

### 7.13. REMOTE COMMAND

#### 【 Remote Communication Format 】

BPS rate : 4800/9600/19200/38400/57600/115200 bps  
Start/Stop bit : 1 bit, 1 bit  
Data Length : 8 bit  
Parity Check : None  
Code : ASCII  
Flow Control : None  
Return Code : Carriage Return only

#### 【 FORMAT OF THIS DOCUMENT 】

##### <COMMAND NAME>

Summary explanation of the function of the command

Controller → Radio  
Command format  
Radio → Controller  
Response format

##### NOTE

1. Any command is required to wait a response from the scanner, then, next command will be acceptable.
2. All memory access commands are acceptable in only Program Mode.  
Use PRG command to enter Program Mode, and EPG command to exit.
3. Error message isn't described in this document, but the scanner returns error message to the controller as follows.
  - 1) Command format error / Value error : ERR[\r]
  - 2) The command is invalid at the time : NG[\r]
  - 3) Framing error : FER[\r]
  - 4) Overrun error : ORER[\r]
4. [\r] means "to hit the Enter key" or "to send the Return code".
5. Several commands or responses with long format are described like multi-line because of the page width but their formats are only single line, actually.
6. In set command, only "," parameters are not changed.
7. The set command is aborted if any format error is detected.
8. [INDEX] or [xxx\_INDEX] is the index of internal memory chain.  
Dynamic Memory Allocation Structure always uses it as a handle to access data and to trace forward/reverse or up/down index.  
The range of the index is from 1 to maximum memory block (about 15000).
9. [FRQ], [BASEx] and [LIMIT\_x] are frequency format.  
It is showed by 8 digit number without decimal point.  
The order of the digits is from 1 GHz digit to 100 Hz digit.  
ex. 08510125 means 851.0125MHz
10. [TGID] shows TGID format. The formats depend on Trunked System Type.  
See another Appendix to get further information.
11. [NAME] shows each custom name. If user set only space character, the name will return to default name.
12. [LATITUDE] shows North or South Latitude.  
The data shows "DDMMSSssL" at DMS Format.

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DD : Degree ( 00 - 90 : Double figure fixation )  
 MM : Minute ( 00 - 59 : Double figure fixation )  
 SSss : Second ( SS : 00 - 59 : Double figure fixation )  
 ( ss : 00 - 99 : Double figure fixation )  
 L : Bearing ( N : North / S : South )  
 ex ) "North Latitude 40°42'51.12" shows "40425112 N".

13. [LONGITUDE] shows West or East Longitude.

The data shows "DDDMMSSssL" at DMS Format.

DDD : Degree ( 000 - 180 : Triple figure fixation )  
 MM : Minute ( 00 - 59 : Double figure fixation )  
 SSss : Second ( SS : 00 - 59 : Double figure fixation )  
 ( ss : 00 - 99 : Double figure fixation )  
 L : Bearing ( W : West / E : East )  
 ex ) "West Longitude 74°00'23.05" shows "074002305W".

Remote Command List

No.	Category	Command	Function	Program Mode Only
1.	Remote Control	GID	Get Current TalkGroup ID Status	
2.		KEY	Push KEY	
3.		QSH	Go to quick search hold mode	
4.		QSC	Set current frequency and get reception status	
5.		CSC	Go to Custom search and get reception status	
6.		PWR	Get RSSI Level	
7.		STS	Get Current Status	
8.		GLG	Get Reception Status	
9.		JPM	Jump Mode	
10.		MNU	Menu Mode	
11.	System Information	MDL	Get Model Info	
12.		VER	Get Firmware Version	
13.	Program Control Mode	PRG	Enter Program Mode	
14.		EPG	Exit Program Mode	
15.	System Settings	BKL	Get/Set Backlight	O
16.		CLR	Clear All Memory	O
17.		KBP	Get/Set Key Beep	O
18.		OMS	Get/Set Opening Message	O
19.		PRI	Get/Set Priority Mode	O
20.		AGV	Get/Set Auto Gain Control	O
21.		AGS	Get/Set Audio AGC Setting	O
22.		Scan Settings	SCT	Get System Count
23.	SIH		Get System Index Head	O
24.	SIT		Get System Index Tail	O
25.	QSL		Get/Set System/Site Quick Lockout	O
26.	QGL		Get/Set Group Quick Lockout	O
27.	CSY		Create System	O
28.	DSY		Delete System	O
29.	SIN		Get/Set System Info	O
30.	TRN		Get/Set Trunk Info	O
31.	AST		Append Site	O
32.	SIF		Get/Set Site Info	O
33.	MBP	Get/Set Motorola VHF/UHF Band Plan	O	

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34.		ABP	Get/Set APCO-P25 Band Plan	0
35.		TFQ	Get/Set Trunk Frequency Info	0
36.		AGC	Append Channel Group	0
37.		AGT	Append TalkGroup ID Group	0
38.		DGR	Delete Group / Site	0
39.		GIN	Get/Set Group Info	0
40.		ACC	Append Channel / Trunk Frequency	0
41.		ACT	Append TalkGroup ID	0
42.		DCH	Delete Channel	0
43.		CIN	Get/Set Channel Info	0
44.		TIN	Get/Set TalkGroup ID Info	0
45.		GLI	Get Lockout TalkGroup ID (for Rvw L/O ID)	0
46.		SLI	Get Search L/O TalkGroup ID	0
47.		ULI	Unlock TalkGroup ID (for Rvw L/O ID)	0
48.		LOI	Lockout ID (TalkGroup ID)	0
49.		REV	Get Rev Index	0
50.		FWD	Get Fwd Index	0
51.		RMB	Get Remains of Memory Block	0
52.		MEM	Get Memory Used	0
53.	Location Setting	LIH	Get Location Alert System Index Head	0
54.		LIT	Get Location Alert System Index Tail	0
55.		CLA	Create Location Alert System	0
56.		DLA	Delete Location Alert System	0
57.		LIN	Get/Set Location Alert System Info	0
58.	Search / Close Call Settings	SCO	Get/Set Search/Close Call Settings	0
59.		BBS	Get/Set Broadcast Screen Band Settings	0
60.		SHK	Get / Set Search Key Settings	0
61.		GLF	Get Global Lockout Freq	0
62.		ULF	Unlock Global L/O	0
63.		LOF	Lock Out Frequency	0
64.		CLC	Get/Set Close Call Settings	0
65.	Service Search Settings	SSP	Get/Set Service Search Settings	0
66.	Custom Search Settings	CSG	Get/Set Custom Search Group	0
67.		CSP	Get/Set Custom Search Settings	0
68.	Weather Settings	WXS	Get/Set Weather Settings	0
69.		SGP	Get/Set SAME Group Settings	0
70.	Tone-Out Setting	TON	Get/Set Tone-Out Settings	0
71.	LCD Contrast Settings	CNT	Get/Set LCD Contrast Settings	0
72.	LCD Upside-down Settings	DUD	Get/ Set LCD Upside-down Settings	0
73.	Scanner Option Settings	SCN	Get/Set Scanner Option Settings	0
74.	Volume Level Settings	VOL	Get/Set Volume Level Settings	
75.	Squelch Level Settings	SQL	Get/Set Squelch Level Settings	
76.	APCO Data Settings	P25	Get/Set APCO Data Settings	
77.	GPS Settings	GDO	Get/Set GPS Format	0
78.		GGA	Get GGA Data from GPS	
79.		RMC	Get RMC Data from GPS	
80.	P25 Waiting Time	PWT	Get/Set P25 Waiting Time	
81.	Motorola Custom Band Plan	MCP	Get/Set Motorola Custom Band Plan	
82.	TEST	WIN	Get Window Voltage	

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<COMMAND GID>

Get Current TGID Status

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Controller → Radio

① GID[\r]

Radio → Controller

① GID,[SITE\_TYPE],[TGID],[ID\_SRCH\_MODE],[NAME1],[NAME2],[NAME3][\r]

[SITE\_TYPE] : Site Type  
 [TGID] : TGID  
 [ID\_SRCH\_MODE] : ID SCAN / ID SEARCH Mode  
 ( 0:ID SCAN Mode / 1:ID SEARCH Mode )  
 [NAME1] : SYSTEM / SITE NAME (Alpha Tag)  
 [NAME2] : GROUP NAME (Alpha Tag)  
 [NAME3] : TGID NAME (Alpha Tag)

FUNCTION

This command return TGID currently displayed on LCD.  
 If you get the TGID once, the scanner returns ,,,,,[\r] until next reception.

NOTE : )

This command return ,,,,,[\r], when TGID is not displayed.

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<COMMAND KEY>

Push KEY

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Controller → Radio

① KEY,[KEY\_CODE],[KEY\_MODE][\r]

Radio → Controller

① KEY,OK[\r]

[KEY\_CODE] P : PRI  
 W : WX  
 G : GPS  
 M : MENU  
 F : VFO PUSH / FUNC  
 H : HOLD  
 S : SCAN / SEARCH  
 L : L/O  
 1 : 1  
 2 : 2  
 3 : 3  
 4 : 4  
 5 : 5  
 6 : 6  
 7 : 7  
 8 : 8  
 9 : 9  
 0 : 0  
 .(dot) : ./ no  
 E : E / yes  
 Q : SQL PUSH  
 V : VOL PUSH  
 > : VFO RIGHT \* Set "P" to KEY\_MODE.  
 < : VFO LEFT \* Set "P" to KEY\_MODE.

[KEY\_MODE] P : Press  
 L : Long Press  
 H : Hold (Press and Hold until Release receive)  
 R : Release (Cancel Hold state)

Ex.1) Press MENU KEY

→ KEY,M,P[\r]

← OK[\r]

Ex.2) Press F + SCAN KEY

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- KEY,F,H[\r] : Hold F KEY
- ← OK[\r]
- KEY,S,P[\r] : Press SCAN KEY (F + SCAN KEY operation)
- ← OK[\r]
- KEY,F,R[\r] : Release F KEY
- OK[\r]

Ex.3) Press and Hold L/O KEY

- KEY,L,L[\r]
- ← OK[\r]

The status of KEY HOLD does time-out in 10 seconds after having received the command of KEY HOLD when there is not communication.(For example, "KEY,F,H".)

<COMMAND QSH>

Go to quick search hold mode

Controller → Radio

① QSH,[FRQ],[STP],[MOD],[ATT],[DLY],[SKP],[CODE\_SRCH],[BSC],[REP],[RECORD][\r]

Radio → Controller

① QSH,OK[\r] or QSH,NG[\r]

- [FRQ] : Frequency (The right frequency)
- [STP] : Search Step
  - AUTO : AUTO 500 : 5k
  - 625 : 6.25k 750 : 7.5k
  - 833 : 8.33k 1000 : 10k
  - 1250 : 12.5k 1500 : 15k
  - 2000 : 20k 2500 : 25k
  - 5000 : 50k 10000 : 100k
- [MOD] : Modulation (AUTO/AM/FM/NFM/WFM/FMB)
- [ATT] : Attenuation (0:OFF / 1:ON)
- [DLY] : Delay Time (0:OFF / 1 - 5)
- [SKP] : Data Skip (0:OFF / 1:ON)
- [CODE\_SRCH] : CTCSS/DCS Search (0:OFF / 1:ON)
- [BSC] : Broadcast Screen (16digit: #####.#.#)
  - (each # is 0 or 1)
  - 0 means OFF
  - 1 means ON
  - ||||| |·+ Band10
  - ||||| | Band 2
  - ||||| |+----- Band 1
  - ||||| |+----- Reserve
  - ||||| |+----- NOAA WX
  - ||||| |+----- VHF TV
  - ||||| |+----- UHF TV
  - ||| |+----- FM
  - +----- Pager
- [REP] : Repeater Find (0:OFF / 1:ON)
- [RECORD] : Tape-Out (0:OFF / 1:ON)

This command is invalid when the scanner is in Menu Mode, during Direct Entry operation, during Quick Save operation.

FUNCTION

UASD specifies arbitrary frequency and changes to Quick Search Hold (VFO) mode.  
Parameter, such as STP, changes the contents of Srch/CloCall option.

<COMMAND QSC>

Set current frequency and get reception status

Controller → Radio

① QSC,[FRQ],[STP],[MOD],[ATT],[DLY],[SKP],[CODE\_SRCH],[BSC],[REP],[RECORD][\r]

Radio → Controller

① QSC,[RSSI],[FRQ],[SQL][\r] or QSC,NG[\r]

- [FRQ] : Frequency (The right frequency)
- [STP] : Search Step
  - AUTO : AUTO 500 : 5k
  - 625 : 6.25k 750 : 7.5k

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	833	: 8.33k	1000	: 10k
	1250	: 12.5k	1500	: 15k
	2000	: 20k	2500	: 25k
	5000	: 50k	10000	: 100k
[MOD]	:	Modulation		(AUTO/AM/FM/NFM/WFM/FMB)
[ATT]	:	Attenuation		(0:OFF / 1:ON)
[DLY]	:	Delay Time		(0:OFF / 1 - 5)
[SKP]	:	Data Skip		(0:OFF / 1:ON)
[CODE_SRCH]	:	CTCSS/DCS Search		(0:OFF / 1:ON)
[BSC]	:	Broadcast Screen	(16digit: #####.#)	
		(each # is 0 or 1)		
		0 means OFF		
		1 means ON		
				Band10
				:
				Band 2
				Band 1
				Reserve
				NOAA WX
				VHF TV
				UHF TV
				FM
				Pager
[REP]	:	Repeater Find		(0:OFF / 1:ON)
[RECORD]	:	Tape-Out		(0:OFF / 1:ON)
[RSSI]	:	RSSI A/D Value		(0-1023)
[SQL]	:	Squelch Status		(0:CLOSE / 1:OPEN)

This command is invalid when the scanner is in Menu Mode, during Direct Entry operation, during Quick Save operation.

FUNCTION

UASD specifies arbitrary frequency and changes to Quick Search Hold (VFO) mode. Parameter, such as STP, changes the contents of Srch/CloCall option.

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<COMMAND CSC>

Go to Custom search and get reception status

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Controller → Radio

- ① CSC,ON[r]
- ② CSC,OFF[r]

Radio → Controller

- ① CSC,[RSSI],[FRQ],[SQL][r]  
CSC,[RSSI],[FRQ],[SQL][r]  
CSC,[RSSI],[FRQ],[SQL][r]  
....  
....  
....  
CSC,[RSSI],[FRQ],[SQL][r]
- ② CSC,OK[r]

[RSSI]	:	RSSI A/D Value	(0-1023)
[FRQ]	:	Current Frequency	
[SQL]	:	Squelch Status	(0:CLOSE / 1:OPEN)

This command outputs custom search status of each frequency sequentially. Use CSC,OFF command to stop the output.

This command is invalid when the scanner is in Menu Mode, during Direct Entry operation, during Quick Save operation.

<COMMAND PWR>

\*Get RSSI Level

Controller → Radio

① PWR[\r]

Radio → Controller

① PWR,[RSSI],[FRQ][\r]

[RSSI] : RSSI A/D Value (0-1023)  
 [FRQ] : Current Frequency

Returns current RSSI level and its frequency.  
 The order of the frequency digits is from 1 GHz digit to 100 Hz digit.

<COMMAND STS>

Get Current Status

Controller → Radio

① STS[\r]

Radio → Controller

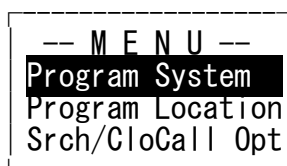
① STS,[DSP\_FORM],[L1\_CHAR],[L1\_MODE],[L2\_CHAR],[L2\_MODE],[L3\_CHAR],[L3\_MODE],[L4\_CHAR],[L4\_MODE],...,[L8\_CHAR],[L8\_MODE],[SQL],[MUT],[RSV],[WAT],[LED\_1],[LED\_2],[SIG\_LVL],[BK\_COLOR],[BK\_DIMMER][\r]

[DSP\_FORM] : Display Form (4 - 8digit:#####)  
 (each # is 0 or 1) 0 means Small Font / 1 means Large Font.  
 [L1\_CHAR] : Line1 Characters 16char (fixed length)  
 [L1\_MODE] : Line1 Display Mode 16char  
 [L2\_CHAR] : Line2 Characters 16char (fixed length)  
 [L2\_MODE] : Line2 Display Mode 16char  
 [L3\_CHAR] : Line3 Characters 16char (fixed length)  
 [L3\_MODE] : Line3 Display Mode 16char  
 [L4\_CHAR] : Line4 Characters 16char (fixed length)  
 [L4\_MODE] : Line4 Display Mode 16char  
 :  
 [L8\_CHAR] : Line8 Characters 16char (fixed length)  
 [L8\_MODE] : Line8 Display Mode 16char  
 [SQL] : Squelch Status (0:CLOSE / 1:OPEN)  
 [MUT] : Mute Status (0:OFF / 1:ON)  
 [RSV] : Reserve Parameter \* This is always only "0".  
 [WAT] : Weather Alert Status (0:No Alert / 1: Alert / \$\$\$: Alert SAME CODE)  
 [LED\_1] : CC LED (0:OFF / 1:ON)  
 [LED\_2] : Alert LED (0:OFF / 1:ON)  
 [SIG\_LVL] : Signal Level ( 0 - 5 )  
 [BK\_COLOR] : Backlight Color (GREEN / RED)  
 [BK\_DIMMER] : Backlight Dimmer ((0:OFF / 1:Low / 2:Middle / 3:High )

NOTE : ) Display Mode for Line1 – Line8  
 (space) : NORMAL CHAR, \* : REVERSE CHAR  
 \_ (Under bar) : Underline  
 If all 16chars are normal, only "," is sent.

The number of [Lx\_CHAR] and [Lx\_MODE] depend on Display Form.

Ex. 1)



Squelch Status : OPEN  
 Mute Status : OFF  
 Weather Alert Status : No Alert

→ STS[\r]  
 ← 1111,

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```

-- M E N U -- , ← [L1_CHAR]
                ← [L1_MODE]
Program System , ← [L2_CHAR]
*****          ← [L2_MODE]
Program Location, ← [L3_CHAR]
                ← [L3_MODE]
Srch/CloCall Opt, ← [L4_CHAR]
                ← [L4_MODE]
1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0[  


```

Returns current scanner status.

Ex. 2)

```

HOLD L/0
System 1
851.0125MHz
P NFM ATT
S1: 5
GRP 2 WX

```

Squelch Status : CLOSE  
Mute Status : ON  
Weather Alert Status : Alert

```

→ STS[  

← 011000,  

  HOLD L/0 , ← [L1_CHAR]  

  , ← [L1_MODE]  

  SYSTEM 1 , ← [L2_CHAR]  

  , ← [L2_MODE]  

  851.0125MHz , ← [L3_CHAR]  

  , ← [L3_MODE]  

  P NFM ATT , ← [L4_CHAR]  

  , ← [L4_MODE]  

  S1: 5 , ← [L5_CHAR]  

  , ← [L5_MODE]  

  GRP 2 WX, ← [L6_CHAR]  

  , ← [L6_MODE]  

0,1,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0[  


```

Returns current scanner status.

<COMMAND GLG>

Get Reception Status

Controller → Radio

① GLG[

Radio → Controller

① GLG,[FRQ/TGID],[MOD],[ATT],[CTCSS/DCS],[NAME1],[NAME2],[NAME3],[SQL],[MUT][  
GLG,,,,,,,,,[

[FRQ/TGID] : Frequency or TGID  
[MOD] : Modulation (AM/FM/NFM/WFM/FMB)  
[ATT] : Attenuation (0:OFF / 1:ON)  
[CTCSS/DCS] : CTCSS/DCS Status (0-231)  
\*See CTCSS/DCS CODE LIST about the details of this code.  
[NAME1] : System, Site or Search Name  
[NAME2] : Group Name  
[NAME3] : Channel Name  
[SQL] : Squelch Status (0:CLOSE / 1:OPEN)  
[MUT] : Mute Status (0:OFF / 1:ON)

Get reception status.  
The Scanner returns GLG,,,,,,,,,[

<COMMAND JPM>

Jump Mode

Controller → Radio

① JPM,[JUMP\_MODE],[INDEX][

Radio → Controller



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① JPM,OK[\r]

[JUMP_MODE]	:	SCN_MODE	Scan mode
		SVC_MODE	Service Search mode
		CTM_MODE	Custom Search mode
		CC_MODE	Close Call Only mode
		WX_MODE	WX SCAN mode
		FTO_MODE	Ton-Out mode
[INDEX]	:	SCN_MODE	Channel Index
		SVC_MODE	PublicSafety
			News
			HAM
			Marine
			Railroad
			Air
			CB
			FRS/GMRS
			Racing
			TV
			FM
			Special
			Military
		CTM_MODE	RESERVE
		CC_MODE	RESERVE
		WX_MODE	NORMAL
			A_ONLY
			SAME_1
			SAME_2
			SAME_3
			SAME_4
			SAME_5
			ALL_FIPS
		FTO_MODE	RESERVE

Note) Scanner returns NG in the state that the mode switch cannot be done.

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<COMMAND MNU>

Menu Mode

Controller → Radio

① MNU,[MENU\_INDEX][\r]

Radio → Controller

① MNU,OK[\r]

[MENU_INDEX]	:	SVC_MENU	: Service Search Select Menu
		WX_MENU	: WX Select Menu
		CCBAND_MENU	: Close Call Band Filter Menu
		SCR_OPT_MENU	: Broadcast Screen Band Menu
		GL_LIST_MENU	: Search Global Lockout List Review Menu
		SETTING_MENU	: Setting Menu

Note) Scanner returns NG in the state that the mode switch cannot be done.

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<COMMAND MDL>

Get Model Info

Controller → Radio

① MDL[\r]

Radio → Controller

① MDL,BCD996T[\r]

Returns Model Information.

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<COMMAND VER>

Get Firmware Version

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Controller → Radio

① VER[\r]

Radio → Controller

① VER,Version 1.00.00[\r]

Returns Firmware Version.

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<COMMAND PRG>

Enter Program Mode

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Controller → Radio

① PRG[\r]

Radio → Controller

① PRG,OK[\r]

② PRG,NG[\r]

This command is invalid when the scanner is in Menu Mode, during Direct Entry operation, during Quick Save operation.

The scanner goes to Program Mode.

The scanner displays "Remote Mode" on first line and "Keypad Lock" on second line in Program Mode.

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<COMMAND EPG>  
Exit Program Mode

---

Controller → Radio  
① EPG[\r]  
Radio → Controller  
① EPG,OK[\r]

The scanner exits from Program Mode.  
Then the scanner goes to Scan Hold Mode.

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<COMMAND BKL>  
Get/Set Backlight

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Controller → Radio  
① BKL[\r]  
② BKL,[DIMMER],[COLOR][\r]  
Radio → Controller  
① BKL,[DIMMER],[COLOR][\r]  
② BKL,OK[\r]

[DIMMER] : Backlight Dimmer (OFF / LOW / MIDL / HIGH / +POL / -POL )  
[COLOR] : Backlight Color (GREEN / RED)

This command is only acceptable in Programming Mode.

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<COMMAND CLR>  
Clear All Memory

---

Controller → Radio  
① CLR[\r]  
Radio → Controller  
① CLR,OK[\r]

All the memories are set for initial setting.  
This command is only acceptable in Programming Mode.

Note :  
It takes dozens of seconds.  
Only PC Control (Baud Rate) does not become an initial-setting value.

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<COMMAND KBP>  
Get/Set Key Beep

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Controller → Radio  
① KBP[\r] : Get Key Beep Setting  
② KBP,[LEVEL][\r] : Set Key Beep Setting  
Radio → Controller  
① KBP,[LEVEL][\r]  
② KBP,OK[\r]

[LEVEL] : Beep Level (0:Auto / 1-15 / 99:OFF)

Get/Set Key Beep Setting.  
This command is only acceptable in Programming Mode.

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<COMMAND OMS>  
Get/Set Opening Message

---

Controller → Radio  
① OMS[\r]  
② OMS,[L1\_CHAR],[L2\_CHAR],[L3\_CHAR],[L4\_CHAR][\r]  
Radio → Controller  
① OMS,[L1\_CHAR],[L2\_CHAR],[L3\_CHAR],[L4\_CHAR][\r]  
② OMS,OK[\r]

[L1\_CHAR] : Line1 Characters (max.16char)  
[L2\_CHAR] : Line2 Characters (max.16char)  
[L3\_CHAR] : Line3 Characters (max.16char)  
[L4\_CHAR] : Line4 Characters (max.16char)

If only space code is set in character area, the message returns default message.  
This command is only acceptable in Programming Mode.

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<COMMAND PRI>

Get/Set Priority Mode

---

Controller → Radio

- ① PRI[\r] : Get Priority Mode Setting
- ② PRI,#[\r] : Set Priority Mode Setting

Radio → Controller

- ① PRI,#[\r]
- ② PRI,OK[\r]

# means Priority Setting (0:OFF / 1:ON / 2:PLUS ON)

Get/Set Priority Mode.

This command is only acceptable in Programming Mode.

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<COMMAND AGV>

Get/Set Auto Gain Control

---

Controller → Radio

- ① AGV[\r] : Get Auto Gain Control Setting
- ② AGV,[AGC\_ANALOG],[AGC\_DIGITAL][\r] : Set Auto Gain Control Setting

Radio → Controller

- ① AGV,[AGC\_ANALOG],[AGC\_DIGITAL][\r]
- ② AGV,OK[\r]

[AGC\_ANALOG] : AGC Setting for Analog Audio (0:OFF / 1:ON)  
[AGC\_DIGITAL] : AGC Setting for Digital Audio (0:OFF / 1:ON)

Get/Set AGC Setting.

This command is only acceptable in Programming Mode.

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<COMMAND SCT>

Get System Count

---

Controller → Radio

- ① SCT[\r]

Radio → Controller

- ① SCT,###[\r] : ### (0 - 500)

Returns the number of stored System.

This command is only acceptable in Programming Mode.

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<COMMAND SIH>

Get System Index Head

---

Controller → Radio

- ① SIH[\r]

Radio → Controller

- ① SIH,[SYS\_INDEX][\r]

Returns the first index of stored system list.

This command is only acceptable in Programming Mode.

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<COMMAND SIT>

Get System Index Tail

---

Controller → Radio

- ① SIT[\r]

Radio → Controller  
① SIT,[SYS\_INDEX][\r]

Returns the last index of stored system list.  
This command is only acceptable in Programming Mode.

<COMMAND QSL>  
Get/Set System/Site Quick Lockout

Controller → Radio  
① QSL[\r]  
② QSL,[PAGE0],[PAGE1],[PAGE2],[PAGE3],[PAGE4],[PAGE5],[PAGE6],[PAGE7],[PAGE8],[PAGE9][\r]  
Radio → Controller  
① QSL,[PAGE0],[PAGE1],[PAGE2],[PAGE3],[PAGE4],[PAGE5],[PAGE6],[PAGE7],[PAGE8],[PAGE9][\r]  
② QSL,OK[\r]

[PAGE0] – [PAGE9] : ##### (each # is 0 - 2)  
0 : Not assigned (Displayed as “-“ on the scanner.)  
1 : On (Displayed as each number on the scanner.)  
2 : Off (Displayed as “\*” on the scanner.)  
The Order of Quick Key is as same as LCD Icon.

[PAGE0] : Quick Key 1 - 9, 0  
[PAGE1] : Quick Key11 - 19,10  
[PAGE2] : Quick Key21 - 29,20  
[PAGE3] : Quick Key31 - 39,30  
[PAGE4] : Quick Key41 - 49,40  
[PAGE5] : Quick Key51 - 59,50  
[PAGE6] : Quick Key61 - 69,60  
[PAGE7] : Quick Key71 - 79,70  
[PAGE8] : Quick Key81 - 89,80  
[PAGE9] : Quick Key91 - 99,90

This command is only acceptable in Programming Mode.  
It cannot turn on/off the Quick Key that has no System / Site.

<COMMAND QGL>  
Get/Set Group Quick Lockout

Controller → Radio  
① QGL,[SYS\_INDEX][\r]  
② QGL,[SYS\_INDEX],#####[\r]  
Radio → Controller  
① QGL,#####[\r]  
② QGL,OK[\r]

##### (each # is 0 - 2) : Group Quick Key status of [SYS\_INDEX].  
0 : Not assigned (Displayed as “-“ on the scanner.)  
1 : On (Displayed as each number on the scanner.)  
2 : Off (Displayed as “\*” on the scanner.)

The Order of Quick Key is as same as LCD Icon (1 – 9, 0).  
This command is only acceptable in Programming Mode.  
It cannot turn on/off the Quick Key that has no Group.

<COMMAND CSY>  
Create System

Controller → Radio  
① CSY,[SYS\_TYPE][\r]  
Radio → Controller  
① CSY,[SYS\_INDEX][\r]

[SYS\_TYPE] : System Type  
CNV : CONVENTIONAL

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MOT1 : MOTOROLA TYPE1  
 MOT2 : MOTOROLA TYPE2 / P25  
 EDC : EDACS Narrow / Wide  
 EDS : EDACS SCAT  
 LTR : LTR

[SYS\_INDEX]: The Index of Created System

Creates a system and return created system index.  
 The index is a handle to get/set system information.  
 Returns -1 if the scanner failed to create because of no resource.  
 This command is only acceptable in Programming Mode.

<COMMAND DSY>

Delete System

Controller → Radio

① DSY,[SYS\_INDEX][\r]

Radio → Controller

① DSY,OK[\r]

[SYS\_INDEX] : System Index

This command deletes a System.  
 This command is only acceptable in Programming Mode.

<COMMAND SIN>

Get/Set System Info

Controller → Radio

① SIN,[INDEX][\r]

② SIN,[INDEX],[NAME],[QUICK\_KEY],[HLD],[LOUT],[DLY],[SKP],[RSV],[RSV],[APCO],[THRESHOLD],[START\_KEY],[RECORD],[LATITUDE],[LONGITUDE],[RANGE],[GPS\_ENABLE],[RSV][\r]

Radio → Controller

① SIN,[SYS\_TYPE],[NAME],[QUICK\_KEY],[HLD],[LOUT],[DLY],[SKP],[RSV],[RSV],[APCO],[THRESHOLD],[REV\_INDEX],[FWD\_INDEX],[CHN\_GRP\_HEAD],[CHN\_GRP\_TAIL],[SEQ\_NO],[START\_KEY],[RECORD],[LATITUDE],[LONGITUDE],[RANGE],[GPS\_ENABLE],[RSV][\r]

② SIN,OK[\r]

[INDEX] : System Index  
 [SYS\_TYPE] : System Type  
 [NAME] : Name (max.16char)  
 [QUICK\_KEY] : Quick Key (0-99/(dot) means none)  
 [HLD] : System Hold Time (0-255)  
 [LOUT] : Lockout (0:Unlocked / 1:Lockout)  
 [DLY] : Delay Time (0:OFF / from 1 to 5)  
 [SKP] : Data Skip (0:OFF / 1:ON)  
 [APCO] : APCO Threshold Mode  
 (AUTO: Auto/MAN: Manual/DFLT: Default)  
 [THRESHOLD] : APCO Threshold (0-63)  
 [REV\_INDEX] : Reverse System Index of the Scan Setting  
 [FWD\_INDEX] : Forward System Index of the Scan Setting  
 [CHN\_GRP\_HEAD] : Channel Group Index Head of the conventional system or Site Index Head of the Trunked System  
 [CHN\_GRP\_TAIL] : Channel Group Index Tail of the conventional system or Site Index Tail of the Trunked System  
 [SEQ\_NO] : System Sequence Number (1 - 500)  
 [START\_KEY] : Startup Configuration Key (0-9/(dot) means none)  
 [RECORD] : Tape out (0:OFF / 1:Marked Channel / 2:All Channel)  
 [LATITUDE] : North or South Latitude  
 [LONGITUDE] : West or East Longitude  
 [RANGE] : Range (1 = 0.01mile)  
 [GPS\_ENABLE] : GPS Location detection (0:OFF/1:ON)  
 [RSV] : Reserve Parameter \* This is always only “,”.



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(for MOTOROLA TYPE 2 SYSTEM)

M82S : Motorola 800MHz Standard  
M82P : Motorola 800MHz Splinter  
M92 : Motorola 900MHZ Band  
MV2 : Motorola VHF Band  
MU2 : Motorola UHF Band  
MP25 : Motorola P25  
M82C : Motorola 800MHz Custom

(for MOTOROLA TYPE 1 SYSTEM)

M81S : Motorola 800MHz Standard  
M81P : Motorola 800MHz Splinter  
M81C : Motorola 800MHz Custom

(for EDACS SYSTEM)

EDN : EDACS NARROW  
EDW : EDACS WIDE

[SITE\_INDEX] : Appended Site Index

Append Site to the system.

Returns "-1" if the scanner failed to create because of no resource.

This command is only acceptable in Programming Mode.

---

<COMMAND SIF>

Get/Set Site Info

---

Controller → Radio

- ① SIF,[INDEX][\r]
- ② SIF,[INDEX],[NAME],[QUICK\_KEY],[HLD],[LOUT],[MOD],[ATT],[C-CH],[APCO],[THRESHOLD],[START\_KEY],[LATITUDE],[LONGITUDE],[RANGE],[GPS\_ENABLE],[RSV][\r]

Radio → Controller

- ① SIF,[SITE\_TYPE],[NAME],[QUICK\_KEY],[HLD],[LOUT],[MOD],[ATT],[C-CH],[APCO],[THRESHOLD],[REV\_INDEX],[FWD\_INDEX],[SYS\_INDEX],[CHN\_HEAD],[CHN\_TAIL],[SEQ\_NO],[START\_KEY],[LATITUDE],[LONGITUDE],[RANGE],[GPS\_ENABLE],[RSV][\r]
- ② SIF,OK[\r]

[INDEX] : Site Index  
[SITE\_TYPE] : Site Type  
[NAME] : Name (max.16char)  
[QUICK\_KEY] : Quick Key (0-99/(dot) means none)  
[HLD] : Site Hold Time (0-255)  
[LOUT] : Lockout (0:Unlocked / 1:Lockout)  
[MOD] : Modulation (AUTO/FM/NFM)  
[ATT] : Attenuation (0:OFF/1:ON)  
[C-CH] : Control Channel Only (0:OFF / 1:ON)  
[APCO] : APCO Threshold Mode  
(AUTO: Auto/MAN: Manual/DFLT: Default)  
[THRESHOLD] : APCO Threshold ( 0-63 )  
[REV\_INDEX] : Reverse Site Index of the Scan Setting  
[FWD\_INDEX] : Forward Site Index of the Scan Setting  
[SYS\_INDEX] : System Index  
[CHN\_HEAD] : Channel Index Head of the Group List  
[CHN\_TAIL] : Channel Index Tail of the Group List  
[SEQ\_NO] : Site Sequence Number (1-256)  
[START\_KEY] : Startup Configuration (0-9/(dot) means none)  
[LATITUDE] : North or South Latitude  
[LONGITUDE] : West or East Longitude  
[RANGE] : Range ( 1= 0.01mile)  
[GPS\_ENABLE] : GPS Location detection (0:OFF/1:ON)  
[RSV] : Reserve Parameter \* This is always only “,”.

Get/Set Site Information.

The scanner returns only “,” to punctuate for parameters which are not appropriate the site type.

In set command, the scanner neglects the parameters that are not appropriate the system type.

In set command, only “,” parameters are not changed.



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The set command is aborted if any format error is detected.  
This command is only acceptable in Programming Mode.

---

<COMMAND MBP>

Get/Set Motorola Band Plan

---

Controller → Radio

- ① MBP,[INDEX][\r]
- ② MBP,[INDEX],[BASE1],[STEP1],[OFFSET1],[BASE2],[STEP2],[OFFSET2],[BASE3],[STEP3],[OFFSET3][\r]

Radio → Controller

- ① MBP,[BASE1],[STEP1],[OFFSET1],[BASE2],[STEP2],[OFFSET2],[BASE3],[STEP3],[OFFSET3][\r]
- ② MBP,OK[\r]

[INDEX] : Site Index  
[BASE1] : Base Frequency 1  
[STEP1] : Step 1  
[OFFSET1] : Offset 1  
[BASE2] : Base Frequency 2  
[STEP2] : Step 2  
[OFFSET2] : Offset 2  
[BASE3] : Base Frequency 3  
[STEP3] : Step 3  
[OFFSET3] : Offset 3

Get/Sets Band Plan Setting for MOT VHF/UHF site.

In set command, only "," parameters are not changed.  
The set command is aborted if any format error is detected.  
This command is only acceptable in Programming Mode.

---

<COMMAND ABP>

Get/Set APCO-P25 Band Plan

---

Controller → Radio

- ① ABP,[INDEX][\r]
- ② ABP,[INDEX],[BASE\_FREQ\_0],[SPACING\_FREQ\_0],[BASE\_FREQ\_1],[SPACING\_FREQ\_1],...  
[BASE\_FREQ\_E],[SPACING\_FREQ\_E],[BASE\_FREQ\_F],[SPACING\_FREQ\_F][\r]

Radio → Controller

- ① ABP,[INDEX],[BASE\_FREQ\_0],[SPACING\_FREQ\_0],[BASE\_FREQ\_1],[SPACING\_FREQ\_1],...  
[BASE\_FREQ\_E],[SPACING\_FREQ\_E],[BASE\_FREQ\_F],[SPACING\_FREQ\_F][\r]
- ② ABP,OK[\r]

[INDEX] : Site Index  
[BASE\_FREQ\_n] : Base frequency (MHz)  
Base\_FREQ\_n = (base frequency \* 10<sup>6</sup>) / 5  
(Hexadecimal number)  
[SPACING\_FREQ\_n] : Spacing frequency(kHz)  
SPACING\_FREQ\_n = (spacing frequency \* 10<sup>3</sup>) / 125  
(Hexadecimal number)

\*n : Base Plan number

EX.) Base frequency = 851.00625MHz, Spacing frequency = 6.25kHz

[BASE\_FREQ\_n] = (851.00625\*10<sup>6</sup>)/5 = A2510A2(H)

[SPACING\_FREQ\_n] = (6.25\*10<sup>3</sup>)/125= 32 (H)

Band Plan that has no data returns "0".

This command is only acceptable in Programming Mode.

---

<COMMAND TFQ>

Get/Set Trunk Frequency Info

---

Controller → Radio

- ① TFQ,[CHN\_INDEX][\r]
- ② TFQ,[CHN\_INDEX],[FRQ],[LCN],[LOUT],[RECORD][\r]

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Radio → Controller

- ① TFQ,[FRQ],[LCN],[LOUT],[REV\_INDEX],[FWD\_INDEX],[SYS\_INDEX],[GRP\_INDEX],[RECORD][\r]
- ② TFQ,OK[\r]

[CHN\_INDEX] : Trunk Frequency Index  
 [FRQ] : Trunk Frequency  
 [LCN] : LCN  
 [LOUT] : Lockout (0:Unlocked / 1:Lockout)  
 [REV\_INDEX] : Reverse Frequency Index of the Site  
 [FWD\_INDEX] : Forward Frequency Index of the Site  
 [SYS\_INDEX] : System Index of the Frequency  
 [GRP\_INDEX] : Index of the Site  
 [RECORD] : Tape out ( 0:OFF / 1:ON )

In set command, only "," parameters are not changed.  
 The set command is aborted if any format error is detected.  
 This command is only acceptable in Programming Mode.  
 For Motorola or EDACS SCAT System, [LCN] is ignored.

<COMMAND AGC>

Append Channel Group

Controller → Radio

- ① AGC,[SYS\_INDEX][\r]

Radio → Controller

- ① AGC,[GRP\_INDEX][\r]

[SYS\_INDEX] : System Index  
 [GRP\_INDEX] : appended Channel Group Index

Append Channel Group to the system.  
 Returns "-1" if the scanner failed to create because of no resource.  
 This command is only acceptable in Programming Mode.

<COMMAND AGT>

Append TGID Group

Controller → Radio

- ① AGT,[SYS\_INDEX][\r]

Radio → Controller

- ① AGT,[GRP\_INDEX][\r]

[SYS\_INDEX] : System Index  
 [GRP\_INDEX] : appended TGID Group Index

Append TGID Group to the system.  
 Returns "-1" if the scanner failed to create because of no resource.  
 This command is only acceptable in Programming Mode.

<COMMAND DGR>

Delete Group / Site

Controller → Radio

- ① DGR,[INDEX][\r]

Radio → Controller

- ① DGR,OK[\r]

[INDEX] : Group / Site Index

This command deletes a Channel Group, TGID Group or Site.  
 This command is only acceptable in Programming Mode.

<COMMAND GIN>

Get/Set Group Info

Controller → Radio

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- ① GIN,[GRP\_INDEX][\r]
  - ② GIN,[GRP\_INDEX],[NAME],[QUICK\_KEY],[LOUT][\r]
- Radio → Controller
- ① GIN,[GRP\_TYPE],[NAME],[QUICK\_KEY],[LOUT],[REV\_INDEX],[FWD\_INDEX],[SYS\_INDEX],[CHN\_HEAD],[CHN\_TAIL],[SEQ\_NO][\r]
  - ② GIN,OK[\r]

For Group Information

[GRP_INDEX]	:	Group Index
[GRP_TYPE]	:	Group Type (C: Channel Group / T: TGID Group)
[NAME]	:	Name (max.16char)
[QUICK_KEY]	:	Quick Key (1-9,0: means 10, .(dot): means none)
[LOUT]	:	Lockout (0:Unlocked / 1:Lockout)
[REV_INDEX]	:	Reverse Group Index of the System
[FWD_INDEX]	:	Forward Group Index of the System
[SYS_INDEX]	:	System Index
[CHN_HEAD]	:	Channel Index Head of the Group List
[CHN_TAIL]	:	Channel Index Tail of the Group List
[SEQ_NO]	:	Group Sequence Number of the System

Get/Set Group Information.

In set command, only "," parameters are not changed.

The set command is aborted if any format error is detected.

This command is only acceptable in Programming Mode.

---

<COMMAND ACC>

Append Channel / Trunk Frequency

---

Controller → Radio

- ① ACC,[GRP\_INDEX][\r]

Radio → Controller

- ① ACC,[CHN\_INDEX][\r]

[GRP_INDEX]	:	Channel Group Index
[CHN_INDEX]	:	Appended Channel Index

- or -

[GRP_INDEX]	:	Site Index
[CHN_INDEX]	:	Appended Trunk Frequency Index

Append Channel to the group. Or, append Trunk Frequency to the Site.

Returns "-1" if the scanner failed to create because of no resource.

This command is only acceptable in Programming Mode.

---

<COMMAND ACT>

Append TGID

---

Controller → Radio

- ① ACT,[GRP\_INDEX][\r]

Radio → Controller

- ① ACT,[INDEX][\r]

[GRP_INDEX]	:	TGID Group Index
[TGID_INDEX]	:	appended TGID Index

Append TGID to the group.

Returns "-1" if the scanner failed to create because of no resource.

This command is only acceptable in Programming Mode.

---

<COMMAND DCH>

Delete Channel

---

Controller → Radio

- ① DCH,[INDEX][\r]

Radio → Controller

- ① DCH,OK[\r]

[INDEX] : Channel Index, TGID Index or Frequency Index of Trunked System

This command deletes a Channel and TGID.  
 This command is also valid for deleting a Trunk Frequency.  
 This command is only acceptable in Programming Mode.

<COMMAND CIN>  
 Get/Set Channel Info

Controller → Radio

- ① CIN,[INDEX][r]
- ② CIN,[INDEX],[NAME],[FRQ],[MOD],[CTCSS/DCS],[TLOCK],[LOUT],[PRI],[ATT],[ALT],[ALTL],[RECORD],[AUDIO\_TYPE][r]

Radio → Controller

- ① CIN,[NAME],[FRQ],[MOD],[CTCSS/DCS],[TLOCK],[LOUT],[PRI],[ATT],[ALT],[ALTL],[REV\_INDEX],[FWD\_INDEX],[SYS\_INDEX],[GRP\_INDEX],[RECORD],[AUDIO\_TYPE][r]
- ② CIN,OK[r]

[INDEX]	: Channel Index
[NAME]	: Name (max.16char)
[FRQ]	: Channel Frequency
[MOD]	: Modulation (AUTO/AM/FM/NFM/WFM/FMB)
[ATT]	: Attenuation (0:OFF / 1:ON)
[CTCSS/DCS]	: CTCSS/DCS Status (0-231 )
	*See <u>CTCSS/DCS CODE LIST</u> about the details of this code.
[TLOCK]	: CTCSS/DCS Tone Lockout(0:OFF / 1:ON)
[LOUT]	: Lockout (0:Unlocked / 1:Lockout)
[PRI]	: Priority (0:OFF / 1:ON)
[ALT]	: Alert Tone (0:OFF / 1-9:Tone No)
[ALTL]	: Alert Tone Level (0:AUTO/ 1-15)
[REV_INDEX]	: Reverse Channel Index of the Channel Group
[FWD_INDEX]	: Forward Channel Index of the Channel Group
[SYS_INDEX]	: System Index of the Channel
[GRP_INDEX]	: Group Index of the Channel
[RECORD]	: Tape out ( 0:OFF / 1:ON )
[AUDIO_TYPE]	: Audio Type ( 0:All / 1:Analog Only / 2: Digital Only )

Get/Set Channel Information.  
 In set command, only "," parameters are not changed.  
 The set command is aborted if any format error is detected.  
 This command is only acceptable in Programming Mode.

<COMMAND TIN>  
 Get/Set TGID Info

Controller → Radio

- ① TIN,[INDEX][r]
- ② TIN,[INDEX],[NAME],[TGID],[LOUT],[RSV],[ALT],[ALTL],[RECORD],[AUDIO\_TYPE][r]

Radio → Controller

- ① TIN,[NAME],[TGID],[LOUT],[RSV],[ALT],[ALTL],[REV\_INDEX],[FWD\_INDEX],[SYS\_INDEX],[GRP\_INDEX],[RECORD],[AUDIO\_TYPE][r]
- ② TIN,OK[r]

[INDEX]	: TGID Index
[NAME]	: Name (max.16char)
[TGID]	: TGID
[LOUT]	: Lockout (0:Unlocked / 1:Lockout)
[ALT]	: Alert Tone (0:OFF / 1-9:Tone No)
[ALTL]	: Alert Tone Level (0:AUTO/ 1-15)
[REV_INDEX]	: Reverse TGID Index of the Group
[FWD_INDEX]	: Forward TGID Index of the Group
[SYS_INDEX]	: System Index of the TGID
[GRP_INDEX]	: Group Index of the TGID
[RECORD]	: Tape out ( 0:OFF / 1:ON )
[AUDIO_TYPE]	: Audio Type ( 0:All / 1:Analog Only / 2: Digital Only )
[RSV]	: Reserve Parameter * This is always only “,”.

Get/Set TGID Information.  
In set command, only "," parameters are not changed.  
The set command is aborted if any format error is detected.  
This command is only acceptable in Programming Mode.

---

<COMMAND GLI>  
Get Lockout TGID (for Rvw L/O ID)

---

Controller → Radio  
① GLI,[SYS\_INDEX][\r]  
Radio → Controller  
① GLI,[TGID][\r]  
GLI,-1[\r] : No more lockout TGID

This command is used to get L/O TGID list of a system.  
You should call this command again and again to get all L/O TGID until the scanner returns "-1".  
"-1" means that no more L/O TGID exists.  
This command is only acceptable in Programming Mode.

---

<COMMAND SLI>  
Get Search L/O TGID

---

Controller → Radio  
① SLI,[SYS\_INDEX][\r]  
Radio → Controller  
① SLI,[TGID][\r]  
SLI,-1[\r] : No more lockout TGID

This command is used to get Search L/O TGID list of the system.  
Search L/O TGID is the L/O TGID which doesn't belong to any group in the system as a TGID.  
Compared with GLI command, this command doesn't return any L/O TGID which is belong to one of group in the system.  
You should call this command again and again to get all L/O TGID until the scanner returns "-1".  
"-1" means that no more L/O TGID exists.  
This command is only acceptable in Programming Mode.

---

<COMMAND ULI>  
Unlock TGID (for Rvw L/O ID)

---

Controller → Radio  
① ULI,[SYS\_INDEX],[TGID][\r]  
Radio → Controller  
① ULI,OK[\r]

This command unlocks a L/O TGID in a system.  
The TGID is deleted from L/O list.  
This command is only acceptable in Programming Mode.

---

<COMMAND LOI>  
Lockout ID (TGID)

---

Controller → Radio  
① LOI,[SYS\_INDEX],[TGID][\r]  
Radio → Controller  
① LOI,OK[\r]

This command locks out a TGID for the system.  
The TGID is added to L/O list.  
This command is only acceptable in Programming Mode.

---

<COMMAND REV>

Get Rev Index

Controller → Radio

① REV,[INDEX][r]

Radio → Controller

① REV,[INDEX][r]

[INDEX] : Index of system, site, group, channel, TGID or Location Alert System.

Returns reverse(backward) index of the index in the memory chain.

Returns -1 if no more index exists.

This command is only acceptable in Programming Mode.

<COMMAND FWD>

Get Fwd Index

Controller → Radio

① FWD,[INDEX][r]

Radio → Controller

① FWD,[INDEX][r]

[INDEX] : Index of system, site, group, channel, TGID or Location Alert System.

Returns forward index of the index in the memory chain.

Returns -1 if no more index exists.

This command is only acceptable in Programming Mode.

<COMMAND RMB>

Get Remains of Memory Block

Controller → Radio

① RMB[r]

Radio → Controller

① RMB,#####[r]

Returns the number of idle(free) memory block.

: ##### (not zero-padding)

This command is only acceptable in Programming Mode.

<COMMAND MEM>

Get Memory Used

Controller → Radio

① MEM[r]

Radio → Controller

① MEM,[MEMORY\_USED],[SYS],[SITE],[CHN],[LOC][r]

[MEMORY_USED]	: The percent of memory that is used	(0 - 100)
[SYS]	: The number of systems that is created	(0 - 500)
[SITE]	: The number of sites that is created	(0 - 1000)
[CHN]	: The number of channels that is created	(0 - 6000)
[LOC]	: The number of location system that is created	(0 - 1000)

This command is only acceptable in Programming Mode.

<COMMAND LIH>

Get Location Alert System Index Head

Controller → Radio

① LIH,[LAS\_TYPE][r]

Radio → Controller

① LIH,[INDEX][r]

[LAS\_TYPE] : Location Alert Type  
(POI:POI / DROAD: Dangerous Road / DXING : Dangerous Xing)

Returns the first index of stored location alert system list.

This command is only acceptable in Programming Mode.

---

<COMMAND LIT>

Get Location Alert System Index Tail

---

Controller → Radio

① LIT,[LAS\_TYPE][\r]

Radio → Controller

① LIT,[INDEX][\r]

[LAS\_TYPE] : Location Alert Type  
(POI:POI / DROAD: Dangerous Road / DXING : Dangerous Xing)

Returns the last index of stored location alert system list.  
This command is only acceptable in Programming Mode.

---

<COMMAND CLA>

Create Location Alert System

---

Controller → Radio

① CLA,[LAS\_TYPE][\r]

Radio → Controller

① CLA,[INDEX][\r]

[LAS\_TYPE] : Location Alert Type  
(POI: POI / DROAD: Dangerous Road / DXING: Dangerous Xing)  
[INDEX] : Location Alert System Index

Creates a system and return created location alert system index.  
The index is a handle to get/set location alert system information.  
Returns "-1" if the scanner failed to create because of no resource.  
This command is only acceptable in Programming Mode.

---

<COMMAND DLA>

Delete Location Alert System

---

Controller → Radio

① DLA,[INDEX][\r]

Radio → Controller

① DLA,OK[\r]

[INDEX] : Location Alert System Index

This command deletes a location alert system.  
This command is only acceptable in Programming Mode.

---

<COMMAND LIN>

Get/Set Location Alert System Info

---

Controller → Radio

① LIN,[INDEX][\r]

② LIN,[INDEX],[LAS\_TYPE],[NAME],[LOUT],[ALT],[ALTL],[LATITUDE],[LONGITUDE],[RANGE],[SPEED],[DIR][\r]

Radio → Controller

① LIN,[LAS\_TYPE],[NAME],[LOUT],[ALT],[ALTL],[REV\_INDEX],[FWD\_INDEX],[SEQ\_NO],[LATITUDE],[LONGITUDE],[RANGE],[SPEED],[DIR][\r]

② LIN,OK[\r]

[INDEX] : Location Alert System Index  
[LAS\_TYPE] : Location Alert Type  
(POI: POI / DROAD: Dangerous Road / DXING: Dangerous Xing)  
[NAME] : Name (max.16char)  
[LOUT] : Lockout (0:Unlocked / 1:Lockout)  
[ALT] : Alert Tone (0:OFF/1 - 4:Tone No.)  
[ALTL] : Alert Tone Level (0:AUTO/1-15)  
[REV\_INDEX] : Reverse System Index of Location Alert System  
[FWD\_INDEX] : Forward System Index of Location Alert System

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[SEQ\_NO] : Location Alert System Sequence Number  
 [LATITUDE] : North or South Latitude  
 [LONGITUDE] : West or East Longitude  
 [RANGE] : Range (1-200 : 1 means 0.01mile)  
 [SPEED] : Speed Limit (0-200 : 1 means 1mile/hour)  
 [DIR] : Heading ( 0-358/360 : 2' step, 360=All range)

Get/Set Location Alert System Information.  
 In set command, the scanner neglects the parameters that are not appropriate the system type.  
 In set command, only "," parameters are not changed.  
 The set command is aborted if any format error is detected.  
 This command is only acceptable in Programming Mode.

<COMMAND SCO>  
 Get/Set Search/Close Call Settings

Controller → Radio

- ① SCO[r]
- ② SCO,[STP],[MOD],[ATT],[DLY],[SKP],[CODE\_SRCH],[BSC],[REP],[APCO],[THRESHOLD],[MAX\_STORE],[RECORD][r]

Radio → Controller

- ① SCO,[STP],[MOD],[ATT],[DLY],[SKP],[CODE\_SRCH],[BSC],[REP],[APCO],[THRESHOLD],[MAX\_STORE],[RECORD][r]
- ② SCO,OK[r]

[STP] : Search Step  
             AUTO : AUTO           833 : 8.33k           2000 : 20k  
                     500 : 5k           1000 : 10k           2500 : 25k  
                     625 : 6.25k       1250 : 12.5k       5000 : 50k  
                     750 : 7.5 k       1500 : 15k       10000 : 100k

[MOD] : Modulation (AUTO / AM / FM / NFM / WFM/FMB)  
 [ATT] : Attenuation (0:OFF / 1:ON)  
 [DLY] : Delay Time (0:OFF / 1 - 5)  
 [SKP] : Data Skip (0:OFF / 1:ON)  
 [CODE\_SRCH] : CTCSS/DCS Search (0:OFF / 1:ON)  
 [BSC] : Broadcast Screen (16digit: #####.#)  
             (each # is 0 or 1)  
             0 means OFF  
             1 means ON

											·	·	+	Band10
											:			:
											+	-----		Band 2
											+	-----		Band 1
											+	-----		Reserve
											+	-----		NOAA WX
											+	-----		VHF TV
											+	-----		UHF TV
											+	-----		FM
											+	-----		Pager

[REP] : Repeater Find (0:OFF / 1:ON)  
 [APCO] : APCO Threshold Mode (AUTO: Auto/MAN: Manual/DFLT: Default)  
 [THRESHOLD] : APCO Threshold (0 - 63 )  
 [MAX\_STORE] : Max Auto Store (1-256)  
 [RECORD] : Tape out (0:OFF / 1:ON)

Get/Set Search/Close Call Settings.  
 In set command, only "," parameters are not changed.  
 The set command is aborted if any format error is detected.  
 This command is only acceptable in Programming Mode.

<COMMAND BBS>  
 Get/Set Broadcast Screen Band Settings

Controller → Radio

- ① BBS,[INDEX][r]
- ② BBS,[INDEX],[LIMIT\_L],[LIMIT\_H][r]



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Radio → Controller

- ① BBS,[LIMIT\_L],[LIMIT\_H][\r]
- ② BBS,OK[\r]

[INDEX] : Index (1-9,0 means 10)  
 [LIMIT\_L] : Lower Limit Frequency (00000000 -99999999)  
 [LIMIT\_H] : Upper Limit Frequency (00000000 -99999999)

Get/Set Broadcast Screen Band Settings.  
 This command is Only acceptable in Programming Mode.

<COMMAND SHK>

Get/Set Search Key Settings

Controller → Radio

- ① SHK[\r]
- ② SHK,[SRCH\_KEY\_1],[SRCH\_KEY\_2],[SRCH\_KEY\_3],[SRCH\_KEY\_4],[SRCH\_KEY\_5],[SRCH\_KEY\_6][\r]

Radio → Controller

- ① SHK,[SRCH\_KEY\_1],[SRCH\_KEY\_2],[SRCH\_KEY\_3],[SRCH\_KEY\_4],[SRCH\_KEY\_5],[SRCH\_KEY\_6][\r]
- ② SHK,OK[\r]

[SRCH\_KEY\_1] - [SRCH\_KEY\_6] : Search Range

.(dot) : Not assign	Special : Special range
PublicSafety : Public Safety range	Military : Military Air range
News : News range	CUSTOM_1 : Custom 1 range
HAM : HAM Radio range	CUSTOM_2 : Custom 2 range
Marine : Marine range	CUSTOM_3 : Custom 3 range
Railroad : Railroad range	CUSTOM_4 : Custom 4 range
Air : Air range	CUSTOM_5 : Custom 5 range
CB : CB Radio range	CUSTOM_6 : Custom 6 range
FRS/GMRS : FRS/GMRS range	CUSTOM_7 : Custom 7 range
Racing : Racing range	CUSTOM_8 : Custom 8 range
TV : TV Broadcast range	CUSTOM_9 : Custom 9 range
FM : FM Broadcast range	CUSTOM_10 : Custom 10 range

Get/Set Search Key Settings.  
 This command is Only acceptable in Programming Mode.

<COMMAND GLF>

Get Global Lockout Freq

Controller → Radio

- ① GLF[\r]

Radio → Controller

- ① GLF,[FRQ][\r]
- GLF,-1[\r]

[FRQ] : Lockout Frequency (250000-13000000)

This command is used to get Global L/O frequency list.  
 You should call this command again and again to get all-global L/O frequency until the scanner returns "-1".  
 "-1" means that no more L/O frequency exists.  
 This command is only acceptable in Programming Mode.

<COMMAND ULF>

Unlock Global L/O

Controller → Radio

- ① ULF,[FRQ][\r]

Radio → Controller

- ① ULF,OK[\r]

[FRQ] : Lockout Frequency (250000-13000000)

This command unlocks a L/O frequency.  
 The frequency is deleted from L/O list.  
 This command is only acceptable in Programming Mode.

<COMMAND LOF >

Lock Out Frequency

Controller → Radio

① LOF,[FRQ][\r]

Radio → Controller

① LOF,OK[\r]

[FRQ] : Frequency (250000-13000000)

This command locks out a frequency.  
 The frequency is added to L/O list.  
 This command is only acceptable in Programming Mode.

<COMMAND CLC>

Get/Set Close Call Settings

Controller → Radio

① CLC[\r]

② CLC,[CC\_MODE],[CC\_OVERRIDE],[RSV],[ALTB],[ALTL],[ALTP],[CC\_BAND],[LOUT],[HLD],[QUICK\_KEY][\r]

Radio → Controller

① CLC,[CC\_MODE],[CC\_OVERRIDE],[RSV],[ALTB],[ALTL],[ALTP],[CC\_BAND],[LOUT],[HLD],[QUICK\_KEY][\r]

② CLC,OK[\r]

[CC\_MODE] : Mode ( 0:OFF / 1:CC PRI / 2:CC DND)  
 [CC\_OVERRIDE] : Override (1:ON / 0:OFF)  
 [ALTB] : Alert Beep (0:OFF / 1-9:Tone No)  
 [ALTL] : Alert Tone Level (0:AUTO/ 1-15)  
 [ALTP] : Close Call Pause  
           3 : 3 sec                   5 : 5 sec  
           10 : 10 sec               15 : 15 sec  
           30 : 30 sec               45 : 45 sec  
           60 : 60 sec               INF : Infinite

[CC\_BAND] : Close Call Band (7digit ##### )  
 (each # is 0 or 1)  
           0 means OFF  
           1 means ON  
                                   | | | | | +- 800MHz+  
                                   | | | | | +--- UHF  
                                   | | | | | +--- VHF HIGH2  
                                   | | | | | +---- VHF HIGH1  
                                   | | | | | +----- AIR BAND  
                                   | | | | | +----- VHF LOW2  
                                   +----- VHF LOW1

[LOUT] : Lockout for CC Hits with Scan (0:Unlocked / 1:Lockout)  
 [HLD] : System Hold Time for CC Hits with Scan (0-255)  
 [QUICK\_KEY] : Quick Key for CC Hits with Scan ( 0 – 99 / .(dot) )  
                                   \*“.(dot)” means that nothing is assigned.  
 [RSV] : Reserve Parameter \* This is always only “,”.

Get/Set Close Call Settings.  
 In set command, only “,” parameters are not changed.  
 The set command is aborted if any format error is detected.  
 This command is only acceptable in Programming Mode.

<COMMAND SSP>

Get/Set Service Search Settings

Controller → Radio

① SSP,[SRCH\_INDEX][\r]

② SSP,[SRCH\_INDEX],[DLY],[ATT],[HLD],[LOUT],[QUICK\_KEY],[START\_KEY],[RECORD][\r]

Radio → Controller

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- ① SSP,[SRCH\_INDEX],[DLY],[ATT],[HLD],[LOUT],[QUICK\_KEY],[START\_KEY],[RECORD][\r]
- ② SSP,OK[\r]

[SRCH\_INDEX] : Service Search Range

1 : Public Safety	6 : Air	11 : FM Broadcast
2 : News	7 : CB Radio	12 : Special
3 : HAM Radio	8 : FRS/GMRS	15 : Military Air
4 : Marine	9 : Racing	
5 : Railroad	10 : TV Broadcast	

[DLY] : Delay Time (0:OFF / 1 - 5)

[ATT] : Attenuation (0:OFF/1:ON)

[HLD] : System Hold Time for Search with Scan(0-255)

[LOUT] : Lockout for Search with Scan (0:Unlocked / 1:Lockout)

[QUICK\_KEY] : Quick Key ( 0 – 99 / .(dot) )

[START\_KEY] : Startup Configuration Key ( 0 – 9 / .(dot) )

[RECORD] : Tape out (0:OFF / 1:ON)

The set command is aborted if any format error is detected.  
This command is only acceptable in Programming Mode.

<COMMAND CSG>

Get/Set Custom Search Group

Controller → Radio

- ① CSG[\r]
- ② CSG,#####[\r] : Status of Each Search Range

Radio → Controller

- ① CSG,#####[\r]
- ② CSG,OK[\r]

##### (each # is 0 or 1) : 0 : valid / 1 : invalid

The Order of Range is as same as LCD Icon (1 – 10).  
Get/Set current status of the custom search range.  
This command is only acceptable in Programming Mode.  
\*It can not set all Custom Search Ranges to "0".

<COMMAND CSP>

Get/Set Custom Search Settings

Controller → Radio

- ① CSP,[SRCH\_INDEX][\r]
- ② CSP,[SRCH\_INDEX],[NAME],[LIMIT\_L],[LIMIT\_H],[STP],[MOD],[ATT],[DLY],[SKP],[HLD],[LOUT],[C-CH],[APCO],[THRESHOLD],[QUICK\_KEY],[START\_KEY],[RECORD][\r]

Radio → Controller

- ① CSP,[NAME],[LIMIT\_L],[LIMIT\_H],[STP],[MOD],[ATT],[DLY],[SKP],[HLD],[LOUT],[C-CH],[APCO],[THRESHOLD],[QUICK\_KEY],[START\_KEY][RECORD][\r]
- ② CSP,OK[\r]

[SRCH\_INDEX] : Index (1-9,0 means 10)

[NAME] : Name (max.16char)

[LIMIT\_L] : Lower Limit Frequency (250000-13000000)

[LIMIT\_H] : Upper Limit Frequency (250000-13000000)

[STP] : Search Step

AUTO : AUTO	833 : 8.33k	2000 : 20k
500 : 5k	1000 : 10k	2500 : 25k
625 : 6.25k	1250 : 12.5k	5000 : 50k
750 : 7.5 k	1500 : 15k	10000 : 100k

[MOD] : Modulation (AUTO / AM / FM / NFM / WFM / FMB)

[ATT] : Attenuation (0:OFF / 1:ON)

[DLY] : Delay Time (0:OFF / 1 - 5)

[SKP] : Data Skip (0:OFF / 1:ON)

[HLD] : System Hold Time (0-255)

[LOUT] : Lockout (0:Unlocked / 1:Lockout)

[C-CH] : Control Channel Only (0:OFF / 1:ON)

[APCO] : APCO Threshold Mode

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(AUTO: Auto/MAN: Manual/DFLT: Default)

[THRESHOLD] : APCO Threshold (0 - 63 )  
[QUICK\_KEY] : Quick Key (0 - 99 / .(dot) )  
[START\_KEY] : Startup Configuration Key (0 - 9/ .(dot))  
[RECORD] : Tape out (0:OFF / 1:ON)

Get/Set Custom Search Settings.

In set command, only "," parameters are not changed.

The set command is aborted if any format error is detected.

This command is only acceptable in Programming Mode.

---

---

<COMMAND WXS>

Get/Set Weather Settings

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Controller → Radio

- ① WXS[r]
- ② WXS,[DLY],[ATT],[ALT\_PRI],[RECORD][r]

Radio → Controller

- ① WXS,[DLY],[ATT],[ALT\_PRI],[RECORD][r]
- ② WXS,OK[r]

[DLY] : Delay Time (0:OFF / 1 - 5)  
[ATT] : Attenuation (0:OFF / 1:ON)  
[ALT\_PRI] : Weather Alert Priority (0:OFF / 1:ON)  
[RECORD] : Tape out (0:OFF / 1:ON)

Get/Set Weather Priority Settings.

This command is only acceptable in Programming Mode.

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---

<COMMAND SGP>

Get/Set SAME Group Settings

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Controller → Radio

- ① SGP,[SAME\_INDEX][r]
- ② SGP,[SAME\_INDEX],[NAME],[FIPS1],[FIPS2],[FIPS3],[FIPS4],[FIPS5],[FIPS6],[FIPS7],[FIPS8][r]

Radio → Controller

- ① SGP,[NAME],[FIPS1],[FIPS2],[FIPS3],[FIPS4],[FIPS5],[FIPS6],[FIPS7],[FIPS8][r]
- ② SGP,OK[r]

[SAME\_INDEX] : SAME Index (1 - 5)  
[NAME] : SAME Group Name (max.16char)  
[FIPS1-8] : FIPS Code (6digit:000000-999999, or ----- means none)

Get/Set SAME Group Settings.

In set command, only "," parameters are not changed.

The set command is aborted if any format error is detected.

This command is only acceptable in Programming Mode.

---

---

<COMMAND TON>

Get/Set Tone-Out Settings

---

---

Controller → Radio

- ① TON[INDEX][r]
- ② TON,[INDEX],[NAME],[FRQ],[MOD],[ATT],[DLY],[ALT],[ALTL],[TONE\_A],[RSV],[TONE\_B],[RSV],[RSV],[RECORD][r]

Radio → Controller

- ① TON,[INDEX],[NAME],[FRQ],[MOD],[ATT],[DLY],[ALT],[ALTL],[TONE\_A],[RSV],[TONE\_B],[RSV],[RSV],[RECORD][r]
- ② TON,OK[r]

[INDEX] : Index (1-9,0 means 10)  
[NAME] : Name (max.16char)  
[FRQ] : Channel Frequency  
[MOD] : Modulation (AUTO / FM / NFM)  
[ATT] : Attenuation (0:OFF / 1:ON)

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[DLY]	: Delay Time	(0:OFF / 1-5 / 30 / INF : Infinite)
[ALT]	: Alert Tone	(0:OFF/1-9:Tone No.)
[ALTL]	: Alert Tone Level	(0:AUTO/1-15)
[TONE_A]	: Tone A Frequency	
	ex.) 10000 means 1000.0Hz	
	00000 means 0.0Hz	
[RSV]	: Reserve Parameter * This is always only “,”.	
[TONE_B]	: Tone B Frequency	
[RECORD]	: Tape out	(0:OFF / 1:ON)

Get/Set Tone-Out Settings.  
This command is only acceptable in Programming Mode.

<COMMAND CNT>

Get/Set LCD Contrast Settings

Controller → Radio

① CNT[*r*]

Radio → Controller

① CNT,[CONTRAST][*r*]

[CONTRAST] : LCD Contrast (1 - 15)

Get/Set LCD Contrast Settings.  
This command is only acceptable in Programming Mode.

<COMMAND DUD>

Get/ Set LCD Upside-down Settings

Controller → Radio

① DUD[*r*]

Radio → Controller

① DUD,[UPSIDEDW][*r*]

[UPSIDEDW] : LCD Upside-down ( 0:Off / 1:On)

Get/ Set LCD Upside-down Settings  
This command is only acceptable in Programming Mode.

<COMMAND SCN>

Get/Set Scanner Option Settings

Controller → Radio

① SCN,[DISP\_MODE],[ACT\_CHAN],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV][*r*]

Radio → Controller

① SCN,[DISP\_MODE],[ACT\_CHAN],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV],[RSV][*r*]

[DISP\_MODE] : DISPPALY MODE ( 1:MODE1 / 2:MODE2 )  
[ACT\_CHAN] : ACTIVE CHAN DISP MODE ( 0:Off / 1:On)  
[RSV] : Reserve Parameter \* This is always only “,”.

Get/Set Scanner Option Settings  
This command is only acceptable in Programming Mode.

<COMMAND VOL>

Get/Set Volume Level Settings

Controller → Radio

① VOL[*r*]

② VOL,[LEVEL][*r*]

Radio → Controller

① VOL,[LEVEL][*r*]

② VOL,OK[*r*]

[LEVEL] : Volume Level ( 0 - 29)

---

<COMMAND SQL>

Get/Set Squelch Level Settings

---

Controller → Radio

- ① SQL[\r]
- ② SQL,[LEVEL][\r]

Radio → Controller

- ① SQL,[LEVEL][\r]
- ② SQL,OK[\r]

[LEVEL] : Squelch Level (0:OPEN / 1-18 / 19:CLOSE)

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<COMMAND P25>

Get/Set APCO Data Settings

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Controller → Radio

- ① P25[\r]
- ② P25,[THRESHOLD][\r]

Radio → Controller

- ① P25,[APCO],[THRESHOLD],[ERR\_RATE][\r]
- ② P25,OK[\r] : When [APCO] is not "DFLT".  
P25,NG[\r] : When [APCO] is "DFLT".

[APCO] : APCO Threshold Mode  
(AUTO: Auto/MAN: Manual/DFLT: Default/NONE: None)

[THRESHOLD] : APCO Threshold (0 – 63)

[ERR\_RATE] : Error Rate (from 0 to 99)

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<COMMAND GDO>

Get/Set GPS Disp Option

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Controller → Radio

- ① GDO[\r]
- ② GDO,[DISP\_MODE],[UNIT],[TIME\_FORMAT],[TIME\_ZONE],[POS\_FORMAT][\r]

Radio → Controller

- ① GDO,[DISP\_MODE],[UNIT],[TIME\_FORMAT],[TIME\_ZONE],[POS\_FORMAT][\r]
- ② GDO,OK[\r]

[DISP\_MODE] : Display GPS Mode  
( 0:ETA / 1:Clock / 2:Elevation / 3:Speed / 4:Location )

[UNIT] : Distance Unit ( 0: mile / 1: km )

[TIME\_FORMAT] : Time Format ( 0: 12 H / 1: 24H)

[TIME\_ZONE] : Time Zone (-14.0/-13.5/.../-0.5/0.0/0.5/.../13.5/14.0)  
ex) "-14.0" means "- 14.0 H".

[POS\_FORMAT] : Position Format ( DMS / DEG )

---

This command is only acceptable in Programming Mode.

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<COMMAND GGA>

Get GGA Data from GPS

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Controller → Radio

- ① GGA[\r]

Radio → Controller

- ① GGA,[GGA\_DATA][\r]

[GGA\_DATA] : The new GGA Data which the scanner received. (\$GPGGA – checksum )  
\*If the scanner cannot receive GGA data, it returns only “,” to controller.

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<COMMAND RMC>

Get RMC Data from GPS

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Controller → Radio

- ① RMC[\r]

Radio → Controller

① RMC,[RMC\_DATA][\r]

[RMC\_DATA] : The new RMC data which the scanner received. (\$GPRMC – checksum )  
\*If the scanner cannot receive RMC data, it returns only “,” to controller.

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<COMMAND WIN>  
\*Get Window Voltage

Controller → Radio

① WIN[\r]

Radio → Controller

① WIN,###,[FRQ][\r] : ### : A/D Value (0-255)

Returns current window voltage and its frequency.  
The order of the frequency digits is from 1 GHz digit to 100 Hz digit.  
This command is for test mode.

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<COMMAND PWT>  
Setup of P25 Waiting Time

Controller → Radio

① PWT [\r]

② PWT,[TIME][\r]

Radio → Controller

① PWT,[TIME][\r]

② PWT,OK[\r]

[TIME] : P25 Wait Time (0,100,200,300,400,500,600,700,800,900,1000)

Setting for P25 Waiting Time.  
This command is only acceptable in Programming Mode.

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<COMMAND AGS>  
Get/Set AGC Settings

Controller → Radio

① AGS[\r]

② AGS,[A\_Res\_Time][A\_Ref\_Gain][A\_Range][D\_Res\_Time][D\_Ref\_Gain][D\_Range][\r]

Radio → Controller

① AGS,[A\_Res\_Time][A\_Ref\_Gain][A\_Range][D\_Res\_Time][D\_Ref\_Gain][D\_Range][\r]

② AGS,OK[\r]

[A\_Res\_Time] : Analog Response Time (-4/-3/-2/-1/0/1/2/3/4/5/6)  
[A\_Ref\_Gain] : Analog Reference Gain (-5/-4/-3/-2/-1/0/1/2/3/4/5)  
[A\_Range] : Analog Dynamic Range (0 - 15)  
[D\_Res\_Time] : Analog Response Time (-8/-7/-6/-5/-4/-3/-2/-1/0/1/2/3/4/5/6/7/8)  
[D\_Ref\_Gain] : Analog Reference Gain (-5/-4/-3/-2/-1/0/1/2/3/4/5)  
[D\_Range] : Analog Dynamic Range (0 - 6) (Reserved)

Get/Set AGC Settings.  
This command is only acceptable in Programming Mode.

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<COMMAND MCP>  
Get/Set Motorola Custom Band Plan

Controller → Radio

① MCP,[INDEX][\r]

② MCP,[INDEX],[LOWER1],[UPPER1],[STEP1],[OFFSET1],[LOWER2],[UPPER2],[STEP2],

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[OFFSET2],[LOWER3],[UPPER3],[STEP3],[OFFSET3],[LOWER4],[UPPER4],[STEP4],  
 [OFFSET4],[LOWER5],[UPPER5],[STEP5],[OFFSET5],[LOWER6],[UPPER6],[STEP6],  
 [OFFSET6][\r]

Radio → Controller

- ① MCP,[LOWER1],[UPPER1],[STEP1],[OFFSET1],[LOWER2],[UPPER2],[STEP2],  
 [OFFSET2],[LOWER3],[UPPER3],[STEP3],[OFFSET3],[LOWER4],[UPPER4],[STEP4],  
 [OFFSET4],[LOWER5],[UPPER5],[STEP5],[OFFSET5],[LOWER6],[UPPER6],[STEP6],  
 [OFFSET6][\r]
- ② MCP, OK[\r]

[INDEX]	: Site Index		
[LOWER n]	: Lower Frequency n		
[UPPER n]	: Upper Frequency n		
[STEP n]	: Step n		
	"500": 5.0k	"625": 6.25k	"1000": 10.0k
	"1250": 12.5k	"1500": 15.0k	"1875": 18.75k
	"2000": 20.0k	"2500": 25.0k	"3000": 30.0k
	"3125": 31.25k	"3500": 35.0k	"3750": 37.5k
	"4000": 40.0k	"4375": 43.75k	"4500": 45.0k
	"5000": 50.0k	"5500": 55.0k	"5625": 56.25k
	"6000": 60.0k	"6250": 62.5k	"6500": 65.0k
	"6875": 68.75k	"7000": 70.0k	"7500": 75.0k
	"8000": 80.0k	"8125": 81.25k	"8500": 85.0k
	"8750": 87.5k	"9000": 90.0k	"9375": 93.75k
	"9500": 95.0k	"10000": 100.0k	
[OFFSETn]	Offset n (-1023 to 1023)		

Get/Sets Band Plan Setting for MOT 800MHz Custom site.

In set command, if only "," parameters are send the Band Plan setting of the site will not changed.

The set command is aborted if any format error is detected.

When the system protect bit is ON, all the parameters will be send as a reserve parameter in the Radio -> Controller command.

Before using this command, user should set Band Plan type as "800MHz Custom" first by using SIF command.

This command is only acceptable in Programming Mode.



CTCSS/DCS CODE LIST

NONE / SEARCH

MODE	CODE	MODE	CODE
NONE / All	0	SEARCH	127

CTCSS

MODE	CODE	MODE	CODE	MODE	CODE
CTCSS 67.0Hz	64	CTCSS 114.8Hz	80	CTCSS 179.9Hz	97
CTCSS 69.3Hz	65	CTCSS 118.8Hz	81	CTCSS 183.5Hz	98
CTCSS 71.9Hz	66	CTCSS 123.0Hz	82	CTCSS 186.2Hz	99
CTCSS 74.4Hz	67	CTCSS 127.3Hz	83	CTCSS 189.9Hz	100
CTCSS 77.0Hz	68	CTCSS 131.8Hz	84	CTCSS 192.8Hz	101
CTCSS 79.7Hz	69	CTCSS 136.5Hz	85	CTCSS 196.6Hz	102
CTCSS 82.5Hz	70	CTCSS 141.3Hz	86	CTCSS 199.5Hz	103
CTCSS 85.4Hz	71	CTCSS 146.2Hz	87	CTCSS 203.5Hz	104
CTCSS 88.5Hz	72	CTCSS 151.4Hz	88	CTCSS 206.5Hz	105
CTCSS 91.5Hz	73	CTCSS 156.7Hz	89	CTCSS 210.7Hz	106
CTCSS 94.8Hz	74	CTCSS 159.8Hz	90	CTCSS 218.1Hz	107
CTCSS 97.4Hz	75	CTCSS 162.2Hz	91	CTCSS 225.7Hz	108
CTCSS 100.0Hz	76	CTCSS 165.5Hz	92	CTCSS 229.1Hz	109
CTCSS 103.5Hz	77	CTCSS 167.9Hz	93	CTCSS 233.6Hz	110
CTCSS 107.2Hz	78	CTCSS 171.3Hz	94	CTCSS 241.8Hz	111
CTCSS 110.9Hz	79	CTCSS 173.8Hz	95	CTCSS 250.3Hz	112
		CTCSS 177.3Hz	96	CTCSS 254.1Hz	113

DCS

MODE	CODE	MODE	CODE	MODE	CODE
DCS 023	128	DCS 223	163	DCS 446	199
DCS 025	129	DCS 225	164	DCS 452	200
DCS 026	130	DCS 226	165	DCS 454	201
DCS 031	131	DCS 243	166	DCS 455	202
DCS 032	132	DCS 244	167	DCS 462	203
DCS 036	133	DCS 245	168	DCS 464	204
DCS 043	134	DCS 246	169	DCS 465	205
DCS 047	135	DCS 251	170	DCS 466	206
DCS 051	136	DCS 252	171	DCS 503	207
DCS 053	137	DCS 255	172	DCS 506	208
DCS 054	138	DCS 261	173	DCS 506	208
DCS 065	139	DCS 263	174	DCS 516	209
DCS 071	140	DCS 265	175	DCS 523	210
DCS 072	141	DCS 266	176	DCS 526	211
DCS 073	142	DCS 271	177	DCS 532	212
DCS 074	143	DCS 274	178	DCS 546	213
DCS 114	144	DCS 306	179	DCS 565	214
DCS 115	145	DCS 311	180	DCS 606	215
DCS 116	146	DCS 315	181	DCS 612	216
DCS 122	147	DCS 325	182	DCS 624	217
DCS 125	148	DCS 331	183	DCS 627	218
DCS 131	149	DCS 332	184	DCS 631	219
DCS 132	150	DCS 343	185	DCS 632	220
DCS 134	151	DCS 346	186	DCS 654	221
DCS 143	152	DCS 351	187	DCS 662	222
DCS 145	153	DCS 356	188	DCS 664	223
DCS 152	154	DCS 364	189	DCS 703	224
DCS 155	155	DCS 365	190	DCS 712	225
DCS 156	156	DCS 371	191	DCS 723	226
DCS 162	157	DCS 411	192	DCS 731	227
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