



# SPECTRUM

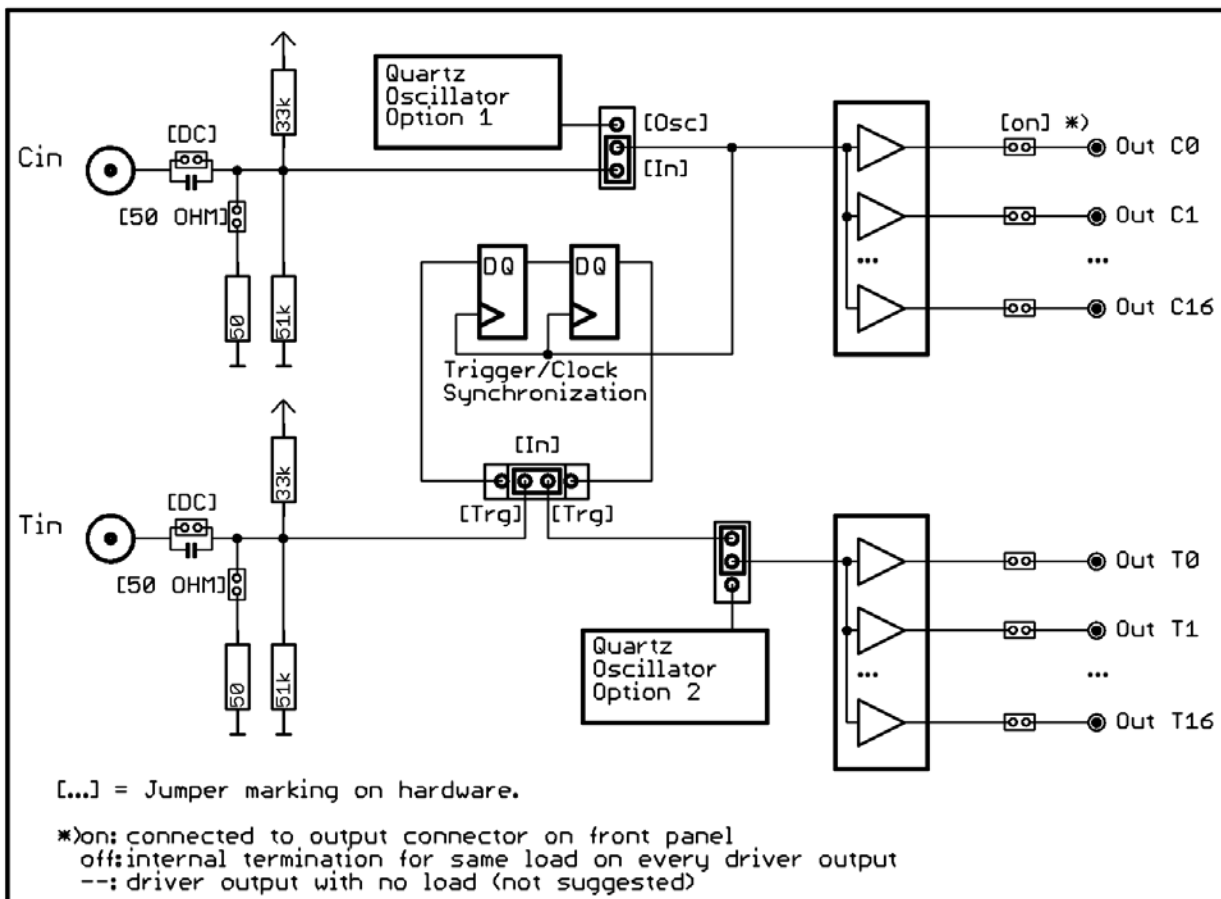
SYSTEMENTWICKLUNG MICROELECTRONIC GMBH

## M2i.ClkDist - Clock and Trigger Distribution Card

- Easy synchronization of distributed systems
- 2 independent 1 onto 17 distribution channels for 2 x clock or clock and trigger
- Very low channel-to-channel skew
- Passive card, no programming necessary
- LVTTTL outputs, capable of driving 50 ohm loads
- Outputs can be deactivated by jumper
- As an option: useable as clock source equipped with separately ordered quartz oscillator



### Hardware block diagram



## Technical Data

### Inputs

|   |   |
|---|---|
| Input voltage low level                 | $\geq 0 \text{ V}$ and $\leq 0.8 \text{ V}$ (min level -0.3 V)  |
| Input voltage high level                | $\geq 2.0 \text{ V}$ and $\leq 3.3 \text{ V}$ (max level 3.8 V) |
| Trigger pulse width on sync feature use | $\geq 2$ samplings clocks                                       |
| Termination                             | 20 kOhm, selectable per jumper to 50 ohm                        |
| Coupling                                | DC, selectable by jumper to AC                                  |
| Max input clock rate                    | 250 MHz   |
| Max trigger synchronization rate        | 125 MHz   |
| Connector type                          | 3mm SMB male  |

### Outputs

|   |   |
|---|---|
| Output voltage low level (50 ohm load)    | $\geq 0 \text{ V}$ and $\leq 0.5 \text{ V}$   |
| Output voltage high level (50 ohm load)   | $\geq 2.4 \text{ V}$ and $\leq 3.3 \text{ V}$ |
| max channel to channel skew (one bank)    | 85 ps   |
| max channel to channel skew (all outputs) | 200 ps  |
| Output impedance (typical)                | 7 ohm   |
| Max propagation delay                     | 5 ns  |
| Outputs in bank 0                         | 0, 1, 2, 3, 8, 9, 10, 11                      |
| Outputs in bank 1                         | 4, 5, 6, 7, 13, 14, 15, 16                    |
| Outputs in bank 2                         | 12  |
| Connector type                            | MMCX female                                   |

### Power consumption

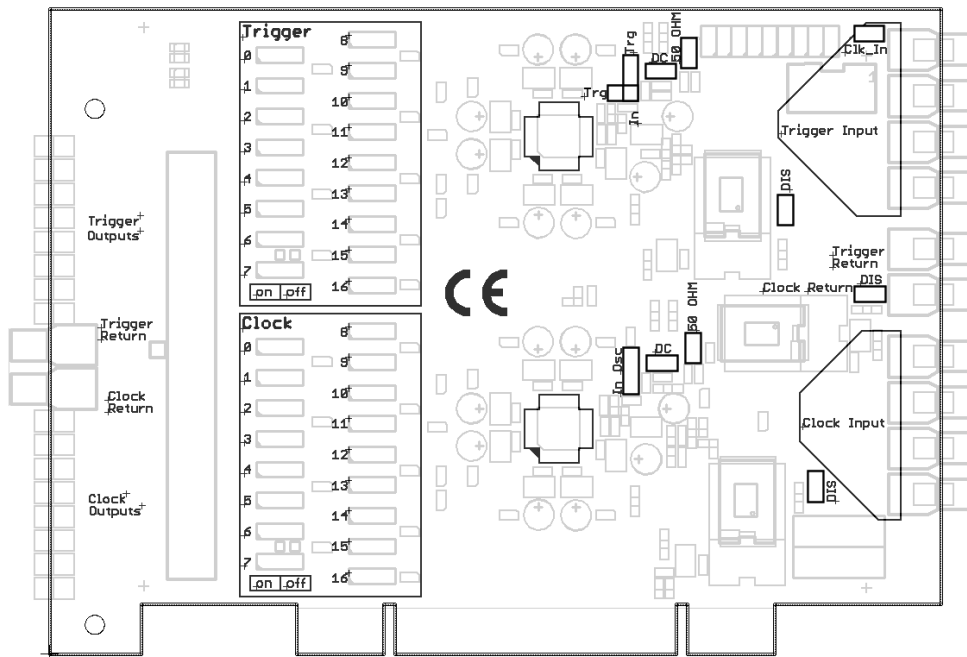
|                                 | PCI/PCI-X<br>3,3 V | max<br>Total |
|---------------------------------|--------------------|--------------|
| Idle Running, no loads          | 0.7 A              | 2.3 W        |
| 4 output channels 50 ohm load*  | 0.9 A              | 3.0 W        |
| 17 output channels 50 ohm load* | 1.2 A              | 4.0 W        |
| 34 output channels 50 ohm load* | 1.6 A              | 5.3 W        |

\*measured with 125 MHz clock signal, 50% duty cycle

### Environmental and Physical details

|                       |                                   |
|-----------------------|-----------------------------------|
| Dimension (PCB only)  | 174 mm x 107 mm (half PCI length) |
| Width                 | 1 slot                            |
| Weight                | < 200g                            |
| Warm up time          | 10 minutes                        |
| Operating temperature | 0°C - 50°C                        |

## Jumper Placement



## Order Information

### PCI/PCI-X

| Order no.         | Description   |
|-------------------|---|
| M2i.ClkDist       | Clock and trigger distribution card with 2 times 1 into 17 channels distribution, no cables included                |
| M2i.ClkDist-xxMyy | Quartz option with xx MHz and a accuracy of yy ppm (e.g. 40M20 = 40 MHz 20 ppm), please request an individual quote |

### Cables

| Order no.     | Option   |
|---------------|--|
| Cab-1m-9m-80  | Adapter cable MMCX male to BNC male, 80 cm     |
| Cab-1m-9f-80  | Adapter cable MMCX male to BNC female, 80 cm   |
| Cab-1m-9m-200 | Adapter cable MMCX male to BNC male, 200 cm    |
| Cab-1m-9f-200 | Adapter cable MMCX male to BNC female, 200 cm  |
| Cab-1m-3f-80  | Adapter cable MMCX male to SMB female, 80 cm   |
| Cab-1m-3f-200 | Adapter cable MMCX male to SMB female, 200 cm  |
| Cab-3f-9m-80  | Adapter cable SMB female to BNC male, 80 cm    |
| Cab-3f-9f-80  | Adapter cable SMB female to BNC female, 80 cm  |
| Cab-3f-3f-80  | Adapter cable SMB female to SMB female, 80 cm  |
| Cab-3f-9m-200 | Adapter cable SMB female to BNC male, 200 cm   |
| Cab-3f-9f-200 | Adapter cable SMB female to BNC female, 200 cm |

Technical changes and printing errors possible