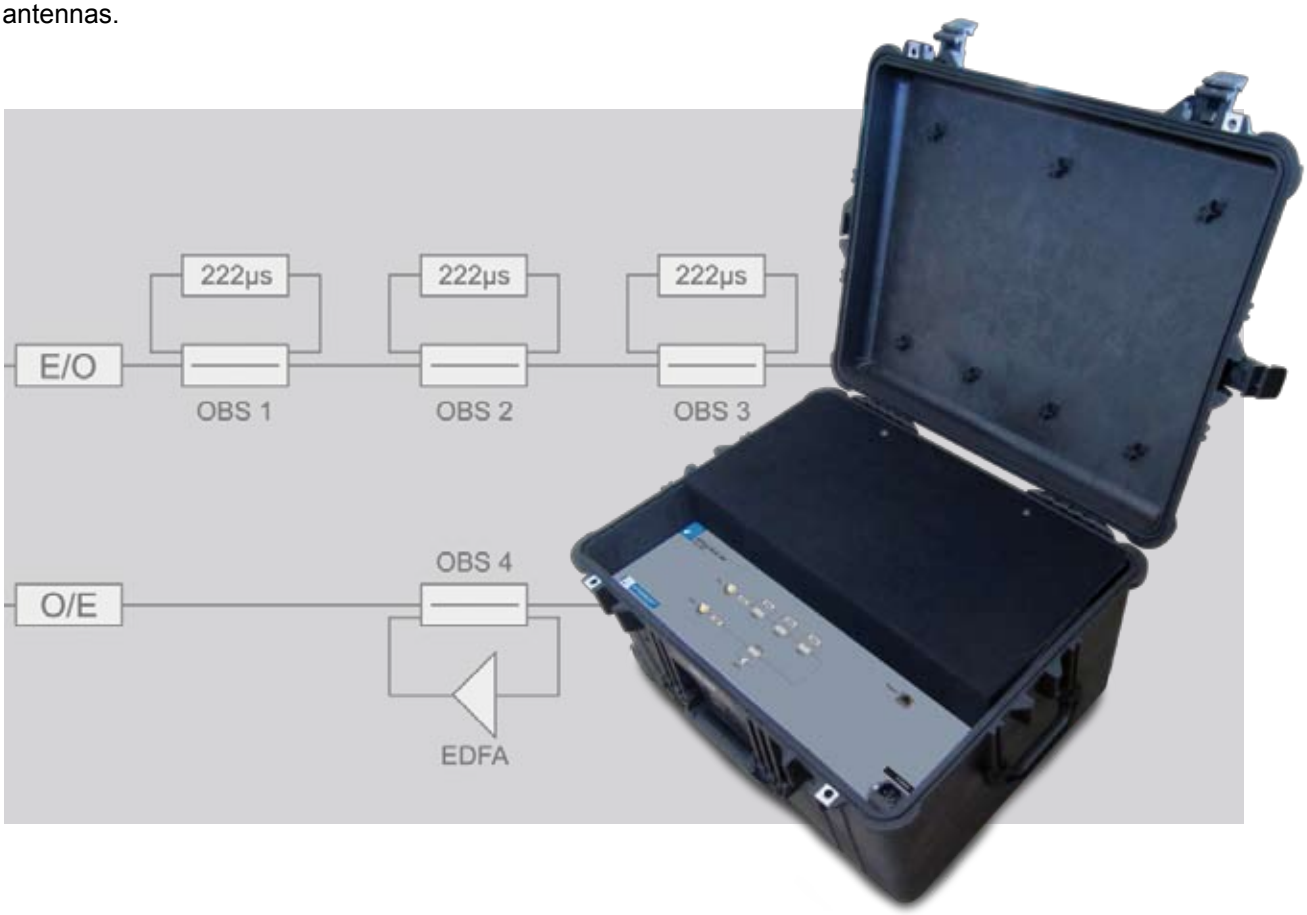
OPTICAL DELAY LINE - ODL969

The Optical Delay Line ODL969 is the ultimate test tool for radar manufacturers!

It can be used to delay a microwave pulse from the radar transmitter at a fixed delay with maximum signal level, this pulse will be injected into the radar reciever under test. In this setup the stability of the radar system can be measured. In the present design we use optical bypass switches to adjust the delay length. This will avoid having external optical connectors. An Erbium Doped Fiber Amplifier will compensate for the optical losses. The optical delay line was designed to maximise the signal to noise ratio at the output.
The power supplies have been cleaned up to achieve 78dB SNR. A typical ODL969 configuration contains 3 coils of optical fiber with a delay of 222 microseconds.Three delays can be generated for the radar under test 33.33, 66.66 and 100km on the radar display. Every additional piece of delay line will decrease the signal to noise ratio with 2dB. So at 100km 72dB SNR is still possible! This will allow testing beyond the limits of the earths atmosphere (65dB).
Any contribution of the transmitter, receiver, synthesizer or the power supllies to the UN-stability can be found.
It can be used on site injecting direct into the receiver, or it can be used from a remote location using antennas.



Specifications
Frequency 50MHz - 10GHz
Input -10dBm
Output -10dBm
Delay length; 3 times 222µs
Dynamic range 78dB
TCP-IP interface