REMOTE COMMAND

Version: 2.00

Remote Communication Format

BPS Rate	: 2400/4800/9600/19200/38400/57600 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

Note:

1) In case of controlling with program, insert waiting time between commands.
2) On Menu mode, only KEY emulation commands is valid.
3) The command to change the scanner setting may change a setup item except for the applicable setup item, too.
Most of these commands depend on the specifications of your Scanner.
Ex) "PM" command or "PR" command

FORMAT OF THIS DOCUMENT

==========

COMMAND NAME : Summary explanation of the function of the command

==========

Controller → Radio
Command format
Radio → Controller
Response format

※ Error message isn't described in this document,
but the unit sends 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)Flaming error	: FER[¥r]
4)Overrun error	: ORER[¥r]

※ [¥r] means "to hit the Enter key" or "to send the Return code".

※ The channel bank or search No. assign to alphabet.

Ex) BANK1 :A　BANK2 :B ----　BANK5　:E

※ The ID list No. assign to alphabet.

Ex) LIST1 :A　LIST2 :B ----　LIST5　:E

Command List

==========

AC : Clear (Initialize) all memory

==========

Controller → Radio

AC[¥r]

Radio → Controller

OK[¥r]

This command instructs the unit to clear all the memories.
All the memories are set for initial setting
This command is valid at any time.

Note) There needs about 3seconds execute time.

Start from highway scanning(state AK) by initial setting.

==========

AF : Confirm/Set EDACS AFS ID Format

==========

Controller → Radio

① AF[¥r] : Confirm AFS ID Form mode ON/OFF

② AFN[¥r] : AFS ID Form mode ON

AFF[¥r] : AFS ID Form mode OFF

Radio → Controller

① AFN[¥r] : AFS ID Form mode ON

AFF[¥r] : AFS ID Form mode OFF

② OK[¥r]

This command instructs the unit to turn or confirm AFS ID function ON/OFF.

Note:

If you ass the Bank No.(A-E) at the end, you can select optional bank.

Ex) “AF A” or “AFN A”

==========

AV : Confirm/Set alert volume

==========

Controller → Radio

① AV[¥r] : Confirm alert volume setting

② AV@[¥r] : Set alert volume without alert sound

@ : volume level

H: high level sound

M: middle level sound

L: low level sound

Note:

if you add the “?” at the end , you can hear the alert sound.

Ex) AV? Or AVH?

Radio → Controller

① AV@[¥r] : Set alert volume

@ : volume level

H: high level sound

M: middle level sound

L: low level sound

② OK[¥r]

==========

BC : Confirm Base, Space, Offset Configuration

==========

Controller → Radio

BC @#[¥r]

@ : Bank No.(A-E)

: Configuration No. (1,2,3)

Radio → Controller

BC @# %%%%%%%% $$$$ XXX[¥r]

@ : Bank No.(A-E)

: Configuration No. (1,2,3)

%%%%%%%% : Base frequency

$$$$: Space frequency

(multiple of 5.0kHz : 0050,0100, 0150,,,,, 1000)

(multiple of 12.5kHz: 0125,0250,0375 ,,,,, 1000)

XXX : Offset channel (380 - 759)

Example)

BC C1 01380000 0500 0380[¥r]

Bank No. : 3

Configuration No : 1

Base Frequency : 138.0000MHz

Space frequency : 50kHz

Offset channel : 380

==========

BT : Confirm/Set S-BIT function

==========

Controller → Radio

① BT[¥r] : Confirm S-BIT function ON/OFF

② BTN[¥r] : S-BIT ON

BTF[¥r] : S-BIT OFF

Radio → Controller

① BTN[¥r] : S-BIT ON

BTF[¥r] : S-BIT OFF

② OK[¥r]

Note:

if you add the bank No(A-E) at the end , you can select your optional bank.

Ex) “BT A” Or “BTN A”

This command instructs the unit to turn or confirm S-BIT function ON/OFF.

==========

DL : Confirm/Set DELAY function

==========

Controller → Radio

① DL[¥r] : Confirm DELAY function ON/OFF

② DLN[¥r] : 2seconds delay ON

DLF[¥r] : Delay OFF

Radio → Controller

① DLN[¥r] : Delay ON
DLF[¥r] : Delay OFF

② OK[¥r]

This command instructs the unit to turn or confirm DELAY function ON/OFF.

==========

DS : Confirm/Set DATA SKIP function

==========

Controller → Radio

① DS[¥r] : Confirm DATA SKIP function ON/OFF

② DSN[¥r] : Data skip ON
DSF[¥r] : Data skip OFF

Radio → Controller

① DSN[¥r] : Data skip ON
DSF[¥r] : Data skip OFF

② OK[¥r]

This command instructs the unit to turn or confirm DATA SKIP function ON/OFF.

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EL : Confirm/Set Enter Lock feature

==========

Controller → Radio

① EL[¥r] : Confirm ENTER LOCK ON/OFF

② ELN[¥r] : Set ENTER LOCK to ON
ELF[¥r] : Set ENTER LOCK to OFF

Radio → Controller

① ELN[¥r] :ENTER LOCK is ON
ELF[¥r] :ENTER LOCK is OFF

② OK[¥r] :Command OK

==========

FB : Confirm/Program fleet block

==========

Controller → Radio

① FB & #[¥r] : Confirm Fleet Block size.

& : A-E Identifies the bank for this fleet block.

: 0-7 Identifies the Fleet map Block No.

② FB & # %%[¥r] : Program Fleet Block No

& : A-E Identifies the bank for this Fleet Block.

: 0-7 Identifies the Fleet map Block No.

%% : 00-14 Block size indicator.

Radio → Controller

① FB & # %%[¥r] : Programmed fleet Block size.

& : A-E Identifies the bank for this fleet block.

: 0-7 Identifies the Fleet map block No.

%% : 00-14 Block size indicator.

② OK[¥r]

==========

FI : Confirm/Set Frequency Identification function

==========

Controller → Radio

① FI[¥r] : Confirm Frequency Identification function ON/OFF

② FIN[¥r] : Frequency Identification ON

FIF[¥r] : Frequency Identification OFF

Radio → Controller

① FIN[¥r] : ON

FIF[¥r] : OFF

② OK[¥r]

This command instructs the unit to turn or confirm Frequency Identification function ON/OFF.

==========

HA : informs when highway alert condition changes.

==========

Controller → Radio

① HA[¥r] : Confirm “HA” command is active or inactive

② HAN[¥r] : activate “HA” command

HWF[¥r] : inactivate “HA” command

Radio → Controller

① HAN[¥r] : activate “HA” command

HAF[¥r] : inactivate “HA” command

② OK[¥r]

This command instructs the unit to turn the function ON/OFF.
While the function is ON, the unit is monitoring the alert condition and informs when it changes. While the function is activate, if the highway alert condition becomes

・”NO ALERT” to “ALERT”, unit sends HA+[¥r] to the controller.

・”ALERT” to “NO ALERT”, unit sends -[¥r] to the controller.

==========

HP : informs when highway alert signal receive.

==========

Controller → Radio

① HP[¥r] : Confirm “HP” command is active or inactive

② HPN[¥r] : activate “HP” command

HPF[¥r] : inactivate “HP” command

Radio → Controller

① HPN[¥r] : activate “HP” command

HPF[¥r] : inactivate “HP” command

② OK[¥r]

This command instructs the unit to turn the function ON/OFF.
While the function is ON, the unit is monitoring the alert signal status and informs.
While the function is activate, if the highway alert signal will be active, the unit sends “HP ALERT” to the controller.

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HW : Confirm/Set Highway scan mode

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Controller → Radio

① HW[¥r] : Confirm Highway scan mode

② HWN[¥r] : Highway scan only mode

HW+[¥r] : Highway scan plus private memory scan

Radio → Controller

① HWN[¥r] : Highway scan only mode

HW+[¥r] : Highway scan plus private memory scan

② OK[¥r]

==========

IC : Confirm/Move/Program Talk Group ID Location No.

==========

Controller → Radio

① IC[¥r] : Confirm ID Location Number

② IC @%[¥r] : Move ID memory

@ : ID Scan list (A-E)

% : ID Location (1-9, 0)

"0" is used to indicate "ID Location 10".

<Example>

IC A0[¥r]

Move ID Memory No. to "ID Scan List A" and "ID Location 10".

③ Program Talk Group ID

//// MOTOROLA TYPE1 ////

IC @% &##-$$[¥r] or IC @% &###-$[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

&##-$$: Type1 ID

& : Block No.(0-9)

(or ###) : Fleet No.

$$: Sub fleet No.

<Example>

IC A0 001-05[¥r] : ID in ID memory "A10" is "BLOCK=0, FLEET=1, SUBFLEET=5".

//// MOTOROLA TYPE 2 ////

IC @% ######[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

: Type2 ID

<Example>

IC A0 001234[¥r] : ID in ID memory "A10" is "1234".

//// LTR ////

IC @% %$$###[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9,0)

%$$### : LTR Talk Group ID

% : Area code (0, 1)

$$: Home Repeater No. (01-20)

:ID(000-254)

<Example>

IC A0 001064[¥r] : ID memory "A10"
: Area code: “0”
: Home Repeater No.:”01”
: ID:”64"

//// EDACS ////

IC @% &&-##$[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

&&-##$: Edacs Talk Group ID

&& : Agency No.

: Fleet No.

$: SUBFLEET No.

<Example>

IC A0 01-025[¥r] : AFS format

IC A0 000149[¥r] : DECIMAL format

ID memory No : "A10"

AGENCY=01, FLEET=02, SUBFLEET=5"

Radio → Controller

①,②

//// Not Programmed ID ////

IC @% ------[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

//// MOTOROLA TYPE1 ////

IC @% &##-$$[¥r] or IC @% &###-$[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9,0)

&##-$$: Type1 ID

& : Block No.(0-7)

##(or ###) :Fleet No.

$$: Sub fleet No.

<Example>

IC A0 001-05[¥r] : Talk Group ID in ID memory "A10" is "BLOCK=0, FLEET=1, SUBFLEET=5".

//// MOTOROLA TYPE 2 ////

IC @% ######[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

: Type2 ID

<Example>

IC A0 001234[¥r] : Talk group ID in ID memory "A10" is "1234".

//// LTR ////

IC @% %$$###[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

%$$### : LTR Talk Group ID

% : Area code(0,1)

$$: Home Repeater No. (01-20)

: ID(000-254)

<Example>

IC A0 001064[¥r]

Talk group ID in ID memory "A10" is "Area code:0, Home Repeater No:01, ID:64"

//// EDACS ////

IC @% &&-##$[¥r]

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9, 0)

&&-##$: Edacs Talk Group ID

&& : Agency No.

: Fleet No.

$: SUBFLEET No.

<Example>

IC A0 01-025[¥r] AFS format

IC A0 000149[¥r] DECIMAL format
Talk Group ID in ID memory "A10" is "AGENCY=01, FLEET=02, SUBFLEET=5"

③ OK[¥r]

==========

ID : informs when ID reception starts or ends

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Controller → Radio

① ID[¥r] : confirm "ID" command active
② IDN[¥r] : "ID" command ON
IDF[¥r] : "ID" command OFF

Radio → Controller

① IDN[¥r] : "ID" command ON
IDF[¥r] : "ID" command OFF
② OK[¥r]

While the function is ON, the reception ID and tuned frequency are returned by the following format when a radio receives ID and when the reception of ID is finished.

(1) ID Reception Starts

//// MOTOROLA TYPE1 ////

ID S &##-$$ %%%%%%%%[¥r]
Or ID S &###-$ %%%%%%%%[¥r]

&##-&& / &###-$:Motorola Type1 ID
& : Block No. ## / ### :Fleet No.
$$ / $: Subfleet No.
%%%%%%%% : Control channel Frequency

<Example>
ID S 001-03 08510125[¥r]
ID reception starts on Block=0、Fleet=1, Subfleet=3
Control channel Frequency: 851.0125MHz

//// MOTOROLA TYPE 2 ////

ID S @@@@@@ %%%%%%%%[¥r]

@@@@@@ : Talk group ID
%%%%%%%% : Control channel Frequency

<Example>
ID S 001234 08510125[¥r]
ID reception starts on "ID=1234". Control Channel Frequency:851.0125MHz

//// LTR ////

ID S %$$### %%%%%%%%[¥r]
%$$### : LTR Talk Group ID
% : Area code(0,1)
$$: Home Repeater No. (01-20)
: ID(000-254)
%%%%%%%% : Home channel Frequency

<Example>
ID S 001064 08510250[¥r]
ID reception starts on "Area code:0 Home Repeater No.:01 ID:64".
Home Channel Frequency:851.0250MHz

//// EDACS ////

ID S &&-##$ %%%%%%%%[¥r]

&&-##$: EDACS Talk Group ID
&& : Agency
: Fleet No. $:SUBFLEET No.
%%%%%%%% : Voice channel Frequency

<Example>
ID S 01-025 08510125[¥r] : AFS format
ID S 000149 08510125[¥r] : DECIMAL format

(2)ID reception ends

//// MOTOROLA TYPE1 ////

ID E &##-$$ %%%%%%%%[¥r]
Or ID E &###-$ %%%%%%%%[¥r]

&##-&& / &###-$: Motorola Type1 ID
& : Block No.
/ ### : Fleet No.
$$ / $: Subfleet No.
%%%%%%%% : Voice channel Frequency

<Example>
ID E 001-03 08510125[¥r] ID reception ends on Block=0、
Fleet=1, Subfleet=3
Voice channel Frequency:851.0125MHz

//// MOTOROLA TYPE2 ////

ID E @@@@@@ %%%%%%%%[¥r]

@@@@@@ : Talk group ID
%%%%%%%% : Voice channel Frequency

<Example>
ID E 001234 08510125[¥r] ID reception ends on "ID=1234".
Voice channel Frequency:851.0125MHz

//// LTR ////

ID E %$$### %%%%%%%%[¥r]
%$$### : LTR Talk Group ID
% : Area code(0,1)
$$: Home Repeater No. (01-20)
: ID(000-254)
%%%%%%%% :GOTO channel Frequency

<Example>
ID E 001064 08510250[¥r]
ID reception ends on "Area code:0 Home Repeater No.:01 ID:64".
GOTO Channel Frequency:851.0250MHz

//// EDACS ////

ID E &&-##$ %%%%%%%%[¥r]
&&-##$: EDACS Talk Group ID
&& : Agency
: Fleet No.
$: SUBFLEET No.
%%%%%%%% :Working channel Frequency
<Example>
ID E 01-025 08510125[¥r] : AFS format
ID E 000149 08510125[¥r] : DECIMAL format

==========

IL : Read / Register / Delete L/O ID memory

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Controller → Radio
① Read
IL###[¥r]
: Lockout Memory No.(001 - 100)
: Highway Trunked ID lockout memory No. (101-130)
② Register

//// MOTOROLA TYPE 1 ////
ILR &##-$$[¥r]
Or ILR &###-$[¥r]

&##-&& / &###-$:Motorola Type1 ID
& : Block No.
/ ### : Fleet No.
$$ / $: Subfleet No.
<Example>

ILR 001-03[¥r]

//// MOTOROLA TYPE 2 ////

ILR @@@@@@[¥r]

@@@@@@ : MOTOROLA TYPE2

<Example>

ILR 024106[¥r]

//// LTR ////

ILR %$$###[¥r]

%$$### : LTR Talk Group ID

% : Area code(0,1)

$$: Home Repeater No. (01-20)

: ID(000-254)

<Example>

ILR 001064[¥r]

//// EDACS ////

ILR &&-##$[¥r]

&&-##$: EDACS Emergency ID

&& : Agency

: Fleet No.

$: SUBFLEET No.

<Example>

ILR 01-011[¥r]

>> EDACS BLOCKOUT <<

ILR &&-[¥r] : ALL Agency lockout

&& : Agency No

ILR &&-##[¥r] : ALL Agency-Fleet lockout

: Fleet No.

<Example>

ILR 02-[¥r]

ILR 02-01[¥r]

③ Delete

//// MOTOROLA TYPE 1 ////

ILD &##-$$[¥r] / ILD &###-$[¥r]

&##-&&

or &###-$:Motorola Type1 ID

& : Block No.

/ ### : Fleet No.

$$ / $: Subfleet No.

<Example>

ILD 001-03[¥r]

//// MOTOROLA TYPE 2 ////

ILD @@@@@@[¥r]

@@@@@@ : MOTOROLA TYPE2

<Example>

ILD 024106[¥r]

//// LTR ////

ILD %$$###[¥r]

%$$### : LTR Talk Group ID

% : Area code(0,1)

$$: Home Repeater No. (01-20)

: ID(000-254)

<Example>

ILD 001064[¥r]

//// EDACS ////

ILD &&-##$[¥r]

&&-##$: EDACS Emergency ID

&& : Agency

: Fleet No.

$: SUBFLEET No.

<Example>

ILD 01-011[¥r]

>> EDACS BLOCKOUT <<

ILD &&-[¥r] : ALL Agency lockout

&& : Agency No

ILD &&-##[¥r] : ALL Agency-Fleet lockout

: Fleet No.

<Example>

ILD 02-[¥r]

ILD 02-01[¥r]

//// Highway Trunking Talkgroups ////

ILD###[¥r]

: Highway Trunked ID lockout memory No. (101-130)

<Example>

ILD101[¥r]

Radio → Controller

① Read

///// NOT REGISTERED LOCKOUT ID MEMORY /////

IL ------[¥r]

//// MOTOROLA TYPE 1 ////

IL &##-$$[¥r]

Or IL &###-$[¥r]

&##-&&

&###-$: Motorola Type1 ID

& : Block No. ## / ### :Fleet No.

$$ / $: Subfleet No.

<Example>

IL 001-03[¥r]

//// MOTOROLA TYPE 2 ////

IL @@@@@@[¥r]
@@@@@@ : MOTOROLA TYPE2

<Example>
IL 024106[¥r]

//// LTR ////

IL %$$###[¥r]
%$$### : LTR Talk Group ID
% : Area code(0,1)
$$: Home Repeater No. (01-20)
: ID(000-254)
<Example>
IL 001064[¥r]

//// EDACS ////
IL &&-##$[¥r]
&&-##$:EDACS Emergency ID
&&:Agency ##:Fleet No. $: SUBFLEET No.
<Example>
IL 01-011[¥r]

>> EDACS BLOCKOUT <<
IL &&----[¥r] : ALL Agency lockout
ILD &&-##-[¥r] : ALL Agency-Fleet lockout
&& : Agency
: Fleet No.
<Example>
IL 02-[¥r]
IL 02-01-[¥r]

//// Highway Trunking Talkgroups ////

IL ###### %%%%%%%%[¥r]

: Highway Trunked ID

%%%%%%%%: control channel frequency

② Register

If the ID is registered into L/O ID memory, the unit sends OK[¥r] to the controller.

If the ID is already in L/O ID memory, sends ON[¥r].

If L/O ID memory is full, sends FULL[¥r].

Note) the scanner can not register a highway trunking talkgroup.

③ Delete

If the ID is deleted from L/O ID memory, the unit sends OK[¥r] to the controller. If the ID isn't in L/O ID memory, sends OFF[¥r].

Note) the scanner does not send “OFF” for highway trunking talkgroup.

==========

IS : Confirm/Select ID scan lists.

==========

Controller → Radio

① IS[¥r] : Confirm ID scan list name

② IS @%〇･･･[¥r] : Select ID scan list

@,%,〇,･･･ : ID scan list No. (A-E)

<Example>

IS ACE[¥r] Select "LIST A, LIST C, LIST E".
(LIST B, LIST D are not selected)

Radio → Controller

①、②

IS @%〇･･･[¥r] @,%,〇,･･･ : ID scan list name

<Example>

IS ACE[¥r] Selected ID scan lists are "LIST A, C, E".

This command instructs the unit to make designated ID scan lists be selected.

==========

KEY : KEY emulation command

==========

Controller → Radio

KEY〇〇[¥r] 〇〇:KEY Emulate Code (see Following Table)

* To indicate "Hold Press" of each key, add "H" to each command.

<Example>

KEY06H[¥r] : This command is used instead of hold press of [L/O] key.

KEY02 6[¥r] : This command is used instead of press of [6] key.

Radio → Controller

OK[¥r]

Key Emulate Code:

KEY00 : [RESUMU/HOLD]	KEY01 : [HWY/PVT]
KEY02 : [0]-[9]	KEY03 : [.]
KEY04 : [E]	KEY05 : [PRI]
KEY06 : [L/O]	KEY07 : [▲]
KEY08 : [▼]	KEY09 : [SRCH]
KEY10 : [SVC]	KEY11 : [DATA]
KEY12 : [DLY]	KEY13 : [TRUNK]
KEY14 : [STATE]	KEY15 : [MUTE]
KEY16 : [FLASH]	KEY17 : [ALERT]

==========

LCD : Read LCD

==========

Controller → Radio

① LCD @[¥r] : Read each icon status

@@@ : Specific icon symbol (see following)

② LCD BNK[¥r] : Check the selected bank No.

③ LCD CHN[¥r] : Check the CH indication part

④ LCD FRQ[¥r] : Check the FREQUENCY indication part

⑤ LCD[¥r] : Read all status at once

Radio → Controller

① @@@ + : specific icon is stay ON

@@@ - : specific icon is stay OFF

@@@ * : specific icon is flashing

	ICON	@@@		ICON	
1	**TRUNK**	TRUNK	16	**CB**	CB
2	**P**	P	17	**AIR**	AIR
3	**E**	E	18	**RR**	RR
4	**M**	M	19	**MRN**	MRN
5	**L**	L	20	**HOLD**	HOLD
6	**BANK**	BANK	21	**▲**	UP
7	**LIST**	LIST	22	**SRCH**	SRCH
8	**M-LOCK**	MLOCK	23	**▼**	DOWN
9	**RMT**	RMT	24	**PRI**	PRI
10	**HWY**	HWY	25	**L/O**	LOUT
11	**PVT**	PVT	26	**DLY**	DLY
12	**POL**	POL	27	**DATA**	DATA
13	**WX**	WX	28	**FLASH**	FLASH
14	**FIRE/EMS**	FIRE	29	**.**	DCML
15	**NEWS**	NEWS	-	-	-

②

<EXAMPLE>

BNK +++*--[¥r] : ON:1,2 OFF:4,5 FLASH:3

③

<EXAMPLE>

CHN [250][ ][¥r]

CHN [AK][**][¥r]

CHN [1-1][***][¥r]

④

<EXMAPLE>

FRQ [956.0000][ ][¥r]

FRQ [id SCAN][ ][¥r]

⑤

all above at once.

==========

LO : Confirm/Set LOCKOUT Channel

==========

Controller → Radio

① LO[¥r] : Confirm LOCKOUT function ON/OFF

② LON[¥r] : Lockout ON

LOF[¥r] : Lockout OFF

Radio → Controller

① LON[¥r] : Lockout ON

LOF[¥r] : Lockout OFF

② OK[¥r]

This command instructs the unit to turn or confirm LOCKOUT function ON/OFF.

==========

MA : Confirm / Move the channel No.

==========

Controller → Radio

① MA[¥r] : Confirm

② MA@@@[¥r] : Move to

@@@ : channel No. (001-250)

<Example>

MA015[¥r] Move to the channel No. "15".

Radio → Controller

①,②

C@@@ F%%%%%%%% T# D# L# A# R# N$$$ [¥r]

@@@ : Channel No.

%%%%%%%% : Frequency

The order of the frequency digits are from 1 GHz digit to 1GHz digit.

:N or F(ON/OFF)

TN/TF :Trunking frequency / conventional frequency

DN/DF : Delay ON/OFF

LN/LF : Lockout ON/OFF

AN/AF : Attenuator ON/OFF

RN/RF : Auto record function ON/OFF

N :CTCSS /DCS status

$$$:CTCSS/DCS TONE No.

<Example>

C015 F04060125 TF DN LF AF N000[¥r]

The current channel No. is "15",

and its conventional frequency is "406.0125 MHz".

Delay function is ON, Lockout is OFF,

Attenuation is OFF

CTCSS is not programmed.

==========

MD : Confirm the Scanner mode

==========

Controller → Radio

MD[¥r]

Radio → Controller

MD@@[¥r] @@ :Current scanner mode No.(See following Table)

This command instructs the unit to confirm the current scanner mode 。

00: Private Scan mode
01: Private Scan hold mode
02: Band Search mode
03: Band Search Hold mode
04: Service Scan mode
05: Service Scan Hold mode
06: Highway Scan mode
07: Highway Scan Hold mode
08: Highway Trunking mode
09: Highway Trunking Hold mode
10: Program channel mode
11: Motorola ID search mode
12: Motorola ID search hold mode
13: Motorola ID scan mode
14: Motorola ID manual mode
15: Edacs ID search mode
16: Edacs ID search hold mode
17: Edacs ID scan mode
18: Edacs ID manual mode
19: LTR ID search mode
20: LTR ID search hold mode
21: LTR ID scan mode
22: LTR ID manual mode
23: Manual frequency mode
24: Program trunked bank menu
25: Remote control menu

==========

MU : Confirm/Set status of speaker muting.

==========

Controller → Radio

① MU[¥r] :Confirm MUTE control mode.
② MU?[¥r] :Confirm ON/OFF condition.
③ MUN[¥r] :Set MUTE ON(by force)mode.
MUF[¥r] :Set MUTE OFF(by force)mode.
MUA[¥r] :Set AUTO MUTE control mode.

Radio → Controller

① MUN[¥r] :MUTE ON(by force)mode.
MUF[¥r] :MUTE OFF(by force)mode.
MUA[¥r] :AUTO MUTE control mode.
② MU ON[¥r] :MUTE ON condition.
MU OFF[¥r] :MUTE OFF condition.
③ OK[¥r]

this command instructs the unit to set or confirm the status of speaker Muting.

==========

PC : Confirm/Set priority channel No. of a bank.

==========

Controller → Radio

① PC @[¥r] :Confirm
@ :Bank No.(A-E)

<Example>
PC A[¥r] Confirm the priority channel of "Bank A".

② PC @%%%[¥r] : Set
@ : Bank No.(A-E)
%%% : Channel No.(001 - 250)

<Example>
PC A014[¥r] : Set the priority channel of "Bank A" to "14".

Radio → Controller

①,②

PC @%%%[¥r]

@ : Bank No.(A-E)

%%% : Channel No. (001 - 250)

<Example>

PC A014[¥r] : The priority channel of "Bank A" is "14"

==========

PI : Confirm/Set Priority Talk ID Memory Location

==========

Controller → Radio

① PI @[¥r] : Confirm Priority ID location

@ : ID list No. (A-E)

<Example>

PI A[¥r]

: Confirm priority Location of List "A" in current Trunk Bank

② PI @#[¥r] : Set Priority ID location

@ : ID List No. (A-E)

: ID location No. (1-9,0)

<Example>

PI A1[¥r] : set priority to List "A", Location "1"

Radio → Controller

① PI @# %%%%%%[¥r]

@ : ID List No (A-E)

: ID location No. (1-9,0)

%%%%%% : Talk Group ID

<Example>

PI A1 001234[¥r] : Priority of List "A" is location "1" ID:001234

② OK[¥r]

==========

PM : Read / Program a channel frequency

==========

Controller → Radio

① PM@@@[¥r] : Read channel frequency

@@@ : Channel No. (001-250)

<Example>

PM014[¥r] Read the frequency of "14CH".

② PM@@@ %%%%%%%%[¥r] : Program channel frequency

or PM@@@T%%%%%%%%[¥r]

@@@ : Channel No.(001-250)

T : Trunking channel flag

%%%%%%%% : Frequency

The order of the frequency digits are from 1 GHz digit to 100 Hz digit.

PM command initialize delay mode, because DL commands is commanded after commanding PM command.

<Example 1> program 406.0125MHz to Channel No.14

PM014 04060125[¥r] :Set the frequency of "14CH" to "406.0125 MHz".

Radio → Controller

①,②

C@@@ F%%%%%%%% T# D# L# A# R# N$$$ [¥r]

@@@ : Channel No. (001-250)

%%%%%%%% : Frequency

:N or F(ON/OFF)

ex)TN/TF : trunking / conventional frequency

DN/DF : Delay ON/OFF

LN/LF : Lockout ON/OFF

AN/AF : Attenuator ON/OFF

RN/RF : Auto record function ON/OFF

$$$:CTCSS/DCS TONE No.

<Example>

C015 F04060125 TF DN LF AF RF N000[¥r]

CH No : CH15

FREQUENCY : "406.0125 MHz"(conventional)
DELAY : ON
LOCKOUT : OFF
ATTENUATOR : OFF
CTCSS : 00.0 Hz.

==========

PR : Confirm/Set PRIORITY function

==========

Controller → Radio

① PR[¥r] :Confirm priority function ON/OFF
② PRN[¥r] :Set priority function
PRF[¥r] :Priority function OFF
PR+[¥r] :Set Priority Only function (only used Highway scan)

Radio → Controller

① PRN[¥r] :Priority is ON
PRF[¥r] :Priority is OFF
PR+[¥r] :Priority Only is ON (only used Highway scan)
② OK[¥r]

This command instructs the unit to turn or confirm PRIORITY(and Only) function ON/OFF.

==========

QU : informs when squelch condition changes.

==========

Controller → Radio

① QU[¥r] : Confirm QU command active
② QUN[¥r] : QU command ON
QUF[¥r] : QU command OFF

Radio → Controller

① QUN[¥r] : QU command is ON
QUF[¥r] : QU command is OFF
②OK[¥r]

While the function is ON, if the squelch condition becomes

・Close to open, unit sends +[¥r] to the controller.
・Open to close, unit sends -[¥r] to the controller.

This command instructs the unit to turn the function ON/OFF.
While the function is ON, the unit is monitoring the squelch condition
and informs when it changes.

==========

RF : Confirm/Tune the commanded frequency.

==========

Controller → Radio

① RF@@@@@@@@[¥r]
Or RF@@@@@@@@?[¥r]

The order of the digits are from 1 GHz digit to 100 Hz digit.
<Example>
RF04060125[¥r] tuned receiver to 406.0125 MHz
RF00290038[¥r] tuned receiver to 29.0050MHz(rounded with default step)
if you wish to confirm the tuned frequency for this command response,
a "?" code add after the commanded frequency.

② RF[¥r] :confirm tuned frequency

Radio → Controller

① OK[¥r]
Or RF@@@@@@@@[¥r]

② RF@@@@@@@@[¥r]
@@@@@@@@ : Tuned frequency

This command can be instantly tuned to a commanded frequency .

==========

RG : Confirm /Set EDACS ID Range mode.

==========

Controller → Radio

① Confirm ID Range mode
RG[¥r]
② RG @@-[¥r] : Set ID Range mode
Or RG @@-##[¥r]
@@ : EDACS id (Agency:00-15)
: EDACS id (Fleet:00-15)
<Example>
RG 01-[¥r]
or RG 01-01[¥r]
③ Clear ID Range mode
RGF [¥r]

Radio → Controller

① RGN[¥r] : Range mode ON
RGF[¥r] : Range mode OFF
② OK[¥r]
③ OK[¥r]

==========

RI : informs when priority receiving condition changes

==========

Controller → Radio

① RI[¥r] : Confirm "RI" command active
② RIN[¥r] : Activate "RI" command
RIF[¥r] : Inactivate "RI" command

Radio → Controller

① RIN[¥r] : "RI" command is ACTIVE
RIF[¥r] : "RI" command is INACTIVE
② OK[¥r]

While the function is ON,

・if the unit stops on the priority channel by priority receiving, sends PST[¥r] to the controller.

・if the unit returns from the priority channel,
sends PRT[¥r] to the controller.

This command instructs the unit to turn the function ON/OFF.
While the function is ON, the unit is monitoring the priority receiving condition and informs when it changes.

==========

RM : Confirm receive mode.

==========

Controller → Radio

"RM[¥r]"

Radio → Controller

RM @@[¥r] : Confirm receive mode

@@ :Current Receiver modulation

<Example>

RM AM[¥r] : AM

RM FM[¥r] : FM

This command instructs the unit to confirm receiver modulation.
This command is acceptable at conventional/trunking mode.

==========

SB : Confirm/Select scan banks.

==========

Controller → Radio

①SB[¥r] :Confirm scan banks

② SB @%〇・・・[¥r] :Select scan banks

@,%,〇,・・・ :bank name

<Example>

SB ACE[¥r]

Select "BANK A, C, E".

Radio → Controller

①、② SB @%〇・・・[¥r] @,%,〇,・・・ :bank name

<Example>

SB ACE[¥r] Selected scan banks are "BANK A, C, E".

This command instructs the unit to make designated scan banks be selected.

==========

SI : Confirm Scanner Information

==========

Controller → Radio

SI[¥r]

Radio → Controller

SI @@@@@@@@,%%%%%%%%%%,&&&[¥r]

@@@@@@@@ : Alphanumeric model Name/No.

%%%%%%%%%% : Alphanumeric ESN No.(Not used)

&&& : Remote Command Version.

<Example>

SI BCT8,0000000000,200

This is the information string sent by the scanner to PC

==========

SQ : Confirm squelch condition.

==========

Controller → Radio

SQ[¥r]

Radio → Controller

+[¥r] : Now squelch is OPEN.

-[¥r] : Now squelch is CLOSE.

This command instructs the unit to send whether the squelch is OPEN or CLOSE.

==========

SS : Read / Register a frequency in search skip memory

==========

Controller → Radio

① Read

SS### ### : Skip Memory No. (001-400)

001-100: for Band search

101-150: for Highway Patrol Priority channel

151-250: for Highway Patrol Other channel

251-350: for Police and DOT service search

351-400: for Other service search

② Register

SS@@@@@@@@[¥r]

@@@@@@@@ : Band search Frequency

The order of the digits are from 1 GHz digit to 100 Hz digit.

This register command is applied only to band search frequency.

<Example>

SS04060125[¥r] Register 406.0125 MHz into search skip memory.

Radio → Controller

① Read

<Band search, Highway patrol channel>

SS@@@@@@@@[¥r]

@@@@@@@@ : Frequency

< Service search >

SS@@@@@@@@ #[¥r]

@@@@@@@@ : Frequency

: service kind (see “COMMAND SV”)

<Example>

SS04060125[¥r]

Frequencies in search skip memory are "406.0125 MHz"

SS08594875 1

Skip Frequencies in Police bank are "859.4875 MHz"

② Register

SS@@@@@@@@[¥r]　　@@@@@@@@ : Frequency

<Example>

SS04060125[¥r]　406.0125 MHz is registered.

※ If the frequency is already in search skip memory,
the unit sends ON[¥r] to the controller.

This command instructs the unit

①to send the frequencies in search skip memory.

②to register a frequency into search skip memory.

==========

ST　: Confirm frequency step

==========

Controller → Radio

① ST[¥r]　: Confirm frequency step

Radio → Controller

① ST ###[¥r]　: Inform frequency step

###: 5K / 12.5K

==========

SV　: Confirm/Set Service scan mode

==========

Controller → Radio

① SV[¥r]　: Confirm Service kind

② SV@[¥r]　: Set Service scan mode

@　: service kind

1: Police service　2: Weather service scan

3: FIRE/EMS service　4: NEWS service scan

5: CB service scan　6: Air service

7: Rail road service　8: Marine service

9: Department of transportation service

Radio → Controller

① SV@[¥r] : Set Service scan mode

@ : service kind

1: Police service 2: Weather service scan

3: FIRE/EMS service 4: NEWS service scan

5: CB service scan 6: Air service

7: Rail road service 8: Marine service

9:Department of transportation service

② OK[¥r]

==========

TB : Confirm/Set Trunking bank On/Off

==========

Controller → Radio

① TB[¥r] : Confirm Active trunk Bank ON or OFF

② TB #[¥r] : Confirm optional trunk bank ON or OFF

: Bank No.(A-E)

③ TBN #[¥r] : Set Trunking Bank to ON

: Bank No.(A-E)

TBF #[¥r] : Set Trunking Bank to OFF

: Bank No.(A-E)

Radio → Controller

①,②

TB # @@@@@ %[¥r]

:Active/Optional Trunking Bank (A-E)

@@@@@ :Trunking Type

E2-800(Motorola Type2 800MHz)

E2-VHI(Motorola Type2 VHI)

E2-UHF(Motorola Type2 UHF)

TYPE1 (Motorola Type1)

EDCS WIDE (WIDE BAND EDACS)

EDCS SCT

LT (LTR)

E2-CUS (Motorola Type2 Custom)

E1-CUS (Motorola Type1 Custom)

% : Trunking bank ON or OFF
N: Trunking ON
F: Trunking OFF

<Example> TB A E2-800 N[¥r]
Active Bank: "A" Trunk Type: MOTOROLA TYPE2 800MHz TRUNK ON

③ OK[¥r]

==========

TC : Confirm/Set Control channel only mode

==========

Controller → Radio

① Confirm "CONTROL CH ONLY MODE" is ON or OFF
TC @[¥r] @ :Bank No. (A-E)

② Set "CONTROL CH ONLY MODE" to ON or OFF
TCN @ ##[¥r] :Set "CONTROL CH ONLY MODE" to ON
@ :Bank No. (A-E)
:CH assignment plan(optional) P1,P2,P3,P4
P1: Plan1 P2: Plan2 P3: Plan3 P4: Plan4

<Example>
TCN A P1[¥r] : set control channel only mode to plan1
TCF @[¥r] : control channel only mode OFF

Radio → Controller

① TCN @ ##[¥r] : "CONTROL CH ONLY MODE" is ON
@ :Bank No. (A-E)
:CH assignment plan(optional) P1,P2,P3,P4
P1: Plan1 P2: Plan2 P3: Plan3 P4: Plan4
TCF @[¥r] : “CONTROL CH ONLY MODE” is OFF

<Example>
TCN A P1[¥r]
or TCN A[¥r]

TCF @[¥r] : control channel only mode OFF

② OK[¥r]

==========

TD : Confirm/Set Motorola disconnect Tone option

==========

Controller → Radio

① TD[¥r] : Confirm disconnect tone (end of tone) option

② TDN[¥r] : disconnect tone option ON

TDF[¥r] : disconnect tone option OFF

Radio → Controller

① TDN[¥r] : Disconnect tone option ON

TDF[¥r] : Disconnect tone option OFF

② OK[¥r]

Note:

if you add the bank No(A-E) at the end , you can select your optional bank.

Ex) “TD A” Or “TDN A”

This command instructs the unit to turn or confirm Disconnect tone option ON/OFF.

==========

TG : Program Talk Group ID

==========

Controller → Radio

① TG ? @%[¥r] :Confirm Programmed Talk Group IDs

? :Bank No.(A-E)

@:ID Scan list(A-E)

%:ID Location (1-9,0)

② Program Talk Group IDs

//// MOTOROLA TYPE1 ////

TG ? @% &##-$$[¥r] or TG ? @% &###-$[¥r]

? : Bank No.(A-E)

@% : ID Memory No.

@ :ID Scan List (A-E) % :ID Location (1-9,0)

&##-$$: Type1 ID

& :Block No.(0-7)

or ### :Fleet No.
$$:Sub fleet No.

<Example>

TG A A0 001-05[¥r] ID in ID memory "BANK A-A10" is "BLOCK=0, FLEET=1, SUBFLEET=5".

TG A A0 0127-3[¥r] ID in ID memory "BANK A-A10" is "BLOCK=0, FLEET=127, SUBFLEET=3".

//// MOTOROLA TYPE 2 ////

TG ? @% ######[¥r]

? : Bank No.(A-E)

@% : ID Memory No.

@ :ID Scan List (A-E) % :ID Location (1-9,0)

: Type2 ID

<Example>

TG A A0 001234[¥r] Talk Group ID in id memory "BANK A-A10" is "1234".

//// LTR ////

TG ? @% %$$###[¥r]

? : Bank No.(A-E)

@% : ID Memory No.

@ :ID Scan List (A-E) % :ID Location (1-9,0)

%$$### : LTR Talk Group ID

% :Area code(0,1)

$$:Home Repeater No. (01-20)

:ID(000-254)

<Example>

TG A A0 001064[¥r]

ID in ID memory "BANK A-A10" is "Area code:0 Home Repeater No.:01 ID:64"

//// EDACS ////

TG ? @% &&-##$[¥r]

? : Bank No.(A-E)

@% : ID Memory No.

@ : ID Scan List (A-E)
% : ID Location (1-9,0)
&&-##$: Edacs Talk Group ID
&& : Agency No.(00-15)
: Fleet No.(00-15)
$: SUBFLEET No.(0-7)

<Example>
TG A A0 01-025[¥r] : AFS format
TG A A0 000149[¥r] : DECIMAL format
ID in ID memory "BANK A-A10" is "AGENCY=01, FLEET=02, SUBFLEET=5"

>> PROGRAM EDACS PARTIAL ID <<
TG ? @% &&-[¥r]
Or TG ? @% &&-##[¥r]
? : Bank No.(A-E)
@% : ID Memory No.
@ : ID Scan List (A-E)
% : ID Location (1-9,0)
&&- : Edacs Partial Talk Group ID(All Agency)
&&-## : Edacs Partial Talk Group ID(All Agency-Fleet)
&& : Agency No.(01-15)
: Fleet No.(00-15)

<Example>
TG A A0 01-[¥r]
TG A A0 01-02[¥r]

Radio → Controller
①
//// MOTOROLA TYPE1 ////
TG ? @% &##-$$[¥r] or TG ? @% &###-$[¥r]
? : Bank No.(A-E)
@% : ID Memory No.
@ : ID Scan List (A-E)
% :I D Location (1-9,0)
&##-$$: Type1 ID
& : Block No.(0-9)

or ### :Fleet No.
$$: Sub fleet No.

<Example>

TG A A0 001-05[¥r] ID in ID memory "BANK A-A10" is "BLOCK=0, FLEET=1, SUBFLEET=5".

//// MOTOROLA TYPE 2 ////

TG ? @% ######[¥r]

? : Bank No.(A-E)
@% : ID Memory No.
@ : ID Scan List (A-E)
% : ID Location (1-9,0)
: Type2 ID

<Example>

TG A A0 001234[¥r] ID in ID memory "BANK A-A10" is "1234".

//// LTR ////

TG ? @% %$$###[¥r]

? : Bank No.(A-E)
@% : ID Memory No.
@ : ID Scan List (A-E)
% : ID Location (1-9,0)
%$$### : LTR Talk Group ID
% : Area code(0,1)
$$: Home Repeater No. (01-20)
: ID(000-254)

<Example>

TG A A0 001064[¥r]

ID in ID memory "BANK A-A10" is "Area code:0 Home Repeater No.:01 ID:64"

//// EDACS ////

TG ? @% &&-##$[¥r]

? : Bank No.(A-E)
@% : ID Memory No.
@ : ID Scan List (A-E)

% : ID Location (1-9,0)

&&-##$: Edacs Talk Group ID

&& : Agency No.

: Fleet No.

$: SUBFLEET No.

<Example>

TG A A0 01-025[¥r] : AFS format

TG A A0 000149[¥r] : DECIMAL format

ID in ID memory "BANK A-A10" is "AGENCY=01, FLEET=02, SUBFLEET=5"

>> EDACS PARTIAL ID <<

TG ? @% &&----[¥r]

Or TG ? @% &&-##-[¥r]

? : Bank No.(A-E)

@% : ID Memory No.

@ : ID Scan List (A-E)

% : ID Location (1-9,0)

&&---- : Edacs Partial Talk Group ID(All Agency)

&&-##- : Edacs Partial Talk Group ID(All Agency-Fleet)

&& : Agency No.

: Fleet No.

<Example>

TG A A0 01----[¥r]

TG A A0 01-02-[¥r]

② OK[¥r]

==========

TR : Set trunking to bank

==========

Controller → Radio

TR & # %%%%%%%% $$$$??? X[¥r]

& : A-E For bank selection.

: 1,2,3,4,5,6,7 Trunking type.

1:Type1 2:Type2-800 3:Type2-900(not used)

4:Type2-UHF 5:Type2-VHF 6:WIDE BAND EDACS

7:NARROW BAND EDACS(not used) 8:EDACS SCAT

9:LTR

%%%%%%%% : Base frequency (Motorola UHF/VHF band only).

$$$$: Spacing (Motorola UHF/VHF band only)

The multiple of 5.0 kHz: 0050*n(1-20)

The multiple of 12.5 kHz: 0125*n(1-8)

??? (option) : Offset Channel(Motorola UHF/VHF band only)

380～759

X (option) : Base Configuration No.

1 or 2 or 3

Radio → Controller

OK[¥r]

==========

US : Confirm/Select U.S state

==========

Controller → Radio

① US[¥r] : Confirm U.S state

② US##[¥r] : Select U.S state

: U.S state number (01-50)

01: Alaska	02: Alabama	03: Arkansas
04: Arizona	05: California	06: Colorado
07: Connecticut	08: District of Columbia	09: Delaware
10: Florida	11: Georgia	
12: Iowa	13: Idaho	14: Illinois
15: Indiana	16: Kansas	17: Kentucky
18: Louisiana	19: Massachusetts	20: Maryland
21: Maine	22: Michigan	23: Minnesota
24: Missouri	25: Mississippi	26: Montana
27: North Carolina	28: North Dakota	29: Nebraska
30: New Hampshire	31: New Jersey	32: New Mexico
33: Nevada	34: New York	35: Ohio
36: Oklahoma	37: Oregon	38: Pennsylvania
39: Rhode Island	40: South Carolina	41: South Dakota
42: Tennessee	43: Texas	44: Utah
45: Virginia	46: Vermont	47: Washington
48: Wisconsin	49: West Virginia	50: Wyoming

Radio → Controller

① US##[¥r] : Select U.S state

: U.S state number (01-50)

② OK[¥r]

==========

VR : Confirm the version of the Product.

==========

Controller → Radio

VR[¥r]

Radio → Controller

VR@ .@@[¥r] @ .@@ : The version of the Product

<Example>

VR1.00[¥r] The version of the Product is 1.00

Note) This value is not the software version.

==========

WD : Confirm/Set Warning light Dimmer

==========

Controller → Radio

① WD[¥r] : Confirm warning dimmer setting

② WD@[¥r] : Set warning dimmer

@ : dimmer level

H: high brightness

D: dimmer

F: light off

Note:

if you add the “?” at the end , you can hear the alert sound and you can observe the warning dimmer setting.

Ex) WD? Or WDH?

Radio → Controller

① WD@[¥r] : Set warning dimmer

@ : dimmer level

H: high brightness

D: dimmer

F: light off

② OK[¥r]

==========

WL : Confirm warning light status

==========

Controller → Radio

① WL[¥r] : Confirm warning light status

Radio → Controller

① WLN[¥r] : warning light on

WLF[¥r] : warning light off

==========

WM : Confirm warning mute condition

==========

Controller → Radio

① WM[¥r] : Confirm warning mute condition

Radio → Controller

① WMF[¥r] : warning off mute

WM+[¥r] : warning one moment mute

WMN[¥r] : warning full mute

==========

CP : Set Base, Space, Offset Configuration for Custom system

==========

Controller → Radio

CP & # @ %%%%%%% ******** $$$$???? X[¥r]

& : A-E For bank selection.

: Trunking type.

A:Type2-Custom B:Type1-Custom

@ : Configuration No. (1--6)

%%%%%%% : Base (Lower) frequency.

******** : Upper frequency.

$$$$: Spacing

The multiple of 5.0 kHz: 0050*n(1-20)

The multiple of 12.5 kHz: 0125*n(1-8)

????: Offset Channel (0000～1023)

X: Polarity (+ or -)

Radio → Controller

OK[¥r]

==========

CR : Confirm Base, Space, Offset Configuration for Custom system

==========

Controller → Radio

CR &@[¥r]

& : A-E For bank selection.

@ : Configuration No. (1--6)

Radio → Controller

CR &@ %%%%%%% ******** $$$$???? X[¥r]

& : A-E For bank selection.

@ : Configuration No. (1--6)

%%%%%%% : Base (Lower) frequency.

******** : Upper frequency.

$$$$: Spacing

The multiple of 5.0 kHz: 0050*n(1-20)

The multiple of 12.5 kHz: 0125*n(1-8)

???? : Offset Channel (0000～1023)

X : Polarity (+ or -)