Everything You Ever Wanted to Know About Your '85/'96 Access Modes

Your RC-85 and RC-96 Repeater Controllers offer selectable modes of access through the repeater receiver. A high degree of flexibility is provided in access to the repeater and its command structure. The Control Operator can select from four different carrier/CTCSS operation modes, *plus* a Touch-Tone Access Mode.

Carrier / CTCSS Access Modes

CTCSS operation is based on a high-true logic signal from an external CTCSS decoder indicating to the controller that subaudible tone is present on a signal at the repeater receiver.

As an alternative to an external decoder, an optional CTCSS Tone Panel is available for the '96, which senses up to eight different programmable CTCSS tones. Access via each tone is enabled and disabled by the Control Operator, and the enable/disable status of each tone is stored in the controller's Macro Sets.

The Access Modes are listed below with the Control Operator (COP) root code and voice response, followed by a description of the mode. The controller is always in one of the four Aceess Modes. The Touch-Tone Access Mode (described in the next section) may be Control Operator enabled or disabled while in any of the four Access Modes.

COP Root	Response	Description
07	CA	Carrier Access (and Carrier Control). This mode allows full access and control without needing CTCSS.
08	PC	Carrier Access (and User Control), *but* CTCSS required for COP and Programming commands. This mode allows carrier access to the repeater, and to User commands, but requires CTCSS for activation of Control Op and Programming commands.
09	PU	Carrier Access, *but* CTCSS required for User, COP, and Programming commands. This mode allows carrier access to the repeater, *but* requires CTCSS for *all* commands except the User level Touch-Tone Access up/down commands when Touch-Tone Access Mode enabled.
10	PL	CTCSS Access *and* Control. This mode requires CTCSS for access to the repeater, *and* for *all* levels of commands except the User level Touch-Tone Access up/down commands when Touch-Tone Access Mode enabled.

Hint: The controller *must recognize CTCSS on your signal* before letting you put the controller into any of the CTCSS access modes through the repeater receiver. This safety feature prevents a carrier-only Control Operator from accidently locking himself out of the system.

acc advanced computer controls, inc.
2356 Walsh Avenue, Santa Clara, California 95051
(408) 727-3330

Access Modes

Touch-Tone Access Mode

In addition to the four Carrier/CTCSS Access Modes described above, a Touch-Tone Access Mode allows users to bring the repeater up and down with Touch-Tone commands. This mode operates in conjunction with the above modes, and the Control Op codes are shown below.

COP Root	Response	Description
52	ME	Touch-Tone Access Mode Enable. This mode allows users to "wake the repeater up" and "put it to sleep."
53	MD	Touch-Tone Access Mode Disable.

When the Touch-Tone Access Mode is enabled by the Control Op, the system can be brought up and down with user commands, and when brought up, will automatically go back down after a period of inactivity. The Touch-Tone Access Mode timer can be set for any period up to 1799 seconds, or the timer can be disabled by programming its value to zero seconds.

When used in conjunction with the CTCSS Access and Control Mode above, the User level Touch-Tone Access Mode Up command allows carrier access to the repeater (bypassing the need for CTCSS) and carrier access to other User level commands. When the user enters the Touch-Tone down command, or the Touch-Tone Access timer times out (due to a lack of repeater activity), the system will go back to requiring CTCSS for access.

To bring Touch-Tone Access Mode up, the user enters the Touch-Tone Access Up/Down Prefix followed by 1. The controller says "up" and either wakes up or goes into carrier access from CTCSS access. The user can take Touch-Tone Access back down by entering the Up/Down Prefix followed by 0. Alternately, the mode will time itself down after a period of inactivity. In either case, the controller sends the Forced CW ID to "clean up", then either goes to sleep, or goes back into CTCSS access.

User Command	Response	Description
[TTAM U/D Prefix] 1	Up	Touch-Tone Access Mode Up. This command "wakes the repeater up", or if in CTCSS access, places the repeater in carrier access.
[TTAM U/D Prefix] 0	Forced CWID	Touch-Tone Access Mode Down. This command "puts the repeater to sleep", or if in CTCSS Access Mode, returns the repeater to CTCSS access.

Hints:

- When the Touch-Tone Access Mode is Control Op disabled, the User level Up/Down command has no effect.
- If your repeater ever mysteriously "goes to sleep", the Touch-Tone Access Mode may have been accidentally enabled by a Control Operator.