5.11.3   V.24 Submodule

The V.24 submodule is used with the RK 512 computer link, data transmission with procedures 3964/3964R, data transmission with the "open driver."

Application

The V.24 submodule can be inserted in the following CPU:

Interface Submodule...	For Use with ...
V.24 submodule	CPU 928B
	CPU 948
	CP 524
	CP 544

Circuitry

The following figure shows the circuitry for the V.24 interface (transmit and receive lines):
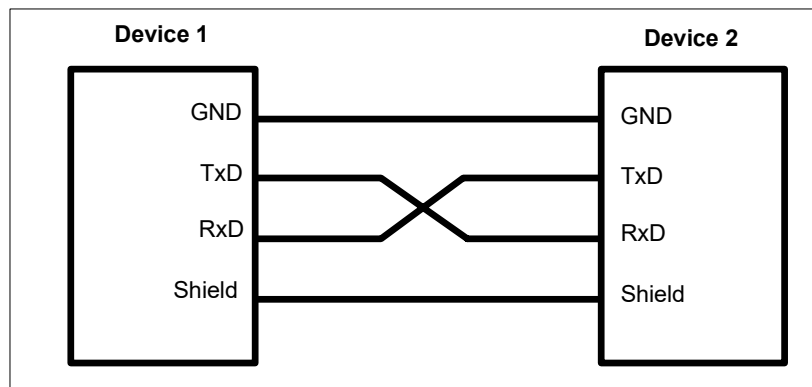

Figure 5-14   V.24 Interface

Apart from the transmit and receive lines, the V.24 submodule has a number of control and signaling lines to CCITT Recommendation V.24/V.28. However, these control signals are not needed and not used for the standard procedures of communication types RK 512, 3964/3964R and "open driver." (Exception: RTS/CTS with the "open driver").

The following applies to V.24 signals:

Logic 0 is represented by a voltage $U \geq +3\ V$

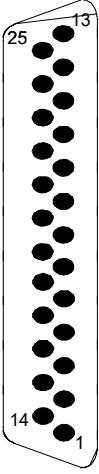Logic 1 is represented by a voltage $U \leq -3\ V$

If you fabricate the connecting cables yourself, note that unused inputs at the partner station may have to be connected to quiescent potential. Further details can be found in the appropriate manuals and in CCITT Recommendations V.24/V.28.

Data Transmission Rate

A maximum of 19200 bps is permissible for data transmission with the V.24 submodule.

Pin Assignments of the V.24 Submodule

The following table shows the pin assignments of the 25-pin subminiature D-type connector in the front plate of the V.24 submodule:

Pin	Des. to DIN 66020	Des. to CCITT V.24	Intern Abbreviation	Input/ Output	Remarks
1			Shield		
2	D1	103	TxD	Output	
3	D2	104	RxD	Input	
4	S2	105	RTS	Output	
5	M2	106	CTS	Input	
6	M1	107	DSR	Input	
7	E2	102	GND		
8	M5	109	DCD	Input	
18	PS3	141		Output	Not supported
20	S1.2	108.2	DTR	Output	
22	M2	125	RI	Input	
23	S4	111		Output	
25	PM1	142		Input	Not supported

The signal numbering complies with DIN 66020 (V.24/RS 232C); the signal designations are the abbreviations used internationally (RS 232C).

**Jumper Settings
of the
V.24 Submodule**

When the V.24 submodule is delivered, the jumpers are set as shown in the following figure. As a rule, you can therefore use the V.24 submodule immediately.
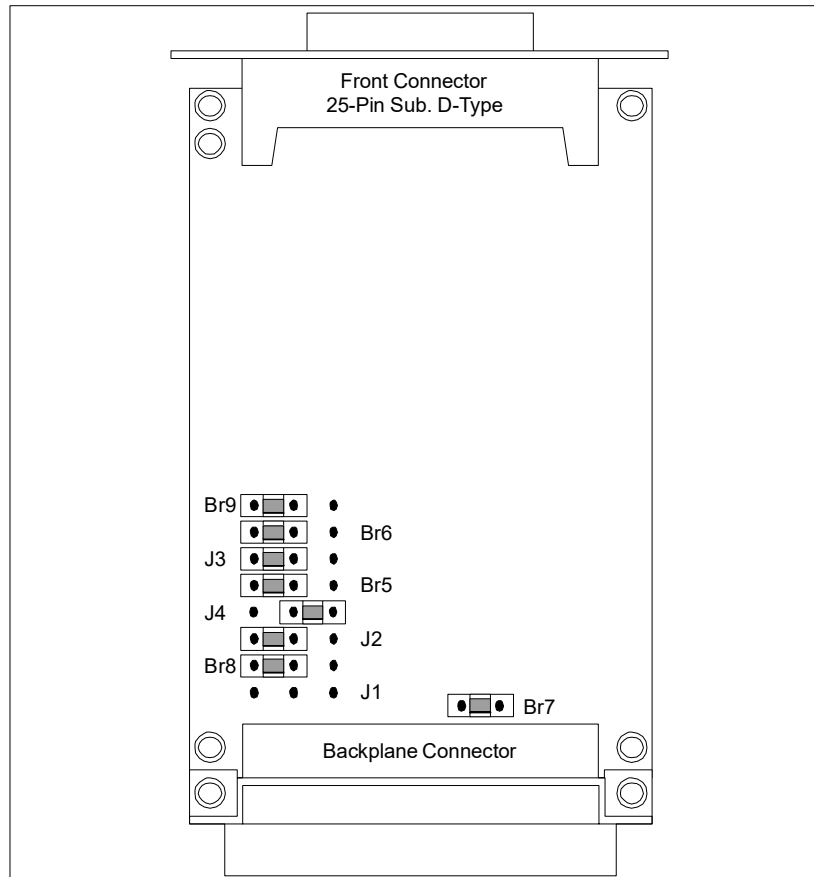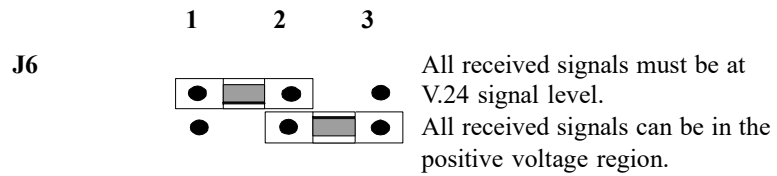

Figure 5-15   V.24 Submodule: Jumper Settings when Delivered

You can change over the polarity of the transmit and receive data with jumpers **J3** and **J5**.
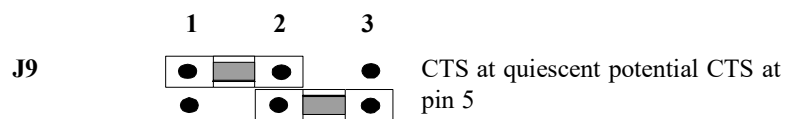
With jumper **J6**, you can set all V.24 receivers so that you only require positive-going signals (positive voltage region).

	1	**2**	**3**	
J6				All received signals must be at V.24 signal level.
				All received signals can be in the positive voltage region.

With the submodule 0AA23, bridge 6 has no function; all signals can lie in the positive range (corresponds to bridge setting 2-3).

With jumper **J9**, CTS can be set permanently to quiescent potential, i.e. switched through from the front connector.

	1	**2**	**3**	
J9				CTS at quiescent potential CTS at pin 5

Standard Connecting Cables of the V.24 Submodule

Standard cables for connecting the V.24 submodule of the CPU to the partner station are available from Siemens in various lengths, up to 16 m.

Order numbers and lengths can be found in the ordering information.
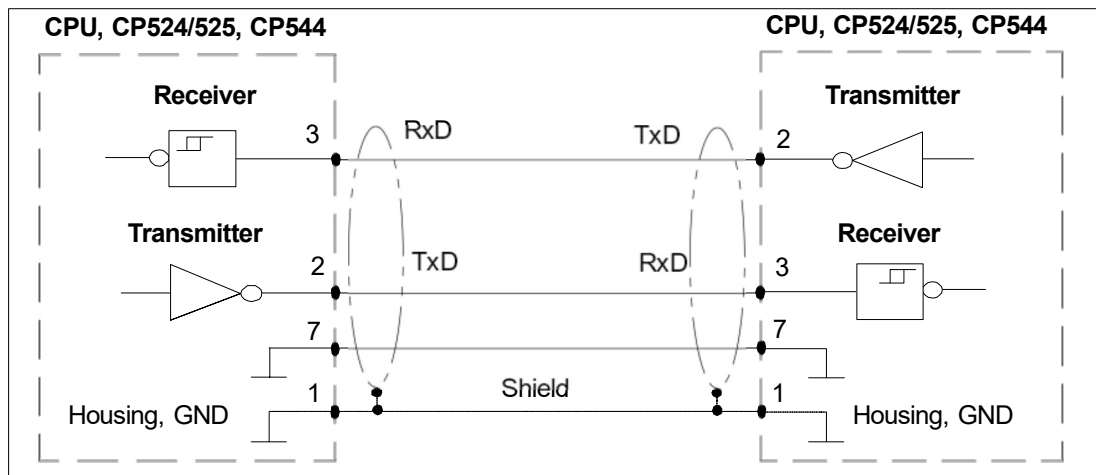
Connecting cable for CPU, CP 524, CP 525, CP 544

Figure 5-16   V.24 Submodule: Connecting Cable for CPU, CP 524, CP 525, CP 544

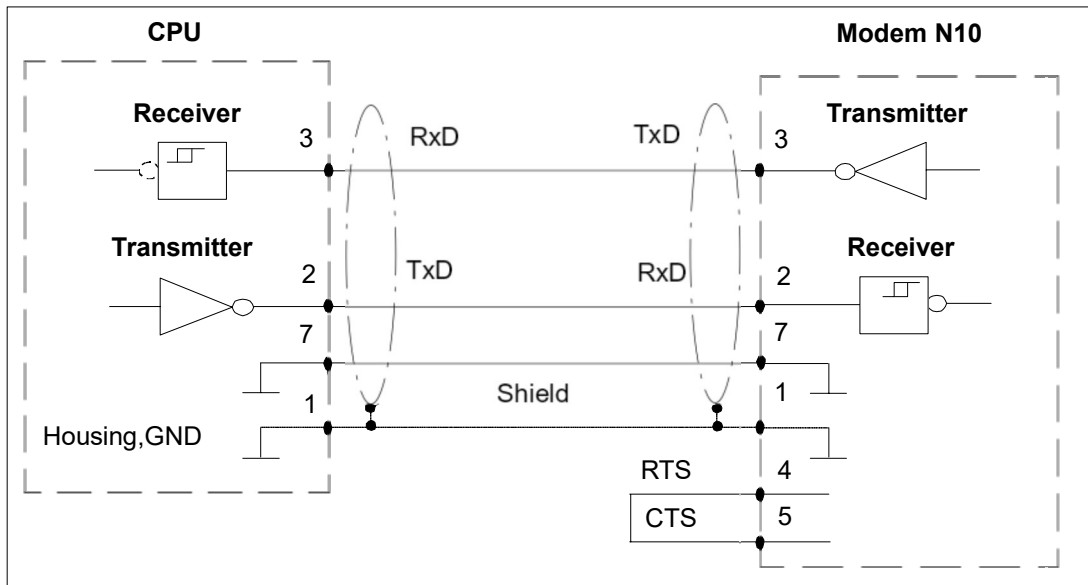**Connecting cable: CPU - N10 modem**

Figure 5-17   V.24 Submodule: Connecting Cable for CPU - N10 Modem

Connecting cable: CPU - DR 210/211, DR 230/231

You can use this connecting cable both with the V.24 and with the TTY submodule. Ensure that you have the same type of interface in the CPU and in the printer.
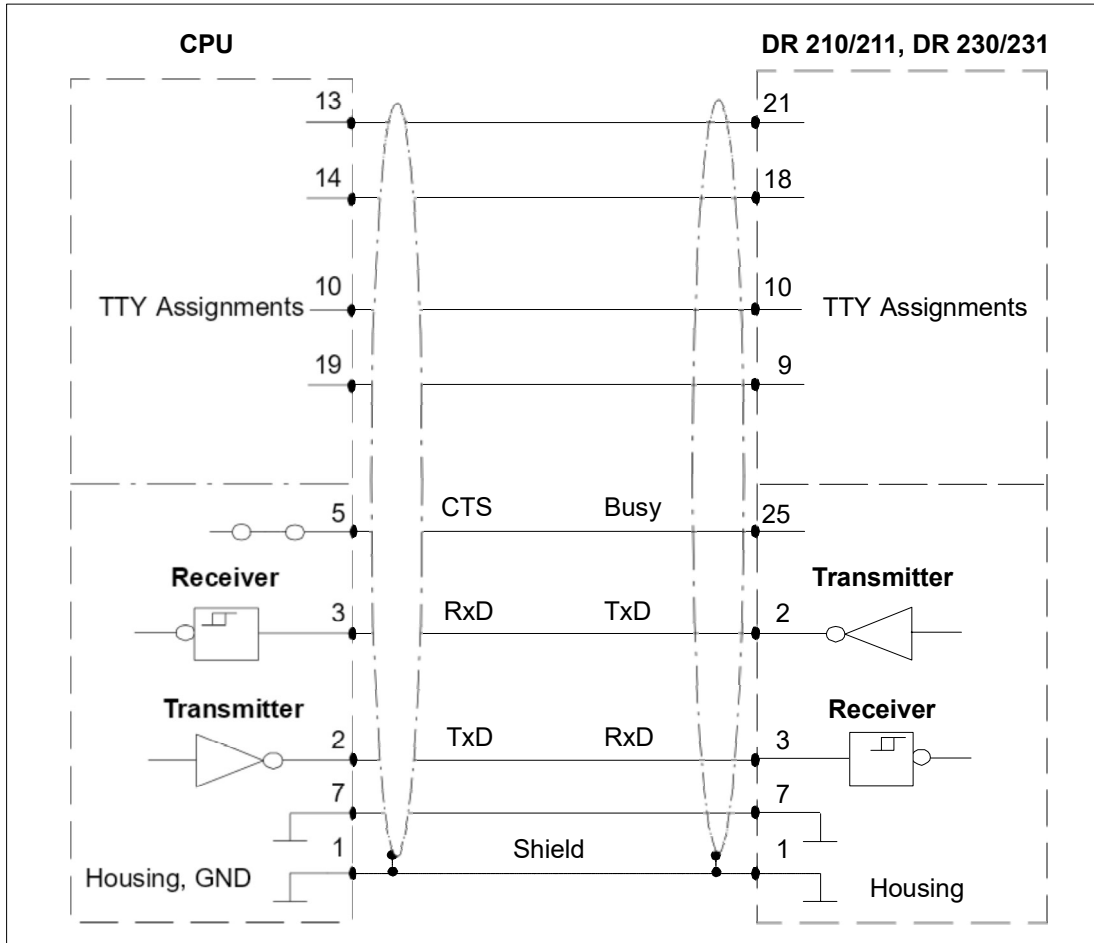

Figure 5-18   V.24 Submodule: Connecting Cable for CPU - DR 210/211, DR 230/231

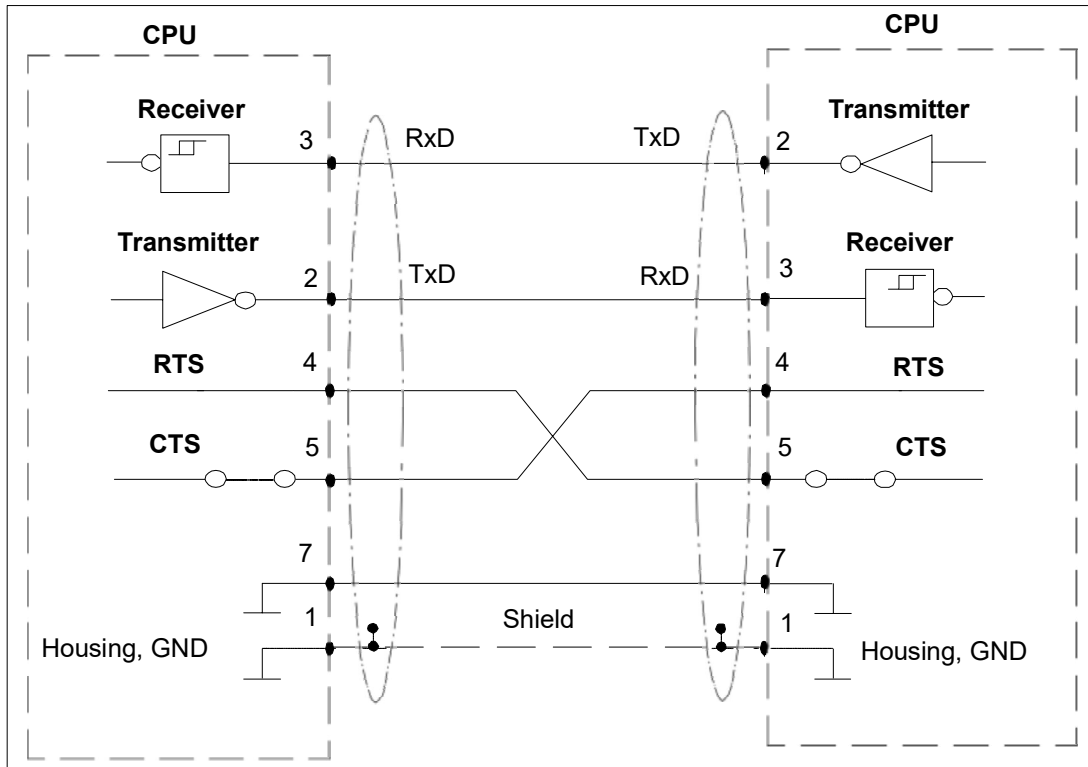**Wiring of a connecting cable for RTS/CTS flow control**

Figure 5-19   Example of a Connecting Cable: CPU - CPU for RTS/CTS Flow Control