ERASynth: An Open Source, Arduino-Compatible RF Signal Generator with Wi-Fi Connectivity

COMMAND LIST

ERASynth Command List		
• **COM Port Baud Rate: 115200 bps** • **All commands have to be sent with carriage return.**		
Command	**Name**	**Details**
>P01	RF ON	
>P00	RF OFF	
>F{0}	Frequency in Hz	{0} should be replaced by an integer number e.g. >F100000000 sets 100 MHz
>A{0}	Amplitude in dBm	{0} should be replaced by a decimal number e.g. >A-15.8 sets -15.8 dbm
>MS1	Modulation ON	Turns modulation on
>MS0	Modulation OFF	Turns modulation off
>M10	Modulation Source: Internal	Sets modulation source as Internal
>M11	Modulation Source: External	Sets modulation source as External
>M12	Modulation Source: Microphone	Sets modulation source as Microphone
>M00	Modulation Type: NarrowBand FM	Sets modulation type as Narrowband FM
>M01	Modulation Type: WideBand FM	Sets modulation type as Wideband FM
>M02	Modulation Type: AM	Sets modulation type as AM
>M03	Modulation Type: Pulse	Sets modulation type as Pulse
>M20	Wave Type: Sine wave	Sets internal modulation wave type as Sine
>M21	Wave Type: Triangle wave	Sets internal modulation wave type as Triangle
>M22	Wave Type: Ramp wave	Sets internal modulation wave type as Ramp
>M23	Wave Type: Square wave	Sets internal modulation wave type as Square
>M3{0}	Internal Mod. Freq. in Hertz	{0} should be replaced by an integer number e.g >M31000 sets 1 kHz
>M5{0}	AM Depth	{0} should be replaced by an integer number e.g. >M520 sets 20% AM depth
>M4{0}	FM Deviation in Hertz	{0} should be replaced by an integer number e.g. >M41000 sets 1 kHz FM deviation
>M6{0}	Pulse Period in us	{0} should be replaced by an integer number e.g. >M61000 sets 1ms Pulse period
>M7{0}	Pulse Width in us	{0} should be replaced by an integer number e.g. >M72000 sets 2ms Pulse width
>SS1	Sweep On	Starts sweep
>SS0	Sweep Off	Stops sweep
>S00	Sweep Trigger: Freerun	Sets sweep trigger as Free run
>S01	Sweep Trigger: External	Sets sweep trigger as External

>S1{0}	Sweep Start Freq. in Hertz	{0} should be replaced by an integer number e.g. >S1100000000 sets 100 MHz
>S2{0}	Sweep Stop Freq. in Hertz	{0} should be replaced by an integer number e.g. >S2200000000 sets 200 MHz
>S3{0}	Sweep Step Freq. in Hertz	{0} should be replaced by an integer number e.g. >S31000000 sets 1 MHz
>S4{0}	Sweep Dwell Time in ms	{0} should be replaced by an integer number e.g. >S4100 sets 100ms
>P10	Reference Source: Internal	Sets reference source as internal
>P11	Reference Source: External	Sets reference source as external
>P50	Internal Reference Type: TCXO	Turns internal reference TCXO on and turns internal reference OCXO off
>P51	Internal Reference Type: OCXO	Turns internal reference OCXO on and turns internal reference TCXO off
>P90	Synthesizer Mode: Low Spurious Mode	Sets synthesizer mode as low spurious
>P91	Synthesizer Mode: Low Phase Noise Mode	Sets synthesizer mode as low phase noise
>PE01	ESP8266 module ON	Turns ESP8226 module on
>PE00	ESP8266 module OFF	Turns ESP8226 module off
>PES0{0}	Station SSID	Sets network SSID for ESP8266 module. {0} should be replaced by string
>PEP0{0}	Station password	Sets network password for ESP8266 module. {0} should be replaced by string
>PES1{0}	Hotspot SSID	Sets hotspot SSID for ESP8266 module. {0} should be replaced by string
>PEP1{0}	Hotspot password	Sets hotspot password for ESP8266 module. {0} should be replaced by string
>PEI{0}	IP Address	Sets IP address of ESP8266 module. {0} should be replaced by string in this format: xxx.xxx.xxx.xxx i.e. every part of IP address has to be 3 characters e.g. 010.000.000.002
>PEN{0}	Subnet mask	Sets Subnet mask for ESP8266 module. {0} should be replaced by string in the same way as IP address
>PEG{0}	Default Gateway	Sets default gateway for ESP8266 module. {0} should be replaced by string in the same way as IP address
>PEW0	WiFi Mode: Station	Sets ESP8266 WiFi mode as Station
>PEW1	WiFi Mode: Hotspot	Sets ESP8266 WiFi mode as Hotspot
>PP	Preset	Preset the device
>PR	Factory Reset	Does factory reset on the device
>U	ESP8266 Upload Mode	Puts ERASynth into ESP8266 upload code mode.

>RA	Read All	Reads configurations above and returns as JSON
>RE	Read Embedded Version	Reads the firmware version of the ERASynth
>RR	Read RSSI	Reads Wifi received signal power
>RC	Read Current in Amper	Reads the current value drawn by the ERASynth
>RV	Read Voltage in Volt	Reads input voltage value from power input of the ERASynth
>R2	Read LMX2 PLL Lock Status	Reads PLL lock status of LMX2 (1: Locked, 0: Not Locked)
>R1	Read LMX1 PLL Lock Status	Reads PLL lock status of LMX1 (1: Locked, 0: Not Locked)
>R0	Read XTAL PLL Lock Status	Reads PLL lock status of XTAL (1: Locked, 0: Not Locked)
>RT	Read Temperature in Celcius	Reads temperature of the ERASynth
>RD	Read Diagnostic	Reads all status above and returns as JSON