

Internal pulse generator producing single or double pulse RF carriers for testing radar RF and IF stages



- **Programmable pulse parameters**
- **External trigger function**
- **Single and double pulse**
- **Variable pulse repetition frequency**
- **Variable pulse delay**
- **Variable pulse pair spacing**
- **Variable pulse width**
- **Wide carrier frequency range**
- **On/Off ratio of 80 dB**
- **Eliminates need for external pulse generator**

Option 9 Pulse Generator provides the user with internally generated single or double pulses. When combined with Option 2, Pulse Modulation, a solution is provided to aid the testing of radars, EMC or TDMA systems.

The pulse generator can be used with FM, PM and wideband FM or with unmodulated carriers.

With the Pulse Generator allowing variable control of the pulse parameters, many different types of systems can be efficiently and easily evaluated.

Simple Interface

Parameters can be adjusted by keyboard entry of data or by using the $\uparrow\downarrow$ keys. The use of a large screen dot matrix display ensures clear and unambiguous readout. Within each display, soft keys are assigned alongside the display to allow parameter entry or to select the relevant functions.

Pulse Generator

With Options 2 and 9 combined, single and double pulsed RF carrier outputs can be generated. Pulse width can be varied from 50 ns to 100 ms. Pulse delays can be set from 1 μ s to 100 ms in single trigger mode and pulse pair spacing can be varied from 100 ns to 100 ms. Triggering can be continuous or via an external source. See Figures 1 and 2 for more details.

The pulse generator with Option 2 can be used over the entire frequency range of the 2030 series, with the level range of -144 dBm to +13 dBm.

Output Control

Synchronization and video outputs are available on rear panel BNC connectors. SYNC provides a 400 ns pulse indicating the start of the pulse. VIDEO provides square waves with fixed rise and fall times and variable parameters such as pulse delay, width and repetition rate.

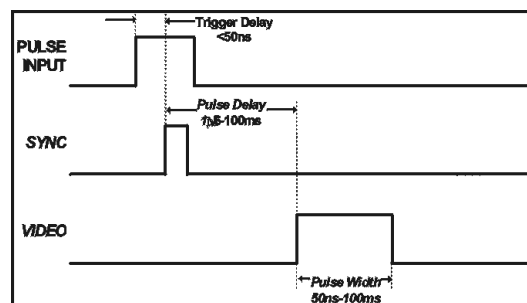


Figure 1 - single pulse, external trigger

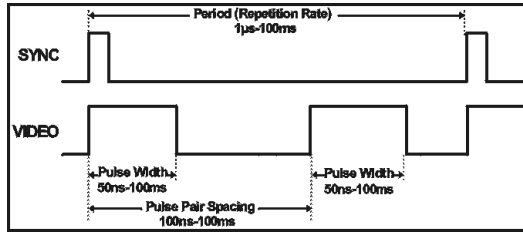


Figure 2 - double pulse, internal trigger

SPECIFICATION

Specifications remain as standard 2030 series with the following additions.

OPTION 9 INTERNAL PULSE GENERATOR

VIDEO OUTPUT (REAR PANEL BNC)

Pulse Width(s)

50 ns to 100 ms, resolution 50 ns

Repetition Rate/ Period (internal trigger)

1 μ s to 100 ms, resolution 50 ns

Pulse Delay (Single or Double pulse)

1 μ s to 100 ms, resolution 50 ns

Double Pulse Pair Spacing

100 ns to 100 ms, resolution 50 ns

Level

Pseudo TTL (Typ. 0 to 4.5 V, 0 to 2.5 V into 50 Ω)

Rise/Fall Time

Less than 5 ns

SYNC OUTPUT (REAR PANEL BNC)

Pulse Width

Typically 400 ns

Level

Pseudo TTL (Typ. 0 to 4.5 V, 0 to 2.5 V into 50 Ω)

Rise/Fall Time

Less than 5 ns

EXTERNAL TRIGGER ('PULSE INPUT')

Characteristics

Rising edge, TTL level into 50 Ω

Min. Pulse Width 10 ns

Trigger to SYNC Delay

Less than 50 ns

Trigger to SYNC Jitter

Typically 25 ns

RF OUTPUT (WITH OPTION 2 FITTED)

Level Range

-144 dBm to +13 dBm overrange to +19 dBm uncalibrated

Accuracy

Additional level error of ± 0.5 dB

Modulation Modes

Pulse modulation may be used at the same time as FM, PM or wideband FM.

Pulse Characteristics

As above, except;

Rise/Fall Time

Typically <25 ns

ON/OFF Ratio

Better than 70 dB, typically better than 80 dB

VERSIONS AND ACCESSORIES

When ordering please quote the full ordering number information.

Ordering Numbers

Versions

2030	10 kHz to 1.35 GHz Signal Generator
2031	10 kHz to 2.7 GHz Signal Generator
2032	10 kHz to 5.4 GHz Signal Generator
Option 009	Pulse generator (cannot be used with Option 005)

Options

Option 001	Second internal modulation oscillator
Option 002	Pulse modulation
Option 003	19 dBm Output (2030 only)
Option 006	Avionics (requires Option 001, cannot be used with Option 003)
Option 008	RF Profiles and complex sweep
Option 010	DME (requires Option 001 & 006, cannot be used with Option 005)
Option 112	External modulation inputs (2) 600 Ω impedance

Note

Option 9 is not available with Option 5 or on 2040 and 2050 series.

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