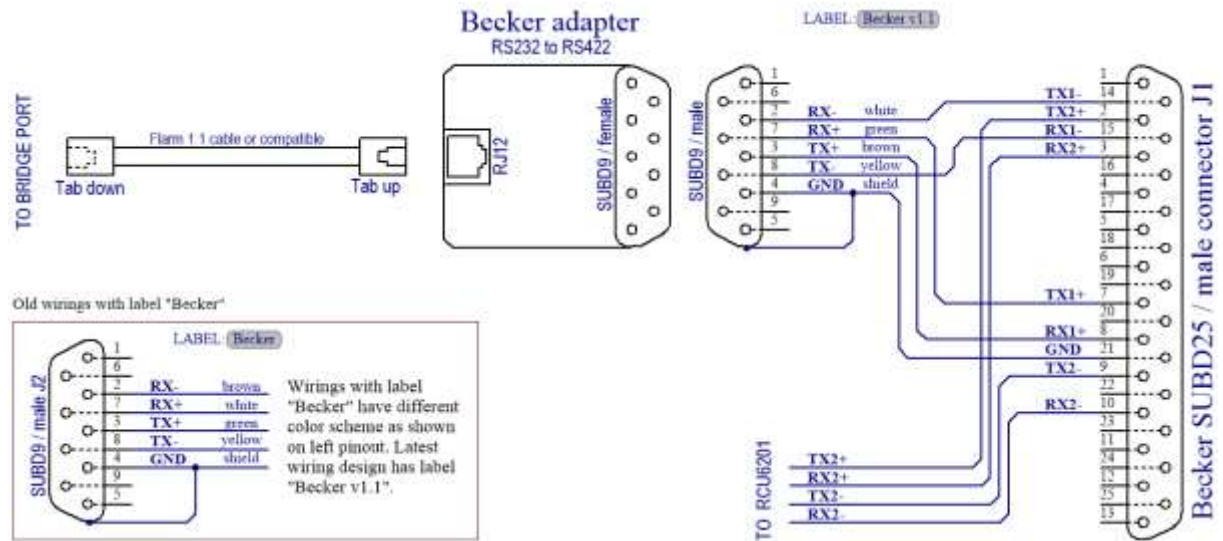
I. AR6201 single seater



II. AR6201 twin seater

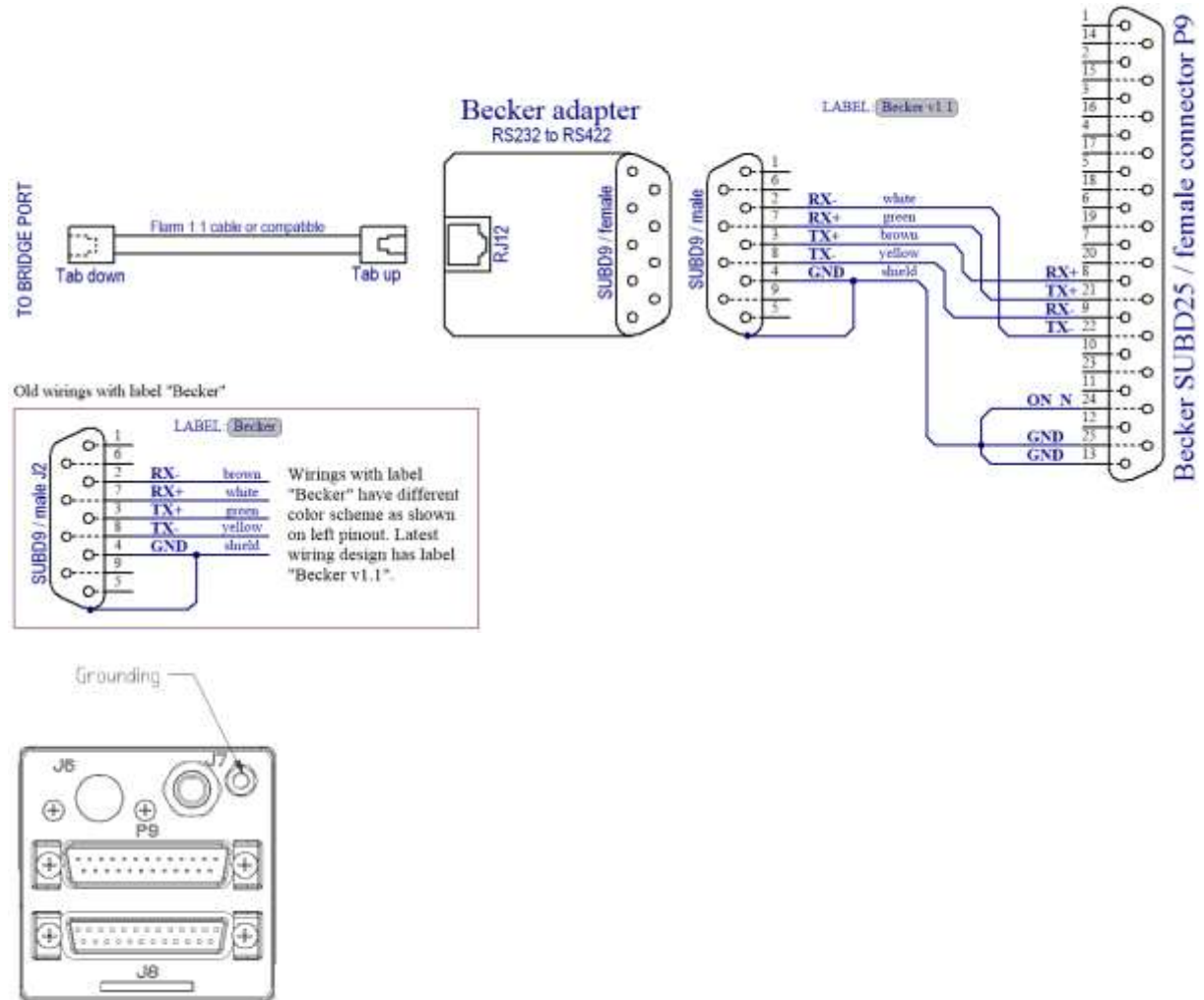


III. RT6201 single seater remote control

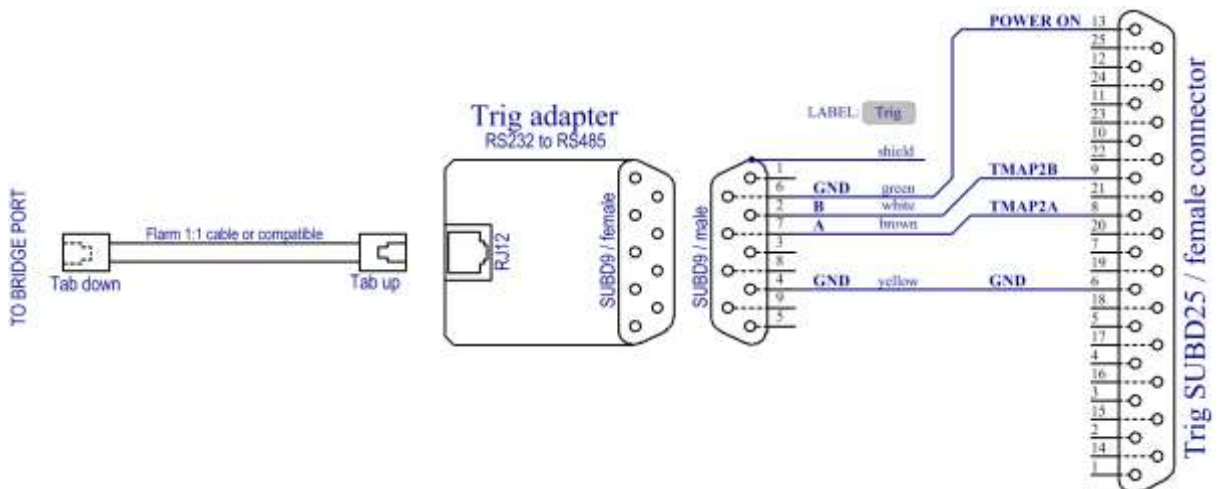


2.4.3 Transponders

2.4.3.1 Becker BXP6402



2.4.3.2 Trig TT 21/22



3 Revision History

| | |
|----------------|--|
| August 2014 | Initial release of owner manual |
| July 2015 | Added chapters 2.4.2.3 TRIG TY 91/92 |
| August 2015 | Modified wirings for Trig TY 91/92, Trig TT 21/22 and Becker BXP6402 |
| October 2015 | Modified wirings with separated connectors from Bridge, Wired power ON pins for auto ON functions, Added chapter 1.5.1.4 Becker AR6201 |
| October 2015 | Cable shields wired to SUBD9 connector housings, Added colours to wires |
| Januray 2016 | Instructions for Becker Radio configuration |
| February 2016 | English correction, Trig remote head description added |
| March 2016 | Added wirings for Becker radios with single and twin seater configuration for AR6201 and RT6201 |
| June 2016 | Added wiring for Trig TY91/92 with TC90 head |
| July 2016 | Added version requirements for Trig TY 91/92 |
| March 2017 | Added old color pinouts of Becker wiring v1.0: 2.4.2.4, 2.4.3 |
| September 2017 | Updated ch.2.4.2.4 Added new ch.2.4.1.1 |