Please see the Pro-Bel document SW-P-02 issue 27.doc for detailed information. Please note that SW-P-02 is copyright by Pro-Bel Ltd. (www.pro-bel.com)

Supported Routing Commands by DHD

- INTERROGATE
- CONNECT
- TALLY
- CONNECTED
- CONNECT ON GO
- CONNECT ON GO ACKNOWLEDGE
- GO

Extended commands are required for matrix sizes greater than 1024 sources and/or 1024 destinations:

- Extended INTERROGATE
- Extended CONNECT
- Extended TALLY
- Extended CONNECTED
- Extended CONNECT ON GO
- Extended CONNECT ON GO ACKNOWLEDGE

Software License Code

The software license code is stored in an EEPROM (located on the backplane) of the router frames 52-6063 and 52-6066.

You need to activate the Pro-Bel SW-P-02 in the Toolbox5 configuration project. The Serial Line Protocol menu is available since the Toolbox5 version 6.4.6.
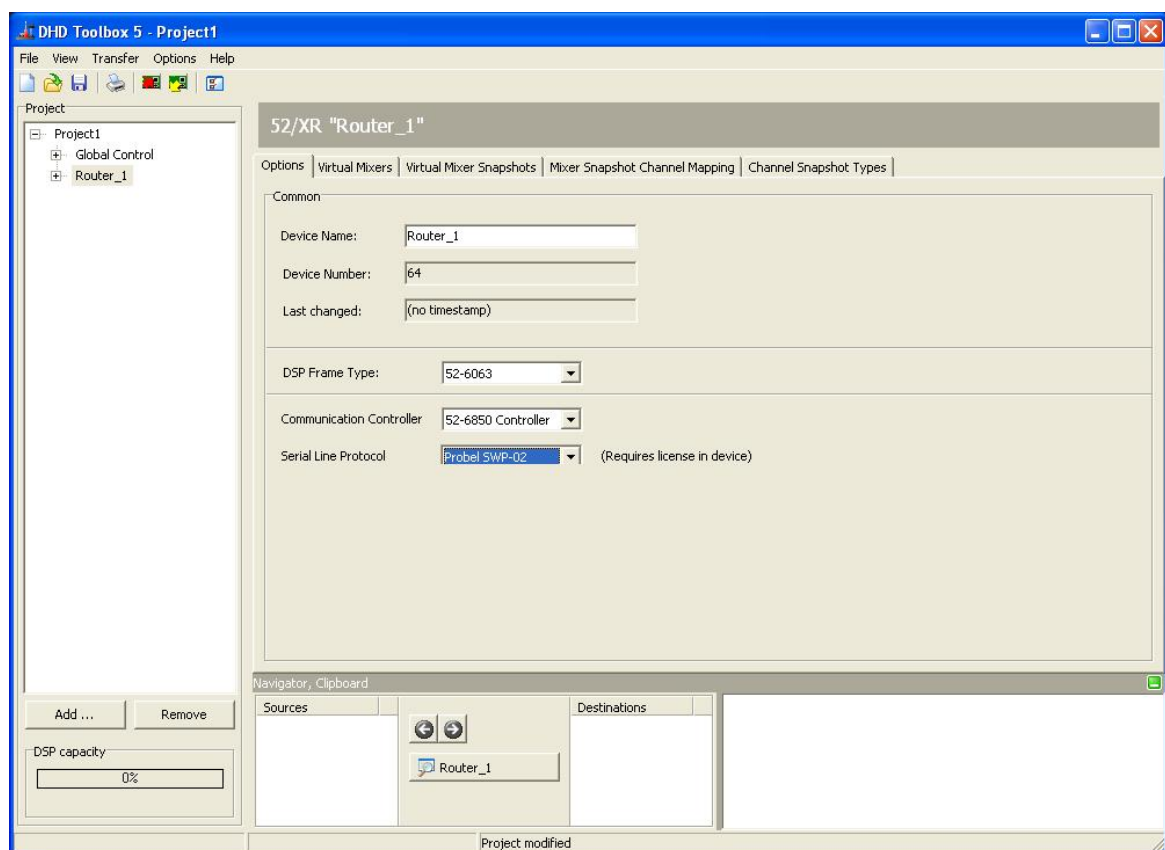
The Options tab of the selected device.

The 52/XR MADI Router firmware version, stored in the Communication Controller module 52-6850 or 52-6851, needs to be 6.4.18 or higher.

> **Note**
>
> Do not forget to transfer the changed configuration into the device.

> **Note**
>
> The 52-8571 Pro-bel Protocol SW-P-02 license is only useable with the RM420-852 and RM420-853 Communication Controller modules in 52/RM4200D DSP frames and with the 52-6850 and 52-6851 Communication Controller modules in 52/XR MADI Router frames.
>
> Because of the different controller structure it is not possible to use the Pro-Bel license in 52/CR Compact Routers.

Serial Interface (RS422)

It is possible to use the SW-P-02 control protocol via a serial connection. Serial connectors are available on the 52-5860A RS232/RS422 Extender board that is required additionally to the software license 52-8571.

Use the lower SubD-9-Pin female connector of the 52-5860A RS232/RS422 Extender. The default interface type is RS422, that is commonly used.
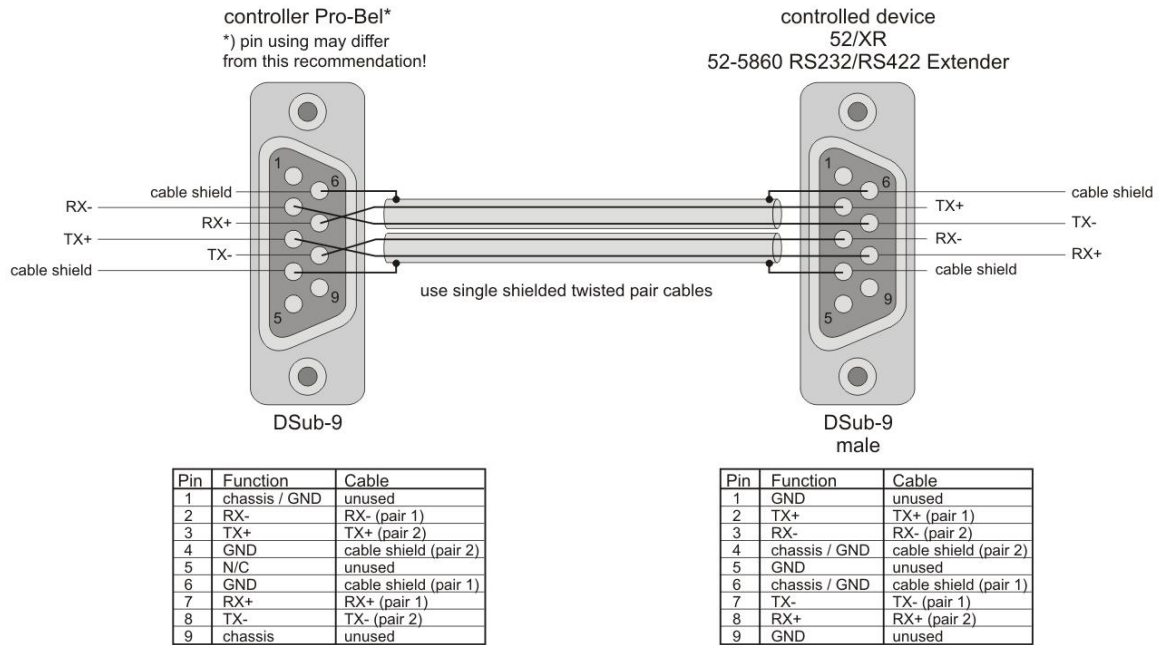
Pin assignment of the lower SubD-9-Pin female connector of the 52-5860A module:

Pin 1: not connected (internal GND)
Pin 2: TXD_A (transmit output +)
Pin 3: RXD_B (receive input -)
Pin 4: cable shield (chassis/housing)
Pin 5: not connected (internal GND)
Pin 6: cable shield (chassis/housing)
Pin 7: TXD_B (transmit output -)
Pin 8: RXD_A (receive input +)
Pin 9: not connected (internal GND)

> **Note**
>
> GND and chassis (cable shield) are shorted internally.

controller Pro-Bel*
*) pin using may differ
from this recommendation!

controlled device
52/XR
52-5860 RS232/RS422 Extender

RX-
cable shield
RX+
RX+
TX+
TX+
TX-
cable shield
TX-

cable shield
TX+
TX-
RX-
RX+
cable shield

use single shielded twisted pair cables

DSub-9

DSub-9
male

Pin	Function	Cable
1	chassis / GND	unused
2	RX-	RX- (pair 1)
3	TX+	TX+ (pair 2)
4	GND	cable shield (pair 2)
5	N/C	unused
6	GND	cable shield (pair 1)
7	RX+	RX+ (pair 1)
8	TX-	TX- (pair 2)
9	chassis	unused

Pin	Function	Cable
1	GND	unused
2	TX+	TX+ (pair 1)
3	RX-	RX- (pair 2)
4	chassis / GND	cable shield (pair 2)
5	GND	unused
6	chassis / GND	cable shield (pair 1)
7	TX-	TX- (pair 1)
8	RX+	RX+ (pair 2)
9	GND	unused

1) Pro-Bel protocol SW-P-02 converter license 52-8571 for 52/XR

RS422 Pro-Bel cable (not supplied by DHD)

Settings of the DIP Switches for the 52-5860A RS232/RS422 Extender Module

You may switch the lower SubD-9-Pin female connector also to RS232 via DIP switches on the extender PCB.

The upper SubD-9-Pin female connector of the 52-5860A is used for maintenance functions only. For example Telnet access to the Linux operating system. The interface type is RS232.
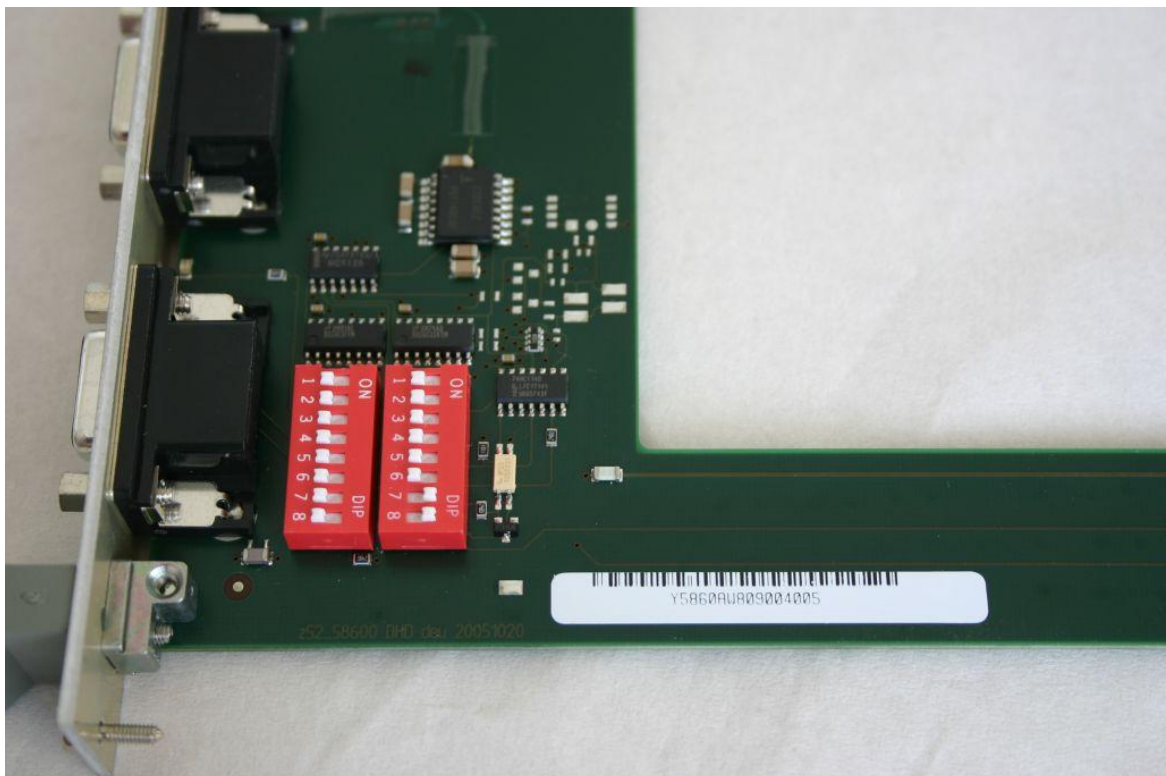
It is not possible to activate another protocol, for example Pro-Bel SW-P-02, on the upper RS232 port.

The Pro-Bel SW-P-02 specifications provide the following settings for the connection to the controlling system:

- 8 Bit DATA
- 1 STOP Bit
- EVEN Parity
- 38.4K Baud
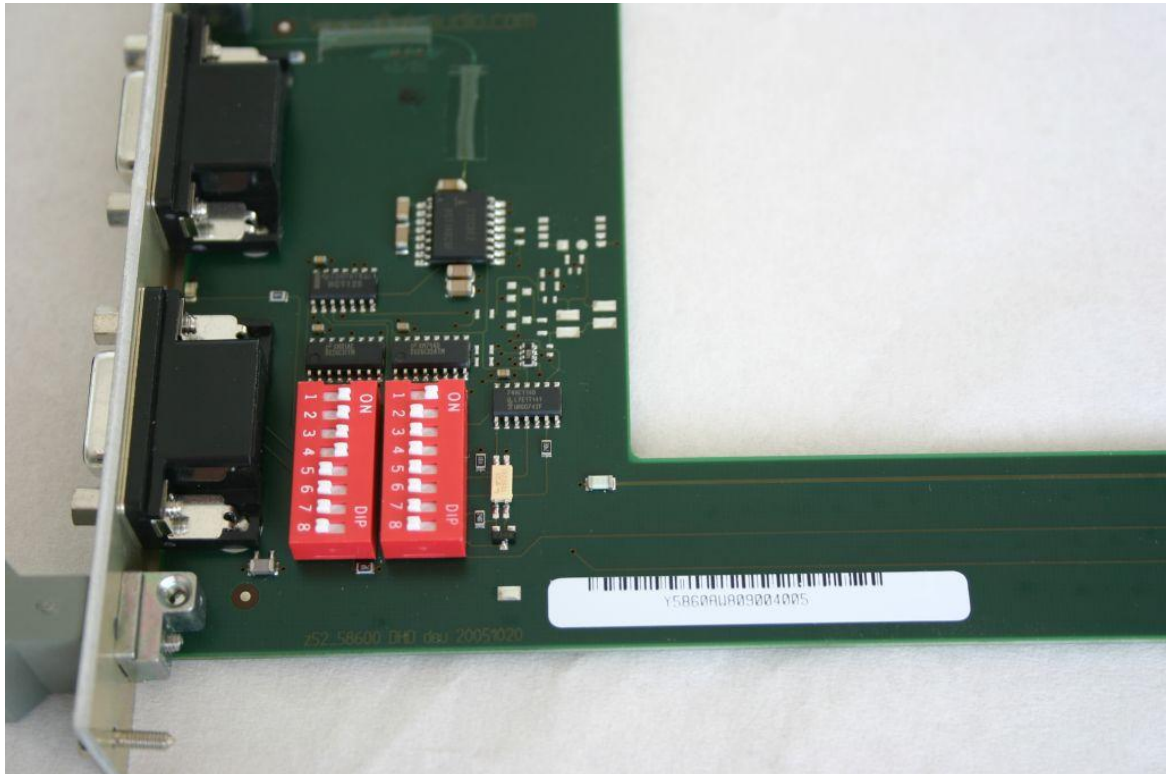
Use these settings to define the lower 9-pin connector of the extender
module to be an RS422 port.

Use these settings to define the lower 9-pin connector of the extender
module to be an RS232 port.