

- Compact design
- Plug and Play synchronization box
- Trigger signal booster
- Negative & Positive Edge

AT101 Trigger Box



AMCAD

Trigger BOX– AT101

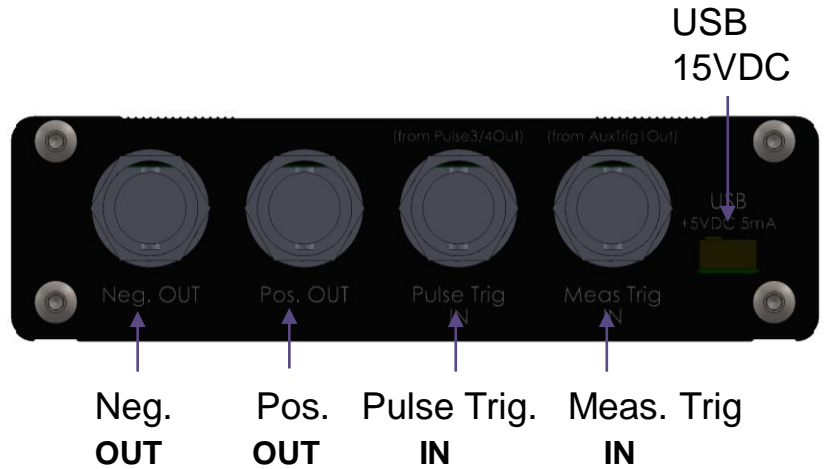
Simplify and speed up your pulsed measurements with a plug-and-play trigger box

Trigger Box Main Feature

- Trigger Shaping & repeater
- TTL/CMOS input
- 1 μ s output pulse width
- 2 μ s minimum period
- USB power-supplied
- Negative or positive Edge
- Up to 5 instruments can be triggered

Package Content

- Trigger Box
- USB power supply cable
- BNC Tee adapter
- BNC Cable (15 cm-5.9 in)



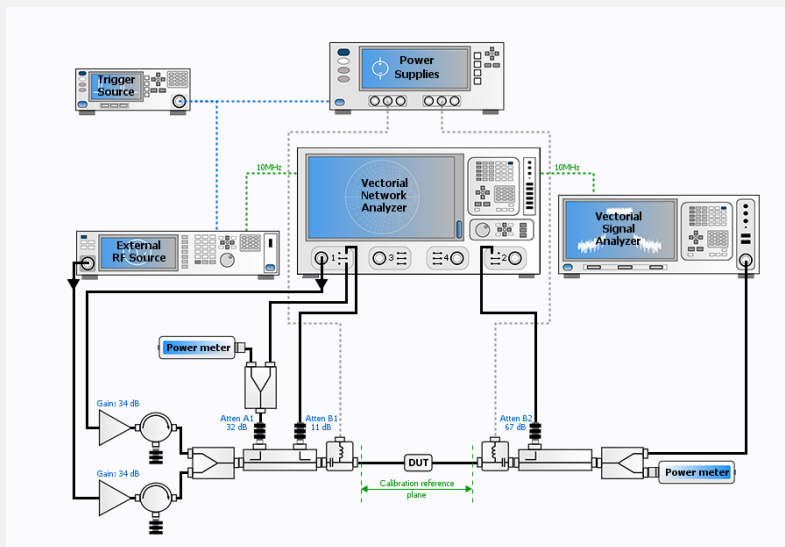
Front View / AT101

Application examples

The trigger box is a TTL / CMOS signal combiner able to generate a fixed TTL signal of 1 μ s pulse width with a minimum period of 2 μ s.

The output TTL signal can be used for different applications :

- Standardize and boost up the instrument trigger signal
- Fast Power Sweep application



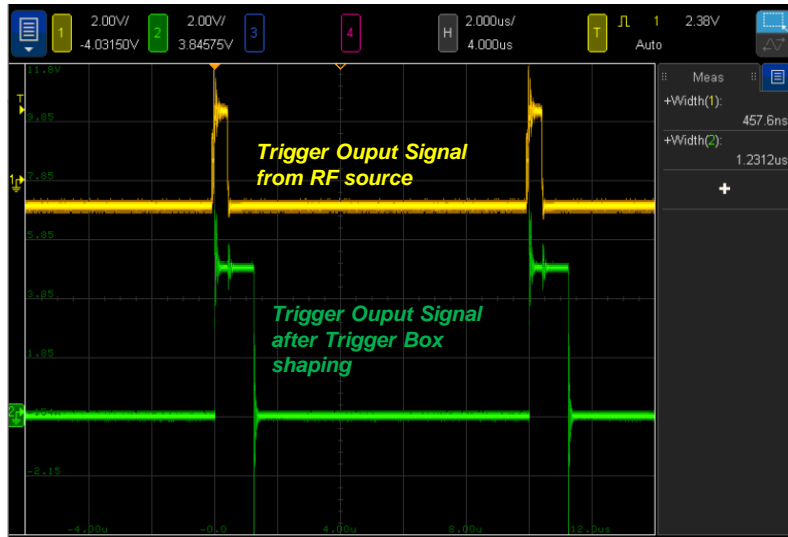
Application examples

Standardize and Boost up the instrument's synchronization Signal

The trigger Box can be used in a measurement test-set to standardize and boost-up instruments' synchronization signal.

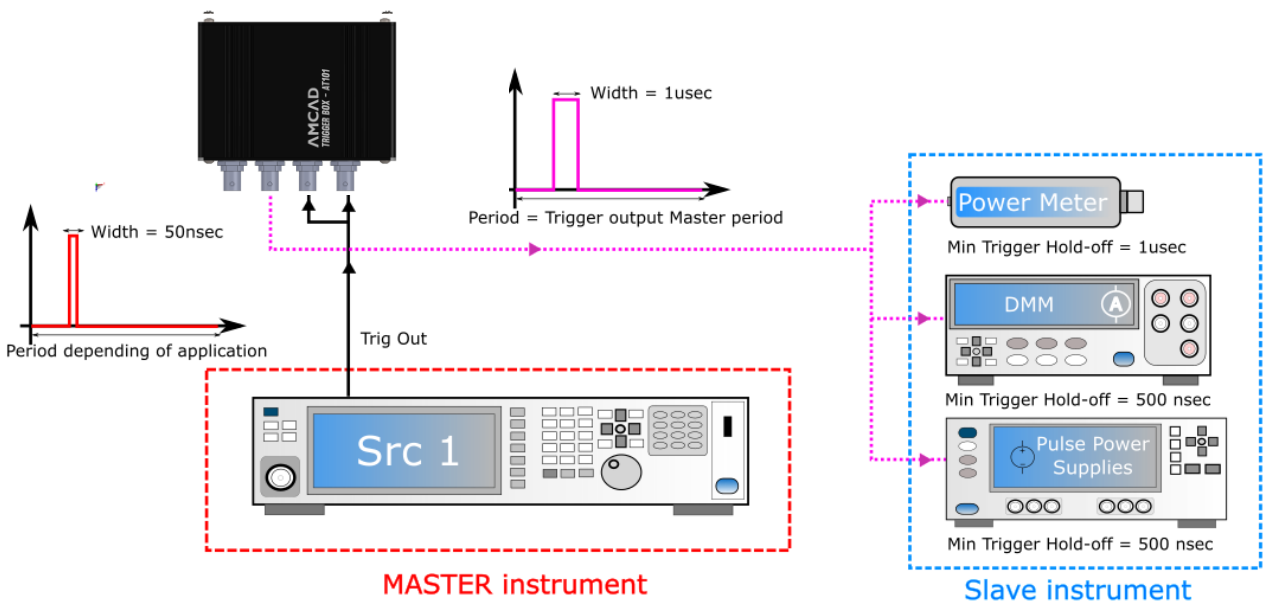
A measurement setup can include multiple instruments from different vendors and different generations.

Therefore, the trigger signal can be incompatible between the instruments. For example, some RF sources can generate a fixed output synchronization signal with 50nsec width, but most of the triggered instruments like Power Meters; DMMs... have a minimum trigger hold-off timing of 1usec, resulting in a bad synchronization and wrong measurements, as well as software timeouts.



Using bad synchronization can cause device destruction and measurement delays. Also, the synchronization signal's power level is critical when several instruments have to be triggered, especially in pulsed measurement applications.

The AMCAD Engineering Trigger box can trigger up to 5 instruments with a standard signal, compatible with all instruments, and a signal level that ensures a good synchronization.



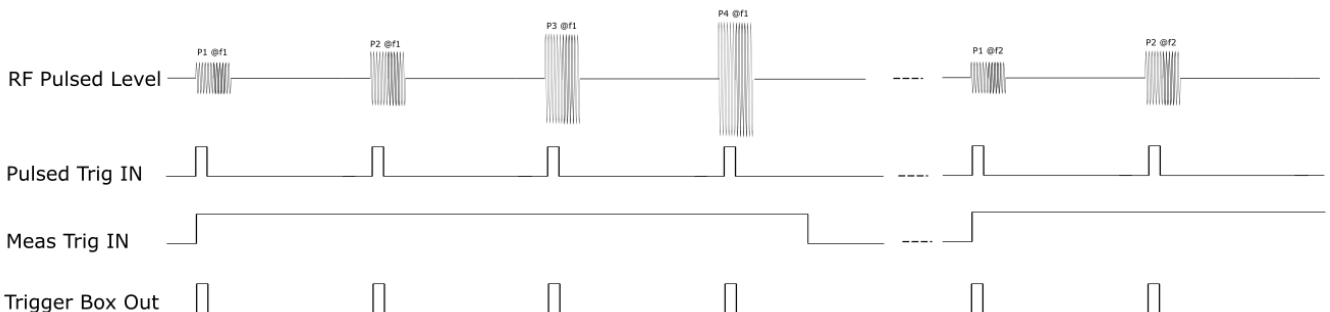
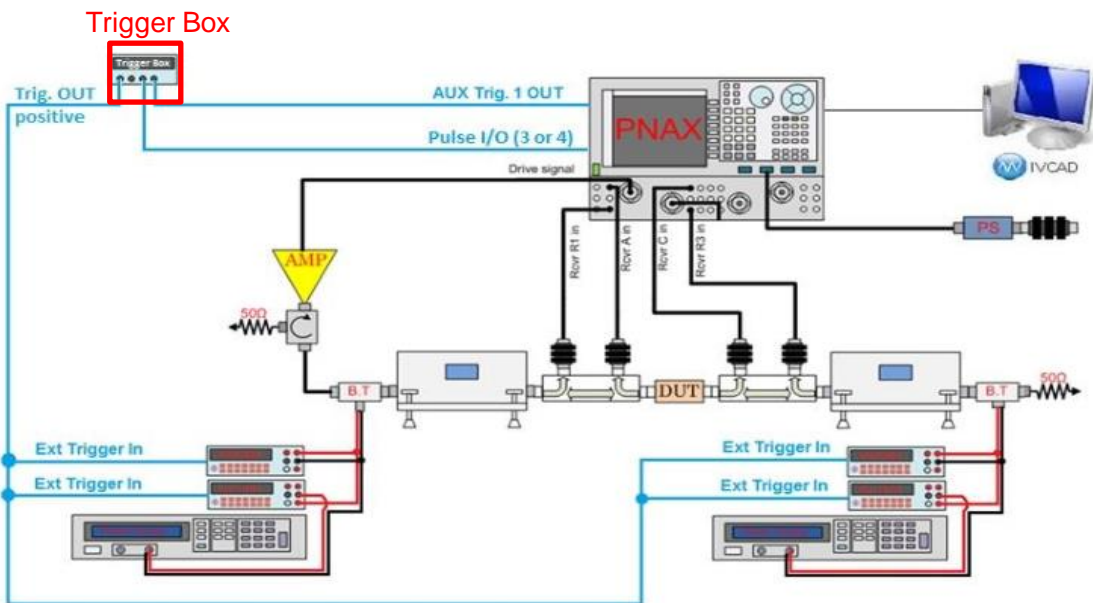
Application examples

Fast Power Sweep Application

Fast Power Sweep uses the power ramp instead of the usual point-by-point sweep. This method increases the measurement speed considerably when dealing with a large number of measurements.

Combined with DMMs to measure the IV performances of the DUT for Power-Added-Efficiency evaluation, the AMCAD Trigger box would be very useful to manage the synchronization during the power sweep ramp.

See *IVCAD MT930C VNA Load-Pull operating manual*



Specifications

Specifications	Min	Typ	Max	Unit
Power supply				
- Voltage	4.5	5	5.5	V
- Current			5	mA
Signals				
- Input	CMOS/TTL			
V_{IH}	3.5		5.0	V
V_{IL}	0.0		1.5	V
Absolute V_i	-0.5		6.5	V
C_i			3	pF
t_{wi} (Pulse width)	15			ns
f_i (frequency)			1	MHz
Absolute I_i			-20	mA
- Output	CMOS/TTL			
Type	Open Drain			
V_{OH}	3.8		5.0	V
V_{OL}	0.0		0.55	V
C_o			5	pF
t_{wo}		1.3		μ s
t_{retrig}		1.3		μ s
I_o			32	mA
Absolute I_o			50	mA
t_{PD} (propagation time)	6.5		30	ns
Temperature				
- Usage ¹	-40		+85	°C
Dimensions				
- Height		30		mm
- Length		108.5		mm
- Width		105.8		mm
Weight		235		g

¹ Excluding cable (80°C max)

Note : Typical and nominal characteristics are included for information only and they are not specifications.

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