

Signal Sources

Option 10 DME Avionics

AEROFLEX
A passion for performance.

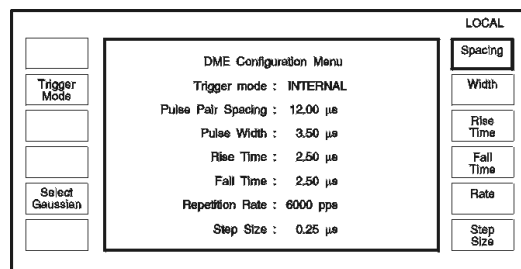


Ideal for testing the receiver stages of DME transponders using Gaussian shaped pulses used under operational conditions

- Generates DME Gaussian shaped double pulses
- Variable pulse parameters
- Gaussian pulse spectrum
- Sync and Video outputs
- External trigger input
- Simple user interface with large screen
- GPIB programmable
- VOR/ILS/Marker Beacons with option 6

Simple Interface

Major parameters can be adjusted by keyboard entry of data, using the UP/DOWN keys or the rotary control. The use of a large screen dot matrix display ensures clear and unambiguous readout of the avionics and DME parameters.



DME (Distance Measuring Equipment) provides aircraft with accurate and continuous information of their slant range distance from a ground reference point. Option 10 on the 2030 series signal generators produce the necessary signals required to test DME transponders. The option consists of two parts - an internal pulse generator to produce double pulses, and a linear RF modulator which produces the required Gaussian shaping with 90% of the transmitted energy within a bandwidth of 0.5 MHz in accordance with EUROCAE ED57. Front and rear panel connectors provide External Trigger input and Synchronization and Video outputs.

DME Pulse Generator

This provides Gaussian shaped double pulses with variable control of pulse width, rise and fall times, pulse pair spacing and pulse repetition rate thus giving complete flexibility when defining the pulse profile. Continuous internally or externally triggered modes of operation are available with all parameters adjustable in both cases.

DME Pulse Modulator

The Gaussian shaped double pulses from the generator can be used to modulate an RF carrier over the DME transmitter range of 960 MHz to 1215 MHz. Unlike a standard pulse modulator where the carrier is enabled or disabled by the modulating signal, the DME modulator is able to control the level of the RF signal at any particular time and thus produces a constrained spectrum corresponding to various standards including EUROCAE ED57 for DME. The Gaussian shaped pulses are identical in amplitude and shape with

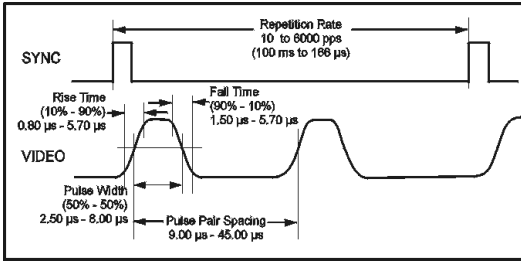
level accuracy of ± 0.5 dB over the range -110 dBm to +10 dBm.

Memory

All the instrument configuration settings can be stored within non-volatile memory locations. These memories can be triggered via an external input or manually from the front panel in order that a test sequence may be quickly recalled.

Output Control

There are two additional outputs provided, SYNC and VIDEO. The SYNC output is available either with internally generated pulses or external trigger. The VIDEO output is the same Gaussian shaped signal that is applied to the RF modulator.



GPIB Programmable

All functions can be controlled over the interface bus and are GPIB IEEE 488.2 compatible.

Option 6 - Avionics

DME Option 10 is a natural complement to existing Avionics option 06 which includes VOR, ILS, Marker Beacons, ADF and SELCAL.

The Avionics option offers a complete test solution for the maintenance of avionics radio receivers by providing modes of operations suitable for testing ILS and VOR systems. In addition, it provides efficient testing of marker beacons, SELCAL receivers and ADF (Automatic Direction Finders).

In conjunction with the Avionics option, the 2030 series offers a simple solution which is particularly well suited for testing the complete avionics system - surveillance, alarm monitors and receivers. Direct digital synthesis techniques ensure excellent precision and stability.

SPECIFICATION

Specifications remain as standard 2030 series with the following additions.

RF OUTPUT

Frequency Range

960 MHz to 1215 MHz

Level Range

-110 dBm to +10 dBm

Absolute Level Accuracy

Standard level error ± 0.5 dB

Pulse Pair level Accuracy

± 0.5 dB

ON-OFF Ratio

>80 dB

VIDEO OUTPUT (REAR PANEL BNC)

Pulse Characteristics

Double pulses, Gaussian shaped

Pulse Width

2.50 μ s to 8.00 μ s, resolution 50 ns

Rise Time

0.80 μ s to 5.75 μ s, resolution 50 ns

Fall Time

1.50 μ s to 5.75 μ s, resolution 50 ns

Pulse Pair Spacing

9.00 μ s to 45.00 μ s, resolution 50 ns

Repetition Rate

10 pp/s to 6000 pp/s

Level

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

SYNC OUTPUT (REAR PANEL BNC)

Pulse Width

Typically 400 ns

Level

TTL (Typically 0 to 4.5 V, 0 to 2.5 V into 50 Ω)

Rise/Fall Time

Typically 5 ns

EXTERNAL TRIGGER (PULSE INPUT)

Characteristics

Rising-edge, TTL level into 50 Ω

Min. pulse width 2 ns

Trigger to SYNC Delay

Typically 60 ns

Jitter

Typically 25 ns

VERSIONS AND ACCESSORIES

When ordering please quote the full ordering number information.

Ordering Numbers

To order select which model is required and order with Option 1, 6 and 10 fitted.

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 001	Second internal modulation oscillator
Option 006	Avionics, requires option 001, cannot use with 003
Option 010	DME requires option 001 & 006, cannot be used with option 005

Supplied with

AC Power Lead
Operating Manual

Options

Option 002	Pulse Modulation
Option 003	19 dBm output (2030 only)
Option 008	RF Profiles and Complex Sweep
Option 009	Internal Pulse Generator cannot be used with option 005
Option 112	External modulation inputs (2) 600 Ω impedance

Please note that Option 5 is not available with DME. DME is not available on 2040 or 2050 series signal generators.

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