SPECIFICATIONS
8350A SWEEP OSCILLATOR
(with RF Plug-in installed)

FREQUENCY CONTROL FUNCTIONS

Range: Determined by RF plug-in unit used.

Linearity: Refer to RF plug-in unit specifications.

START/STOP Sweeps: Sweeps up from the START frequency to the STOP frequency.

Range: START and STOP parameters are independent, fully calibrated, and continuously adjustable over the entire frequency range. STOP frequency must be greater than or equal to START frequency.

CF/ΔF Sweep: Sweeps symmetrically upward in frequency, centered on the CF (Center Frequency) setting.

ΔF: Frequency width of sweep. Continuously adjustable from zero to 100% of frequency range. START/STOP and CF/ΔF modes can be interchanged without affecting RF output.

ΔF Accuracy: Refer to RF plug-in unit specifications.

CF Accuracy: Refer to RF plug-in unit specifications.

CF Resolution: 0.024% (4096 points across band).

ΔF Resolution: 0.1% of full band (1024 points across band); 0.012% of full band for 1/8 band or less (8192 points across band); 0.0015% of full band for 1/64 band or less (16,384 points across band).

Display Resolution: 5 digits maximum.

CW Operation: Single frequency RF output. When changing between CF/ΔF and CW mode, the CW frequency and the Center Frequency (CF) are equivalent.

CW Accuracy: Refer to RF plug-in unit specifications.

CW Resolution: Same as CF.

Vernier: Adjusts CW frequency of swept range up to ± 0.05% of RF plug-in band being swept. The vernier adds its value to the appropriate frequency parameter and then resets to zero when the adjustment exceeds ± 0.05% for continuous adjustment. The "≠0" LED is on whenever a vernier adjustment value is present.

Vernier Resolution: 4 ppm (64 points between each CW point; 262,144 points across band).

Offset: Allows the CW frequency or center frequency of swept range to be offset by any amount up to the full range of the RF plug-in. After entering an offset and returning the displays to the previous mode, the "≠0" LED will be on indicating that an offset is present; however, the display will remain unchanged.

Resolution: Same as CF.

Accuracy: Refer to RF plug-in unit specifications.

Frequency Markers: Five frequency markers are independently adjustable and fully calibrated over the entire sweep range. Front panel key provides for the selection of either amplitude or intensity markers.

Resolution: 0.4% of selected sweep width (250 points/sweep).

Accuracy: Refer to RF plug-in unit specifications.

Marker Output: Negative rectangular pulse available from the POS Z BLANK connector on the rear panel. Refer to Table 1-2.

Table 1-1. Model 8350A Specifications (2 of 2)

Marker Sweep: RF output is swept between Marker 1 and Marker 2 frequency values. The Marker 1 and Marker 2 frequency values can be entered as permanent sweep values with the SHIFT key. Pressing MKR SWEEP again returns the instrument to the last START/STOP values.

Marker→CF: Marker-to-Center Frequency function causes the CW or Center Frequency (CF) of the sweep output to equal the frequency of the active marker.

SWEEP AND TRIGGER MODES

Internal: Sweep recurs automatically.

Line: Sweep triggered by ac power line frequency.

External Trigger: Sweep is actuated by an external trigger signal applied to pin 9 of the rear panel Programming Connector on the rear panel. Trigger signal must be > +2 Vdc, wider than 0.5 us, and not greater than 1 MHz in frequency.

Single: Selects mode and triggers/aborts a single sweep.

Sweep Time: Continuously adjustable from 10 ms to 100 seconds. Minimum sweep time may be more than 10 ms depending upon the specific RF plug-in used and the bandwidth swept.

Manual Sweep: Front panel controls (knobs, keyboard, and step keys) provide continuous manual adjustment of frequency between end frequencies set in any of the sweep functions. Resolution is 0.1% of selected sweep width (980 points across sweep).

External Sweep: Sweep is controlled by a zero to +10 volt sweep ramp external signal applied to the front or rear panel SWEEP OUTPUT/SWEEP INPUT connectors. Resulting RF Output frequency accuracy will be a function of input sweep ramp accuracy and linearity.

Sweep Output: Positive-going, direct-coupled sawtooth at front and rear panel SWEEP OUTPUT/SWEEP INPUT connectors, concurrent with swept RF output. In CW mode, dc output is proportional to the RF plug-in unit full-band frequency. Refer to Table 1-2.

MODULATION CHARACTERISTICS

External AM: Refer to RF plug-in unit specifications. Rear panel BNC connector.

Internal AM: Square wave modulation available at all sweep speeds through front panel control. Refer to RF plug-in for On/Off ratio specifications. Refer to Table 1-2 for frequency characteristics.

External FM: Refer to RF plug-in unit specifications. Rear panel BNC connector.

GENERAL SPECIFICATIONS

Blanking

RF Blanking: When enabled, RF automatically is turned off during retrace and remains off until the start of next sweep.

Display Blanking: POS Z BLANK; direct-coupled, positive rectangular pulse during retrace and bandswitch points of sweep. Negative intensity marker signals are also output through this connector. NEG Z BLANK; direct-coupled, negative rectangular pulse during retrace and bandswitch points of sweep. Both are rear panel BNC outputs. Refer to Table 1-2.

Pen Lift: Output to control the pen lift function of an X-Y recorder. Refer to Table 1-2 for maximum sink current rating.

Counter Trigger (CNTR TRIG): Output for controlling the external trigger input of the HP 5343A Microwave Frequency Counter. Rear panel BNC connector.

Stop Sweep: Input for stopping the progress of a forward sweep. Rear panel BNC connector.