

WARNING

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.

CAUTION

The CAUTION sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the equipment. Do not proceed beyond a CAUTION sign until the indicated conditions are fully understood and met.

Table 1-1. Specifications (1 of 2)

SPECIFICATIONS
8620C SWEEP OSCILLATOR
 (with RF Section or RF Plug-in installed)

FREQUENCY

Frequency Range: Determined by band select lever and RF Plug-in installed.

Frequency Linearity: Refer to RF unit specifications.

SWEEP FUNCTIONS

FULL Sweep: Sweeps the full band as determined by plug-in and band select lever.

MARKER Sweep: Sweeps from START MARKER to STOP MARKER frequency settings.

Range: Both settings continuously and independently adjustable over the entire frequency range; can be set to sweep either up or down in frequency.

End-point Accuracy: Refer to RF unit specifications, same as frequency accuracy.

ΔF Sweep: Sweeps symmetrically upward in frequency, centered on CW setting. SW Vernier can be activated for fine control of center frequency.

Width: Continuously adjustable and calibrated from zero to 1%, zero to 10%, or zero to 100% of usable frequency band as selected with front-panel switch. Scale calibrated directly in MHz.

Width Accuracy: $\pm 1\%$ of maximum ΔF plus $\pm 2\%$ of ΔF being swept.

Center-Frequency Accuracy: Refer to RF unit specifications, same as frequency accuracy.

Frequency Markers: Three constant-width frequency markers are fully calibrated and independently adjustable over the entire range of FULL SWEEP; the markers are controlled by the START MARKER, STOP MARKER, and CW MARKER controls. In ΔF Sweep, Start and Stop Markers are available; in MARKER SWEEP, the CW Marker is available. A front panel switch provides for selection of either amplitude or intensity markers (amplitude modulating the RF output or Z-axis modulating the CRT display).

Accuracy: Refer to RF unit specifications, same as frequency accuracy.

Resolution: Better than 0.25% of RF unit bandwidth.

Marker Output: Rectangular pulse, typically -5 volts peak, available from Z-axis BNC connector or rear panel. Source impedance, approximately 1000 ohms.

CW Operation: Single-frequency RF output, adjusted by CW Marker control and activated by pressing CW pushbutton.

CW Vernier: Calibrated directly in MHz about CW setting. CW Vernier activated by pressing CW VERNIER pushbutton. Zero to $\pm 0.5\%$ or zero to $\pm 5\%$ of full bandwidth, selectable with front panel switch.

Accuracy: Refer to RF unit specifications, same as frequency accuracy.

Preset Frequencies: START MARKER, STOP MARKER, and ΔF end points in MANUAL and CW MARKER frequency, can be used as preset CW frequencies.

Table 1-1. Specifications (2 of 2)

SWEEP MODES

Auto: Sweep recurs automatically.

Manual: Front-panel control provides continuous manual adjustment of frequency between end frequencies set in any sweep function.

External: Sweep is controlled by external signal applied to rear-panel PROGRAMMING connector. Zero volts at start of sweep increasing linearly to approximately +10V at end of sweep.

SWEEP TRIGGERS

Line: Sweep can be synchronized with ac power line.

Internal: Sweep is controlled by internally generated trigger.

External Trigger: Sweep is actuated by external trigger signal applied to rear-panel EXT TRIGGER BNC connector. Trigger signal must be greater than +2 Vdc, wider than 0.5 μ sec, and not greater than 1 MHz in frequency.

Single: Activated by front-panel switch.

Sweep Time: Continuously adjustable in four decade ranges typically .01 to 100 seconds.

Sweep Output: Direct-coupled sawtooth, zero to approximately +10V, concurrent with swept RF output. Zero volts at start of sweep, approximately +10V at end of sweep regardless of sweep width or direction. In CW mode, dc output is proportional to frequency.

MODULATION

Internal AM: 1000 Hz square-wave modulation on all sweep times (internally adjusted from 950 to 1050 Hz). On/Off ratio, refer to RF unit specifications.

External AM: Refer to RF unit specifications.

External FM: Refer to RF unit specifications.

Phase Lock: Refer to RF unit specifications.

GENERAL

RF Blanking: With RF blanking switch enabled, RF is automatically turned off during retrace, and turned on after completion of retrace. On automatic sweeps, RF is on long enough before sweep starts to stabilize

external circuits and equipment whose response is compatible with the selected sweep rate.

Display and Negative Blanking Outputs: Direct-coupled rectangular pulses of approximately +5V (Display Blanking) and approximately -5V (Negative Blanking) into 2500 ohms available at rear-panel Z-AXIS/MKR/PEN LIFT and NEGATIVE BLANKING connectors, respectively. Both pulses are coincident with RF Blanking pulse.

Pen Lift: For use with X-Y graphic recorders having positive power supplies only. Pen lift terminals available at rear panel PROGRAMMING connector or rear-panel Z-AXIS/MKR/PEN LIFT connector. Available only on slowest sweep speed.

Furnished: 229 cm (7½-foot) power cable with NEMA plug, and accessory kit.

Power: 100, 120, 220, and 240 Vac +5% -10%, 50 to 400 Hz. Approximately 140 watts.

Dimensions: 425 mm wide, 132,6 mm high, 33,7 mm deep (16¼" x 5-1/8" x 13¼").

Weight (not including RF unit): Net, 11,1 kg (24 lb). Shipping, 13,4 kg (30 lb).

OPTION 001 and OPTION 011 REMOTE FREQUENCY PROGRAMMING

Functions:

Band: Manual enable or remote control of four bands.

Mode: Seven modes; including digital-frequency control in three modes, with resolution of 10,000 points across full band or between START MARKER and STOP MARKER as set by front-panel controls, or across ΔF as set by front-panel ΔF and CW controls; or selection of any of four analog sweep functions: ΔF or MARKER SWEEP with end points set by appropriate front-panel controls, CW as set by CW MARKER control, or FULL SWEEP of band selected.

Frequency: Resolution of 10,000 points per band.

Marker (Option 011 only): With analog sweeps (FULL SWEEP, ΔF , or MARKER SWEEP), a programmable marker is available in either amplitude (AMPL) or intensity (INTEN) as selected with front-panel switch.