

# **MODEL DS335**

## Synthesized Function Generator

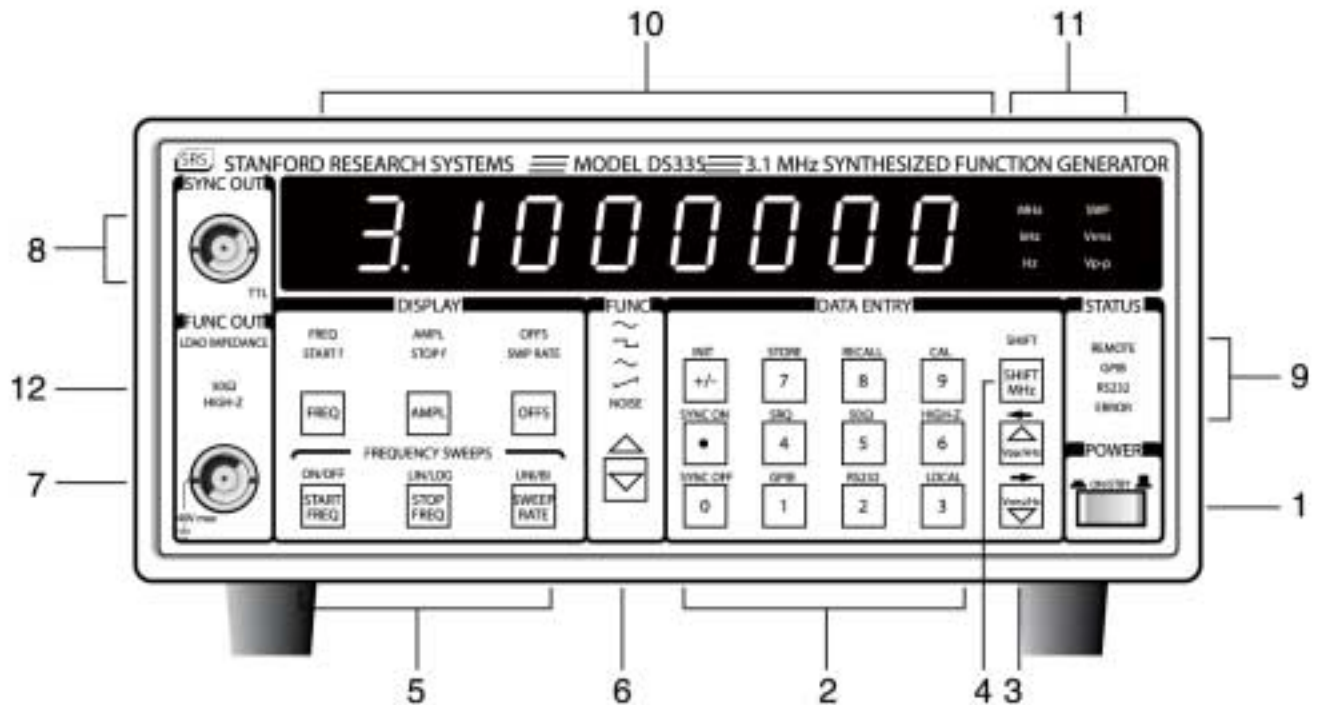


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Revision 1.6 (1/2002)

## Front Panel Features



### 1) Power Switch

The power switch turns the DS335 on and off. The DS335 has a battery backed up system RAM that remembers all instrument settings.

### 2) Data Entry Keys

The numeric keypad allows for direct entry of the DS335's parameters. To change a parameter value simply type the new value. Entries are terminated by the UNITS keys. A typing error may be corrected by pressing the corresponding function key. For example, if the wrong numeric key is pressed while entering a new frequency, pressing the [FREQ] key will backspace over the last entered digit. If there are no digits left, the current frequency value is displayed. The [+/-] key may be selected at any time during numeric entry.

### 3) Units Keys

The UNIT keys are used to terminate numeric entries. Simply press the key with the desired units to enter the typed value. Some parameters have no particular units and **any** of the unit keys may be used.

The unit keys also increase and decrease the numeric value in the DS335's display. Pressing the [UPARROW] key adds one to the flashing digit value, the [DOWN ARROW] key subtracts one from the flashing digit value. To change the position of the flashing digit, press [SHIFT] [LEFT ARROW] or [SHIFT] [RIGHT ARROW]. A few of the display menus have more than one parameter displayed at a time. The [SHIFT][LEFT ARROW] and [SHIFT][RIGHT ARROW] keys select between left and right.

### 4) Shift Key

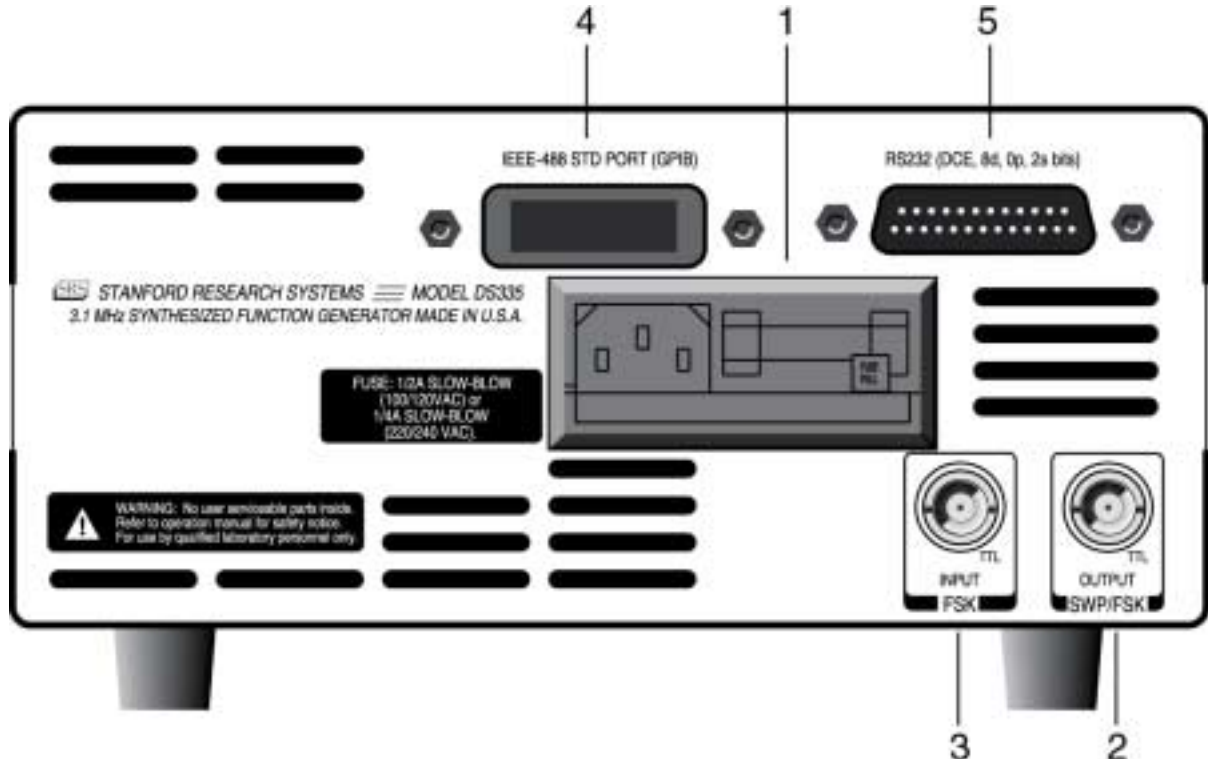
The shift key selects the function printed above the keys. Pressing [SHIFT] and then the desired key to select the specific function (for example [SHIFT][50Ω] sets the source impedance to 50Ω. When the SHIFT key is pressed the SHIFT LED will light. Pressing [SHIFT] a second time will deactivate shift mode.

## 2-6 Features

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- 5) Sweep Key** These keys control the different sweep parameters including: Start and Stop Frequencies, Sweep Rate, Continuous or Single Sweep, Linear or Log Sweep, Unidirectional or Bidirectional Sweeps, and FSK.
- 6) Function Keys** These keys control the main function output. The Func [DOWN ARROW] key and [SHIFT][UP ARROW] key select between the output functions. If the output frequency is set beyond the range allowed for a waveform (> 10kHz for triangle and ramp) an error message will be displayed and the frequency will change to the maximum allowed for that function.
- 7) Main Function BNC** This output has an impedance of 50Ω. The shield of this output may be floated up to ±40V relative to earth ground.
- 8) Sync Output BNC** This output is a TTL square wave synchronized to the main function output and has a 50Ω output impedance. The shield of this output may be floated up to ±40V relative to earth ground.
- 9) Status LEDs** These four LEDs indicate the DS335's status. They are:
- | <u>name</u> | <u>function</u>   |
|-------------|---|
| REMOTE      | The DS335 is in GPIB remote state. The [3] key returns local control.                     |
| GPIB        | Flashes on GPIB activity.   |
| RS232       | Flashes on RS232 activity.  |
| ERROR       | Flashes on an error in the execution of a remote or local command including range errors. |
- 10) Parameter Display** The 8 digit display shows the value of the currently displayed parameter. The LEDs below in the DISPLAY section indicate which parameter is being displayed. Error messages also appear on the display. When an error message is displayed you can return to the normal display by pressing any key.
- 11) Units LEDs** The Units LEDs indicate the units of the displayed parameter. If no LED is lit the value has no units. The SWP LED indicates that a sweep or FSK is in progress.
- 12) Load Impedance LEDs** These LEDs indicate the load impedance value as set by the user. The amplitude and offset display values will change according to the load impedance setting.

## Rear Panel Features



- 1) Power Entry Module** This contains the DS335's fuse and line voltage selector. Use a 1 amp slow blow fuse for 100/120 volt operation, and a 1/2 amp fuse for 220/240 volt operation. To set the line voltage selector for the correct line voltage, first remove the fuse. Then, remove the line voltage selector card and rotate the card so that the correct line voltage is displayed when the card is reinserted. Replace the fuse.
- 2) Sweep/FSK Output** This output generates a TTL pulse that is synchronous with the DS335's frequency sweep. When the DS335 is in FSK mode, the output voltage reflects the present frequency at the FUNCTION output BNC (TTL LOW = Start Frequency, TTL HIGH = Stop Frequency). The shield of this output is tied to that of the function output and may be floated up to  $\pm 40V$  relative to earth ground.
- 3) FSK Input** The Frequency-Shift Keying input allows the user to toggle between the start frequency and the stop frequency. The BNC takes a TTL level input. When the input is low the start frequency is active, and when the input is high the stop frequency is active. This input is sampled at 10 MHz.
- 4) GPIB Connector** If the DS335 has the optional GPIB/RS232 interface this connector is used for IEEE-488.1 and .2 compatible communications. **The shield of this connector is connected to earth ground.**
- 5) RS232 Connector** If the DS335 has the optional GPIB/RS232 interface this connector is used for RS232 communication. The DS335 is a DCE and accepts 8 bits, no parity, 2 stop bits at between 300 and 9600 Baud. **The shield of this connector is connected to earth ground.**