

## EE1461 SERIES DDS RF SIGNAL GENERATOR



EE1461 series

### Features:

- DDS technology used, more accurate output
- Frequency range up to 300MHz
- Frequency resolution 1Hz
- Level range -127dB ~ +13dB
- Level resolution 0.1dB
- Spectral purity: harmonics: < -30dBc, nonharmonics and subharmonics < -40dBc
- Modulation: AM, FM, FSK
- Stepping sweep function, hold time adjustable
- Independent audio signal output (optional)
- FM stereo (optional)
- Convenient operation with numerical keypad and electronic rotary encoder input
- Store/recall function, up to 10 sets of memory by panel setting, nonvolatile memory
- 16 character/two line dot-matrix LCD display with backlight
- RS232 or IEEE488 interface (optional)
- Reliable performance with low cost, ideal for education, manufacturing plant, and other general RF test

### Specifications

| EE1461A / EE1461B / EE1461C / EE1461D / EE1461E |                        |  | (continued)        |  |  |
|---|------------------------|--|--------------------|--|--|
| <b>FREQUENCY</b>                                | Range                  | 100kHz~65MHz (EE1461A), 100kHz~110MHz(EE1461B), 100kHz~150MHz(EE1461C), 100kHz~200MHz(EE1461D), 100kHz~300MHz(EE1461E) | Modulation Rate    | Internal: 1kHz or 400Hz  |  |
|   | Resolution             | 1Hz  |                    | External: 20Hz~10kHz (3dB bandwidth, output level +4dBm, >65MHz typical) |  |
|   | Accuracy and Stability | Same as reference frequency  | Distortion         | < 5% (at 1kHz rate, depth 30%, 0.3~3kHz BW typical)                      |  |
|   | Switching Speed        | < 100ms (within 100Hz)   | Residual AM        | < 0.1%rms (0.05~15kHz BW typical)  |  |
| <b>REFERENCE FREQUENCY</b>                      | Int. Reference Output  | Frequency: TCXO 10.000MHz  | <b>FM</b>          | Max. Peak Deviation  | 0~100kHz   |
|   |                        | Temperature effect: +/-2.5ppm (0°C~40°C)   |                    | Resolution   | 100Hz  |
|   |                        | Frequency accuracy: +/-25ppm   |                    | Accuracy   | +/-5% of setting value +/-50Hz(at 1kHz rate, peak deviation>5kHz)  |
|   |                        | Frequency stability: +/-5ppm/day   |                    | Modulation Rate  | Internal: 1kHz or 400Hz  |
|   | Ext. Reference Input   | Frequency: 10MHz   |                    | Distortion   | < 2% (at 1kHz rate, 0.3~3kHz BW typical when peak deviation>10kHz) |
|   |                        | Input level: 0.3Vrms~1Vrms (50Ohm load)  | <b>FSK</b>         | Mode   | External TTL level   |
| <b>SPECTRAL PURITY</b>                          | Harmonics              | < -30dBc (output level<=+4dBm, EE1461A and EE1461B)  |                    |  | FSK modulation in following bands                                  |
|   |                        | < -15dBc (EE1461C, EE1461D and EE1461E)  |                    |  | 100kHz~1.5MHz (FSK rate < 25kHz)                                   |
|   | Nonharmonics           | < -40dBc (output level<=+4dBm, >=5kHz from carrier)  |                    |  | 1.5MHz~20MHz (FSK rate < 25kHz)                                    |
|   | Subharmonics           | < -40dBc (output level<=+4dBm)   |                    |  | 20MHz~65MHz (FSK rate < 50kHz)                                     |
|   | Residual FM            | < 100Hz (0.3~3kHz rms, <110MHz)  |                    |  | 65MHz~300MHz (FSK rate < 2kHz)                                     |
| <b>OUTPUT LEVEL</b>                             | Range                  | -117dBm(0.3uVrms)~+13dBm(1Vrms), (over-ranging lowest to -127dBm/0.1uVrms, max. +10dBm when >200MHz)                   | <b>SWEEP</b>       | Sweep Time   | 10ms~1000ms, in 10ms step  |
|   | Resolution             | 0.1dB  |                    | Sweep Ranges   | 0.1MHz~65MHz, 65MHz~110MHz, 110MHz~200MHz, 200MHz~300MHz           |
|   | Level Flatness         | +/-1dB (output level at +4dBm, <400kHz typical)  | <b>MOD. SOURCE</b> | Internal   | Input impedance: 600 Ohm   |
|   | Level Accuracy         | +/-2dB (<105dBm typical)   |                    |  | Output rate: 1kHz or 400Hz   |
|   | SWR                    | <1.5 (f>300kHz, level<-6dBm typical)   |                    |  | Output level: 1Vpeak   |
|   | Output Impedance       | 50 Ohm   |                    |  | Audio signal output: 1Hz~1MHz (optional)                           |
| <b>AM</b>                                       | RF Frequency           | >=1.5MHz (without guarantee of specs when <1.5MHz)   |                    | External   | Input level: 0~1Vpeak  |
|   | Modulation Depth       | 0~70% (50% when output level<=+4dBm, >=110MHz, set value up to 100%)   | <b>INTERFACE</b>   |  | RS-232 or IEEE488 (optional)                                       |
|   | Resolution             | 1% (mod. depth>=10%), 0.1% (mod. depth<10%)  | <b>GENERAL</b>     | Power Source   | 110V/220V +/-10%, 50/60Hz  |
|   | Accuracy               | +/-7% of setting value +/-1.5% (1kHz rate, depth<=30%)   |                    | Power Consumption  | 30W max.   |
|   |                        |  |                    | Dimension  | 240 x 363 x 90mm   |
|   |                        |  |                    | Net Weight   | 3 Kgs  |
|   |                        |  |                    | Operating Temp.  | 0°C ~ 40°C   |
|   |                        |  |                    | Standard Accessories   | Power cord (1 piece), BNC to BNC leads (1 piece)                   |