4:16 and 2:64 Port Solid-State Full Cross Over Switch Matrix. 10kHz to 10GHz / 10kHz to 30GHz options.

APPLICATIONS:

- Test automation
- Test equipment extender
- Antenna characterization
- 5G & phased arrays
- Cross-correlation

RF FEATURES:

- 2/4 common ports
- 16/64 switched ports
- Low loss from DC to 10/30 GHz
- Unselected ports terminated
- High power handling
- High linearity
- High isolation
- Ultra low (zero) drift
- Oven controlled for repeatable performance
- Fast switching

CONTROL:

- Programable and versatile
- Easy to use
- Compatible with LabVIEW, Matlab, C and other environments
- USB interface
- External and Internal trigger with programable switch sequences

MECHANICAL DETAILS:

- Compact and lightweight
- Portable and rugged
- Mounting screws
- EMC shielded

Easy to Use | Portable | Value for Money | Rugged

The SWM is a fast, USB controlled RF crossover switch-matrix that can switch any of two common ports to any of 16 or 64 input/output ports. It features a full crossover capability allowing any switching combination to be selected, while supporting bi-directional RF paths from 10 kHz to 10 GHz or 30GHz with low insertion loss. Each port is DC blocked and can withstand up to 16V. Unlike mechanical switches, each port is always internally matched to 50 Ohm and the unselected ports are internally matched making this similar to a VNA extender. The module features an internal oven and can if required hold stability over time to less than 0.02dB with zero drift and near perfect repeatability due to solid-state technology.

The matrix is configured with 2.92mm / SMA common ports and SMPM / 2.92mm / SMA switched ports. Different connector types may be provided upon request. The matrix is suitable for automated test and may be controlled via USB / Ethernet / Custom on request.

Predefined sequences can be loaded in and triggered by input and output TTL logic signals. This can allow ultra-fast switch sequences of micro-second timing to be achieved. The module can run from USB alone.

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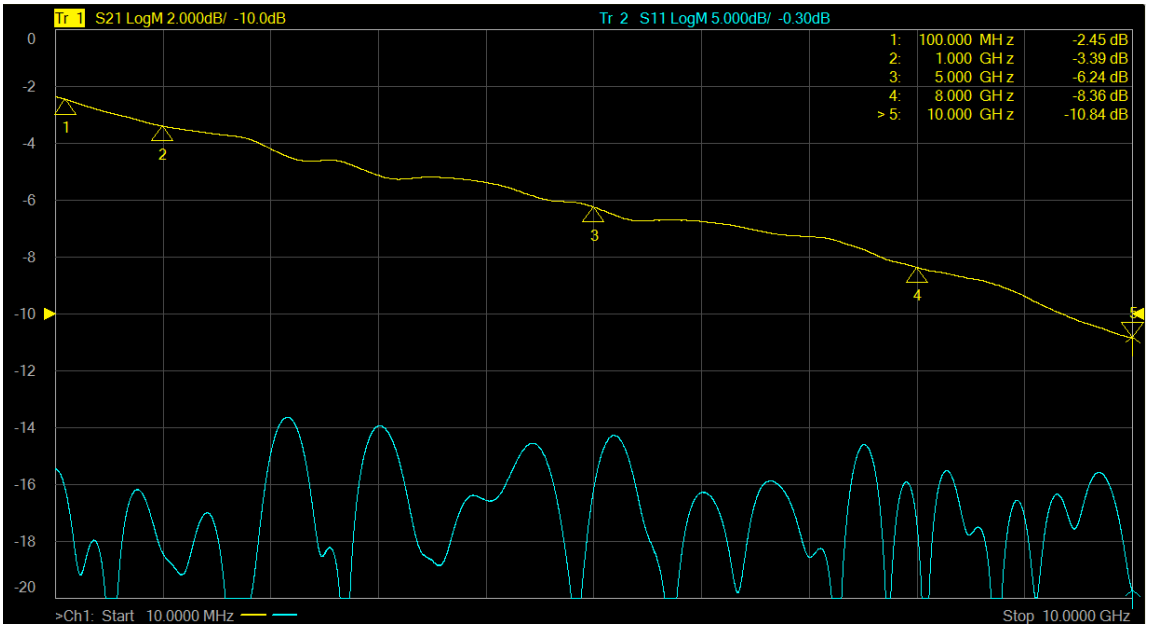
INTERFACE

- USB SCPI style interface
- Fast data transfer
- Field upgradable software and regular firmware releases.
- Matlab / Labview Drivers
- Windows GUI for plug and play functionality with scripts for complex automated test routines.

SERVICES AVAILABLE

- Technical support
- Installation and setup
- Maintenance
- Application support
- Hardware support
- New features on request
- Calibration
- Warranty

Typical Measured Performance



Main Specifications

- **16 Way Loss :** 2.4dB @ 100 MHz, 2.8dB @ 1 GHz, 3.2dB @ 5 GHz, 4.2 dB @ 8GHz, 4.8dB @ 10 GHz. 8.2dB @ 30GHz
- **64 Way Loss :** 2.5dB @ 100 MHz, 3.4dB @ 1 GHz, 6.2dB @ 5 GHz, 8.3 dB @ 8GHz, 10.8dB @ 10 GHz. 15.2 dB @ 30 GHz
- **Port Match:** > 10dB across all ports and all bands
- **Power Handling:** +37 dBm, 5W maximum, recommended: +26 dBm. Hot Switch +26 dBm.
- **Isolation:** Typical, 50 to 110 dB depending on port combination selected.
- **IP3:** +60 dBm
- **Speed:** 10µs switching speed
- **Port Type:** 50Ω, 2.92mm / SMA Common, SMPM / 2.92mm / SMA user ports.
- **Trigger:** TTL 3V3
- **Control Interface:** Mini USB 2.0
- **Oven Power:** USB – 0.6 to 2A (25°C to 70°C control) depending on ambient
- **Operating temperature:** -30 to +70 deg C
- **Mass:** 450g 64 way, 409g 16 way. (Mass is approximate as port type deviates results)
- **Size:** 180mm x 160mm x 25mm 64Way, 83mm x 108mm x 18mm 16Way (without ports)

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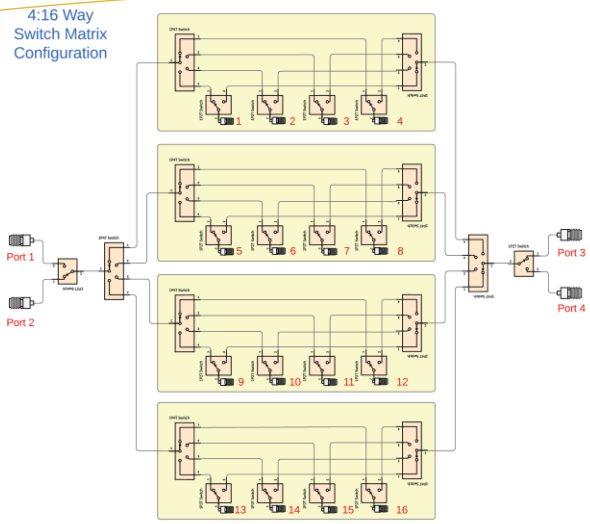
TECHNICAL SUPPORT

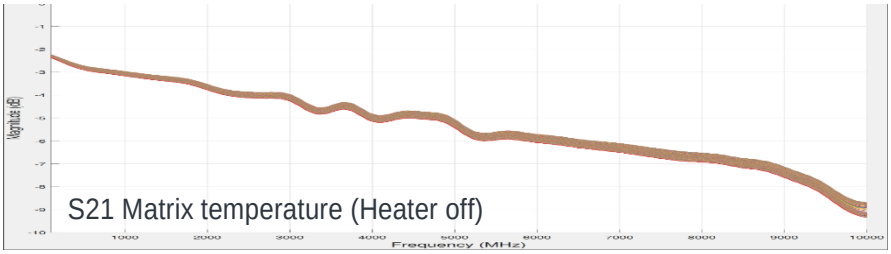
EECL offers support to get you up and running quickly. Please don't hesitate to get in touch at info@euroecl.com

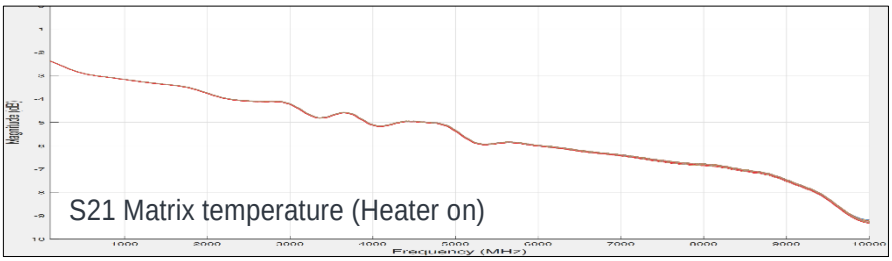
TURNKEY SOLUTIONS

We have many customers who require a complete turnkey test solution. We can implement new firmware commands to enable custom measurements to be completed at the hardware level.

If you require anything just a little bit different to shown, please get in touch – we may be able to design or modify it for your custom needs.

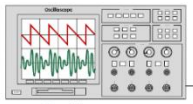


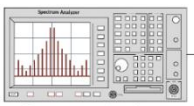




Typical measured performance for isolation, match and insertion loss is shown. Path lengths are well matched for all ports, ensuring identical performance for them and accurate cross-correlation measurement capabilities. The SWM accepts a simple command set over its USB virtual serial port and the unit can be up and running very quickly with minimal effort.

The switching speed with USB is dependent on the host computer. The SWM switching may settle within 10µs. However, when the switching is driven by a host PC may, this is typically slowed down to 1ms. If faster speeds are required, a pre-determined sequence can be loaded in and TTL triggering can be used to sweep through the switching sequence. Connect all instruments to the matrix for full automated payload measurements.


Oscilloscope


Spectrum Analyser


Network Analyser


Signal Generator

Connect all instruments to your equipment at the same time and be fully reconfigurable by a temperature stabilised drift free low loss Matrix, DC-30 GHz. Fast easy switching in 10nS. Automated switching. Any port to Any port configurable.

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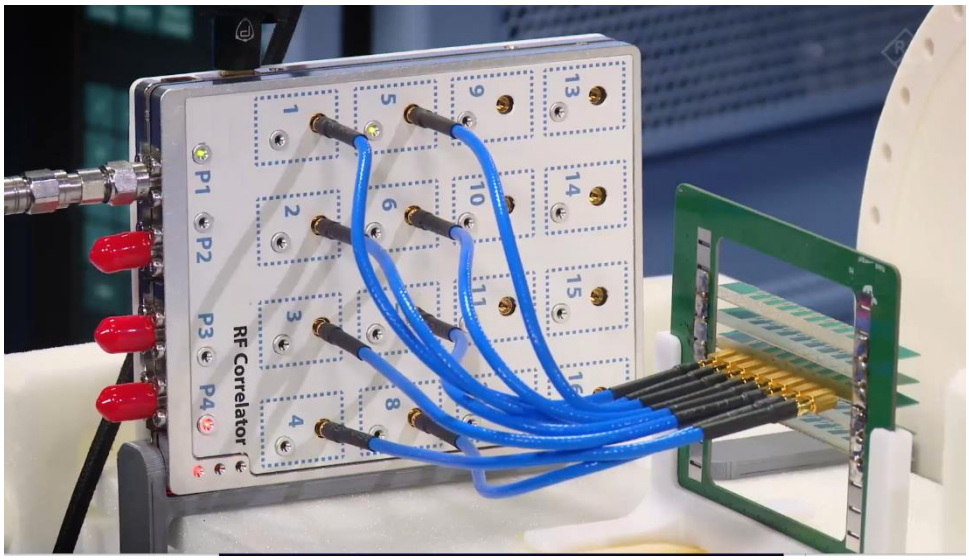
Ordering Configurations

ORDER CODE	INPUT WAYS	COMMON WAYS	FREQUENCY	COMMON PORTS	SWITCH PORTS
SWM-16-4-10G-SMA-SMA	16	4	10G	SMA	SMA
SWM-16-4-30G-292-292	16	4	30G	292	292
SWM-16-4-10G-SMA-SMPM	16	4	10G	SMA	SMPM
SWM-16-4-10G-292-SMPM	16	4	30G	292	SMPM
SWM-64-2-10G-SMA-SMA	64	2	10G	SMA	SMA
SWM-64-2-10G-SMA-SMPM	64	2	10G	SMA	SMPM
SWM-64-2-30G-292-SMPM	64	2	30G	292	SMPM
SWM-64-2-30G-292-292	64	2	30G	292	292



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