

- Knob** The knob is used to adjust parameters in the Reference display. The parameters which may be adjusted are internal reference frequency, reference phase shift, sine output amplitude, harmonic detect number, offsets, Aux Output levels, and various Setup parameters.
- Local Lockout** If the computer interface has placed the unit in the REMOTE state, indicated by the REMOTE led, then the keys and the knob are disabled. Attempts to change the settings from the front panel will display the message 'LOCL LOut' indicating local control is locked out by the interface.
- Reference Input** The reference input can be a sine wave (rising zero crossing detected) or a TTL pulse or square wave (rising or falling edge). The input impedance is 1 M Ω AC coupled (>1 Hz) for the sine input. For low frequencies (<1 Hz), it is necessary to use a TTL reference signal. The TTL input provides the best overall performance and should be used whenever possible.
- Sine Out** The internal oscillator output has a 50 Ω output impedance and varies in amplitude from 4 mVrms to 5 Vrms. The output level is specified into a high impedance load. If the output is terminated in a low impedance, such as 50 Ω , the amplitude will be less than the programmed amplitude (half for a 50 Ω load).
- This output is active even when an external reference is used. In this case, the sine wave is phase locked to the reference and its amplitude is programmable.
- A TTL sync output is provided on the rear panel. This output is useful for triggering scopes and other equipment at the reference frequency. The TTL sync output is a square wave derived from the zero crossings of the sine output.
- CH1 & CH2 Outputs** The Channel 1 and Channel 2 outputs can be configured to output a voltage from -10 V to +10 V proportional to X or Y or the CH1 and CH2 Displays. ± 10 V is full scale. The outputs can source 10 mA maximum.
- Signal Inputs** The input mode may be single-ended, A, or differential, A-B. The A and B inputs are voltage inputs with 10 M Ω , 25 pF input impedance. Their connector shields are isolated from the chassis by 10 Ω (Ground) or 1 k Ω (Float). Do not apply more than 50 V to either input. The shields should never exceed 1 V. The I (current) input is 1 k Ω to a virtual ground.
- Key Click On/Off** Press the [Phase] and [Harm#] keys together to toggle the key click on and off.
- Front Panel Display Test** To test the front panel displays, press the [Phase] and [Freq] keys together. All of the LED's will turn on. Press [Phase] to decrease the number of on LED's to half on, a single LED and no LED's on. Use the knob to move the turned on LED's across the panel. Press [Freq] to increase the number of on LED's. Make sure that every LED can be turned on. Press any other key to exit this test mode.
- Display Off Operation** To operate with the front panel displays off, press [Phase] and [Freq]