February Digital Challenge
PSK

Now that many of you have successfully configured your radios for digital communication and gained some experience with RTTY, it's an opportune moment to transition to the next level: PSK. Building on the foundational knowledge acquired through RTTY, diving into PSK opens up new possibilities for efficient and effective communication. The unique characteristics of PSK, such as its ability to support up to 20 side-by-side communications within the same bandwidth, make it an exciting and rewarding progression in the realm of digital amateur radio. So, take the next step and explore the capabilities of PSK for a richer and more dynamic radio experience.

PSK31 is a highly efficient data mode designed for long-distance communication, especially in challenging signal conditions. PSK31, which stands for Phase Shift Keying 31 baud (or 31 bits per second/bps), distinguishes itself from RTTY (radio teletype) by forming characters through changes in the phase of the sound wave rather than using different tones. When transmitted, a PSK31 signal resembles a single tone or note with a slight wobble, making it ideal for real-time keyboard-to-keyboard informal text "chats" over the air.

What sets PSK31 apart is its effectiveness with low power levels, making it a preferred choice for QRP (low power) and stealth antenna operators. Developed by Peter Martinez (G3PLX), PSK31 was introduced to the amateur radio community in late 1998. The mode garnered enthusiastic reception and quickly gained popularity, spreading into worldwide use.

PSK31 offers an additional noteworthy feature: it enables up to 20 side-by-side communications to occur within the same bandwidth that a single sideband communication would typically occupy. This efficient use of bandwidth enhances the spectrum efficiency of PSK31, allowing for a more crowded yet effective utilization of radio frequencies. As a result, amateur radio operators can engage in multiple simultaneous conversations, making PSK31 a versatile and practical choice for efficient communication in the amateur radio community.

PSK operators tend to hang out at certain frequencies on the bands, depending on country and regulations.

PSK31 HF Frequencies		**PSK31 VHF Frequencies**	
Band	**Frequency**	**Band**	**Frequency**
160 meters	1.838.150 MHz	6 meters	50.290 MHz
80 meters	3.580.150 MHz	2 meters	144.144 MHz
40 meters	7.080.150 MHz	1.25 meters	222.07 MHz
30 meters	10.142.150 MHz	70 centi-meters	432.2 MHz

20 meters	14.070.150 MHz	33 centi-meters	909 MHz
17 meters	18.100.150 MHz		
15 meters	21.080.150 MHz		
12 meters	24.920.150 MHz		
10 meters	28.120.150 MHz		

As you embark on your journey into PSK, it's crucial to configure your radio for USB (Upper Side Band), even when operating on bands below 20 meters. Like RTTY, PSK lacks built-in error correction. However, it's worth noting that at signal levels above 10 dB, the occurrence of errors is significantly reduced. To ensure a smooth and error-resistant communication experience, this adjustment in radio settings becomes essential.

For additional insights and information on PSK, you can explore https://bpsk31.com. This resource can provide valuable details and guidance to enhance your understanding and proficiency in utilizing PSK for amateur radio communications.

The **PODXS 070 Club Valentine Sprint**, is February 14, 0000Z to 2359Z. For those with a soft spot for PSK31 mode, this is a Valentine's Day treat that will let you make connections without the use of Cupid's arrow. Work as many stations on 160/80/40 meters as possible using PSK31 mode during a six-hour block. This event is open to all amateur radio operators licensed to operate on the HF bands.

Good Luck and I look forward to receiving your logs.

73

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