

UNIDEN PROGRAMMING CONTROL CODES FOR USE WITH UNIDEN SCANNERS

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7.1. REMOTE COMMAND

【 Remote Communication Format 】

BPS rate : 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 7600).
9. [FRQ], [BASEx] and [LIMIT_x] are frequency format. It is showed by 8digit 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.

Remote Command List

| No. | Category | Command | Function | Program Mode Only |
|-----|--------------------------|---------|---------------------------------|-------------------|
| 1 | Remote Control | GID | Get Current Talkgroup ID Status | |
| 2 | | KEY | Push KEY | |
| 3 | | POF | Power OFF | |
| 4 | | QSH | Go to quick search hold mode | |
| 5 | | STS | Get Status | |
| 6 | | GLG | Get Reception Status | |
| 7 | System information | MDL | Get Model Info | |
| 8 | | VER | Get Firmware Version | |
| 9 | Programming Mode Control | PRG | Enter Program Mode | |
| 10 | | EPG | Exit Program Mode | |
| 11 | System Setting | BLT | Get/Set Backlight | ○ |
| 12 | | BSV | Get/Set Battery Save | ○ |
| 13 | | CLR | Clear All Memory | ○ |
| 14 | | KBP | Get/Set Key Beep | ○ |
| 15 | | OMS | Get/Set Opening Message | ○ |
| 16 | | PRI | Get/Set Priority Mode | ○ |
| 17 | | AGV | Get/Set Auto Gain Control | ○ |
| 18 | | BAR | Get/Set Bar Antenna | ○ |
| 19 | Scan Settings | SCT | Get System Count | ○ |
| 20 | | SIH | Get System Index Head | ○ |
| 21 | | SIT | Get System Index Tail | ○ |
| 22 | | QSL | Get/Set System Quick Lockout | ○ |
| 23 | | QGL | Get/Set Group Quick Lockout | ○ |
| 24 | | CSY | Create System | ○ |
| 25 | | DSY | Delete System | ○ |
| 26 | | CPS | Copy System | ○ |
| 27 | | SIN | Get/Set System Info | ○ |
| 28 | | TRN | Get/Set Trunk Info | ○ |
| 29 | | TFQ | Get/Set Trunk Frequency Info | ○ |
| 30 | | AGC | Append Channel Group | ○ |
| 31 | | AGT | Append TGID Group | ○ |
| 32 | | DGR | Delete Group | ○ |
| 33 | | GIN | Get/ Set Group Info | ○ |
| 34 | | ACC | Append Channel | ○ |
| 35 | | ACT | Append TGID | ○ |
| 36 | | DCH | Delete Channel | ○ |
| 37 | | CIN | Get/Set Channel Info | ○ |
| 38 | | TIN | Get/Set TGID Info | ○ |

| | Category | Command | Function | Program Mode Only |
|----|---------------------------------|---------|----------------------------------|-------------------|
| 39 | Scan Settings (Continuation) | GLI | Get Lockout TGID(for RVW L/O ID) | ○ |
| 40 | | SLI | Get Search L/O TGID | ○ |
| 41 | | ULI | Unlock TGID (for RVW L/O ID) | ○ |

| | | | | |
|----|------------------------------|-----|--|---|
| 42 | | LOI | Lockout ID (TGID) | 0 |
| 43 | | REV | Get Rev Index | 0 |
| 44 | | FWD | Get Fwd Index | 0 |
| 45 | | RMB | Get Remains of Memory Block | 0 |
| 46 | | MEM | Get Memory Used | 0 |
| 47 | Search / Close Call Settings | SCO | Get/Set Search/Close Call Settings | 0 |
| 48 | | BBS | Get/Set Broadcast Screen Band Settings | 0 |
| 49 | | GLF | Get Global Lockout Frequency | 0 |
| 50 | | ULF | Unlock Global L/O | o |
| 51 | | LOF | Lockout Frequency | o |
| 52 | | CLC | Get/Set Close Call Settings | o |
| 53 | Service Search Settings | SSP | Get/Set Service Search Settings | o |
| 54 | Custom Search Settings | CSG | Get/Set Custom Search Group | o |
| 55 | | CSP | Get/Set Custom Search Settings | o |
| 56 | Weather Settings | WXS | Get/Set Weather Setting | o |
| 57 | | SGP | Get/Set SAME Group Settings | o |
| 58 | Tone-Out Settings | TON | Get/Set Tone-Out Settings | o |
| 59 | On-Air Clone Settings | AIR | Get/Set On-Air Clone Settings | o |
| 60 | LCD Contrast Setting | CNT | Get/Set LCD Contrast Settings | o |
| 61 | Volume Level Settings | VOL | Get/Set Volume Level Settings | |
| 62 | Squelch Level Settings | SQL | Get/Set Squelch Level Settings | |
| 63 | Test | WIN | *Get Windows Voltage | |
| 64 | | BAV | *Get Battery Voltage | |

=====

<COMMAND GID>

Get Current Talkgroup ID Status

=====

Controller → Radio

① GID[\r]

Radio → Controller

① GID,[SYS_TYPE],[TGID],[ID_SRCH_MODE],[NAME1],[NAME2],[NAME3][\r]

[SYS_TYPE] : System Type

[TGID] : TGID

[ID_SRCH_MODE]

0:ID:SCAN mode

1:ID:SEARCH mode

[NAME1] : SYSTEM NAME (Alpha Tag)

[NAME2] : GROUP NAME (Alpha Tag)

[NAME3] : TGID NAME (Alpha Tag)

FUNCTION

This command returns TGID currently displayed on LCD.

If you get the TGID once, the scanner returns ,,,,[\r] until next reception.

NOTE

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

=====

<COMMAND KEY>

Push KEY

=====

Controller → Radio

① KEY,[KEY_CODE],[KEY_MODE][\r]

Radio → Controller

① KEY,OK[\r]

[KEY_CODE] M : MENU

F : F

H : HOLD

S : SCAN/SEARCH

L : L/O

1 : 1/PRI

2 : 2/WX

3 : 3

4 : 4

5 : 5

6 : 6

7 : 7/RCL

8 : 8

9 : 9

0 : 0/CAR

.(dot) : ./NO/REV

E : E/YES/ATT

> : VFO RIGHT * Set "P" to KEY_MODE.

< : VFO LEFT * Set "P" to KEY_MODE.

^ : VFO PUSH
P : POWER/LIGHT/LOCK

[KEY_MODE] P : Press (One Push)
L : Long Press (Press and Hold a few second)
H : Hold (Press and Hold until Release receive)
R : Release (Cancel Hold state)

Ex.1) Press MENU KEY

→ KEY,M,P[
← OK[

Ex.2) Press F + SCAN KEY

→ KEY,F,H[: Hold F KEY
← OK[
→ KEY,S,P[: Press SCAN KEY (F + SCAN KEY operation)
← OK[
→ KEY,F,R[: Release F KEY
← OK[

Ex.3) Press and Hold L/O KEY

→ KEY,L,L[
← OK[

The scanner is not turned off by this command.

=====
<COMMAND POF>
Power OFF
=====

Controller → Radio

① POF[

Radio → Controller

① POF,OK[

Turns off the scanner.

After this command, the scanner doesn't accept any command.

=====
<COMMAND QSH>
Go to quick search hold mode
=====

Controller → Radio

① QSH,[FRQ],[STP],[MOD],[ATT],[DLY],[SKP],[CODE_SRCH],[BSC],[REP][

Radio → Controller

① QSH,OK[

[FRQ] : Frequency (The right frequency)

[STP] : Search Step

(AUTO,500,625,750, , 5000,10000)

AUTO : AUTO 1250 : 12.5k

500 : 5k 1500 : 15k

625 : 6.25k 2000 : 20k

750 : 7.5 k 2500 : 25k

833 : 8.33k 5000 : 50k

900 : 9k 10000 : 100k

1000 : 10k
 [MOD] : Modulation (AUTO/AM/FM/NFM/WFM)
 [ATT] : Attenuation (0:OFF / 1:ON)
 [DLY] : Delay Time (0:OFF / from 1 to 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) ||||| +- Band10
 0 means OFF ||||| :
 1 means ON |||||+---- Band 2
 |||||+---- Band 1
 ||||+----- AM
 |||+----- NOAA WX
 ||+----- VHF TV
 |+----- UHF TV
 +----- FM
 +----- Pager

[REP] : Repeater Find (0:OFF / 1:ON)

② QSH,NG[r]

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

FUNCTION

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

=====

<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],[BAT],[WAT][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)

[BAT] : Battery Low Status (0:No Alert / 1:Alert)
 [WAT] : Weather Alert Status (0:No Alert / 1: Alert)
 \$\$\$: Alert SAME CODE (SAME EVENT CODE)

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)

```

-- M E N U -- | Squelch Status : OPEN
Program System | Mute Status : OFF
Srch/CloCall Opt| Battery Low Status : No Alert
Search for . . .| Weather Alert Status : No Alert
  
```

→ STS[r]
 ← 1111,
 -- M E N U -- , ← [L1_CHAR]
 _____, ← [L1_MODE]
 Program System , ← [L2_CHAR]
 ***** , ← [L2_MODE]
 Srch/CloCall Opt, ← [L3_CHAR]
 , ← [L3_MODE]
 Search for. . . , ← [L4_CHAR]
 , ← [L4_MODE]
 1,0,0,0,[r]

Returns current scanner status.

Ex.2)

```

| HOLD L/O |
System 1 | Squelch Status : CLOSE
851.0125MHz | Mute Status : ON
P NFM ATT | Battery Low Status : No Alert
S1: 5 | Weather Alert Status : Alert
| GRP 2 WX |
  
```

→ STS[r]
 ← 01100,
 HOLD L/O , ← [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]
 0,1,0,1,[r]

Returns current scanner status.

=====

<COMMAND GLG>

Get Reception Status

=====

Controller → Radio

① GLG[*r*]

Radio → Controller

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

[FRQ/TGID] : Frequency or TGID
[MOD] : Modulation (AM/FM/NFM/WFM)
[ATT] : Attenuation (0:OFF / 1:ON)
[CTCSS/DCS] : CTCSS/DCS Status (0-231: see CTCSS/DCS Code List)
[NAME1] : System 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,,,,,,,,,[*r*] until it detects a frequency or a TGID.

=====

<COMMAND MDL>

Get Model Info

=====

Controller → Radio

① MDL[*r*]

Radio → Controller

① MDL,BR330T[*r*]

Returns Model Information.

=====

<COMMAND VER>

Get Firmware Version

=====

Controller → Radio

① VER[*r*]

Radio → Controller

① VER,Version 1.00.00[*r*]

Returns Firmware Version.

=====

<COMMAND PRG>

Enter Program Mode

=====

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.

And POWER key and Function key are valid in Program Mode.

=====

<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.

=====

<COMMAND BLT>
Get/Set Backlight

=====

Controller → Radio

① BLT[\r] : Get Backlight Setting

② BLT,##[\r] : Set Backlight Setting

Radio → Controller

① BLT,##[\r]

② BLT,OK[\r]

means Backlight Setting

IF : INFINITE

10 : 10sec

30 : 30sec

KY : KEYPRESS

SQ : SQUELCH

Get/Set Backlight Setting.

This command is only acceptable in Programming Mode.

=====

<COMMAND BSV>
Get/Set Battery Save

=====

Controller → Radio

① BSV[\r] : Get Battery Save Setting

② BSV,#[\r] : Set Battery Save Setting

Radio → Controller

① BSV,#[\r]

② BSV,OK[\r]

means Battery Save Setting

(0:OFF / 1:ON)

Get/Set Battery Save Setting.

This command is only acceptable in Programming Mode.

=====

<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) Need about 20 seconds execute time.
Only PC Control (Baud Rate) does not become an initial-setting value.

=====

<COMMAND KBP>

Get/Set Key Beep

=====

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*]

Get/Set Key Beep Setting.
[LEVEL] : Beep Level (0:Auto / 1-15 /99:OFF)

This command is only acceptable in Programming Mode.

=====

<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*]

Get/Set Opening Message.
[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.

=====

<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.

=====

<COMMAND AGV>

Get/Set Auto Gain Control

=====

Controller → Radio

① AGV[\r] : Get Auto Gain Control Setting

② AGV,[AGC_ANALOG],[RSV][\r] : Set Auto Gain Control Setting

Radio → Controller

① AGV,[AGC_ANALOG],[RSV][\r]

② AGV,OK[\r]

Get/Set AGC Setting.

[AGC_ANALOG] : AGC Setting for Analog Audio (0:OFF / 1:ON)

[RSV] : Reserve Parameter

*This is always "0".

This command is only acceptable in Programming Mode.

=====

<COMMAND BAR>

Get/Set Bar Antenna

=====

Controller → Radio

① BAR [\r] : Get Bar Antenna Setting

② BAR,#[\r] : Set Bar Antenna Setting

Radio → Controller

① BAR,#[\r]

② BAR,OK[\r]

means Bar Antenna Setting
(0:OFF / 1:ON)

Get/Set Bar Antenna Setting.

This command is only acceptable in Programming Mode.

=====

<COMMAND SCT>

Get System Count

=====

Controller → Radio

① SCT[\r]

Radio → Controller

① SCT,###[\r] : ### (0-200)

Returns the number of stored System.
This command is only acceptable in Programming Mode.

=====

<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.

=====

<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 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]

Returns the System Quick Key status.

[PAGE0] – [PAGE9] : ##### (each # is 0 - 2)

0 means - : Quick Key don't assign

1 means ON

2 means * : Quick Key that turn off

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.

=====

<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]

Returns Group Quick Key status of current System.
 : ##### (each # is 0 - 2)
 0 means - : Quick Key don't assign
 1 means ON
 2 means * : Quick Key that turn off
 The Order of Quick Key is as same as LCD Icon.

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

RACE : Racing
 CNV : CONVENTIONAL
 M82S : MOT_800_T2_STD
 M82P : MOT_800_T2_SPL
 M92 : MOT_900_T2
 MV2 : MOT_VHF_T2
 MU2 : MOT_UHF_T2
 M81S : MOT_800_T1_STD
 M81P : MOT_800_T1_SPL
 EDN : EDACS_NARROW

EDW : EDACS_WIDE
EDS : EDACS_SCAT
LTR : LTR

[SYS_INDEX] : The Index if Created System

Creates a system and returns 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 CPS>

Copy System

Controller → Radio

① CPS,[SYS_INDEX1],[NAME][r]

Radio → Controller

① CPS,[SYS_INDEX2][r]

[SYS_INDEX1]: The Index of Source System
[NAME] : The Name of Copied System
[SYS_INDEX2]: The Index of Copied System

Copies a system.
Returns -1 instead of SYS_INDEX2 if the scanner failed to copy
because of no resource.
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],[MOD],[ATT],[RSV],[RSV][r]

Radio → Controller

① SIN,[SYS_TYPE],[NAME],[QUICK_KEY],[HLD],[LOUT],[DLY],[SKP],[MOD],[ATT],[RSV],[RSV],[REV_INDEX],[FWD_INDEX],[CHN_GRP_HEAD],[CHN_GRP_TAIL],[SEQ_NO][r]

② SIN,OK[r]

[INDEX] : System Index

[SYS_TYPE] : System Type
 [NAME] : Name (max.16char)
 [QUICK_KEY] : Quick Key (1-99/(dot) means none)
 *In Racing System, "." is always sent.
 [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)
 [MOD] : Modulation (for Trunking System Only)
 (AUTO/FM/NFM)
 [ATT] : Attenuation (for Trunking System Only)
 (0:OFF/1:ON)
 [RSV] : Reserve Parameter
 *This is always only ",".
 [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 System
 [CHN_GRP_TAIL] : Channel Group Index Tail of the System
 [SEQ_NO] : System Sequence Number (1-200)

Get/Set System Information.

The scanner returns only "," to punctuate for parameters which are not appropriate the system type.

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 TRN>

Get/Set Trunk Info

=====

Controller → Radio

- ① TRN,[INDEX][\r]
- ② TRN,[INDEX],[ID_SEARCH],[S_BIT],[END_CODE],[AFS],[I-CALL],[C-CH],[EMG],[EMGL],[FMAP],[CTM_FMAP],[BASE1],[STEP1],[OFFSET1],[BASE2],[STEP2],[OFFSET2],[BASE3],[STEP3],[OFFSET3],[RSV][\r]

Radio → Controller

- ① TRN,[ID_SEARCH],[S_BIT],[END_CODE],[AFS],[I-CALL],[C-CH],[EMG],[EMGL],[FMAP],[CTM_FMAP],[BASE1],[STEP1],[OFFSET1],[BASE2],[STEP2],[OFFSET2],[BASE3],[STEP3],[OFFSET3],[RSV],[TGID_GRP_HEAD],[TGID_GRP_TAIL],[ID_LOUT_GRP_HEAD],[ID_LOUT_GRP_TAIL][\r]
- ② TRN,OK[\r]

[INDEX] : System Index
 [ID_SEARCH] : ID Search/Scan (0:ID Scan mode / 1: Search Mode)
 [S_BIT] : Motorola Status Bit (0:Ignore, 1:Yes)
 [END_CODE] : Motorola End Code (0:Ignore, 1:Yes)
 [AFS] : EDACS Format (0:Decimal / 1:AFS)
 [I-CALL] : I-CALL (0:OFF / 1:ON)
 [C-CH] : Control Channel Only (0:OFF / 1:ON)
 [EMG] : Emergency Alert (0:Ignore / 1-9:Alert)
 [EMGL] : Emergency Alert Level (0:OFF / 1 - 15)

[FMAP] : Fleet Map (0-16, 0-15:Preset, 16:Custom)
 [CTM_FMAP] : Custom Fleet Map Setting (##### : # is 0-E)
 # means Size Code of each BLOCK (from 0 to 7)
 0 : Size Code 0
 1 : Size Code 1
 2 : Size Code 2
 3 : Size Code 3
 4 : Size Code 4
 5 : Size Code 5
 6 : Size Code 6
 7 : Size Code 7
 8 : Size Code 8
 9 : Size Code 9
 A : Size Code 10
 B : Size Code 11
 C : Size Code 12
 D : Size Code 13
 E : Size Code 14

[BASE1] : Base Frequency1
 [STEP1] : Step1
 [OFFSET1] : Offset1
 [BASE2] : Base Frequency2
 [STEP2] : Step2
 [OFFSET2] : Offset2
 [BASE3] : Base Frequency3
 [STEP3] : Step3 (for MOT UHF/VHF System only)
 [OFFSET3] : Offset3 (for MOT UHF/VHF System only)
 [RSV] : Reserve Parameter
 * This is always only “,”.

[TGID_GRP_HEAD] : TGID Index Head of the System
 [TGID_GRP_TAIL] : TGID Index Tail of the System
 [ID_LOUT_GRP_HEAD] : L/O TGID Group Index Head of the System
 [ID_LOUT_GRP_TAIL] : L/O TGID Group Index Tail of the System

Get/Sets Trunked System Information.

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

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

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 TFQ>

Get/Set Trunk Frequency Info

=====

Controller → Radio

- ① TFQ,[CHN_INDEX][\r]
- ② TFQ,[CHN_INDEX],[FRQ],[LCN],[LOUT][\r]

Radio → Controller

- ① TFQ,[FRQ],[LCN],[LOUT],[REV_INDEX],[FWD_INDEX],[SYS_INDEX],[GRP_INDEX][\r]
- ② TFQ,OK[\r]

[CHN_INDEX] : Channel Index

[FRQ] : Frequency for Trunked System
[LCN] : LCN
[LOUT] : Lockout (0:Unlocked / 1:Lockout)
[REV_INDEX] : Reverse Frequency Index of the System Frequency Group
[FWD_INDEX] : Forward Frequency Index of the System Frequency Group
[SYS_INDEX] : System Index of the Frequency
[GRP_INDEX] : Index of the System Frequency Group

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

=====

Controller → Radio

① DGR,[GRP_INDEX][\r]

Radio → Controller

① DGR,OK[\r]

[GRP_INDEX] : Group Index

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

=====

<COMMAND GIN>

Get/Set Group Info

=====

Controller → Radio

- 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]

[GRP_INDEX] : Group Index

[GRP_TYPE] : Group Type (C:Channel Group / T:TGID Group)

[NAME] : Name (max.16char)

: For Racing Group, this parameter should meet the following format:"[Car#](3 digits)[Blank] [Driver Name]

*If

Car# is less than 3 digits, put it from left to right.

The rest space must fill with Blank.

[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

=====

Controller → Radio

- ① ACC,[GRP_INDEX][\r]

Radio → Controller

- ① ACC,[CHN_INDEX][\r]

[GRP_INDEX] : Channel Group Index

[CHN_INDEX] : appended Channel Index

Append Channel to the group.

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 Channel 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 frequency
for a Trunked System.

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][r]

Radio → Controller

① CIN,[NAME],[FRQ],[MOD],[CTCSS/DCS],[TLOCK],[LOUT],[PRI],[ATT],[ALT],[ALTL],
[REV_INDEX],[FWD_INDEX],[SYS_INDEX],[GRP_INDEX][r]

② CIN,OK[r]

[INDEX] : Channel Index
[NAME] : Name (max.16char)
[FRQ] : Channel Frequency
[MOD] : Modulation (AUTO/AM/FM/NFM/WFM)
[ATT] : Attenuation (0:OFF / 1:ON)
[CTCSS/DCS] : CTCSS/DCS Mode (0-231: see CTCSS/DCS Code List)
[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

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],[PRI],[ALT],[ALTL][\r]

Radio → Controller

- ① TIN,[NAME],[TGID],[LOUT],[PRI],[ALT],[ALTL],[REV_INDEX],[FWD_INDEX],[SYS_INDEX],[GRP_INDEX][\r]
- ② TIN,OK[\r]

[INDEX] : TGID Index
 [NAME] : Name (max.16char)
 [TGID] : TGID
 [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 TGID Index of the TGID Group
 [FWD_INDEX] : Forward TGID Index of the TGID Group
 [SYS_INDEX] : System Index of the TGID
 [GRP_INDEX] : Group Index of the TGID

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]

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]

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.

: #### (0-9999)

This command is only acceptable in Programming Mode.

=====

<COMMAND MEM>

Get Memory Used

=====

Controller → Radio

① MEM[\r]

Radio → Controller

① MEM,###[\r]

Returns % memory used.

: ### (0-100)

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],[RSV],[RSV],[MAX_STORE][\r]

Radio → Controller

- ① SCO,[STP],[MOD],[ATT],[DLY],[SKP],[CODE_SRCH],[BSC],[REP],[RSV],[RSV],[MAX_STORE][\r]
- ② SCO,OK[\r]

[STP] : Search Step
(AUTO,500,625,750, ..., 5000,10000)
AUTO : AUTO 1250 : 12.5k
500 : 5k 1500 : 15k
625 : 6.25k 2000 : 20k
750 : 7.5 k 2500 : 25k
833 : 8.33k 5000 : 50k
900 : 9k 10000 : 100k
1000 : 10k

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

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

[DLY] : Delay Time (0:OFF / from 1 to 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) ||||| +- Band10
0 means OFF ||||| :
1 means ON |||||+---- Band 2
 |||||+---- Band 1
 ||||+----- AM
 |||+----- NOAA WX
 ||+----- VHF TV
 |+----- UHF TV
 |+----- FM
 +----- Pager

[REP] : Repeater Find (0:OFF / 1:ON)

[RSV] : Reserve Parameter
*This is always only “,”.

[MAX_STORE] : Max Auto Store (1-256)

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]

Radio → Controller

- ① BBS,[LIMIT_L],[LIMIT_H][\r]
- ② BBS,OK[\r]

[SCR_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 GLF>

Get Global Lockout Freq

=====
Controller → Radio

- ① GLF[\r]

Radio → Controller

- ① GLF,[FRQ][\r]
- GLF,-1[\r]

[FRQ] : Lockout Frequency (1000-13000000)

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 (1000-13000000)

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 (1000-13000000)

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],[ALTM],[ALTB],[ALTL],[ALTP],[CC_BAND][\r]

Radio → Controller

- ① CLC,[CC_MODE],[CC_OVERRIDE],[ALTM],[ALTB],[ALTL],[ALTP],[CC_BAND][\r]
- ② CLC,OK[\r]

[CC_MODE] : Mode (1:ON / 0:OFF)
[CC_OVERRIDE] : Override (1:ON / 0:OFF)
[ALTM] : Alert Mode (N:NONE / B:BEEP / L:LIGHT/
A:BEEP+LIGHT)
[ALTB] : Alert Beep (0:OFF / 1-9:Tone No)
[ALTL] : Alert Tone Level (0:AUTO/ 1-15)
[ALTP] : Close Call Pause
3 : 3 sec 30 : 30 sec
5 : 5 sec 45 : 45 sec
10 : 10 sec 60 : 60 sec
15 : 15 sec INF : Infinite
[CC_BAND] : Close Call Band (7digit #####)
(each # is 0 or 1) |||||+ 800MHz+
0 means OFF ||||+ UHF 2
1 means ON |||+-- UHF 1
||+--- VHF HIGH
|+---- AIR BAND
|+---- VHF
+----- Reserve (always 0)

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][\r]

Radio → Controller

- ① SSP,[SRCH_INDEX],[DLY],[ATT],[HLD],[LOUT][\r]
- ② SSP,OK[\r]

| | | |
|--------------|--------------------|--------------------------|
| [SRCH_INDEX] | : Index | |
| | 1 : Public Safety | 8 : FRS/GMRS |
| | 2 : News | 9 : Racing |
| | 3 : HAM Radio | 10 : TV Broadcast |
| | 4 : Marine | 11 : FM Broadcast |
| | 5 : Railroad | 12 : Special |
| | 6 : Air | 13 : AM Broadcast |
| | 7 : CB Radio | |
| [DLY] | : Delay Time | (0:OFF / from 1 to 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) |

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.

Get/Set current status of the custom search range.
This command is only acceptable in Programming Mode.

=====

<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],[RSV],[RSV][*r*]

Radio → Controller

- ① CSP,[NAME],[LIMIT_L],[LIMIT_H],[STP],[MOD],[ATT],[DLY],[SKP],[HLD],[LOUT],[C-CH],[RSV],[RSV][*r*]
- ② CSP,OK[*r*]

[SRCH_INDEX] : Index (1-9,0 means 10)
 [NAME] : Name (max.16char)
 [LIMIT_L] : Lower Limit Frequency (1000-13000000)
 [LIMIT_H] : Upper Limit Frequency (1000-13000000)
 [STP] : Search Step
 (AUTO,500,625,750, , 5000,10000)
 AUTO : AUTO 1250 : 12.5k
 500 : 5k 1500 : 15k
 625 : 6.25k 2000 : 20k
 750 : 7.5 k 2500 : 25k
 833 : 8.33k 5000 : 50k
 900 : 9k 10000 : 100k
 1000 : 10k
 [MOD] : Modulation (AUTO/AM/FM/NFM/WFM)
 [ATT] : Attenuation (0:OFF / 1:ON)
 [DLY] : Delay Time (0:OFF / from 1 to 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)
 [RSV] : Reserve Parameter

*This is always only “,”.

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

=====

Controller → Radio

- ① WXS[*r*]
- ② WXS,[DLY],[ATT],[ALT_PRI][*r*]

Radio → Controller

- ① WXS, [DLY],[ATT],[ALT_PRI][*r*]
- ② WXS,OK[*r*]

[DLY] : Delay Time (0:OFF / from 1 to 5)
 [ATT] : Attenuation (0:OFF / 1:ON)
 [ALT_PRI] : Weather Alert Priority (0:OFF / 1:ON)

Get/Set Weather Priority Settings.

This command is only acceptable in Programming Mode.

=====

<COMMAND SGP>

Get/Set SAME Group Settings

=====

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][\r]

Radio → Controller

- ① TON,[INDEX],[NAME],[FRQ],[MOD],[ATT],[DLY],[ALT],[ALTL],[TONE_A],[RSV],[TONE_B],[RSV],[RSV][\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)
[DLY] : Delay Time (0:OFF / 1-5 / 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
[RSV] : Reserve parameter
*This is always only “,”.
[TONE_B] : Tone B Frequency

Get/Set Tone-Out Settings

This command is only acceptable in Programming Mode.

=====

<COMMAND AIR>

Get/Set On-Air Clone Settings

=====

Controller → Radio

- ① AIR[\r]
- ② AIR,[FRQ],[MOD][\r]

Radio → Controller

- ① AIR,[FRQ],[MOD][\r]
- ② AIR,OK[\r]

[FRQ] : Frequency
[MOD] : Modulation (AUTO/FM/NFM)

Get/Set On-Air Clone 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 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:OFF / 1-15)

=====

<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 / 1-14 / 15:CLOSE)

=====

<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.

=====

<COMMAND BAV>
*Get Battery Voltage

=====

Controller → Radio

① BAV[r]

Radio → Controller

① BAV,####[r] : A/D Value (0-1023)

Battery Level[V] = (3.2[V] * #### * 2)/1023

Returns current battery voltage.
This command is for test mode.