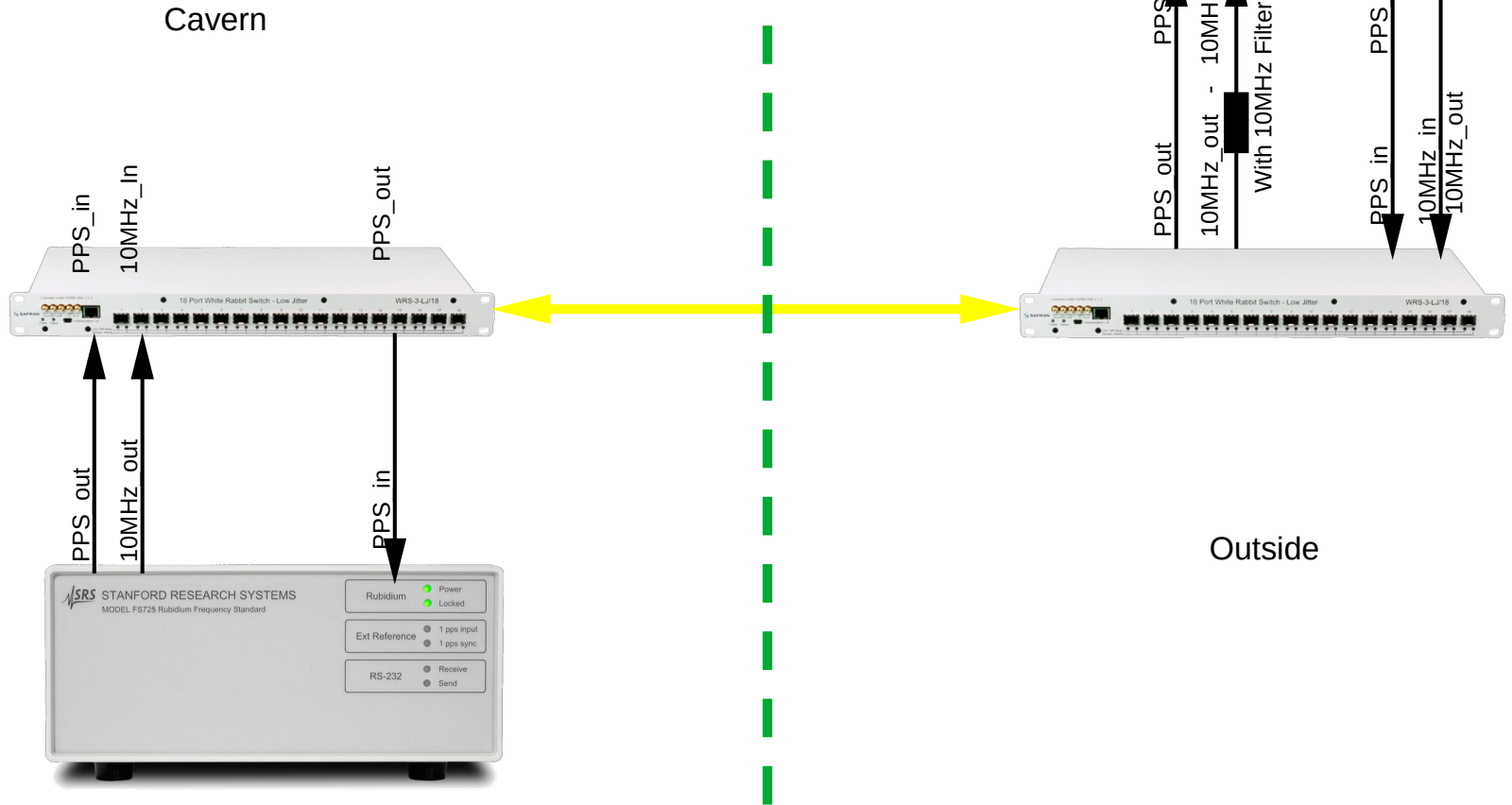
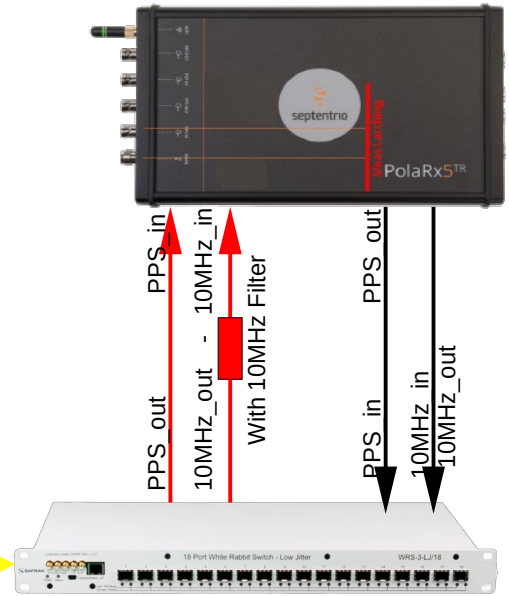
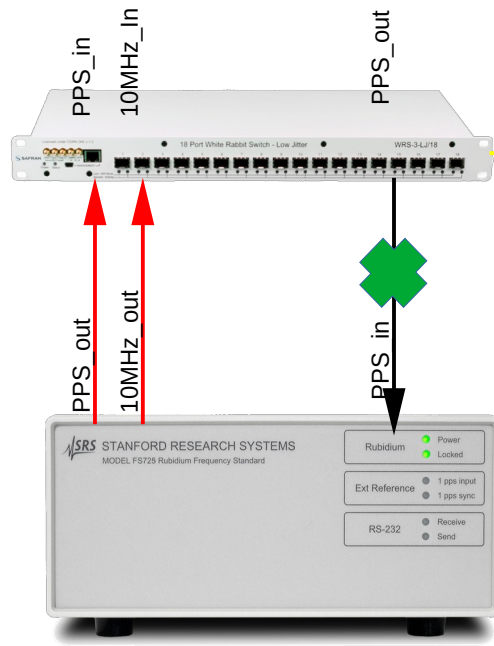


Wiring

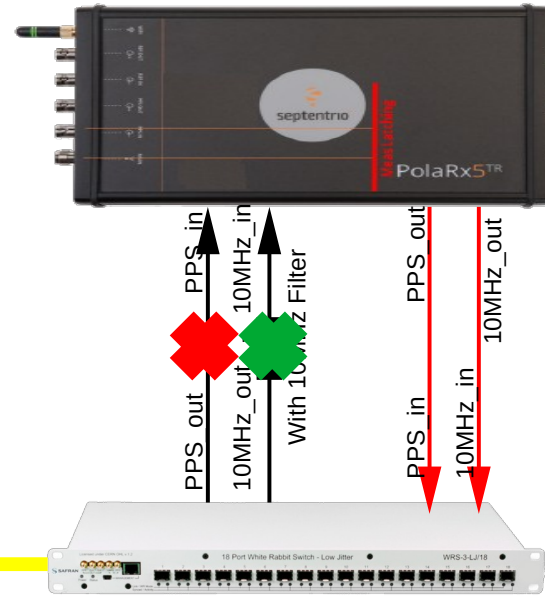
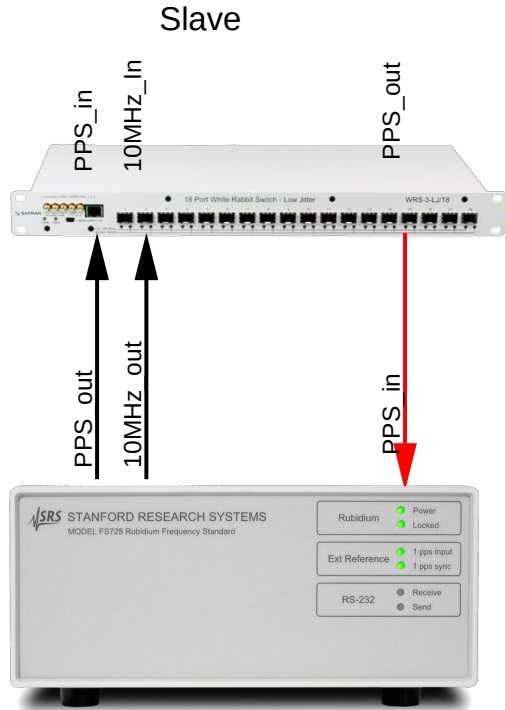


In production configuration



Slave

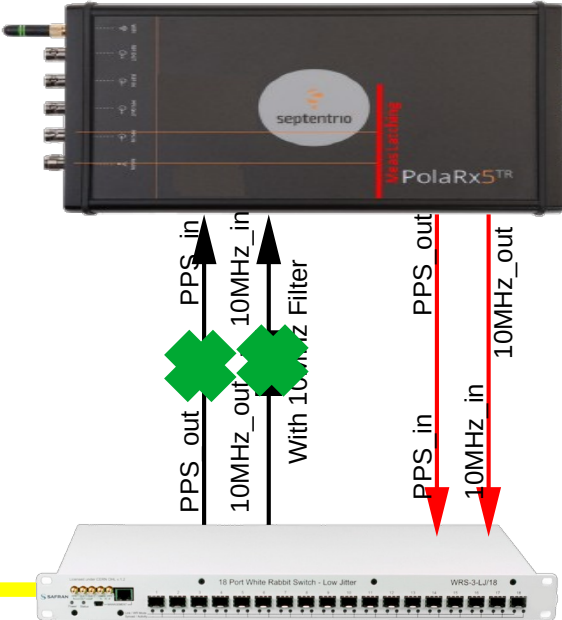
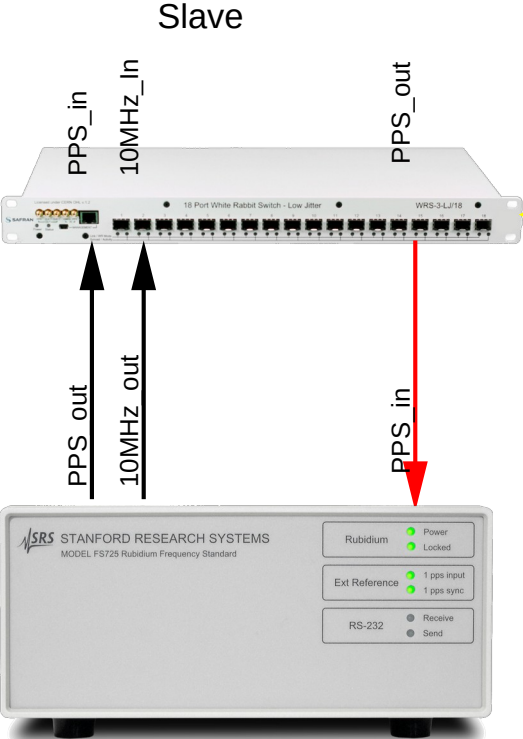
Link Inversion for
Clock
synchronization
For the moment



10Mhz_out_wr is
disabled by software

PPS_out_wr can't
be disabled by
software,
We need to unplug
it for the moment

Link Inversion for
Clock
synchronization
For the moment
TODO



Grand Master
+
NTP

❖ 10Mhz_out_wr is disabled by software

❖ PPS_out_wr could be disabled by the WR switch or by an external RF switch
TODO



TTL Mechanical Switch

ZK-MSP2TA-18

50 Ω DC to 18 GHz SPDT SMA-Female

THE BIG DEAL

- Mechanical SPDT absorptive switch
- TTL interface for simple control integration
- Fail-safe/redundancy switching
- LED switch state indicator
- High isolation
- Low insertion loss

APPLICATIONS

- RF signal routing/switch matrices
- Automated test & measurement systems
- 5G FR1, WiFi 6E, UWB, Bluetooth
- Military radio, radar & electronic warfare
- Harmonic testing

PRODUCT OVERVIEW

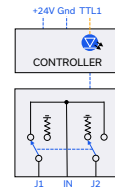
Mini-Circuits' ZK-MSP2TA-18 is an ultra-reliable electro-mechanical SPDT switch operating over a wide bandwidth from DC to 18 GHz with high isolation and low insertion loss. The switch is absorptive and fail-safe with a break before make configuration and lifetime of 5 million switching cycles when used within the noted specifications. All RF connections (SMA female) are conveniently grouped together on the front of the switch.

Simple control via TTL voltage levels allows integration with a wide range of microcontroller, embedded or custom systems without the additional complexity of USB or Ethernet control from a PC. The TTL control input and +24V DC supply connections are accessed through a single 3-pin PCB header connector on the rear of the switch. An LED indicator is also included on the rear of the package to give a convenient visual read out of the current switch state. An LED light-pipe connector allows the indicator to be routed to wherever it is needed when the switch is integrated into a final product.



Generic photo used for illustration purposes only

FUNCTIONAL BLOCK DIAGRAM



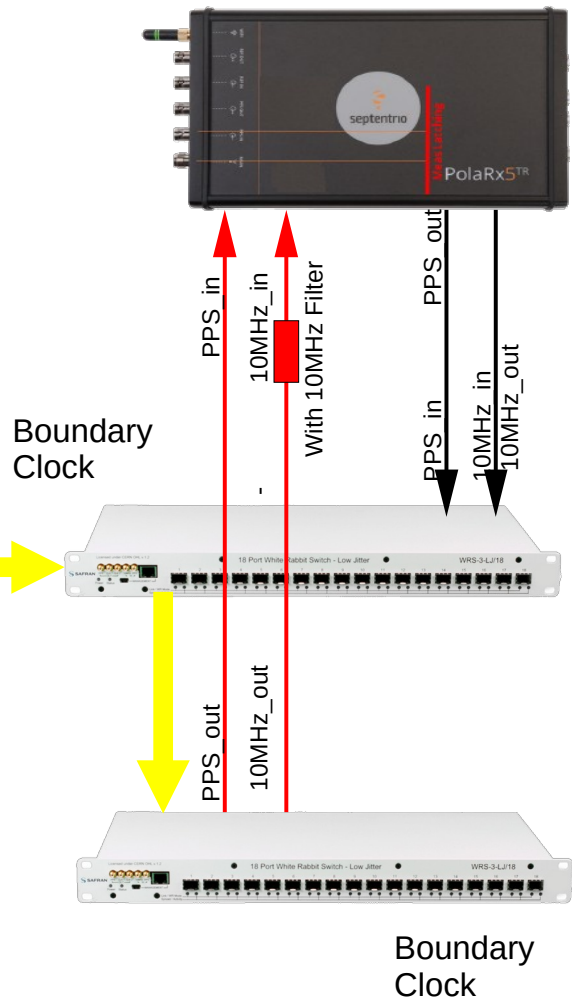
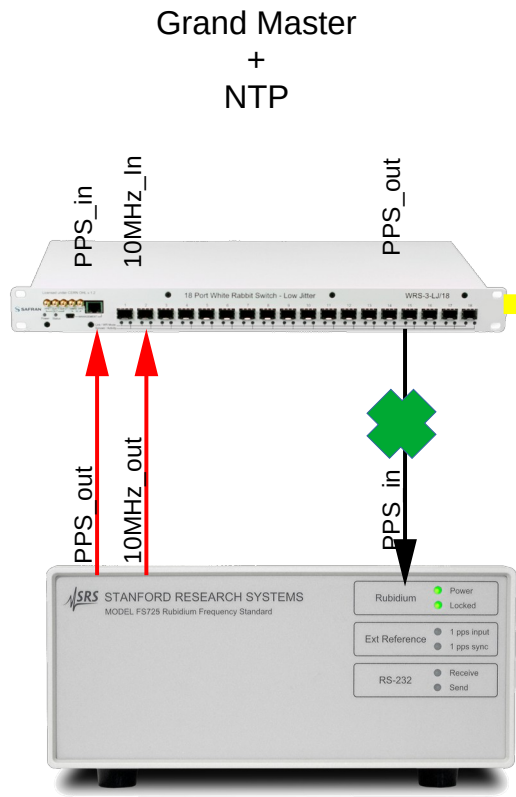
KEY FEATURES

Feature	Advantages
Mechanical switch	Mechanical absorptive switches provide low loss, high isolation, high reliability, repeatable performance and internal termination of input signals on the disconnected paths
High repeatability	The high repeatability of switching cycles ensures reliable performance, critical for automated testing and other measurement applications.
Fail-safe design	The switch reverts to a known default state when the DC supply is removed, allowing their use in systems that must continue to operate safely in the event of power failure
Break-before-make configuration	Prevents a momentary connection of the old and new signal paths, reducing the inconsistent transient effects that could otherwise be observed during switching
TTL control	Simple control via TTL logic levels allows integration with a wide range of microcontroller, embedded, or custom systems.

REV A
ECO-021312
ZK-MSP2TA-18
MCL NY
240326



In production configuration with three WR switches



Link inversion
configuration for
clock
synchronisation
with 3 WR switches

