AXTAL ADVANCED XTAL PRODUCTS
a Q-TECH Company

MASTERCLOCKS

Customized Masterclocks for the most demanding Timing and Frequency Generation Systems

Expertise	AXTAL designs and manufactures fully-customized Masterclocks in accordance with your requirements. With our highest class of oscillators from Ultra-Low Noise OCXOs up to Atomic Clocks we offer supreme clock performance in a wide frequency range using state-of-the-art technology.
Applications	▪ Timing Systems for Particle Accelerators ▪ Ground Station Reference Systems for Space Applications ▪ Sophisticated Frequency Distribution Systems ▪ Frequency Conversion, Jitter Attenuation and Clock Translation ▪ Scientific Applications
Features	▪ Ultra-Low Phase Noise and Phase Jitter, Very High Frequency Stability ▪ Frequency Conversion and Synthesis up to 7 GHz ▪ Multiple Outputs for Synchronization & Frequency Distribution ▪ Monitor & Control Functions via RS-232, LAN or USB ▪ High Reliability (optional redundancy and watch-dog function)

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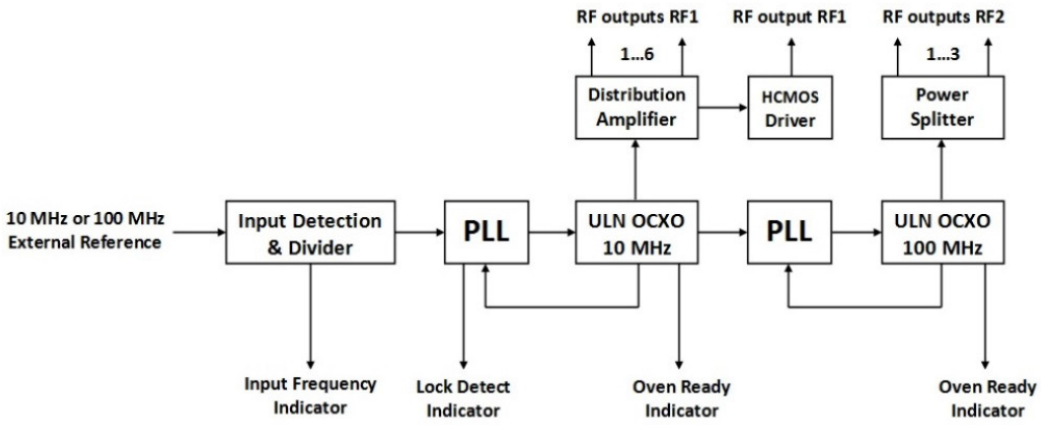
Designed and Manufactured in Germany

Performance Examples

AXPLO9000-21

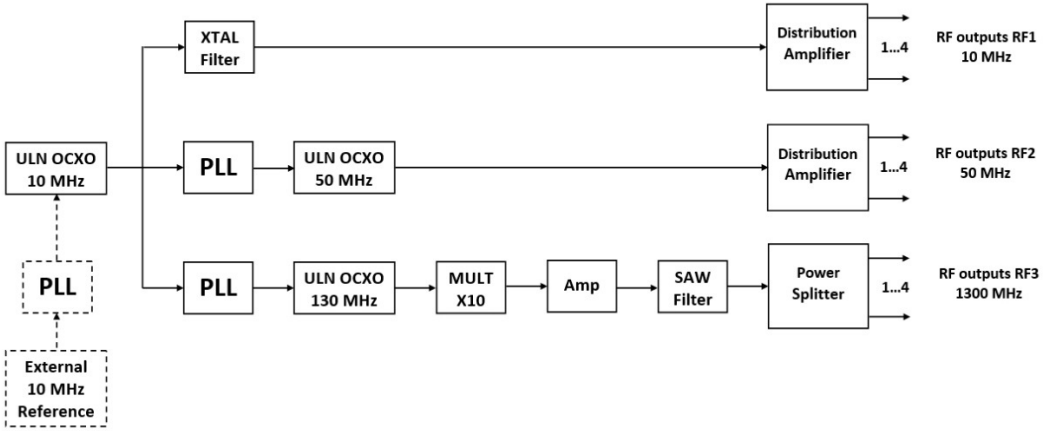


Masterclock with multiple Ultra-Low Noise Outputs at 10 MHz and 100 MHz

- All outputs are phase coherent
- Multiple outputs for 10 MHz and 100 MHz
- Very High Frequency Stability: 20 ppb/year (free-running)
- Ultra-Low Phase Noise (close-in and noise floor)
- Optional External Reference Input: 10 MHz or 100 MHz
- High Reliability for Safety Critical Application
- Phase noise performance:

10 MHz		100 MHz	
-112 dBc/Hz	1 Hz	-110 dBc/Hz	10 Hz
-142 dBc/Hz	10 Hz	-140 dBc/Hz	100 Hz
-157 dBc/Hz	100 Hz	-170 dBc/Hz	1 kHz
-167 dBc/Hz	1 kHz	-177 dBc/Hz	10 kHz
<-170 dBc/Hz	Floor	<-183 dBc/Hz	Floor

AXPLO9000-22



Masterclock with multiple Ultra-Low Jitter Outputs at 10, 50 and 1300 MHz

- All outputs are phase coherent (locked to 10 MHz)
- Multiple outputs for 10 MHz, 50 MHz and 1300 MHz
- Ultra-Low RMS Phase Jitter: **50 fs (1 Hz ~ 100 MHz)**
- Ultra-Low Phase Noise (close-in and noise floor)
- Optional External Reference Input: 10 MHz
- Monitor Interface
- Phase noise performance:

10 MHz		50 MHz		1300 MHz	
-118 dBc/Hz	1 Hz	-102 dBc/Hz	1 Hz	-75 dBc/Hz	1 Hz
-145 dBc/Hz	10 Hz	-115 dBc/Hz	10 Hz	-86 dBc/Hz	10 Hz
-160 dBc/Hz	100 Hz	-128 dBc/Hz	100 Hz	-105 dBc/Hz	100 Hz
-167 dBc/Hz	1 kHz	-163 dBc/Hz	1 kHz	-136 dBc/Hz	1 kHz
<-170 dBc/Hz	Floor	<-175 dBc/Hz	Floor	-150 dBc/Hz	10 kHz
				<-160 dBc/Hz	Floor

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