

WIDE RANGE—WIDE BAND SWEEP GENERATORS

for Laboratory . . . Production or Field Use

FEATURES

- All electronic . . . saturable reactor sweep circuit.
- 11 overlapping . . . switch ranges.
- Fundamental frequency output on all ranges.
- RF output flat . . . within ± 0.5 DB.
- Output VSWR less than 1.1.
- High output level adjustable by switch attenuators.
- Horizontal output featuring 360 degree phasing.
- Internal blanking circuit.

APPLICATION

- For the design . . . test and alignment of radio frequency circuits from 4 to 225 MC . . .

DESCRIPTION

The Jerrold Models 601 and 602 Sweep Frequency Generators are portable, wide-band instruments designed for the test and alignment of RF circuits in the frequency range from 4 to 225 megacycles. The Model 601 Generator has a total frequency range of 12 to 225 megacycles, and the Model 602 Generator has a total frequency range of 4 to 112 megacycles. The total frequency range of each Generator is divided into 11 overlapping ranges. The sweepwidth in any range is continuously variable from a minimum of a nominal 1% of center frequency, to a maximum frequency deviation of approximately 5 to 1.

Both models feature a push-pull Hartley oscillator, swept by a saturable reactor, and controlled by circuitry that levels its output to within 1 db over the entire width of the sweep. A sinusoidal horizontal sweep output is provided for use with a test oscilloscope. Means are provided for complete phasing of the horizontal output through 360 degrees. Blanking of the return trace is accomplished internally in each Generator and provides a zero reference for the test oscilloscope, making gain measurements possible. The Generators also feature a detector tilt control for the purpose of matching a variety of external detectors to the frequency characteristics of the internal AGC detector for accurate oscilloscope presentations.

The Jerrold Model 601 and Model 602 combine the portability, and ruggedness that are indispensable in a field instrument with the excellence of performance and versatility usually associated only with laboratory equipment.

The chart in figure 2 shows the frequency coverage of the eleven selectable ranges of each Generator.



FIGURE 1
MODEL 601

FREQUENCY COVERAGE CHART

BAND POSITION	FREQUENCY RANGE	
	MODEL 601	MODEL 602
1	12 to 50 mc.	4 to 20 mc.
2	15 to 65 mc.	6 to 28 mc.
3	18 to 78 mc.	8 to 36 mc.
4	20 to 90 mc.	9 to 44 mc.
5	23 to 107 mc.	10 to 50 mc.
6	25 to 120 mc.	12 to 58 mc.
7	27 to 130 mc.	14 to 66 mc.
8	30 to 145 mc.	15 to 75 mc.
9	35 to 170 mc.	18 to 87 mc.
10	37 to 180 mc.	21 to 100 mc.
11	45 to 225 mc.	23 to 112 mc.

FIGURE 2. FREQUENCY COVERAGE CHART

FUNCTION OF CONTROLS

1. BANDWIDTH

Controls the width of the sweeping oscillator. Range is variable from a minimum of a nominal 1% of center frequency, to a maximum frequency deviation of approximately 5 to 1.

2. CENTER FREQUENCY

Controls the mean or resting frequency about which the oscillator sweeps.

3. AGC CONTROL

Controls the gain of the AGC amplifier and hence the output of the generator within a controllable range of 20 db.

4. HORIZONTAL PHASE

Controls and adjusts the phase between the driving voltage on the reactor of the Generator, and the horizontal drive voltage to the oscilloscope.

5. PHASE REVERSE

Transposes the display on the oscilloscope left-to-right, or right-to-left.

6. DETECTOR TILT CONTROL

Matches a variety of external detectors to the frequency characteristics of the internal AGC detector.

SPECIFICATIONS

FREQUENCY RANGE

Model 601 12 to 225 MC in 11 ranges
Model 602 4 to 112 MC in 11 ranges

SWEEP RANGE

Approximately 5 to 1.

RF OUTPUT RESPONSE

Model 601 1.0 volt RMS, flat within $\pm 1/2$ db
Model 602 2.5 volts RMS, flat within $\pm 1/2$ db

HORIZONTAL SWEEP OUTPUT

Sine voltage of 60 cps. Complete phasing over a range of 360 degrees is provided.

BLANKING

Blanking is provided, and accomplished internally.

CONNECTORS

BNC at 50 ohms or Jerrold "F" Series at 75 ohms.

POWER REQUIREMENTS

117 volts AC, 60 cps, at 70 watts.

FUSE

3AG, 1 amp.

TUBE COMPLEMENT

V-1 Model 601 6BC 8 RF Sweep Oscillator
Model 602 6922
V-2 12AT7—AGC Amplifier and Control
V-3 12AT7—Blanking (limiter and clipper)
V-4 6L6—Reactor Amplifier
V-5 6AS5—Cathode Follower
V-6 OA-2—Negative Voltage Regulator
V-7 OA-2—Positive Voltage Regulator

DIMENSIONS

Height 11 1/2" Depth 14 1/4" Width 7 3/4"

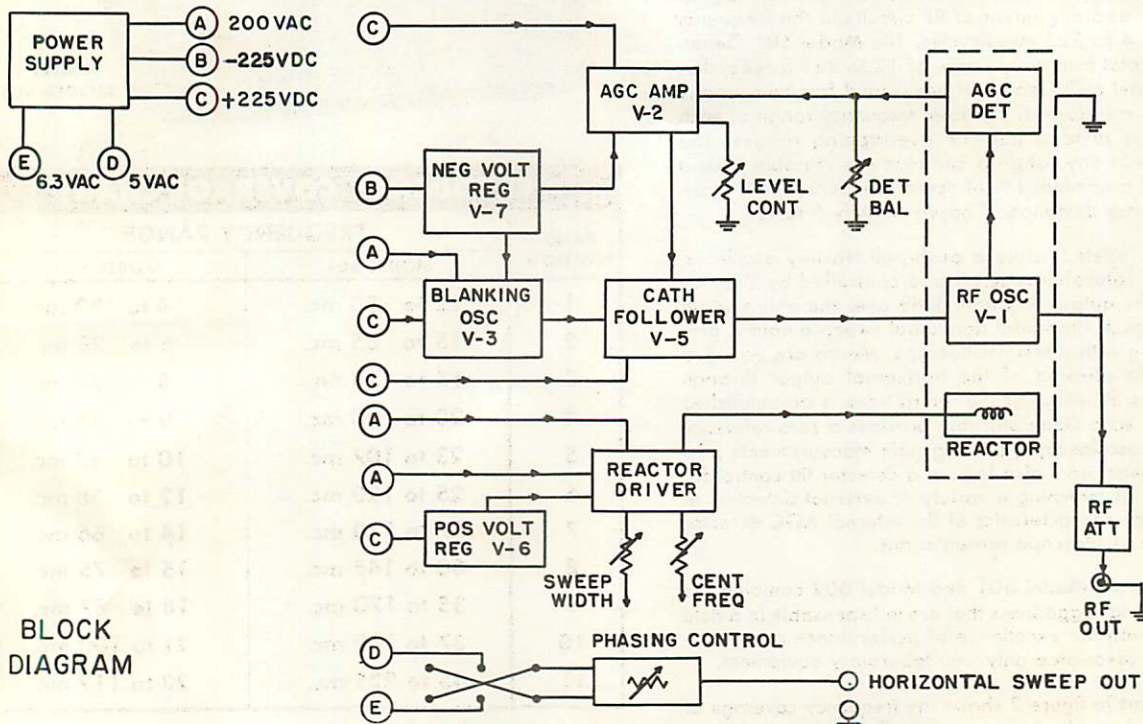


FIGURE 3. BLOCK DIAGRAM