

## 1 Signal classes

### Power (Pins 1-4)

Modules with an on-board power supply (modulators, multiplexers) can supply boards without on-board power supply (NIMs, ASI-I/O) with +5V DC via this pins.

If you want to connect two boards with on-board power supply (e.g. modulator and multiplexer) you need to disable the power connection on one of the boards or cut wires 1-4 of your cable.

Do not connect two TS Connectors with a Type 1 cable if both are supplying +5V on their power pins as this will lead to erratic power supply of your system.

### Clocks (Pins 31-34)

The clock pins supply the MPEG2 encoder modules with reference clocks and an additional reset signal. There are currently no other modules that require those signals, so Pins 31-34 are only required for cables connecting a MPEG2 encoder module to something else. Cutting those wires is not required in other cases but it helps fighting EMI.

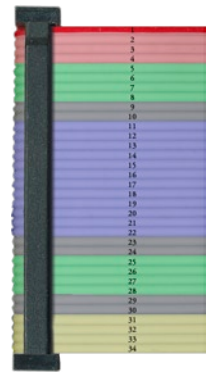
### Ctrl and Comm (Pins 5-8 and 25-28)

Ctrl pins carry I2C and reset signals used to detect and control NIMs, Encoders and ASI-I/O modules. Comm pins carry serial communication signals used to load firmware and transfer configuration data between modules.

Ctrl and Comm wires should be present whenever two modules are connected. Only in special cases like when connecting more than two modules with one cable, the Ctrl and Comm wires must be cut.

### Transport Stream (Pins 11-22)

Pins 11 to 22 carry the Transport Stream data and associated clock and framing signals. Wires 9 to 24 (Transport Stream plus four ground pins) are the minimum required for all cable types.



## Cable types



### Type 1

This cable connects all signals - transport stream, power, clocks, ctrl and comm. Such a cable is required to connect a MPEG2 encoder module to any other module.



### Type 1X

A type 1X cable is a Type 1 cable without the clock wires. Use it to connect modules without power supply such as NIMs, ASI-In, ASI-Out to any other module.



### Type 2

A type 2 cable connects only Transport Stream, Ctrl and Comm wires. If you connect two modules, both with their own power supply, use such a cable.



### Type 3

A type 3 cable connects nothing but the Transport Stream. Is is required only for special setups as they are explained further down.

<i>Cable assignment TS-cable</i>			
1	+5.0 V	2	+5.0 V
3	+5.0 V	4	+5.0 V
5	SDA	6	not connected
7	SCL	8	xReset
9	GND	10	GND
11	TSCLK in/out	12	PSYM
13	not connected	14	DVAL
15	TS 6	16	TS 7
17	TS 4	18	TS 5
19	TS 2	20	TS 3
21	TS 0	22	TS 1
23	GND	24	GND
25	SD Out (f. E.*)	26	PLL THR (f. E.*)
27	SDCLK (f. E.*)	28	SD In (f. E.*)
29	GND	30	GND
31	MCLK 27 MHz	32	ASCLK (f. E.*)
33	RST Vid. Codec	34	not connected

\*f.E. = for Encoders

## Which cable should I use?

The following rules make it easy to select the right cable type for connecting any two modules. Stick with the first rule that is true for your case. If you think that your setup is not covered by this rules, or that one of the rules is wrong, please contact us.

1. If one of your modules is an encoder => Use a Type 1 cable
2. If one of your modules does not have a power supply (e.g. NIM, ASI) => Use a Type 1X cable
3. All other cases => Use a Type 2 cable