

# Master Control Talk Groups MCT's

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# What are MCTs ?

- Special Group Call Talk Groups (TGs)
- User commanded TG Control Method
- Override default or normal settings & timers
  - Most or all TGs on a manager's Time Slot (TS)
- Semi-automatic method to avoid TG “hijacking”
- Control TGs on TS 1 and/or TS 2 all via MCTs on TS 1
- Not used for voice traffic

# Why MCTs ?

- Huge benefit to c-Bridge developers and admins
- Eliminates need for individual hold-off timers
  - Coding of  $nn$  TS hold-off timers for each TG on the TS
    - $nn$  = number of TGs on the TS
    - Example: 15 TGs in TS requires 15 timers for each of 15 TGs
    - 225 hold-off timers total need to be coded in this example
- MCTs only require 1 timer per TG
- Development coding reduced from 6-8 hrs. to 1 hr. for a 15 TG TS
- MCT use precludes TG hijacking by network traffic during local use

# How is MCT Controlled?

- TGIDs are created for MCT ON and MCT OFF
  - Example: Wrightwood DMR Repeater
  - MCT ON – TGID 16771811 (All TGs on Both TSs)
  - MCT OFF – TGID 16770811 (All TGs on Both TSs)
- All MCTs are on TS 1 and can control TGs on either TS
- Users enable the functions by kerchunking the appropriate MCT TG

# How Does MCT OFF Work?

- User kerchunks MCT “OFF” TG prior to making a call
  - C-Bridge turns OFF all TGs programmed for the function
  - User kerchunks the TG to be used: it becomes the only active TG
  - Selected TG remains protected from network hijacking for 15-29 minutes (c-Bridge programmable)
  - MCT OFF time targets average conversation duration
  - If activity exceeds the protection time, repeat MCT OFF
  - When activity ends, user can kerchunk a common TG
- Repeater reverts to normal at end of MCT Timer

# How Does MCT ON Work?

- User kerchunks MCT “ON” TG at any time
  - Turns ON all TGs programmed for the function
  - Can include all Always Active and PTT TGs on all TSs
  - Repeater owner can specify ON function configuration
  - ON function stays active for 55-59 minutes
- User can kerchunk MCT OFF and then select a common TG to be active
- Or do nothing and let the MCT ON time out

# What Else?

- Local-1 and Local-2 can be programmed to function an MCT OFF command
- This uses a shorter duration hold-off time of 5 minutes
- Convenient when the user anticipates a short conversation

# MCT Positives

- Pro's:
  - Simple for users to understand
  - TGs are either ON or they are OFF
  - Fewer competing timer interactions to confuse users
  - Can easily monitor nets without network contention
  - C-Bridge admin time is minimized by a factor of up to 16 times simply to program a new manager
  - Local-1 and Local-2 can act as MCT OFF, but shorter duration
  - MCT is in-use by many groups: mature and effective

# MCT Negatives

- Cons:
  - Less intelligent control dynamically during and between conversations
  - User should know and remember to initiate MCT OFF before making a call
  - May require the use of and space for the additional 1, 2, or 4 more TGs in a Zone (16-CH constraint)
  - It is a new approach and sometimes challenging for existing users to adapt

# Summary

- Great way to reduce c-Bridge development and maintenance time
- Positive and substantial improvement
- Users can control how they initiate and maintain TG access (or not)
- Proven to work effectively and efficiently with minimal user learning curve
- Targeted to c-Bridge developers and admins