



CI-V REFERENCE GUIDE

VHF/UHF DUAL BAND TRANSCEIVER

ID-5200A

ID-5200E

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REMOTE CONTROL

Remote control (CI-V) information

◇Connecting to a PC

The transceiver's operating frequency and mode can be remotely controlled using a PC.
The Icom Communications Interface V (CI-V) controls the transceiver.
There are 2 ways to connect to a PC.

- Through a USB cable

① Use a proper cable according to your PC's USB port and make the connection as short as possible.

The transceiver may not be recognized by the controller, depending on the USB cable length.

Type-A to Type-C: OPC-2480 (Purchase separately) or user supplied

Type-C to Type-C: User supplied

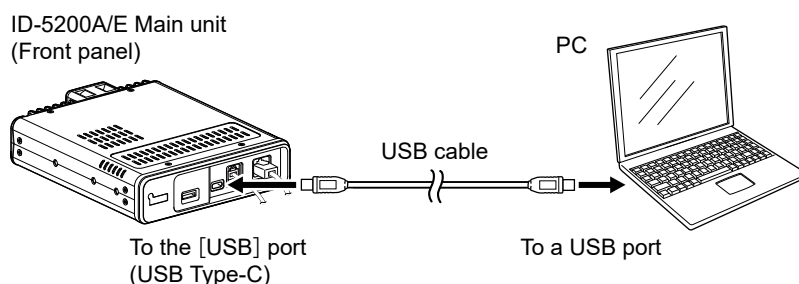
② Confirm your USB cable is usable for data transfer and not for charging only.

③ When connecting to a USB port on your PC with the USB driver installed, USB is named as "ID-5200 Serial Port."

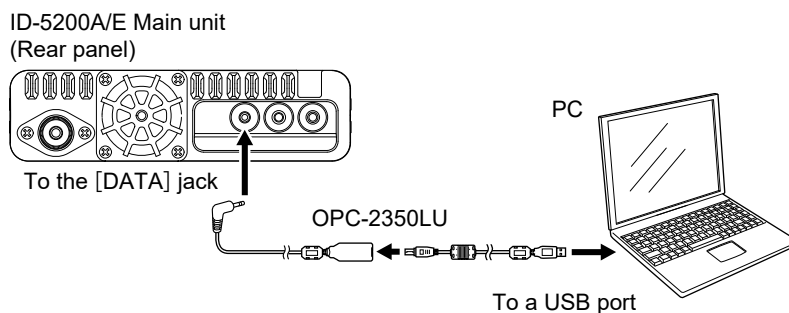
To use the USB cable between the transceiver and a PC, you must first install a USB driver.
The latest USB driver and installation guide can be downloaded from the Icom website.

Carefully read the guide before installing the driver.

<https://www.icomjapan.com/support/>



- Through a data cable (OPC-2350LU (Purchase separately))



Remote control (CI-V) information

◇ CI-V data setting

To control the transceiver, first set the following items on the MENU screen.

① Refer to the Advanced manual for details on each menu item.

[MENU] > SET > Connectors > **CI-V**

Set its CI-V Address, CI-V Transceive*¹, CI-V DATA Baud Rate*², and CI-V USB Echo Back or CI-V DATA Echo Back*³ function.

*¹ When “CI-V Transceive” is set to “ON,” the same change as your transceiver is automatically set on other connected transceivers or receivers, and vice versa.

*² You need to select the baud rate in “CI-V DATA Baud Rate,” when you remotely control the transceiver through the [DATA] jack.

*³ Before connecting the USB cable or data cable to the PC, confirm the settings below.

- Through a USB cable
Set “CI-V USB Echo Back” to “ON” or “OFF.”
- Through a data cable
Set “CI-V DATA Echo Back” to “ON” or “OFF.”

[MENU] > SET > Connectors > **USB Connect**

Before connecting the USB cable to the PC, set “USB Connect” to “Serialport” (default).

[MENU] > SET > Connectors > Serialport Function > **DATA Function**

Before connecting the data cable to the PC, set “DATA Function” to “CI-V.”

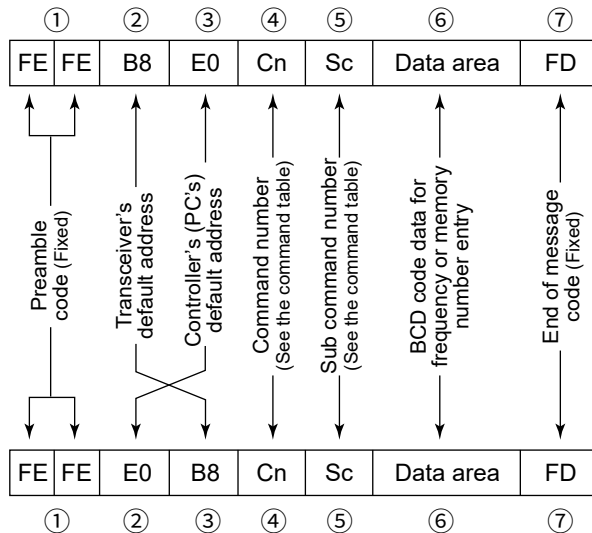
REMOTE CONTROL

Remote control (CI-V) information

◇ Data format

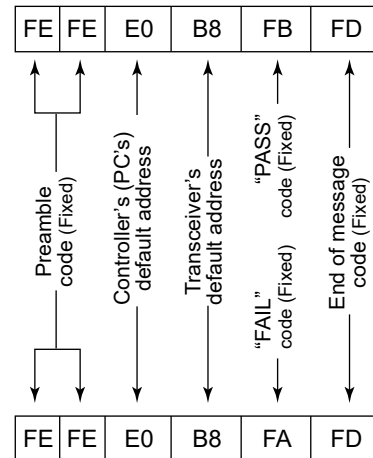
The CI-V system can be written using the following data formats. Data formats differ according to command numbers. A data area or sub command is added for some commands.

Controller (PC) to ID-5200A/E



ID-5200A/E to controller (PC)

“PASS” message to controller (PC)



“FAIL” message to controller (PC)

◇ Command table

Command	Sub	Data	TM	Description
00		See p. 6	*4	Send operating frequency for transceiver
01		See p. 6	*4	Send operating mode for transceiver (02=AM, 05=FM, 17=DV)
03		See p. 6	*4	Read operating frequency
04		See p. 6		Read operating mode
05		See p. 6	*4	Send operating frequency
06		See p. 6	*4	Send operating mode
07				Select the VFO mode
	D0			Select the A band Dualwatch: Set the MAIN band as the A band Single watch: Select the A band
	D1			Select the B band Dualwatch: Set the MAIN band as the B band Single watch: Select the B band
	D2	00/01		Read MAIN band setting (00=A band, 01=B band)
0C		See p. 6		Read offset frequency*1
0D		See p. 6	*4	Set offset frequency
0F		00/11/12		Read duplex setting (00=OFF, 11=DUP-, 12=DUP+)
	10			Set Simplex
	11		*4	Set Duplex -
	12		*4	Set Duplex +

Command	Sub	Data	TM	Description
14*	01	00 00 ~ 02 55		Send/read the audio level (00 00=Minimum ~ 01 28=Center ~ 02 55=Maximum)
	03	00 00 ~ 02 55	*4	Send/read the squelch level (00 00=Minimum ~ 01 28=Center ~ 02 55=Maximum)
	0A	See p. 6	*4	Send/read the RF power setting
	0B	See p. 6		Send/read MIC gain
	16	See p. 6		Send/read the VOX gain
15	01	00/01		Read noise or S-meter squelch status (00=Close, 01=Open)
	02	00 00 ~ 02 55	*4	Read S-meter level (00 00=S0, 01 70=S9)
	05	00/01		Read various squelch function's (including the tone squelch) status (00=Close, 01=Open)
	11	00 00 ~ 02 55	*4	Read the Po Meter Level (00 26=Low, 00 77=Mid, 02 55=High)
16*	42	00/01	*4	Send/read the Repeater tone (00=OFF, 01=ON)
	43	00 ~ 02	*4	Send/read the Tone squelch (00=OFF, 01=TSQL, 02=TSQL-R)
	46	00/01		Send/read the VOX function (00=OFF, 01=ON)
	4B	00 ~ 02	*4	Send/read the DTCS function (00=OFF, 01=DTCS, 02=DTCS-R)

*(Asterisk) Send/read data

REMOTE CONTROL

Remote control (CI-V) information

◇ Command table

Command	Sub	Data	TM	Description
16*	59	00		Send/read SUB band OFF
		01		Send/read SUB band ON
	5B	00 ~ 02		Send/read the DSQL (Digital Call Sign squelch)/CSQL (Digital Code squelch) setting (DV mode only) (00=OFF, 01=DSQL, 02=CSQL)
	5C	00 ~ 02		Send/read the GPS TX mode (00=OFF, 01=D-PRS, 02=NMEA)
	5D	00 ~ 09	*4	Send/read the Tone squelch function (00=OFF, 01=TONE, 02=TSQL, 03=DTCS, 04=TSQL-R, 05=DTCS-R, 06=DTCS (T), 07=TONE (T)/DTCS (R), 08=DTCS (T)/TSQL (R), 09=TONE (T)/TSQL (R))
18	00			Turn OFF the transceiver
	01*2			Turn ON the transceiver
19	00			Read the transceiver ID
1A	00	00/01*5		Set the KISS mode (00=OFF, 01=ON)
1B*	00	See p. 6	*4	Send/read the Repeater tone frequency
	01	See p. 6	*4	Send/read the TSQL tone frequency
	02	See p. 7	*4	Send/read the DTCS code and polarity
	07	See p. 7		Send/read the CSQL code (DV mode)
1C*	00	00/01		Send/read the transceiver's status (00=RX, 01=TX)
1F*	00	See p. 7		Send/read the My Call Sign setting
	01	See p. 7		Send/read the DV TX Callsign setting
	02	See p. 8		Send/read the DV TX Message setting
20	00	00*	00/01*3	Send/read the Auto DV RX Call signs output (00=OFF, 01=ON)
		01	See p. 8	Output DV RX Call signs for transceive
		02	See p. 8	Read Auto DV RX Call signs
	01	00*	00/01*3	Send/read the Auto DV RX message output (00=OFF, 01=ON)
		01	See p. 9	Output DV RX message for transceive
		02	See p. 9	Read Auto DV RX message
	02	00*	00/01*3	Send/read the Auto DV RX status output (00=OFF, 01=ON)
		01	See p. 9	Output DV RX status for transceive
		02	See p. 9	Read Auto DV RX status

Command	Sub	Data	TM	Description
20	03	00*	00/01	Send/read the Auto DV RX GPS/D-PRS data output (00=OFF, 01=ON)
		01	See p. 9 and 11	Output DV RX GPS/D-PRS data for transceive
		02	See p. 9 and 11	Read DV RX GPS/D-PRS data for transceive
	04	00*	00/01	Send/read Auto DV RX GPS/D-PRS message output (00=OFF, 01=ON)
		01	See p. 12	Output DV RX D-PRS message for transceive
		02	See p. 12	Read Auto DV RX D-PRS message status
22	00		See p. 12	Set the DV TX data (Up to 30 byte)
		01	00/01	Set the Auto DV RX data output (00=OFF, 01=ON)
	01		See p. 12	Set the DV RX data for transceive (Up to 30 byte)
		02*	00/01	Send/read DV data TX setting (00=PTT, 01=Auto)
	03*		00/01	Send/read DV fast data setting (00=OFF, 01=ON)
	04*		00/01	Send/read GPS Data Speed setting (00=Slow, 01=Fast)
23	00		See p. 12	Set the DV TX Delay (PTT) setting (00=OFF, 01=1 sec. ~ 10=10 sec.)
		01*	00 ~ 03	Read the position status
	01*		00 ~ 03	Send/read the GPS Select setting (00=OFF, 01=Internal GPS, 02=External GPS (DATA), 03=Manual)
		02*	See p. 12	Send/read the manually input position data
24	00	00*	00/01	Send/read TX output power setting (00=OFF, 01=ON)
		01	00/01	Set the TX output power for transceive (00=OFF, 01=ON)

*(Asterisk) Send/read data

*1 Less than 100 Hz is omitted.

*2 When sending the power ON command (18 01) using the [DATA] jack, the command "FE" must be sent before the basic format.

The following is the approximate number of needed repetitions.

- 4800 bps: 230 "FE"s
- 9600 bps: 450 "FE"s
- 19200 bps: 900 "FE"s

Example: When operating with 4800 bps

			①			②		③		④		⑤		⑦	
F	E	F	E	F	E	B	8	E	0	1	8	0	1	F	D

×230

- ① Preamble code (Fixed)
- ② Transceiver's default address
- ③ Controller's default address
- ④ Command number
- ⑤ Sub command number
- ⑦ End of message code (Fixed)

*3 Output setting is automatically set to OFF after turning OFF the transceiver.

*4 Cannot be set in the Terminal mode (TM).

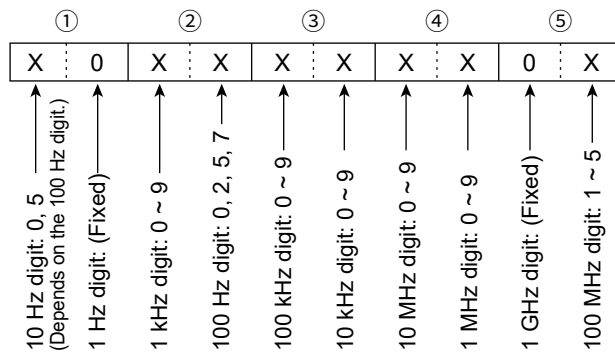
*5 Can be set when the operating mode of the band selected in "Data Band" is FM or FM-N.

Remote control (CI-V) information

◇ Command formats

• Operating frequency

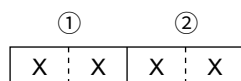
Command: 00, 03, 05



① When the 100 Hz digit is 2 or 7, the 10 Hz digit is fixed to 5 and is fixed to 0 otherwise.

• Operating mode

Command: 01, 04, 06



Receive mode	① Operating mode	② Filter setting
AM	02	01
AM-N	02	02
FM	05	01
FM-N	05	02
DV	17	01

• Offset frequency setting

Command: 0C, 0D



• RF power setting

Command: 14 0A

Low	Mid	High
00 00 ~ 00 84	00 85 ~ 01 70	01 71 ~ 02 55

• MIC gain setting

Command: 14 0B

1	2	3	4
00 00 ~ 00 63	00 64 ~ 01 27	01 28 ~ 01 91	01 92 ~ 02 55

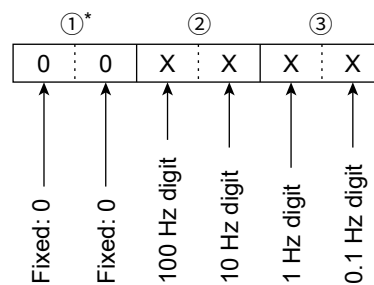
• VOX gain setting

Command: 14 16

OFF	1	2	3
00 00 ~ 00 22	00 23 ~ 00 46	00 47 ~ 00 69	00 70 ~ 00 92
4	5	6	7
00 93 ~ 01 15	01 16 ~ 01 39	01 40 ~ 01 62	01 63 ~ 01 85
8	9	10	
01 86 ~ 02 08	02 09 ~ 02 32	02 33 ~ 02 55	

• Repeater tone/tone squelch frequency setting

Command: 1B 00, 1B 01



*No input required when setting the frequency.

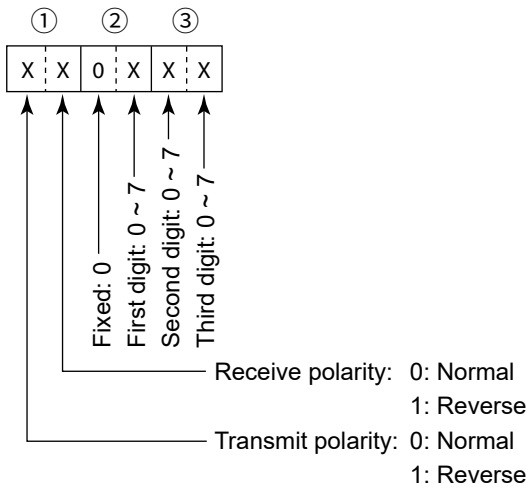
Refer to the Advanced manual for the tone frequency list.

Remote control (CI-V) information

◇ Command formats

• DTCS code and polarity setting

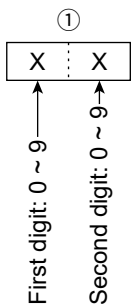
Command: 1B 02



Refer to the Advanced manual for the DTCS code list.

• Digital code squelch setting

Command: 1B 07

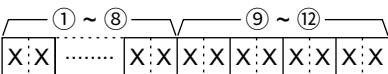


• DV MY call sign setting

Command: 1F 00

Set your own call sign and note of up to 12 characters.

See “Character’s code of the call sign.”



① ~ ⑧: Your own call sign setting (8 characters)

⑨ ~ ⑫: Note setting (4 characters)

① In Terminal mode, the settings for “My Call Sign (TM)” are sent or read.

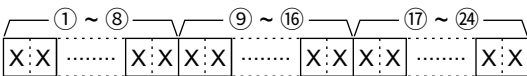
• DV TX call signs setting

(24 characters or 8 characters)

Command: 1F 01

Set “UR,” “R1,” and “R2” call signs of 8 characters (fixed), or only the “UR” call sign. See “Character’s code of the call sign.”

When setting “UR,” “R1,” and “R2” call signs

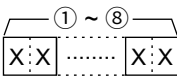


① ~ ⑧: UR (Destination) call sign setting (8 characters)

⑨ ~ ①⑥: R1 (Access/Area repeater) call sign setting (8 characters)

①⑦ ~ ②④: R2 (Link/Gateway repeater) call sign setting (8 characters)

When setting only the “UR” call sign



① ~ ⑧: UR (Destination) call sign setting (8 characters)

Character’s code of the call sign

Character	ASCII code
0 ~ 9	30 ~ 39
A ~ Z	41 ~ 5A
(Space)	20
/	2F

Remote control (CI-V) information

◇ Command formats

• DV TX message setting

Command: 1F 02

Set the transmit message of up to 20 characters.

See “Codes for character entries.”

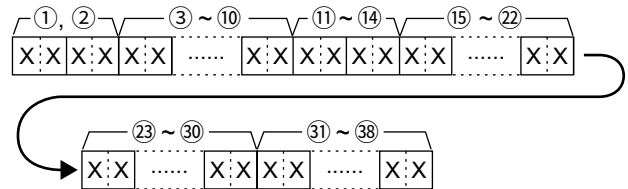
“FF” stops sending or reading messages.

Codes for character entries

Character	ASCII code	Character	ASCII code
A ~ Z	41 ~ 5A	a ~ z	61 ~ 7A
0 ~ 9	30 ~ 39	Space	20
!	21	#	23
\$	24	%	25
&	26	\	5C
?	3F	“	22
,	27	`	60
^	5E	+	2B
—	2D	*	2A
/	2F	.	2E
,	2C	:	3A
;	3B	=	3D
<	3C	>	3E
(	28	)	29
[	5B	]	5D
{	7B	}	7D
	7C	_	5F
—	7E	@	40

• DV RX call sign data

Command: 20 00 01, 00 02



①: Header flag data (First byte)

Data	Description
bit7 (0: Fixed)	—
bit6 (0: Fixed)	—
bit5 (0: Fixed)	—
bit4 0/1	0=Voice, 1=Data
bit3 0/1	0=Direct, 1=Through repeater
bit2 0/1	0=No Break-in, 1=Break-in
bit1 0/1	0=Data, 1=Control
bit0 0/1	0=Normal, 1=EMR

②: Header flag data (Second byte)

Data	Description
bit2 bit1 bit0	
1 1 1	Repeater control
1 1 0	Send auto acknowledge
1 0 1	(Not used)
1 0 0	Request to re-transmit
0 1 1	Send acknowledge
0 1 0	Receive no reply
0 0 1	Repeater disabled
0 0 0	NULL

③ ~ ⑩: Call sign of the caller station
(8 characters, fixed)

⑪ ~ ⑭: Note of the caller station
(4 characters, fixed)

⑮ ~ ⑳: Call sign of the called station
(8 characters, fixed)

㉓ ~ ㉙: Call sign of the access/area repeater (R1)
(8 characters, fixed)

㉚ ~ ㉟: Call sign of the link/gateway repeater (R2)
(8 characters, fixed)

See “Codes for character entries.”

①FF: When no call sign is received since the transceiver power was turned ON.

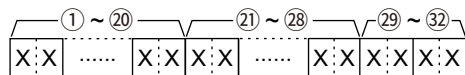
REMOTE CONTROL

Remote control (CI-V) information

◇ Command formats

• DV RX message

Command: 20 01 01, 01 02



① ~ ②⑩: Message (20 characters)

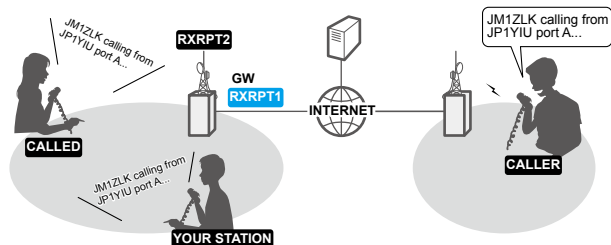
②① ~ ②⑧: Call sign of the caller station (8 characters)

②⑨ ~ ③②: Note of the caller station (4 characters)

See "Codes for character entries." (p. 8)

①FF: When no call sign is received since the transceiver power was turned ON.

Example: When a Gateway call is received



CALLER: Caller's call sign

CALLED: Called station call sign

RXRPT1: Call sign of the repeater that was accessed by the caller station

① If it was a call through a gateway and the internet, this item displays the gateway call sign of the repeater you received the call from.

RXRPT2: Call sign of the repeater you received the call from

• DV RX Status setting

Command: 20 02 01, 02 02

Data	Function	Description
bit7	0 (Fixed)	—
bit6	0/1 Receiving a voice call	While receiving a digital voice signal, select "1." (Regardless of DSQ and CSQ setting)
bit5	0/1 Last call finisher	When the last call was finished by you, select "1."
bit4	0/1 Receiving a signal	When the audio tone can be heard, select "1."
bit3	0/1 Receiving a BK call	While receiving a BK call, select "1."
bit2	0/1 Receiving a EMR call	While receiving a EMR call, select "1."
bit1	0/1 Receiving a signal other than DV	When "DV" and "FM" are blinking, select "1."
bit0	0/1 Packet loss status	While displaying packet loss, "1" is returned.

• GPS/D-PRS data

Command: 20 03 01 00, 01 01, 01 02, 01 03, 02 00, 02 01, 02 02, 02 03

Data number and description

Data number	Description
00	D-PRS — Position
01	D-PRS — Object
02	D-PRS — Item
03	D-PRS — Weather

REMOTE CONTROL

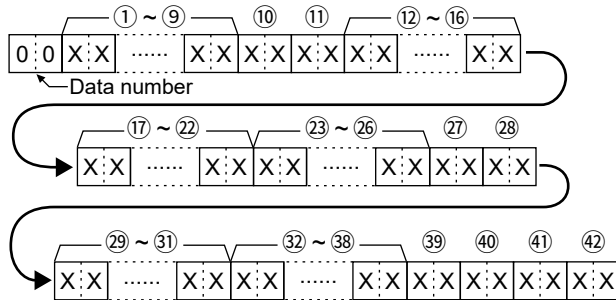
Remote control (CI-V) information

◇ Command formats

- GPS/D-PRS data

Position

Command: 20 03 01 00, 02 00



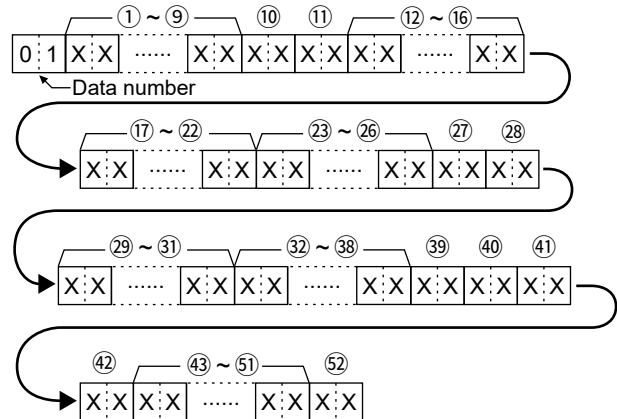
- ① ~ ⑨: Call sign/SSID
(9 ASCII characters (A ~ Z, 0 ~ 9, /, -, space))
- ⑩, ⑪: Symbol (2 ASCII characters (00h ~ EFh))
- ⑫ ~ ⑯: Latitude (dd°mm.mmm format)
- ⑰ ~ ⑳: Longitude (ddd°mm.mmm format)
- ㉓ ~ ㉖: Altitude (0.1 meter steps)
- ㉗, ㉘: Course (1 degree steps)
- ㉙ ~ ㉚: Speed (0.1 km/h steps)
- ㉛ ~ ㉞: Date (UTC: YYYYMMDDhhmmss)
(Y: Year, M: Month, D: Day,
h: Hour, m: Minute, s: Second)
- ㉟ ~ ㊲: See the table below.

	㉟ Power	㊰ Height	㊱ Gain	㊲ Directivity
Data	(W)	(m/ft)	(dB)	(deg)
00	0	3/10	0	Omni-direction
01	1	6/20	1	45° NE
02	4	12/40	2	90° E
03	9	24/80	3	135° SE
04	16	49/160	4	180° S
05	25	98/320	5	225° SW
06	36	195/640	6	270° W
07	49	390/1280	7	315° NW
08	64	780/2560	8	360° N
09	81	1561/5120	9	—

- ① The items that are not contained in the received data are filled with "FF."
- ① FF: No signal has been received since the power was turned ON.

Object

Command: 20 03 01 01, 02 01



- ① ~ ⑨: Call sign/SSID
(9 ASCII characters (A ~ Z, 0 ~ 9, /, -, space))
- ⑩, ⑪: Symbol (2 ASCII characters (00h ~ EFh))
- ⑫ ~ ⑯: Latitude (dd°mm.mmm format)
- ⑰ ~ ⑳: Longitude (ddd°mm.mmm format)
- ㉓ ~ ㉖: Altitude (0.1 meter steps)
- ㉗, ㉘: Course (1 degree steps)
- ㉙ ~ ㉚: Speed (0.1 km/h steps)
- ㉛ ~ ㉞: Date (UTC: YYYYMMDDhhmmss)
(Y: Year, M: Month, D: Day,
h: Hour, m: Minute, s: Second)
- ㉟ ~ ㊲: See the table below.

	㉟ Power	㊰ Height	㊱ Gain	㊲ Directivity
Data	(W)	(m/ft)	(dB)	(deg)
00	0	3/10	0	Omni-direction
01	1	6/20	1	45° NE
02	4	12/40	2	90° E
03	9	24/80	3	135° SE
04	16	49/160	4	180° S
05	25	98/320	5	225° SW
06	36	195/640	6	270° W
07	49	390/1280	7	315° NW
08	64	780/2560	8	360° N
09	81	1561/5120	9	—

- ㉛ ~ ㉞: Name
(9 ASCII characters (00h ~ EFh))
- ㉟: Type (01= Live, 00= Killed)

- ① The items that are not contained in the received data are filled with "FF."
- ① FF: No signal has been received since the power was turned ON.

REMOTE CONTROL

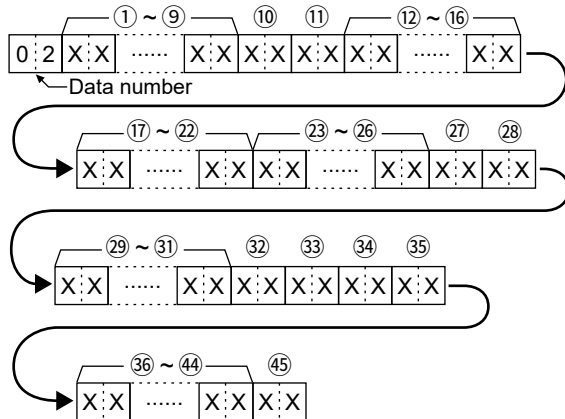
Remote control (CI-V) information

◇ Command formats

- GPS/D-PRS data

Item

Command: 20 03 01 02, 02 02



- ① ~ ⑨: Call sign/SSID
(9 ASCII characters (A ~ Z, 0 ~ 9, /, -, space))
 ⑩, ⑪: Symbol (2 ASCII characters (00h ~ EFh))
 ⑫ ~ ⑯: Latitude (dd°mm.mmm format)
 ⑰ ~ ⑳: Longitude (ddd°mm.mmm format)
 ㉓ ~ ㉖: Altitude (0.1 meter steps)
 ㉗, ㉘: Course (1 degree steps)
 ㉙ ~ ㉚: Speed (0.1 km/h steps)
 ㉛ ~ ㉝: See the table below.

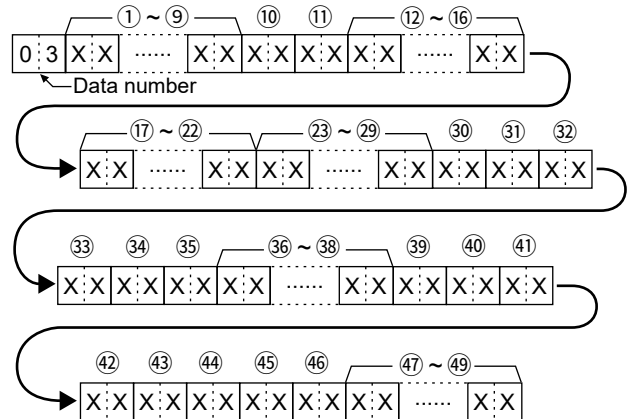
	㉛ Power	㉜ Height	㉝ Gain	㉞ Directivity
Data	(W)	(m/ft)	(dB)	(deg)
00	0	3/10	0	Omni-direction
01	1	6/20	1	45° NE
02	4	12/40	2	90° E
03	9	24/80	3	135° SE
04	16	49/160	4	180° S
05	25	98/320	5	225° SW
06	36	195/640	6	270° W
07	49	390/1280	7	315° NW
08	64	780/2560	8	360° N
09	81	1561/5120	9	—

- ㉞ ~ ㉟: Name
(9 ASCII characters (00h ~ EFh))
 ㊱: Type (01= Live, 00= Killed)

- ① The items that are not contained in the received data are filled with "FF."
 ① FF: No signal has been received since the power was turned ON.

Weather

Command: 20 03 01 03, 02 03



- ① ~ ⑨: Call sign/SSID
(9 ASCII characters (A ~ Z, 0 ~ 9, /, -, space))
 ⑩, ⑪: Symbol (2 ASCII characters (00h ~ EFh))
 ⑫ ~ ⑯: Latitude (dd°mm.mmm format)
 ⑰ ~ ⑳: Longitude (ddd°mm.mmm format)
 ㉓ ~ ㉙: Date (UTC: YYYYMMDDhhmmss)
(Y: Year, M: Month, D: Day, h: Hour, m: Minute, s: Second)
 ㉚, ㉛: Wind direction (1 degree steps)
 ㉜, ㉝: Wind speed (0.1 m/s steps)
 ㉞, ㉟: Gust speed (0.1 m/s steps)
 ㊱ ~ ㊲: Temperature (0.1°C steps)
 ㊳: Temperature (00= + degree, 01= - degree)
 ㊴, ㊵: Rainfall (0.1 mm steps)
 ㊶, ㊷: Rainfall (24 hours) (0.1 mm steps)
 ㊸, ㊹: Rainfall (Midnight) (0.1 mm steps)
 ㊺, ㊻: Humidity (1% steps)
 ㊼ ~ ㊾: Barometric pressure (0.1 hPa steps)

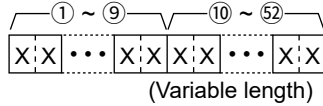
- ① The items that are not contained in the received data are filled with "FF."
 ① FF: No signal has been received since the power was turned ON.

Remote control (CI-V) information

◇ Command formats

• GPS/D-PRS message

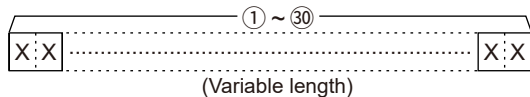
Command: 20 04 01, 04 02



- ① ~ ⑨: Call sign/SSID
(9 ASCII characters (A ~ Z, 0 ~ 9, /, -, space))
- ⑩ ~ ⑫: Message
(Up to 43 ASCII characters (00h ~ EFh))
- ⑬ FF: No signal has been received since the power was turned ON.

• DV TX data

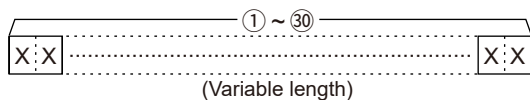
Command: 22 00



- ① ~ ⑫: TX data (Up to 30 Bytes)
- ⑬ "FA" to "FF" are entered after converted to "FF 0A" to "FF 0F" automatically. Up to 60 bytes of data can be entered in this case.

• DV RX data (transceive)

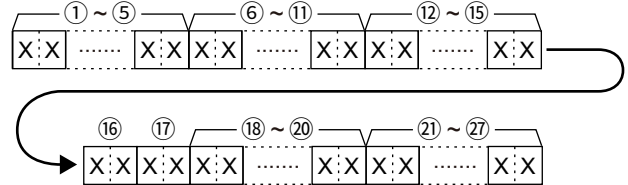
Command: 22 01 01



- ① ~ ⑫: RX data (Up to 30 Bytes)
- ⑬ "FA" to "FF" are entered after converted to "FF 0A" to "FF 0F" automatically. Up to 60 bytes of data can be entered in this case.

• MY position data

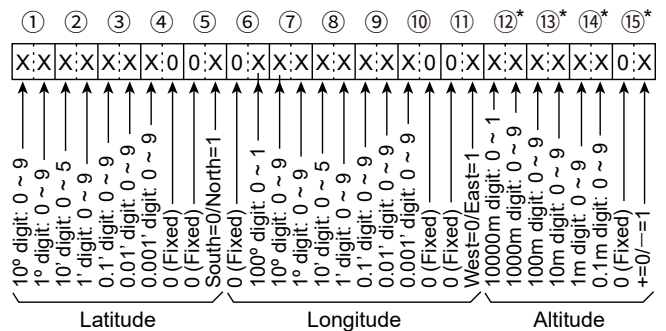
Command: 23 00



- ① ~ ⑫: Latitude (dd°mm.mmm format)
- ⑬ ~ ⑮: Longitude (ddd°mm.mmm format)
- ⑯ ~ ⑰: Altitude (0.1 meter steps)
- ⑱, ⑲: Course (1 degree steps)
- ⑳ ~ ㉑: Speed (0.1 km/h steps)
- ㉒ ~ ㉓: Date (UTC: YYYYMMDDhhmmss)
(Y: Year, M: Month, D: Day,
h: Hour, m: Minute, s: Second)

• Manually input position data

Command: 23 02



- ① ~ ⑫: Latitude (dd°mm.mmm format)
- ⑬ ~ ⑮: Longitude (ddd°mm.mmm format)
- ⑯ ~ ⑰: Altitude (0.1 meter steps)

*About the Altitude data:

On read: If the received Altitude data is invalid, these bytes are filled with "FF."

On write: If you set no Altitude data, fill these bytes with "FF."

