



INSTRUMENT STATE

**INSTR PRESET** Selects following function values:  
Sweep Mode: **START/STOP** (plug-in full band)

**INSTR PRESET** Also notes any internal problems via error codes in the upper left display:  
E001 Plug-in interface failure/  
check plug-in  
E016 Insufficient cooling airflow/check fan and filter (10min)  
E004 Power supply failure  
See Operating and Service Manual Section VIII for complete error code listing

**INSTR PRESET** Returns control to front panel from remote operation (unless Local Lock out in effect).

**INSTR PRESET** Displays in **FREQUENCY/TIME** display HP-IB address. New address may be entered from keyboard using numeric entry with any terminator key.

SAVE/RECALL

**SAVE** Saves current front panel state (all 8350B/83500 plug-in function values) in register 1. Registers 1 to 9 are available for storage.

**RECALL** Recalls state saved in register 1. Step Keys can sequentially recall registers 1 to 9.

**SAVE** Lock **SAVE** registers.

**RECALL** Remove lock from **SAVE/RECALL** registers.

**ALTN** 8350B alternates between current state and register 2 state on successive sweeps.

**ALTN** Turns alternate sweep off.

BLANKING/MODULATION

**BLANK** Turns Z-Axis retrace blanking **ON/OFF**. Positive blanking (HP 8756 and HP 8755) and negative blanking (HP 8410) outputs provided on rear panel. Positive Z-Axis provides display markers.

**RF** Turns RF blanking **ON/OFF** during retrace and band switches.

**LTI MOD** Turns internal square wave modulation **ON/OFF**. 27.8 KHz rate is standard. 1 KHz rate can be selected by user. (See Operating and Service Manual).

**NOTE:** **EXT AM** and **FM** inputs available on rear panel (see plug-in Operating and Service Manual).

SWEEP TRIGGER

**INT** SWP light indicates sweep in progress.  
Sweeps triggered internally (free running).

**LINE** Sweeps triggered by power line frequency.

**EXT** Sweeps triggered externally +2V(20V max) to rear panel programming connector.

**SINGLE** Selects and triggers single sweep mode.

SWEEP

**EXT** Enables external sweep. 0 to 10V must be applied to **SWEEP INPUT/OUTPUT** BNC.

**MAN** Enables manual sweep mode. Frequency indicated in **FREQUENCY/TIME** display.

**TIME** Enables timed sweeps and **SWEEP TRIGGER** modes. Time indicated in **FREQUENCY/TIME** display.

ALC MODE

**INT** Enables plug-in internal leveling.

**EXT** Enables external crystal detector leveling (negative voltage detectors only).

**MTR** Enables external power meter leveling (HP 432 only). Adjusts **ALC** gain to calibrate **POWER** display with external meter. (**EXT** and **MTR** only).

FREQUENCY

Frequency sweeps or CW frequencies can be selected within the frequency range of the installed RF Plug-in.

**START** FA Lower frequency limit of sweep.

**STOP** FB Upper frequency limit of sweep. Alternatively sweep limits can be displayed as:

**CF** CF Center frequency of sweep.

**DF** DF Frequency span of sweep.

**CW** CW Single frequency CW mode. CW frequency equals CF frequency.

**SH** SH Multiplier mode to display actual output frequency when external frequency multiplier is used.

**START** FA CW frequency mode with **SWEEP OUTPUT** voltage (See **POWER SWEEP**).

**SH** SH Coarse resolution CW frequency control with knob.

**CF** CF Fine resolution CW frequency control with knob.

**DF** DF Offset mode to display actual output frequency when external frequency converter is used.

**VERNIER** VERNIER Offsets RF frequency. Frequency display values are unchanged. Light indicates non-zero **OFFSET** or **VERNIER** value and is cleared with 0 MHz keyboard entry.

MARKERS

All markers **M1** to **M5** are independent, continuously variable and can have three states: off (light in key off), on (light on continuously), and activated (light blinks). Markers are normally displayed as Z-Axis intensity dots. Amplitude markers are selectable.

**AMPD MKR** Turns RF amplitude markers **ON/OFF**.

**M1** Initiates and/or activates Marker 1 (light blinks). Current frequency of **M1** is displayed. If **M1** is outside of sweep, it jumps to center sweep when Control knob is first turned.

**M1** Turns **M1** off (light off).

**M2** Turns all markers, **M1** to **M5**, off.

**M3** Sets CF equal to active marker frequency.

**M3** Turns sweep between **M1** and **M2** **ON/OFF**. Sweep limits controls adjustable with sweep mode or marker controls. Sweep returns to original limits upon exit.

**M3** Sets **START** equal to **M1** and **STOP** equal to **M2**. Original **START/STOP** values discarded.

**M4** Frequency difference between **M3** and **M4** displayed (**MKRA** light on). **OFF** exits **MKRA** mode.

**M4** Activates interface to HP 5343A counter.

**M5** Deactivates interface to HP 5343A counter.

POWER

RF output power is calibrated over a nominal 10-dB range on 83500 Series RF plug-ins (up to 80 dB with Opt 002 internal attenuation). See plug-in Operating and Service Manual for calibrated power levels, sweeps, and slopes. **INT ALC** mode assumed for all operations below.

**POWER** PL RF output power in dBm (**UNEVELED** light off).

**POWER SWEEP** PS1 **POWER SWEEP** width in dB. **POWER LEVEL** is starting power for sweep. Sweep rate and trigger are set on 8350B. In CW mode **SH** CW IS necessary to activate **POWER SWEEP**.

**SLOPE** SL1 Variable attenuation with frequency (dB/GHz). Light indicates **SLOPE** on/off.

**SLOPE** PS Decouples ALC from attenuator and activates ALC control. (plug-in Opt 002).

**RF** Decouples ALC from attenuator and activates 10 dB step attenuator control. (plug-in Opt 002).

**RF** Turns RF output power **ON/OFF**.

**RF** Turns CW frequency control filter **ON/OFF**.

**NOTE:** For 86200 Series, RF Plug-ins/118694 Adapter, **POWER** and **ALC** entries are not digitally controlled and must be made on the plug-in-Step key, keyboard, and HP-IB entries do not apply.

GETTING STARTED

All major front panel functions on the 8350B Sweep Oscillator/83500 Series RF plug-ins are defined on this information card. The code beside each control outline (e.g., FA, CF, M1) is the HP-IB command for that control. Refer to the Operating and Service Manual, Section III, for more information.

Control knobs and **DATA ENTRY** keyboard are used to change any sweep oscillator function. For example, to change start frequency:

Activate function by pressing **start**, then change the value with the appropriate Control knob. Step keys, or keyboard.

Numerical values and units (e.g., GHz, ms) are indicated in the display corresponding to the activated function. As long as a function is activated, the appropriate Control knob, Step keys, and the keyboard can be used in any order any number of times.

Clockwise rotation increases value.

Depending on the activated function, values are changed in automatic sequential steps or in steps proportional to the displayed value.

Increases value.

One common **STEP SIZE** for **START**, **STOP**, **CF**, **CW**, **DF**, **MARKER**, and **MANUAL SWEEP** frequencies and one **STEP SIZE** for **POWER LEVEL** can be entered from the keyboard.

All other step sizes are determined internally. For example:

the Step keys to change CW frequency in 1 GHz steps. **STEP SIZE** value is not displayed. Keyboard number entry followed by unit terminator precisely sets value of activated function.

Erases last digit entered.

HP-IB Codes for units terminators.

Shift key activates functions coded in blue and special functions.