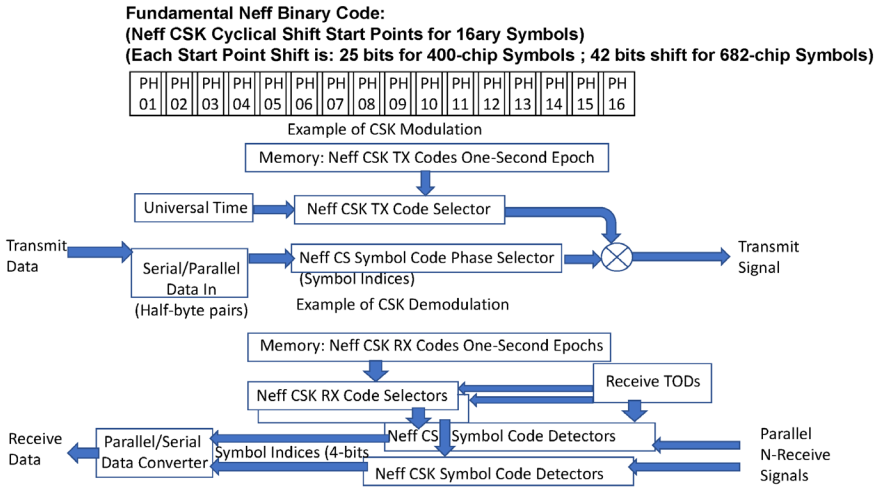
Common Modulation Architecture Example For CSK Code Symbol Transmitters and Receivers

A CSK modulation technique is a Direct-Sequence Spread Spectrum (DSSS) signaling method which overcomes the spreading gain versus data rate limitations of shift register-based codes. CSK symbol or half-symbol transmissions over a communication channel provides the 16-ary orthogonal detection means for representing the full length symbol in network transmit modulator and receive demodulator. This new CSK technology provides a pristine symbol repesentation of 4-bits to support spectrum efficient throughput of 1 Gbps to over 4+ Gbps with common 1-second epochs of non-repeating CSK Codes. The special characteristic of the CSK modulation with respect to the typical orthogonal M-ary signaling is that each detected full symbol or half-symbol represents a set of 4 to 8 input transport bits per 20 microsecond synchronizsation slot. Neff CSK Codes for all binary code based communications include a near unlimited source of orthogonal codes. Neff CSK half-symbols are robust enough (in symbol cross-correlations) to represent full symbol data transport within each code-length in a 20-microsecond time slot. This common time-base gives receivers the common Universal Time to all CSK Code Symbol moduators and demodulators with 1-second rollover of new users to join and exit the net without loss of precision time tracking lock. There are enough unlimited CSK Code counts to provide many more orthogonal codes than needed. Pre-use off-line CSK Code generation, Analyses, and memory storage processes guarantees performance parameters such as maximum symbol cross-correlations in the recorded CSK Codes in memory. A single CSK Symbol cross-correlation value can be guaranteed lower than 9% of original CSK code length with a mean cross-correlation of 4% to 6% for the half-code symbol options.



Neff CSK Code and Symbol Modulation and Demodulation without Shift Register-based Code Generation

Primary CSK Codes Advantages

- CSK Codes are consistent with current Gigahertz-speed processors and Terabyte memories
- All network users can optimize the CSK Code generation to match network requirements
- Users can exit and enter across multiple networks in a MIMO environment to optimize content
- Network managers can manage user efficiencies and increase unique user counts by 1000s
- Large network orthogonal CSK Code counts are proportional to code pulse-width counts
- Typical CSK Code pulse-width counts are 30 or greater is a very-large 30+ factorial
- This 30 Factorial = 2.65252859812191058636308 48e+32