

# Remote Scanner Control Protocol

## ©Uniden Models BC245XLT, BC895XLT, and BC780XLT

## ©Uniden Models BC250D and BC785XLT

### A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

The BC245XLT, BC895XLT, BC780XLT, BC250D and BC785XLT radios can all be controlled remotely by just about any device programmed to communicate over an RS-232C style serial port. Control is accomplished by sending a command (usually just two letters) followed by a carriage return. The radio will respond with OK for okay, NG for no good, or some other usually short message which is also almost always followed by a carriage return. The command set for the radios is very similar but not identical. The most notable differences arise due to the differences in features offered by the radios. Both the 780 and 895 have CTCSS but the 245 does not, while the 895 does not have an EDACS trunked mode, and the BC780XLT has it all. The latest Uniden models BC250D and BC785XLT are said to have the same features as the BC780XLT. It however appears that the BC250D may like the BC245XLT not have some of the nicer features of the BC780XLT such as Recording and a signal meter, but only time will tell. All support Motorola I/II trunked modes. Some commands are only relevant in certain modes and will return "OK<cr" in some circumstances and "NG<cr" in others. An "ERR<cr" suggests an invalid command. The following commands are common to the BC245, BC895, BC780 radios: AC DL DS IC ID IL IS KEY LL LO LU MA MD MU PC PM PR QU RF RI RM SB ST SQ SS WI.. There are no commands which are unique only to the 895. The AL, LT command is unique to the BC245. These commands are unique to the 780: BA, BP, CB, EL, FP, IR, LCD, LM, LT, TA, TC, WA. Each command will include the following legend to indicate on which model commands are valid for. **Hint for Experimenters:** Any syntax returning NG indicates a VALID Command but not entered in the right mode or using the correct parameters. ERR indicates an INVALID Command.

The newest Uniden Scanner entries the BC250D and the BC785XLT are to be marketed in the Nov/Dec 2002 timeframe and will be incorporated into this document as applicable. It is believed that the command set will be the same as the BC780XLT with the exception of the optional add-on digital card commands.

BC895	BC245	BC780	BC250D / BC785XLT
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All units serial port connection operates at 2400, 4800, or 9600 baud (bps) with 8 data bits and no parity. The BC780XLT, BC785XLT, and BC250D serial port settings can also be set to 19200 baud rates. The radios' port settings can be changed from the keypad (see manual). All units default to the 9600 Baud rate upon startup from the factory. Units may then have their baud rate changed by the user as necessary and will retain the new baud rate setting from then on. So if your software does not support the default baud rate, then be sure to change it to match!

**A**

## AC - Memory Clear

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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AC<cr>

**780** - Resets showing only top 2 lines of LCD Visible.

**245, 895** - Reset takes about 9 seconds for execution.

**Return:** "OK<cr>"

PROGRAMMER'S NOTE:

VALID: Valid at anytime.

FUNCTION: Erases and clears all memory and re-initializes unit to default factory settings.

## AF - EDACS ID Mode

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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AF<cr>

no parameters

returns "AFN<cr>" or "AFF<cr>" indicating status of selection

AFb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Confirmation valid in Edacs trunk modes only while Set valid in all modes.

FUNCTION: AFS is Address-Fleet-Subfleet notation for entering and displaying talk group Ids.

## AL - Auto Light Function

BC895 – no	BC245 - yes	BC780 – no	BC250D – xxx BC785XLT – xxx
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AL<cr>

no parameters

returns "ALN<cr>" or "ALF<cr>" indicating status of selection.

ALb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Turns on light for 5 seconds upon open squelch condition.

## AR - Recording Function

BC895 – yes	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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AR<cr>

no parameters

returns "ARN<cr>" or "ARF<cr>" indicating status of selection.

ARb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in manual/manual ID modes.

FUNCTION: Sets channel recording mode indicated by "LINE" on LCD display.

## AT - Attenuator Function

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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AT<cr

no parameters

returns "ATN<cr" or "ATF<cr" indicating status of selection.

ATb<cr

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Sets built-in attenuator on or off.

**B**

## BA - Channel Beep Alert

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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BA<cr>

no parameters

returns "BAN<cr>" or "BAF<cr>" indicating status of selection.

BA C ccc<cr>

Returns status of Channel ccc (1-500) Beep Alert

BAf C ccc <cr>

parameter f - letter 'N' to turn feature on or letter 'F' to turn feature off.

Parameter C indicates function performed on Channel Level ccc = channel # 1-500

BA I b s<cr>

Returns status of scanlist ID Beep Alert.

Example: Sent: BA I J A1<cr> Returns: BAN I J A1<cr>

BAf I b s <cr>

parameter f - letter 'N' to turn feature on or letter 'F' to turn feature off.

parameter b - a talk group bank letter 'A' through 'J'

parameter s - a scanlist id A0-J0 0=10 1=1.

B = Banks (A-J) s = scanlist code (A1 = scanlist 1-1 J0 = scanlist 10-10)

Beep Alert is set for ID in specified scanlist location.

**PROGRAMMER'S NOTE:** Functional ONLY IN MD11 Trunk mode ID SCANNING

**VALID:** In appropriate mode conventional or trunking BP must be turned ON.

**FUNCTION:** Turn on Beep Alert for channel/talkgroup IDG

## BP - Beep Alert Toggle

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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BP<cr>

no parameters

returns "BPN<cr>" or "BPF<cr>" indicating status of selection.

BPb<cr> parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: Beep must also be configured through the menu or BA command then use this as ON/OFF control.

VALID: Valid at anytime.

FUNCTION: Check/Set the Beep Function for Beep Alert and Key pad Beep.

## BT – Motorola Status Bit

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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BT<cr>

no parameters

returns "BTN<cr>" or "BTF<cr>" indicating status of selection.

BTb<cr> parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in Motorola Trunk modes.

FUNCTION: Check/Set the Status Bit for Motorola Trunking.

C

## CB - Choose Active Bank(s)

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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CB<cr >

no parameters

returns "CB<cr>" or "CB C<cr>" where bank C is selected already.

CB b(bbbbbbbb)<cr > (bbbbbbbb is optional) where b is bank letter A-J

no parameters

returns "CB A<cr>"

**PROGRAMMER'S NOTE:** In order to Set them as a choice the limits for them must already be set using LL and LU commands.

**VALID:** Valid at anytime.

**FUNCTION:** Confirms/Sets which user search banks to use for search.

## CC - Test CTCSS Decode

BC895 – yes	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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CC<cr>

no parameters

returns "CCY<cr>" (Decode ok) or "CCN<cr>" (Decode no good)

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Returns status of CTCSS Decoding.

## CD - CTCSS Detection

BC895 – yes	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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CD<cr>

no parameters

returns "NG<cr>" or "CDN<cr>" or "CDF<cr>"

CDb<cr> parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>" or "NG<cr>", or if tone frequency detected returns "CDnn<cr>"(895) or "CDnnn<cr>" (780) nn being the tone frequency number.

PROGRAMMER'S NOTE: If tone detected tone info is returned indicating tone detected.

VALID: Valid in scan/manual/limit search/limit search hold modes.

FUNCTION: Checks/Sets CTCSS Detection ability.

## CS - CTCSS Tone Detect

BC895 – yes	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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CS<cr>

no parameters

returns "CSnn<cr>"(895) or "CSnnn<cr>" (780) where nn or nnn is the tone frequency number detected.

CSnn<cr>(895) or CSnnn<cr>(780) parameter nn – tone frequency number to set.

returns "OK<cr>"

PROGRAMMER'S NOTE: See tone table for tone values. CTCSS tones 1-38(895 & 780) DCS Tones 39-142(780) or Off = 000

VALID: Request is valid in scan stop/manual/program CTCSS modes. Set only in manual mode.

FUNCTION: Checks/Sets CTCSS Detection ability.

## CT - CTCSS function

BC895 – yes	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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CT<cr>

no parameters

returns "CTN<cr>" or "CTF<cr>" to indicate function is either on or off.

CTb<cr> parameter b – "N" selects on while "F" selects off for the function, and "S" selects the Search function.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in Scan or Manual modes.

FUNCTION: Checks/Sets CTCSS Detection.

**D**

## DL - Delay Function

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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DL<cr>

no parameters

returns "DLN<cr>" or "DLF<cr>" indicating status of selection.

[780 Returns: DLF - none DL +1 - 1 second DL+2 - 2 seconds DL+4 - 4 seconds DL+- -  
Infinite DL -2 - -2seconds DL - 5 - -5 seconds DL -10 - -10 seconds.]

DLb<cr> (780) Parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: If delay is changed any issuance of DLN after a change will return the delay to the default of DL+2.

VALID: Valid at anytime.

FUNCTION: Checks/Sets channel delay.

## DS - DATA SKIP function

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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DS<cr>

no parameters

returns "DSN<cr>" or "DSF<cr>" indicating status selection.

DSb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid scan/limit search/limit search hold and auto store modes.

FUNCTION: Skips over received channels unless voice is heard.

**E**

## EL - Edit Lock

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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EL<cr>

no parameters

returns "ELF<cr>" or "ELN<cr>"

ELb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Returns status of Edit Lock..

**F**

## FB - Fleet Map Assignment

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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FB b m ss<cr>

b is bank(A-J), m is fleet map block type(0-7), ss is fleet map size code(00-14)  
returns "OK<cr>"

**(BC780XLT)** FB b m <cr>

b is bank(A-J), m is fleet map block type(0-7)  
returns "OK<cr>"

PROGRAMMER'S NOTE: Sets up Custom Fleet Map

VALID: Valid in trunk program modes.

FUNCTION: Sets a fleet map program.

## FI - Frequency Find Function

BC895 – no	BC245 – yes	BC780 – no	BC250D – xxx BC785XLT – xxx
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FI<cr>

no parameters

returns "FIN<cr>" or "FIF<cr>" indicating selection status.

FIb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

**PROGRAMMER'S NOTE:** When in trunk mode causes trunk id and frequency to alternate.

**VALID:** Valid in all modes.

**FUNCTION:** Check/Set Frequency find mode.

## FP - FIPS Weather Code

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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FP<cr>

no parameters

returns "FPN<cr>" or "FPF<cr>" indicating selection status.

FPb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

FP cc nnnnnn<cr>

parameter cc is weather search channel 1-15, nnnnnn is the 6 digit FIPS code to set.

returns "FP cc nnnnnn<cr>"

FP cc<cr> where cc = 1 - 15 Weather Search Channel

Example: FP 01<cr> Returns: FIPS 01 -----<cr>

PROGRAMMER'S NOTE: none.

VALID: Valid at anytime.

FUNCTION: Confirm/Set FIPS code for Weather Search mode.

**G**

none

# H

none

**I**

## IC - TalkGroup ID

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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IC <cr>

no parameters.

returns the currently selected ID in the current talkgroup bank if there is one or "NG" if no such thing exists.

EXAMPLE: IC A1<cr> Returns: IC A1 000240

IC bn<cr>

parameter b - a talk group bank letter 'A' through 'J'

parameter n - a bank memory slot digit '1' through '9' for the first nine slots and '0' for slot ten.

returns "IC bn ttttt" where b and n are as before and ttttt is a six digits talk group or "-----" if the slot is empty.

examples:

"IC" RETURNS "NG"

"IC A1" RETURNS "IC A1 022000"

"IC A2" RETURNS "IC A2 016112"

"IC B0" RETURNS "IC B0 -----"

"IC D4" RETURNS "IC D4 -----"

"IC E2" RETURNS "IC E2 -----"

"IC E0" RETURNS "IC E0 -----"

PROGRAMMER'S NOTE: When in trunk mode causes trunk id and frequency to alternate. Puts scanner in manual ID mode.

VALID: Get valid on ID Manual and ID Scan modes.

Set valid on ID Manual/ID Scan/ID Search/ID Search Hold/ID Lockout Review modes.

FUNCTION: Check/Set memory ID number.

## ID - Trunk Monitor Notification

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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ID<cr>

no parameters.

returns the current ID mode setting, either "IDN" for on for "IDF" for off.

IDb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

When turned on, the radio begins streaming talk group ID numbers with 'S' for start of conversation and 'E' for end of conversation. S/E pairs do not appear to overlap so radio may miss some IDs in this mode.

example output:

ID S 016048

ID E 016048

PROGRAMMER'S NOTE: ***WARNING – This command Auto-Generates when enabled.***

VALID: Valid at anytime.

FUNCTION: Check/Set Trunk ID Monitor Function.

## IL - Lockout Memory

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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IL<cr>

no parameters.

returns all ID's from L/O ID Memory in format: "IL001234<cr>IL005678<cr>.....END<cr>"

ILRnnnnnn<cr> [TYPE 2] (Register ID in Lockout Memory)

where nnnnnn is the ID number to lockout.

returns "OK<cr>" or "ON<cr>" (If ID already in memory) or "FULL<cr>" if ID memory is full.

ILR bff-ss<cr> [TYPE 1 ONLY] (Register ID in Lockout Memory)

where b is block number ff is fleet number and ss is sub agency number.

returns "OK<cr>" or "ON<cr>" (If ID already in memory) or "FULL<cr>" if ID memory is full.

ILR aa-ffs<cr> [EDACS ONLY] (Register ID in Lockout Memory)

where aa is agency number ff is fleet number and s is sub agency number.

returns "OK<cr>" or "ON<cr>" (If ID already in memory) or "FULL<cr>" if ID memory is full.

ILDnnnnnn<cr> (Delete ID from Lockout Memory)

where nnnnnn is the ID number to lockout.

returns "OK<cr>" or "OFF<cr>" (If ID is not in memory).

PROGRAMMER'S NOTE: None.

VALID: Valid in all of the Trunk modes.

FUNCTION: Reads all ID's in L/O memory, registers ID into L/O memory or deletes an ID from L/O memory.

## IR - ICALL operations

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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IR<cr>

no parameters.

returns IR<cr. Returns Y for Only, N for On, or F for Off

IR b<cr>

parameter b - "b" is one of the selected bank letters 'A' through 'J'.

Returns IRf<cr> where f is Y for only, N for on or F for off

IRf<cr>

parameter f - "f" is described below.

Returns IRf<cr> where f is Y for only, N for on or F for off

PROGRAMMER'S NOTE: None.

VALID: Valid in all of the Trunk modes.

FUNCTION: Gets or Sets ICALL Operations.

## IS - Scan List ID

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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IS<cr>

no parameters.

returns IS aaa<cr>. Where aaa is the name of the active(selected) scan lists.

ISb<cr>

parameter b - "b" is one of the selected bank letters 'A' through 'J'.

returns IS aaa<cr>. Where aaa is the names of the active(selected) scan lists.

PROGRAMMER'S NOTE: None.

VALID: Valid in all of the Trunk modes.

FUNCTION: Gets or Sets ID scan list banks.

**J**

none

**K**

## KEY

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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KEYnn<cr>

parameter nn - two digit number  
returns "OK<cr>"

Has the same effect as a user pressing the corresponding key on the radio.

KEYnnH<cr>

parameter nn - two digit number  
returns "OK<cr>"

Has the same effect as a user pressing and holding the corresponding key on the radio to about two or three seconds.

The following is a table of known two digit codes and their keypad equivalent.

00 SCAN

01 MAN (manual)

02 numeric keypad key (see details below).

03 "." (decimal point) or [245][2052][780] ATT (attenuator)

04 E (enter) [780] Key04H - Release Remote Control

05 PRI (priority)

06 L/O (lockout)

07 HOLD/UP (arrow)

08 LIMIT/DOWN (arrow)

09 SRCH (search)

10 [895] [780] Weather [245] [2052] SVC Search

11 [895][245][2052] DATA [780] Menu

12 [895][245][2052] DLY (delay) [780] Select [780] Key12H - Mute On

13 TRUNK

14 [895] Dim toggle [245] \* (lightbulb) [2052] Shift [780] VFO Push Button

15 [895] Step

16 [895] Aux

17 [895] Alert/Remote

18 [895] Send

19 [895] Auto

20 [895] Ctcss

21 [895] (A – J)

22 [895] Freq/Chan toggle

23 [895] Lock

KEY02 d<cr>

parameter d - one digit number. (0-9 on keyboard)  
returns "OK<cr>"

**L**

## LCD

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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LCD<cr>

returns LCD status lines as below

P -	Priority indicator	E -	Edaccs Trunk indicator
M -	Motorola Trunk indicator	L -	Ltr Trunk indicator
BANK +	Bank indicator	LIST -	List indicator
SCAN -	Scan indicator	TRUNK -	Trunk indicator
FDOT +	Frequency Decimal indicator	N -	N indicator used for NFM
DCS -	DCS indicator	CTCSS -	CTCSS indicator
AM -	AM indicator	FM +	FM indicator
WFM-	WFM indicator	SRCH-	Search indicator
HOLD +	Hold indicator	FREQ -	Frequency indicator
CHAN +	Channel indicator	PRI -	Pri indicator
DLY +	Delay indicator	LOUT -	Lockout indicator
ALPHA -	Alpha indicator	RMT +	Remote Control indicator
AUTO -	Auto indicator	CDOT -	Tone code decimal indicator
HZ -	Hertz indicator	S +	S indicator preceding signal bars
KLOC -	Key Lock indicator	ATT -	Attenuator indicator
LINE -	Record indicator	ALT -	Alt indicator
DATA -	Data indicator		
BAR -----	Bar indicator for control channels		
SMT +++++-	Signal Meter Bars		
BNK +-----*	Banks Selected Status * = Currently scanning		
CHN [ 2]	Channel Displayed		
FRQ [ 43. 7400]	Frequency Displayed		
CTC [ ]	CTC code (Also displays the Trunk ID Code in Trunk Mode)		
LINE 1 [ ]	]	LCD LINE 1 Alpha Tag	
LINE 2 [Cordless Phones ]	]	LCD LINE 2 Alpha Tag	

LCD label<cr>

parameter label = one of the above left listed labels. Example LCD ATT<cr>

returns "ATT -"<cr>

The - indicates the indicator is off and the + indicates it is on.

The item to the right of the label as shown in the above table will be returned plus the <cr>

## LL - Search Lower Limit

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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LL<cr>

no parameters.

returns the scanner limit search lower bounding frequency in the form "LLnnnnnnnn" where nnnnnnnn is an eight digit frequency in hundreds of hertz,

LLnnnnnnnn<cr> [780] returns LLnnnnnnnn b<cr> where b is the bank A-J.

parameter nnnnnnnn - eight digit frequency in hundreds of hertz (divide by ten for kilohertz or 10,000 for megahertz).

LL b<cr>

Returns: LL01508150<cr> Example

Shows Lower Search limit assigned to Bank b (A-J)

PROGRAMMER'S NOTE: In the 780 there are 10 user search limits that are available to be set.

VALID: Valid at anytime.

FUNCTION: Gets or Sets lower search limit.

## LM - Screen Mask

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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LM<cr>

no parameters.

returns "LMN<cr>" or "LMF<cr>" indicating selection status

LMb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK"

PROGRAMMER'S NOTE: When set letters L M appear on the left side of LCD display.

VALID: Valid at anytime.

FUNCTION: Set/Reset LCD Screen Mask

## LO - Lockout Channel

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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LO<cr>

no parameters.

returns "LON<cr>" or "LOF<cr>" indicating selection status.

LOb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in manual or scan stop modes.

FUNCTION: Set/Reset Lockout channel status.

## LT - LCD Illumination

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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LT<cr>

no parameters.

returns "LTN<cr>" or "LTD"<cr> or "LTF<cr>" indicating light selection status.

LTb<cr>

parameter b - letter 'N' to turn on Normal or letter 'D' to turn on Dim or letter 'F' to turn off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Controls Backlight operation.

## LU - Upper Search Limit

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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LU<cr>

no parameters.

returns the scanner limit search upper bounding frequency in the form "LLnnnnnnnn" where nnnnnnnn is an eight digit frequency in hundreds of hertz,

LUnnnnnnnn<cr> \*\* 780 returns LUnnnnnnnn b <cr> The b indicating the bank letter A-J.  
parameter nnnnnnnn - eight digit frequency in hundreds of hertz (divide by ten for kilohertz or 10,000 for megahertz).

LU b<cr>

Returns: LU01509650<cr> Example

Indicates Upper Search Frequency for Bank b Search Limit.

PROGRAMMER'S NOTE: In the 780 there are 10 available user search limits to set for upper & lower.

VALID: Valid at anytime.

FUNCTION: Confirms or Sets Upper Search Limit.

**M**

## MA - Memory Access

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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MA<cr>

no parameters

returns "Cnnn Fffffff Ts Ds Ls As Rs Nvv\* <cr>" \* Nvvv for 780

Where nnn is the channel number (0 to 300), fffffff is the frequency, Ts is Trunk status, Ds is delay status, Ls is lockout status

As is Attenuator status, Rs is recording or line status and Nvv is CTCSS tone value(00) if not used. ""

MAcc<cr>

parameter ccc - three digit numeric memory channel number in range of 001 to 300.

returns "Cnnn Fffffff Ts Ds Ls As Rs Nvv\* <cr>" Nyy for 895 Nvvv for 780

Where nnn is the channel number (0 to 300), fffffff is the frequency, Ts is Trunk status, Ds is delay status, Ls is lockout status as is Attenuator status, Rs is recording or line status and Nvv is CTCSS tone value(00)(895) or (000)(780) if not used.

PROGRAMMER'S NOTE: MA used without parameters will put scanner in manual and return info on channel stopped on.

VALID: Valid in manual/Program CTCSS/ and scan stop mode. With parameters valid anytime.

FUNCTION: Places scanner in manual mode at channel number.

## MD - Mode

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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MD<cr>

no paramters.

returns "MDmm<cr>" where mm is a two digit mode number; the table below interprets...

00 - conventional channel scan.

01 - manual mode.

02 - limit search.

03 - \*paused\* limit search (hold button pressed).

04 – [895] Weather scan mode [245][2052] SVC(service) search mode. [780] Weather Mode or SVC Search Mode

05 – [895] Weather scan Hold mode [245][2052] \*paused \* SVC search (hold button pressed). [780] Weather Hold or SVC search Hold

06 – motorola program trunk frequency mode

07 – [895] ID Search mode [245][2052] Edaccs program trunk frequency mode

08 – [895] ID Search Hold mode [245][2052] trunk system program mode [780] Rotary Tuned Mode

09 – [895] ID Scan mode [245][2052][780] Motorola ID search mode

10 – [895] ID Manual mode [245][2052][780] Motorola ID search hold mode

11 – [895] ID Lockout Review mode [245][2052][780] Motorola ID scan mode

12 – [895] Search Control Channel [245][2052][780] Motorola ID Manual mode

13 – [895] Program CTCSS mode [245][2052] Motorola ID lockout review mode

14 – [895] Weather Alert mode

15 – [895] Frequency Send mode [245][2052] Edaccs ID search mode

16 – [895] Auto Store mode. [245][2052] Edaccs ID search hold mode

17 – [895] Rotary tuned frequency mode. [245][2052] Edaccs ID scan mode.

18 – [895] unknown [245][2052] Edaccs ID manual mode

19 - [895] unknown [245][2052] Edaccs ID lockout review mode

20 – [895] unknown [245][2052] Edacs Search Control Channel

21 – [895] unknown [245][2052] RF tune mode

?? - others yet unknown.

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Returns a number indicative of current scanner mode.

## MU - Mute Function

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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MU<cr>

no parameters.

returns "MUA<cr>"(Automatic) or "MUN<cr>"(Open Squelch-Noise) or "MUF<cr>"(Closed Squelch-Silent)

MUb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off or letter "A" for automatic.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Controls Speaker.

**N**

none

O

none

**P**

## PC - Priority Channel

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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PC b<cr>

parameter b - a channel bank letter 'A' through 'J'

returns "PC bccc<cr>" where b is the same as parameter b above and cc is the channel number within the bank.

PC bccc<cr>

parameter b - a channel bank letter 'A' through 'J'

parameter ccc - the channel number within the bank above.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Confirm valid at anytime. Set valid at anytime but changes scanner mode to manual after setting.

FUNCTION: Sets/Checks Priority Channel

## PI - Priority Bank ID

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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PI b<cr>

parameter b - bank designator 'A' through 'J'

returns "PI bc ttttt<cr>" where b is parameter b above, c is the single digit memory number 1 through 9 or 0 for ten ttttt is the ID value.

PI bc<cr>

parameter b - bank letter 'A' through 'J'

parameter c - bank memory slot number 1 through 9 , or 0 for slot ten.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in Trunk modes.

FUNCTION: Sets/Checks Priority ID bank number.

## PM - Print Memory Data

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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PMccc<cr>

parameter ccc - three digit numeric memory channel number in range of 001 to 300(895) or 500(780).

returns "Cnnn Fffffff Ts Ds Ls As Rs Nvv <cr>"

Where nnn is the channel number (0 to 300)(895) or 0 to 500(780), fffffff is the frequency, Ts is Trunk status, Ds is delay status, Ls is lockout status

As is Attenuator status, Rs is recording or line status and Nvv is CTCSS tone value(00)(895) or (000)(780) if not used. ""

PMccc fffffff<cr>

parameter ccc - three digit numeric memory channel number in range of 001 to 300(895) or 500(780).

returns "Cnnn Fffffff Ts Ds Ls As Rs Nvv <cr>"

Where nnn is the channel number (0 to 300)(895) or 500(780), fffffff is the frequency, Ts is Trunk status, Ds is delay status, Ls is lockout status

As is Attenuator status, Rs is recording or line status and Nvv is CTCSS tone value(00)(895) or (000)(780) if not used. ""

PROGRAMMER'S NOTE: None.

VALID: Read valid at anytime. Write changes to manual mode after setting the frequency.

FUNCTION: Read/Write Memory Channel.

## PR - Priority Scan function

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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PR<cr>

no parameters

returns "PRN<cr>" or "PRF<cr>" indicating selection status.

PRb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in manual or scan modes.

FUNCTION: Confirm/Set the Priority function.

Q

## QU - Squelch Notification

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
-------------	-------------	-------------	--------------------------------

QU<cr>

no parameters

returns "QUb<cr>" where b is letter 'N' when feature is on or letter 'F' when feature is off.

QUb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: Scanner sends a "+<cr>" when function on and squelch is open and a "-<cr>" if squelch is closed. **WARNING – This command Auto-Generates when enabled.**

VALID: Valid at anytime.

FUNCTION: Unit Squelch Auto Reporting.

**R**

## RF - Receiver Frequency

BC895 – yes	BC245 – yes	BC780 - yes	BC250D – xxx BC785XLT – xxx
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RF<cr>

no parameters

returns "RFffffff<cr>" for the tuned frequency.

RFffffff<cr>

parameter f - frequency digits from 1 GHz digit to 100 Hz digit.

Returns "OK<cr>"

RFbbbbbbb?<cr>

parameter b - frequency digits from 1 GHz digit to 100 Hz digit.

Tunes radio to designated frequency without storing the frequency in memory.

returns "RFbbbbbbb<cr>"

**PROGRAMMER'S NOTE:** After command issued MD08 is mode returned for 780 and MD17 for 895. When used the programmer is responsible for setting the modulation mode using the RM command as it does not default to auto when using this command. If modulation is not set then the default is the current modulation when the RF command was issued.

**VALID:** Valid in manual mode.

**FUNCTION:** Tune Receiver but do not store frequency.

## RG - Radio ID Group

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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RG<cr>

no parameters

returns "RGN<cr>" if this feature is on and returns "RGF<cr>" if it is not.

RGb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid in Edacs trunk modes.

FUNCTION: Confirm/Set Radio ID Group.

## RI - Priority Notification

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
-------------	-------------	-------------	--------------------------------

RI<cr>

no parameters

returns "RIN<cr>" or "RIF<cr>" indicating selection status.

RIb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: When on sends "PST<cr>" if receiving priority signal and "PRT<cr>" upon returning. **Warning – This command Auto-Generates when enabled.**

VALID: Valid at anytime.

FUNCTION: Confirm/Sets Auto Priority Receiving Indication.

## RM - Receiver Modulation

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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RM<cr>

no parameters

returns "RM AM<cr>" or "RM FM"<cr> or "RM NFM<cr>" or "RM WFM<cr>"

[780 ONLY]

RM mm<cr>      Where mm is either "AM" or "FM" or "NFM" or "WFM" or "AUTO"

returns "RM AM<cr>" or "RM FM"<cr> or "RM NFM<cr>" or "RM WFM<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Returns Modulation type.

**S**

## SB - Select Banks

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
-------------	-------------	-------------	--------------------------------

SB<cr>

no parameters.

returns "SB bbbb<cr>" where bbbb is one or more channel bank letters 'A' through 'J' up to and including all ten (ie. "ABCDEFGHIJ").

SB bbbb<cr>

parameter bbbb - one or more channel bank letters 'A' through 'J' up to and including all ten (ie. "ABCDEFGHIJ").

returns "SB bbbb<cr>"

PROGRAMMER'S NOTE: None.

VALID: Valid at anytime.

FUNCTION: Confirms/Sets Active Banks.

## SG - Signal Strength

BC895 – yes	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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SG<cr>

no parameters.

returns "Snnn Fffffff<cr>" where nnn is 0 to 255 for signal level received and fffffff is frequency received.

PROGRAMMER'S NOTE: [895] Signal of 32 seems to be max while 12 seems about minimum

[780] Signal 0 - 255 0 bars - 0-55 1bar - 56 - 60 2 bars - 61 - 80 3 bars 81 - 95 4 bars 96 - 125

[780] 5 bars 126 - 140 6 bars >140 (No apparent relation to when the squelch opens)

VALID: Valid at anytime.

FUNCTION: Returns # indicating signal strength.

## SI - System Information

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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SI<cr>

no parameters.

returns information about the scanner; more specifically it returns "SI

BC245XLT,000000000,102" which appears to be the scanner model and firmware version Information. Another owner's radio reports "SI BC245XLT,000000228,102<cr>".

PROGRAMMER'S NOTE: None

VALID: Valid at anytime.

FUNCTION: Shows Radio Information.

## SQ - Squelch Query

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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SQ<cr>

no parameters

returns "+<cr>" or "-<cr>" where "+" indicates squelch is open, and "-" indicates squelch is closed (muted).

PROGRAMMER'S NOTE: This always returns "+" when in trunking mode operations.

VALID: Valid at anytime.

FUNCTION: Shows Squelch Status

## SS - Search Skip

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
-------------	-------------	-------------	--------------------------------

SS<cr>

no parameters.

returns "SSffffff<cr>SSffffff<cr>SSffffff<cr>...." Where fffffff is frequencies in search skip memory.

SSffffff<cr>

Registers frequency fffffff into search skip memroy

returns "SSffffff<cr>" or "ON<cr>"(If already in skip memory)

[780]

SSccc<cr> ccc = skip memory location (0-200) Actually works up to 456 but repeats.

Returns "SS01622150"<cr> (Example)

PROGRAMMER'S NOTE: Shows frequency in skip memory location.

VALID: Valid at anytime.

FUNCTION: Shows/Registers frequencies in skip memory.

## ST - Step Size

BC895 – yes	BC245 – Confirm Only	BC780 – yes	BC250D – xxx BC785XLT – xxx
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ST<cr>

no parameters

returns "ST0000000<cr>"(indicates default step size).

STffffff<cr>

parameter fffffff - frequency step size in hundreds of hertz.

returns "OK<cr>"

example:

"ST00000500" specifies a 50 kilohertz step size.

[780 Returns] "ST 5K"<cr> etc.

[780 EXAMPLES:] "ST 5K"<cr> or "ST 7.5K"<cr> or "ST 10K"<cr> or "ST 12.5K"<cr> or "ST 50K"<cr> or "ST A"<cr> = auto default (Returns "OK")

**PROGRAMMER'S NOTE:** Frequencies not in accordance with preprogrammed Bandplan CANNOT be ENTERED.

**VALID:** Valid in manual/limit search/limit search hold/auto store and rotary modes.

**FUNCTION:** Shows/Sets step memory.

**T**

## TA - Tag Alphanumeric

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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### Read Functions

TA B b<cr>                Read Bank Tags  
 TA C ccc<cr>            Read Channel Tags  
 TA I b sl<cr>            Read Talkgroup ID alpha tags  
 TA L b <cr>              Read Scanlist bank tags  
 TA S b<cr>                Read User Search tags

Returns the 16 character alpha tag followed by <cr>

### Set Functions

TA B b aaaaaaaaaaaaaaaaaa<cr>        Sets Bank alpha tags  
 TA C ccc aaaaaaaaaaaaaaaaaa<cr>      Sets Channel tags  
 TA I b sl aaaaaaaaaaaaaaaaaa<cr>      Sets Talkgroup ID alpha tags  
 TA L sl aaaaaaaaaaaaaaaaaa<cr>        Sets Scanlist bank tags  
 TA S b aaaaaaaaaaaaaaaaaa<cr>        Sets User Search tags

READ EXAMPLES: TA B A<cr> TA C 500<cr> TA I J A1<cr> TA L J A<cr> TA S A<cr>

PROGRAMMER'S NOTE: b = Bank A-J ccc = channel 0-500 sl is scanlist A0-J0 0=10  
aaa=alpha characters

VALID: Need to be in appropriate mode for use based on type of tag.

FUNCTION: Read /Set Alpha Tags.

## TB - Trunked Bank Info

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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TB<cr>

no parameters

returns "TD b ttttt<cr>" where b is channel bank letter 'A' through 'J' and ttttt is a six character (or so) text description of the trunking mode; known values are "E2-800", "E2-900", "E2-Hi", "E2-Lo", "ED", "E1".

TB b<cr> PROGRAMMER'S NOTE: None

b is Bank letter A-J

EXAMPLE: Sent TB A<cr> Returns TB A E2-800<cr>

PROGRAMMER'S NOTE: None

VALID: Valid in trunk modes.

FUNCTION: .Confirms current trunk mode.

## TC - Control Only

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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TC b<cr>

b is bank A-J

returns TCF b or TCN b indicating selection status.

TCf b Pn<cr>

parameter f - letter 'N' to turn feature on or letter 'F' to turn feature off. b is bank A-J and n is plan number 1 - 4

returns "OK<cr>"

**PROGRAMMER'S NOTE:** All other setups must be done prior to using this to turn enable CC mode. (See Manual)

**VALID:** Motorola Trunking Modes Type 1, E2-800 or E2-900

**FUNCTION:** Enable/Disables Control Channel Only Trunking Mode or reports its status

## TD - Trunked Data Bit

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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TD<cr>

no parameters

returns "TDN" or "TDF" indicating selection status.

TDb<cr>

parameter b - letter 'N' to turn feature on or letter 'F' to turn feature off.

returns "OK<cr>"

PROGRAMMER'S NOTE: Slash Data will display on the 780 LCD during trunking modes if the BT bit is disabled.

VALID: Not valid in Trunking Modes.

FUNCTION: Confirm/Sets Data Mode. Sets/Resets Motorola End Code in Trunking mode.

## TG - Talk Group ID

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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TG b sl<cr> [780]

Where b is bank number, s is scan list id.

TG b s l n ff ss<cr>

Where b is bank number, s is scan list id, l is ID location, n is block number, ff is fleet number and ss is sub fleet number.

returns "OK<cr>"

PROGRAMMER'S NOTE: None

VALID: Valid in trunk modes.

FUNCTION: Program Talk Group ID.

## TR - Trunk System Type

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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TR b k mmmmmmmm nnnn<cr>

b is bank, s is system type 1 is E1, 2 is E2, 3 is E2(900), 4 is E2(UHF) 5 is E2(Hi) and 6 is ED,  
nnnn is offset frequency  
returns "OK<cr>" or "NG<cr>".

TR b n<cr>

b is bank, n is system type 1 is E1, 2 is E2-800, 3 is E2(900), 4 is E2(UHF) 5 is E2(Hi) , 6 is ED  
wide, 7 is ED narrow and 8 is LT  
returns "OK<cr>" or "NG<cr>".

PROGRAMMER'S NOTE: Numbers 7 & 8 apply only to BC780XLT, Numbers 4 & 5 not  
valid for BC780XLT.

VALID: Valid in trunk programming and conventional modes.

FUNCTION: Sets Trunk System Type.

U

none

**V**

## VR – Version Revision

BC895 – no	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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VR<cr>

no parameters.

returns "VR1.00<cr>"

**PROGRAMMER'S NOTE:** This value has no relation to the 1.19 version shown via kepresses.

**VALID:** Valid at anytime.

**FUNCTION:** Returns Radio Version number.

**W**

## WA - Weather Alert

BC895 – no	BC245 – no	BC780 – yes	BC250D – xxx BC785XLT – xxx
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WA<cr>

no parameters.

returns "Waf"<cr> where f is either N for on or F for off.

Waf<cr>

no parameters.

returns "Waf"<cr> where f is either N for on or F for off.

PROGRAMMER'S NOTE: If ON the audio will be muted until alert received.

VALID: Weather Mode only

FUNCTION: Sets / Reads weather alert mode.

## WI – Window Indication

BC895 – yes	BC245 – yes	BC780 – yes	BC250D – xxx BC785XLT – xxx
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WI<cr>

no parameters.

returns Wsss Fffffff where sss is the window voltage and fffffff is the currently monitored channel's eight digit

radio frequency as expressed in hundreds of hertz.

examples:

W107 F08680875<cr>

W108 F04601500<cr>

PROGRAMMER'S NOTE: nominal value 100 changes 7.5 counts per khz off frequency. Center tuning?

VALID: Valid at anytime.

FUNCTION: Returns value indicating center tuning of frequency.

**X**

none

**Y**

none

**Z**

none

# Program Development Notes:

## *Good Housekeeping:*

You should ensure that ALL Auto-Generating commands are initialized OFF when starting up your program and when ending your program. If you don't do this then you may place the controlled unit in a condition which IS NOT compatible with other software.

These commands are: ID, QU, and RI in the reference, and are indicated by the NOTIFICATION in their command descriptions using Document Mapping.

# **LATEST CHANGES:**

**Introduction**

**FB Command**

**IR Command**

**Credits**

*Document now setup for Individual pages per command to make changes easy.*

*Document command titles now changed to support Document Map View in Word, Easy & Neat just use View Document Map to see!*

# **SPECIAL THANKS:**

To all those who assisted in making this document possible. I will continue to update it as more information becomes available.

Last Updated: 3/31/2002 by [DFW1417@yahoo.com](mailto:DFW1417@yahoo.com)