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Find the *Etel DSMAX2* at our website: ***Click HERE***

# MULTI-AXIS MOTION CONTROLLERS
## DSMAX Family

**The DSMAX is a very powerful multi-axis motion controller family dedicated to control up to 31 ETEL's position controllers. Moreover the DSMAX can execute complex interpolated trajectories. Thanks to its real-time deterministic position controllers management through TEB bus, the DSMAX covers the most demanding multi-axis applications.**

- Multi-axis synchronization and interpolation
- Several trajectory calculation algorithms
- Stage mapping function
- Errors link management
- Live trajectory change
- Multitasking capabilities
- ISA, PCI or Ethernet communication
- High speed communication bus (TEB)
- Programmable with sets of ETEL's libraries

| DSMAX1 | DSMAX2 | DSMAX3 |
|---|---|---|
| ISA Board | Rack format - TCP/IP Communication with PC | PCI Board |

### CONFIGURATION NETWORK

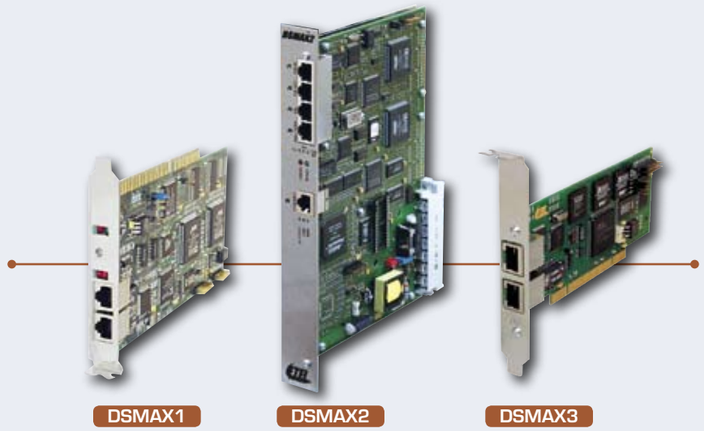
The DSMAX multi-axis motion controller family allows the management of the DSC position controllers through Turbo-ETEL-Bus (TEB).

### CYCLE TIME

166 µs (to manage up to 31 axes)

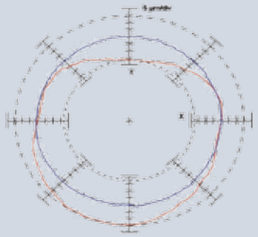
### MOTION CONTROL BUS

TEB: Multi-axis fast bus 100 Mbps




| | DSMAX2 | DSMAX1 | DSMAX3 |
|---|---|---|---|
| Machine Control | | | |
| Processor type | PowerPC@200 MHz | | |
| Fast Ethernet comm. speed | 100 Mbps | | |
| Motion Control | | | |
| Motion type | G-code, PVT, LKT, ULM | G-code, PVT, LKT, ULM | G-code, PVT, LKT, ULM |
| Interpolated axes | 4 | 4 | 2x4 |
| Sequence threads | 3 | 3 | 3 |
| Axes Sync. | | | |
| PC communication | TCP/IP | ISA | PCI |
| Synchronized axes | 31 | 31 | 31 |
| Cycle time | 6 kHz (166 µs) | 6 kHz (166 µs) | 6 kHz (166 µs) |

**ADVANCED FUNCTION EXAMPLE: Stage mapping**

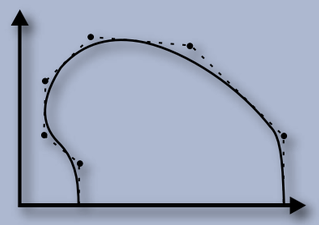


Without stage mapping

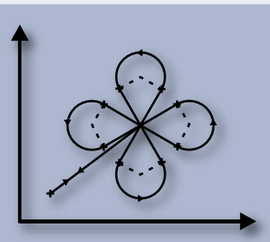
With stage mapping

Radius: 75 mm
Feed rate: 1200 mm/min.
Direction of rot.: CW

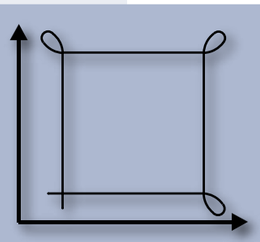
### INTERPOLATION MODES



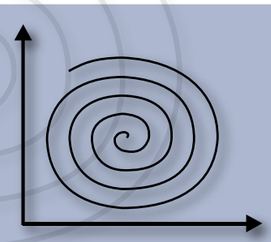
**Universal Linear Movement (ULM):** trajectory made up of concatenated linear movements



**G-code based:** trajectory made up of linear segments and circle arcs



**Position-Velocity-Time (PVT):** user-defined trajectory smoothed by a 3rd order polynomial



**Look-up Table (LKT):** trajectory with a user-defined look-up table profile

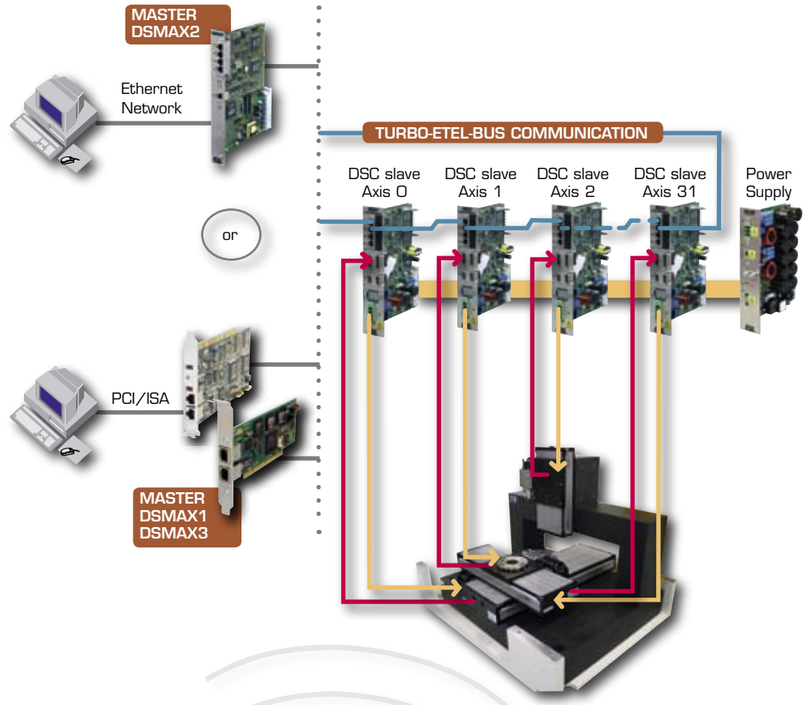


### MANAGEMENT TYPE

- Synchronization up to 31 axes
- Interpolation up to 2x4 axes at 6 kHz
- 4 different interpolated movement types: G-code based, PVT, LKT and ULM
- Up to 3 sub-sequences in parallel

**Sequence definition**

Sequences are defined by the user to describe movements including positionning commands and use standard functionalities of programming (tests, variables, subroutines…)
To optimize the system performances and to facilitate the programmer's work, three sequences can be simultaneously executed.






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