

XILICA®

SOLARO FR1



Deliver premium collaboration experiences without the cost. Solaro FR1 is a 1U 16-card-slot DSP with modular I/O functionality that can evolve to meet your future requirements, while benefiting from the processing power to drive multiple rooms over an installed CatX network. Xilica's open-architecture digital signal processor can be populated with any combination of Solaro Series I/O card, offering capabilities including analog audio, USB (with volume/mute HID support), GPIO, relay control and AES/EBU digital audio. Incorporating the optional XC-CTODN module for networked audio, Solaro FR1 can handle up-to 64×64 bi-directional channels of audio over Dante™, using standard CatX cable with no proprietary switches. With the capability to grow as you need, Solaro FR1 is a multi-purpose, scalable signal processor suited to most medium-to-large applications including multi-room conferencing, education spaces, and mass communication.

Offering pre-integrated modules from select *Technology Vendor Partners*, Xilica Solaro FR1 can drive products across your rooms from lighting to displays with no code and minimal setup time. For additional devices, Solaro FR1 supports Lua scripting without fees or licenses, and offers drag-and-drop design of graphical user interfaces (GUIs) within the programming software. These GUIs readily display on Xilica's range of IP-based user interface products, including XTouch touch-controls and Lucia wall remotes, which are networked to Solaro FR1 over standard CatX cable. Additionally, iOS/Android control is offered alongside integration with Crestron and AMX systems.

With up-to 32 channels of local analog audio, or 64 channels of local GPIO in a single chassis, Solaro FR1 is self-sufficient for most common medium-sized applications with option to expand I/O count over Dante using the Solaro XIO 16 expander. Solaro FR1 offers license-activated HearClear™ AEC for ultra-low-noise conferencing, and signal processing algorithms including routing and mixing, equalization, delay and dynamics.

BENEFITS

- › Deliver a premium collaboration experience at lower cost through centralized processing of multiple rooms using an existing installed CatX network.
- › Support BYOD in collaboration spaces with Gio USB and Gio Bluetooth connectivity, and create a superior user-experience with Microsoft Teams mute/volume sync for USB peripherals.
- › Eliminate third-party control systems with no-code programming and leverage pre-built DSP designs for turn-key deployment.
- › Lower total-cost-of-ownership with agile, modular I/O that scales to meet functional demand.
- › Harness Xilica HearClear™ acoustic echo cancellation to eliminate noise and echo in conferencing.

ENGINEERING SPECIFICATIONS

The digital signal processor (DSP) shall be open-architecture in configuration and be housed in a rack-mountable 19-inch, 1U chassis. It shall offer 16 user-configurable card-slots for analog audio, USB, GPIO, relay and AES/EBU digital audio support. Additionally, it shall provide optional Dante audio networking (with XC-CTODN) at 64×64 channels, and be compliant with AES67.

The DSP shall feature a dual-core Linux processor with 40-bit floating point architecture. Software licensing shall provide optional acoustic echo cancellation with Xilica HearClear technology. An internal control engine shall be present to provide third-party command execution via API and support the Lua scripting language. The DSP must support proprietary Xilica control products including XTouch and Lucia, and be expandable with the Solaro XIO 16 frame over a Dante network.

Additionally, the DSP must feature include advanced signal processing algorithms including (but not be limited to) various forms of mixers, equalizers, filters, crossovers, dynamics/gain controls, routers, room combiners, and delays. The program memory shall be nonvolatile and provide program security should power fail. The DSP shall be ETL marked and comply with UL/CSA/CE safety requirements, FCC emission requirements and the RoHS directive. The DSP shall be the Xilica Solaro FR1.

TECHNICAL SPECIFICATIONS

Electrical

THD+N (22Hz to 22kHz)	0.002% (1kHz @ +4dBu)
EIN	<125dBu, unweighted (20Hz to 20kHz)
Dynamic Range	110dB, unweighted
Propagation Delay	4ms
Crosstalk, input to input, 1kHz	<110dB
Sampling Rate	48kHz
A/D-D/A Converters	32-bit
Acoustic Echo Cancellation	Requires HearClear™ license; 250ms latency at eight channels, 100ms at 16 channels
BTU/Heat Load	205 BTU/hr
Processor Type	40-bit floating point
Phantom Power	+48VDC (with XC-SML)
Power Supply	90–240 VAC (50–60Hz) via internal power supply with IEC socket
Power Consumption	<60W
Ambient Operating Temperature	32–104°F (0–40°C)
Humidity	0–98%, non-condensing
Altitude	0–6,600 feet (0–2000 Meters) MSL
Network Connections	<i>Without XC-CTODN:</i> 1x RJ45 (≥Cat 5e) for control. <i>With XC-CTODN:</i> 3x RJ45 (≥Cat 5e) including dual dedicated 1000Mbps Dante™ connections and separate Ethernet port for control
USB (with XC-SUB)	<i>Bit depth:</i> 16-bit <i>Number of channels:</i> 2x2, send and receive <i>Driver sample rate:</i> 48kHz <i>Card sample rate:</i> follows DSP settings <i>Connector:</i> USB B, female
Dante™	Requires XC-CTODN; 64×64 bi-directional (primary, secondary) with dual NIC; AES67

Mechanical

Card Slots	16 user-configurable
Display(s)	Single OLED display at front of device
Controls, Service & Indicators	Up/Select/Down buttons. Recessed IP reset. Factory service micro-USB.
Weight	11lbs; 5kg
Dimensions	Height: 1.75" / 44mm Width: 19" / 483mm Depth: 12" / 305mm
Mounting	Standard 19" rack; occupies 1U

General

Compliance	CE, FCC Part 15B, Industry Canada ICES-003:7, Intertek ETL (US, CA), RoHS, REACH
Warranty	Xilica Five Year Limited Warranty
Part Number(s)	2200–001–0104 (FR1, without XC-CTODN); 2200–001–0105 (FR1-D, with XC-CTODN)

Specifications, where necessary, measured with XC- I/O card.