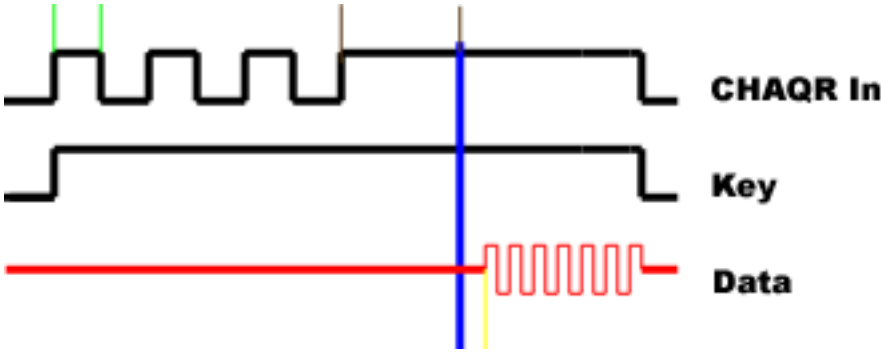
Trunking mode operation of the C Plus

In trunking mode, we will not transmit until we have been given permission and we will not decode unless we know it is for us. This is detected by the use of timers *Trunk Debounce, Trunk Key Time* and *Trunk Timeout* and sense lines *RX Inhib, CHAQR IN* and *CHBSY IN*.

LTR System Scenario:
The C Plus has just been directed to send a selective call to a radio. The C Plus checks the *CHBSY* line and finds that the attached radio is not actively receiving and it checks the *PTT* line and finds that the radio is not currently transmitting. It then activates the *KEY* line for the amount of time described by the timer *Trunk Key*. From the beginning of key time until the expiration of *Trunk Timeout*, the unit is checking *CHAQR* line and waits for the line to become true. Once it changes state, the C Plus watches the line for the time described in *Trunk Debounce* and verifies that the state change remained unchanged for the entire *Trunk Debounce* time. The C Plus then waits the *Attack Delay* time and then encodes and sends the message out the data out line. If *CHAQR* does not change state (and remains changed for the entire *Trunk Debounce* time) for the duration of *Trunk Timeout the* call is dropped. If, during *Trunk Key Time*, *CHAQR* changes state, but changes state again before *Trunk Debounce* expires, the timer *Trunk Debounce* resets and waits for *CHAQR* to toggle active again and starts counting down again. In LTR systems, *Trunk Key Time* and *Trunk Timeout* are set to the same value.

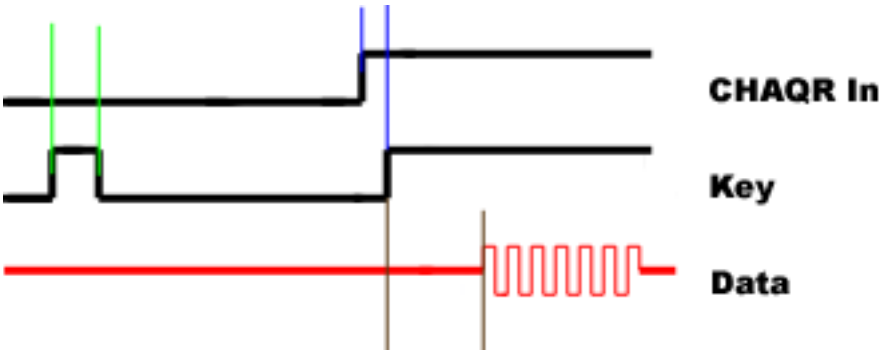


In this timing chart, the distance between green lines is 100ms, between brown lines is 250ms and from the Blue to the Yellow line is 50ms. The C Plus is programmed for *CHAQR* active High, *Attack Delay* of 50ms, *Trunk Debounce* of 250ms and *Trunk Key Time* and *Trunk Timeout* is set to 3 Seconds.

For the receive portion, if *RX Inhib* is active, the received data is discarded without action.

MPT-1327 System Scenario:
The C Plus has just been directed to send a selective call to a radio. The C Plus checks the *CHBSY* line and finds that the radio is not actively receiving and it checks the *PTT* line and finds that the radio is not currently transmitting. It then activates the *KEY* line for the amount of time described by the timer *Trunk Key*. From the beginning of key time until the expiration of *Trunk Timeout*, the unit checks *CHAQR* line and waits for the line to become true. Once it changes state, the C Plus watches the line for the

time described in *Trunk Debounce* and verifies that the state remains unchanged for the entire *Trunk Debounce* time. It then rekeys, waits the *attack delay* and sends out data. If *CHAQR* does not change state for the duration of *Trunk Timeout* the call is dropped.



In this timing chart, the distance between green lines is 100mS, between blue lines is 50mS and between brown lines is 200mS. The C Plus is programmed for *CHAQR* active High, *Attack Delay* of 200mS, *Trunk Debounce* of 50mS, *Trunk Key Time* of 100mS and *Trunk Timeout* to 3 Seconds.

For the receive portion, if *RX Inhib* is active, the received data is discarded without action.

Enabling this Feature
Trunking mode is selected in the C Plus personality programming. Under *"Define Radio Interface"* select *"Transmit Mode"* then select *"Trunking".*

Special Requirements:
Timers *Trunk Debounce, Trunk Key Time* and *Trunk Timeout* must be set for the trunking system in use.

Additional sense lines *RX Inhib, CHAQR IN* and *CHBSY IN* must be interfaced to the host radio.