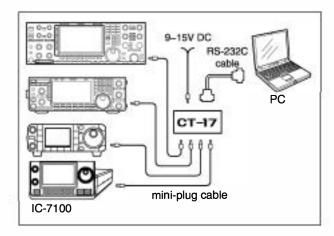
Section 20 CONTROL COMMAND

| Remote jack (CI-V) information | 20-2 |
|--------------------------------|-------|
| ♦ Cl-V connection example | |
| ♦ Data format | |
| ♦ Command table | |
| ♦ Data content description | 20-11 |

♦ CI-V connection example

The transceiver can be connected through an optional CT-17 CI-V LEVEL CONVERTER to a PC equipped with an RS-232C port. The Icom Communications Interface-V (CI-V) controls the transceiver.

Up to 4 Icom CI-V transceivers or receivers can be connected to the PC. See page 17-25 for setting the CI-V condition using the set mode.



When the transceiver is connected to a PC with the supplied USB cable, the optional CT-17 is not required.

♦ Data format

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

Controller to IC-7100

1 3 4 (5) **6** 7 FE FE 88 E0 Cn Sc Data area FD BCD code data such as for frequency, memory number entry e the data content description) Sub command number (see the command table) (see the command table Transceiver's default address End of m

Cn

Sc

(5)

Data area

FD

7

IC-7100 to controller

FE

(1)

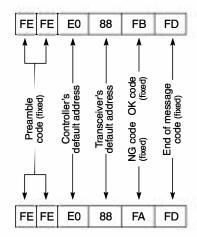
E0

2

88

(3)

OK message to controller



NG message to controller

Remote jack (CI-V) information (Continued)

♦ Command table

| 0.5 Select the FM mode 0.6 Send/read the 1.5 kHz buring st Send/read the 1.5 kHz burin | Cmd. | Sub cmd. | Data | Description | Cmd. | Sub cmd. | Data | Description |
|--|---------------|----------|--------------|--|------|----------|---------|---|
| See p. 20-11 Send the operating mode for transpeave 12 Read DUP - operation | 00 | | see p. 20-11 | Send the operating frequency for | 0F | | 00 | Read Split function OFF |
| | | | | | | | 01 | Read Split function ON |
| 202 see p. 20-12. Read the band edge frequencies 00 Set Split function OFF | 01 | | see p. 20-11 | | | | 11 | Read DUP- operation |
| See p. 20-11 Read the operating frequency 01 Set 5plit function (ON | | | | | | | 12 | Read DUP+ operation |
| See p. 20-11 Read the operating mode See p. 20-11 See p. 2 | $\overline{}$ | | | | | | | Set Split function OFF |
| See p. 20-11 Read the operating mode 10 Set the simplex operation See p. 20-11 Seed the USB mode 11 Seed the USB mode 12 Seed DUP- operation Set DuP- opera | | | | | | 01 | | Set Split function ON |
| DE | 04 | | | | | 10 | | |
| 66 | 05 | | see p. 20-11 | <u>i </u> | | | | |
| 01 Select the USB mode 10 00 Sandraad the 10 Hz (1 Hz) tu stap Select the M mode 03 Select the CW mode 01 Sandraad the 10 Hz (1 Hz) tu stap Select the FITTY mode 02 Sendraad the 10.1 Hz tuning stap Select the FITTY mode 02 Sendraad the 11 Hz tuning stap Select the FITTY mode 03 Sandraad the 15 Hz tuning stap Select the FITTY-H mode 05 Sendraad the 15 Hz tuning stap Select the FITTY-H mode 05 Sendraad the 12 Hz tuning stap Select the FITTY-H mode 05 Sendraad the 12 Hz tuning stap Sendraad the 12 Hz | 06 | | 00 | Select the LSB mode | | | | · · |
| 02 Select the AM mode 03 Select the CW mode 01 Sendread the 0.1 kHz tuning st | | | 01 | Select the USB mode | 10 | | 00 | |
| 03 Select the GW mode 01 Sendread the 0.1 Mize funing is select the FITY mode 02 Sendread the 1.5 Mize funing is sendread the 2.5 Mize funing is sendread the 1.5 Mize funing is sendread the 2.5 Mize funing is sendread the 1.5 Mize funing is sendread funing funity funing funing funity funing funity funing funity funing funing funity funin | | | 02 | Select the AM mode | | | "" | |
| 04 Select the RTTY mode 05 Select the RTT mode 05 Select the RTM mode 05 Select the WFM mode 06 Select the WFM mode 06 Send/read the 6 25 kHz tuning st 07 Select the CWFM mode 06 Send/read the 9 kHz tuning st 08 Select the RTTYFA mode 06 Send/read the 10 kHz tuning st 08 Send/read the 10 kHz tuning st 09 Send/read the 10 kHz tuning st 00 Select VFO B 09 Send/read the 12 kHz tuning st 01 Send/read the 14 kHz tuning st 01 01 01 01 01 01 01 0 | | | 03 | Select the CW mode | | • | 01 | |
| 05 Select the FM mode 06 Send/read the 15 kHz burning st | | | 04 | Select the RTTY mode | | | | Send/read the 1 kHz tuning step |
| Dec. Select the WFM mode Of Send/read the 9 LFz buring state Office Offi | | | 05 | Select the FM mode | | | | I- |
| 07 Select the CW-R mode 08 Send/read the 9 letz tuning is Select the TITY-A mode 06 Send/read the 10 letz tuning is Select the DV mode 07 Send/read the 10 letz tuning is Send/read the 12.5 kHz tuning is Send/read the 25 kHz tuning is Send/read the 10 kHz tuning is Send/read the 2 kHz tuning is Send/read the 2 kHz tuning is Send/read the 10 kHz tuning is Send/read the 10 kHz tuning is Send/read the 2 kHz tuning is Send/read the 10 kHz tuning is Send | | | 06 | Select the WFM mode | | | | l |
| 08 Select the RTTY-R mode | | | 07 | Select the CW-R mode | | • | | - · |
| 17 Select the DV mode 07 Send/read the 12.5 kHz burning s 07 Send/read the 20 kHz burning s 08 Send/read the 20 kHz burning s 08 Send/read the 25 kHz burning s 09 Send/read the 25 kHz burning s 09 Send/read the 25 kHz burning s 09 Send/read the 25 kHz burning s 08 Equalize VFO A and VFO B 11 Send/read the 10 kHz burning s 08 Send/read the 10 kHz burning s 09 Send/read the 10 kHz burning s 00 Sen | | | 08 | Select the RTTY-R mode | | • | | l <u></u> |
| O7 | | | 17 | Select the DV mode | | | | I- |
| 00 Select VFO A 00 Send/read the 25 kHz luning s A0 Equalize VFO A and VFO B 11 Send/read the 100 kHz luning s Send/read the 100 kHz luning s Send/read the 100 kHz luning s Send/read the 100 kHz luning st Send/read the 100 kHz luning st Send/read the 110 kHz luning st Send/read the 11 kHz luning st Send/read the 12 kHz lad st Send/read the 12 kHz lad st Send/read the 14 kHz luning st Send/r | 07 | | | | | | | l |
| 01 Select VFO B | " | 00 | | | | • | | |
| A0 | | | | | | • | | l |
| Bo | | | | | | • | | |
| Select the Memory mode | | | | | | | | 1 <u>-</u> |
| 0001 to 0001 = | | | | | | | | |
| 0109 0001=M-CHD1 to 0099=M-CHB9, 0102=2A, 0100=1A, 0101=1B, 0102=2B, 0104=3A, 0105=3B, 0106=144-C1, 0107=144-C2, 0108=430-C1, 0109=430-C2) | " | | 0001 to | | - 11 | | | |
| 0100=1A, 0101=1B, 0102=2A, 0105=3B, 0105=3B, 0105=3B, 0105=3H4-CI, 0107=144-C2, 0107=144-C2, 0108=430-CI, 0109=430-C2; | | | | | | | 12 | |
| 0103-2E, 0104-3A, 0105-3B, 0106-144-C1, 0107=144-C2, 0108-430-C1, 0109=430-C2; 0108-430-C1, 0109=430-C2; 0108-430-C1, 0109=430-C2; 0108-430-C1, 0109=430-C2; 0108-430-C2; 0108-430-C2, 01 | | | 0100 | , | 13 | 00 | | |
| A0 | | | | | | | | l · |
| A0 | | | | · · · · · · · · · · · · · · · · · · · | | | | |
| A0 | | | | | | 01 | | |
| 02 Select Memory Bank B 02 Announce the operating mode voice synthesizer 04 Select Memory Bank D 14 01 0000 to Send/read the AF level 0255 (0000=min. to 0255=max.) 09 Memory write 02 0000 to Send/read the AF gain level 0255 (0000=min. to 0255=max.) 08 Memory copy to VFO 0255 (0000=min. to 0255=max.) 08 Memory copy to VFO 0255 (0000=min. to 0255=max.) 08 Memory copy to VFO 0255 (0000=min. to 0255=max.) 08 Memory clear 02 0000 to Send/read the squelch level 0255 (0000=min. to 0255=max.) 08 0000 to Send/read the NR level (0000=min. to 0255=max.) 0000 to Send/read the NR level (0000=00% to 0255=100%) 0255 (0000=min. to 0255=max.) 0255 (0000=min. to 02 | | A0 | 01 | Select Memory Bank A | | | | |
| 03 Select Memory Bank C 04 Select Memory Bank D 14 01 0000 to Send/read the AF level (0000=min. to 0255=max.) | | | 02 | Select Memory Bank B | | 02 | | · · • • |
| 09 Memory write 02 0000 to Send/read the RF gain level 02 0000 to Send/read the Squelch level 02 0000 to Send/read the squelch level 02 0000 to Send/read the NR level 02 0000 to Send/read the NR level 02 0000 to Send/read the NR level 02 0000 to Send/read the IR level 02 0000 to Send/read the inner [TWIN PB 02 Programmed scan start 02 0000 to Send/read the inner [TWIN PB 02 Programmed scan start 02 Send/read the inner [TWIN PB 02 Dosition (0000 = Cutting the higher pass edge, 0128 = center, 0255 = Cut the lower passband edge) Send/read the outer [TWIN PB 02 Dosition (0000 = Cutting the higher pass 02 Dositio | | | 03 | Select Memory Bank C | | | | |
| 09 Memory write 02 0000 to 0255 Send/read the RF gain level (0000=min., 0255=max.) 0B Memory copy to VFO 03 0000 to 0255 (0000=min., 0255=max.) 0D Read offset frequency 06 0000 to 0255 Send/read the squelch level (0000=min. to 0255=max.) 0D Send offset frequency 06 0000 to 0255 Send/read the NR level (0000=min. to 0255=max.) 0E 00 Scan stop 07 0000 to 0255 Send/read the NR level (0000=min. to 0255=max.) 0E 01 Programmed scan start 07 0000 to 0255 Send/read the nner [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 03 JF scan start 08 0000 to 0255 Send/read the outer [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 13 Fine JF scan start 08 0000 to 0000 to 0000 to 0000 conditing the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 23 Select memory scan start 08 0000 to 0000 to 0000 conditing the higher pass edge, 0128=center, 0255=Cut the lower passband edge) A2 Set the ±10 kHz ∠IF scan span 09 0000 to 0 | | | 04 | Select Memory Bank D | 14 | 01 | 0000 to | Send/read the AF level |
| 0A Memory copy to VFO 0255 (0000=min., 0255=max.) 0B Memory clear 03 0000 to Send/read the squelch level 0D Send offset frequency 06 0000 to Send/read the NR level 0D Scan stop 07 0000 to Send/read the NR level 0D Scan stop 07 0000 to Send/read the inner [TWIN PB position 01 Programmed/memory scan start 0255 0000 to Send/read the inner [TWIN PB position 02 Fine programmed scan start 08 0000 to Send/read the outer [TWIN PB position 13 Fine ΔF scan start 08 0000 to Send/read the outer [TWIN PB position 22 Memory scan start 08 0000 to Send/read the outer [TWIN PB position 23 Select memory scan start 08 0000 to Send/read the outer [TWIN PB position 24 Mode select scan start 08 0000 to Send/read the outer [TWIN PB position A2 Set the ±10 kHz ∠IF scan span 09 0000 to Send/read the CW PITCH | | | 05 | Select Memory Bank E | | | 0255 | (0000=min. to 0255=max.) |
| OB OC Memory clear Read offset frequency 03 0000 to Q255 Send/read the squelch level (0000=min. to 0255=max.) OD Send offset frequency 06 0000 to Q255 (0000=0% to 0255=100%) OE 00 Scan stop 07 0000 to Q255 (0000=0% to 0255=100%) O1 Programmed/memory scan start 02 Programmed scan start 0255 position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 13 Fine ΔF scan start 08 0000 to Send/read the outer [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 23 Select memory scan start 08 0000 to Send/read the outer [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) A1 Set the ±5 kHz ΔF scan span 0255 position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) A2 Set the ±10 kHz ΔF scan span 09 0000 to Send/read the CW PITCH the lower passband edge) A3 Set the ±50 kHz ΔF scan span 0255 (0000=300 Hz, 0128=600 Hz, 0255=max.) A4 Set the ±10 kHz ΔF scan span 0A 0000 to Send/read the RF power level the specified send the | 09 | | | Memory write | | 02 | 0000 to | Send/read the RF gain level |
| DC | 0A | | | Memory copy to VFO | | | 0255 | (0000=min., 0255=max.) |
| DE DE Send offset frequency DE Send offset frequency DE DE DE DE DE DE DE D | 0в | | | Memory clear | | 03 | | |
| OD Send offset frequency OE O000 to O255 O000 = O% to 0255 = 100% O000 to O255 O000 = O% to 0255 = 100% O000 to O255 O000 = O% to 0255 = 100% O000 to O255 O000 = O% to 0255 = 100% O000 to O255 O000 = O% to 0255 = 100% O000 to O255 O000 = O% to 0255 = 100% O000 to O255 O000 = O% to 0255 = 000% O000 to O255 O000 = O% to 0255 = O000 O000 to O255 O000 = O% to 0255 = O000 O000 to O00 | oc I | | | | | | 0255 | (0000=min. to 0255=max.) |
| 02 Scall stop 01 Programmed/memory scan start 02 Programmed scan start 03 ∠F scan start 12 Fine programmed scan start 13 Fine ∠F scan start 22 Memory scan start 23 Select memory scan start 24 Mode select scan start A1 Set the ±5 kHz ∠F scan span A2 Set the ±10 kHz ∠F scan span A3 Set the ±20 kHz ∠F scan span A4 Set the ±20 kHz ∠F scan span A5 Set the ±100 kHz ∠F scan span A6 Set the ±50 kHz ∠F scan span A7 Set the ±100 kHz ∠F scan span B0 Set sathe Non-select Memory channel B1 Set as the Select Memory channel D0 Set Scan resume function OFF D0 Set Scan resume function ON Send/read the inner [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) send/read the CW PITCH (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) send/read the CW PITCH (0000=Cutting the higher pass edge, 0128=center, 0255=00 Hz) (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) < | 0D | | | <u> </u> | | 06 | | |
| 01 Programmed/memory scan start 07 0000 to 0255 Send/read the inner [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) the lower passband edge) 13 Fine µF scan start 08 0000 to Send/read the outer [TWIN PB position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 22 Memory scan start 0255 position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) 24 Mode select scan start 0255 position (0000=Cutting the higher pass edge, 0128=center, 0255=Cut the lower passband edge) A1 Set the ±5 kHz ДF scan span 09 0000 to Send/read the CW PITCH A2 Set the ±10 kHz ДF scan span 09 0000 to Send/read the CW PITCH A3 Set the ±20 kHz ДF scan span 0255 (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) A4 Set the ±100 kHz ДF scan span 0A 0000 to Send/read the RF power level (0000=min. to 0255=max.) A6 Set the ±100 kHz ДF scan span 0B 0000 to Send/read the MIC gain level (0000=min. to 0255=max.) B0 Set as the Non-select Memory channel 0C 0000 to Send/read the RF power level (0000=min. to 0255=48 WP) B1 Set as the Select Memory channel 0D 0000 to Send/read the NOTC | 0E | 00 | | | | | 0255 | , |
| D2 | | | | | | 07 | | Send/read the inner [TWIN PBT] |
| 12 | | | | | | | 0255 | |
| 12 Fine programmed scan start edge, 0128=center, 0255=Cut the lower passband edge) | | | | | | | | l, 0 0 1 |
| 13 Fine ΔF scan start 22 Memory scan start 23 Select memory scan start 24 Mode select scan start A1 Set the ±5 kHz ΔF scan span A2 Set the ±20 kHz ΔF scan span A4 Set the ±50 kHz ΔF scan span A5 Set the ±100 kHz ΔF scan span A6 Set the ±500 kHz ΔF scan span A7 Set the ±1 MHz ΔF scan span B0 Set as the Non-select Memory channel B1 Set Scan resume function ON D3 Set Scan resume function ON D8 Send/read the outer [TWIN PB on 0000 to On 0000 to Send/read the outer [TWIN PB on 0000 to | | | | | | | | , , |
| 22 Memory scan start 23 Select memory scan start 24 Mode select scan start 25 A1 Set the ±5 kHz ΔF scan span 26 A2 Set the ±10 kHz ΔF scan span 27 A3 Set the ±20 kHz ΔF scan span 28 A4 Set the ±50 kHz ΔF scan span 29 0000 to Send/read the CW PITCH 29 A3 Set the ±20 kHz ΔF scan span 20 0000 to Send/read the CW PITCH 20 A3 Set the ±20 kHz ΔF scan span 20 A0 0000 to Send/read the RF power level (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) 21 A5 Set the ±100 kHz ΔF scan span 22 Memory scan start 23 Select memory scan start 24 Mode select scan start 25 edge, 0128=center, 0255=Cut the lower passband edge) 25 (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) 25 (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) 25 (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) 25 (0000=min. to 0255=max.) | | | | | | 00 | 0000 +- | |
| 23 Select memory scan start 24 Mode select scan start A1 Set the ±5 kHz ΔF scan span A2 Set the ±10 kHz ΔF scan span A3 Set the ±20 kHz ΔF scan span A4 Set the ±50 kHz ΔF scan span A5 Set the ±100 kHz ΔF scan span A6 Set the ±500 kHz ΔF scan span A7 Set the ±1 MHz ΔF scan span B0 Set as the Non-select Memory channel B1 Set Scan resume function ON D3 Set Scan resume function ON Set the ±10 kHz ΔF scan span O9 0000 to Send/read the CW PITCH (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) O8 O000 to Send/read the RF power level (0000=min. to 0255=max.) O8 O000 to Send/read the MIC gain level (0000=min. to 0255=max.) O8 O000 to Send/read the KEY SPEED (0000=min. to 0255=48 WP) O8 Send/read the KEY SPEED (0000=60 WPM to 0255=48 WP) O9 O000 to Send/read the NOTCH setting (0000=lowest, 0128=center, 0255) | | | | | | UB | | |
| 24 | | | | | | | ∪255 | l• |
| A1 Set the ±5 kHz ΔF scan span A2 Set the ±10 kHz ΔF scan span A3 Set the ±20 kHz ΔF scan span A4 Set the ±50 kHz ΔF scan span A5 Set the ±100 kHz ΔF scan span A6 Set the ±500 kHz ΔF scan span A7 Set the ±1 MHz ΔF scan span B0 Set as the Non-select Memory channel D0 Set Scan resume function ON B1 Set Scan resume function ON The lower passband edge) Send/read the CW PITCH (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) OA 0000 to Send/read the RF power level (0000=min. to 0255=max.) OB 0000 to Send/read the MIC gain level (0000=min. to 0255=max.) OC 0000 to Send/read the KEY SPEED (0000=min. to 0255=48 WP) OC 0000 to Send/read the KEY SPEED (0000=6 WPM to 0255=48 WP) OC 0000 to Send/read the NOTCH setting (0000=lowest, 0128=center, | | | | | | | | |
| A2 Set the ±10 kHz ⊿F scan span 09 0000 to 0255 Send/read the CW PITCH (0000=300 Hz, 0128=600 Hz, 0128=600 Hz, 0255=900 Hz) A4 Set the ±50 kHz ⊿F scan span 0A 0000 to 0255=900 Hz) Send/read the CW PITCH (0000=300 Hz, 0128=600 Hz, 0255=900 Hz) A5 Set the ±100 kHz ⊿F scan span 0A 0000 to 0255=900 Hz) Send/read the RF power level (0000=min. to 0255=max.) A6 Set the ±500 kHz ⊿F scan span 0B 0000 to 0255 (0000=min. to 0255=max.) A7 Set the ±1 MHz ⊿F scan span 0255 (0000=min. to 0255=max.) B0 Set as the Non-select Memory channel 0C 0000 to 000 to 0255 (0000=6 WPM to 0255=48 WP to 0255 D0 Set Scan resume function ON 0D 0000 to 0255 (0000=lowest, 0128=center, 0255) | | | | | | | | , , |
| A3 Set the ±20 kHz ΔF scan span A4 Set the ±50 kHz ΔF scan span A5 Set the ±100 kHz ΔF scan span A6 Set the ±500 kHz ΔF scan span A7 Set the ±1 MHz ΔF scan span B0 Set as the Non-select Memory channel B1 Set scan resume function OFF D3 Set Scan resume function ON OA 0000 to 0255=900 Hz) OA 0000 to 0255=900 Hz) Send/read the RF power level (0000=min. to 0255=max.) OB 0000 to 0255 (0000=min. to 0255=max.) OC 0000 to 0255 (0000=min. to 0255=max.) OC 0000 to 0255 (0000=6 WPM to 0255=48 WPM to 0255=4 | | | | · | | 09 | 0000 to | |
| A4 Set the ±50 kHz ⊿F scan span A5 Set the ±100 kHz ⊿F scan span A6 Set the ±500 kHz ⊿F scan span A7 Set the ±1 MHz ⊿F scan span B0 Set as the Non-select Memory channel B1 Set as the Select Memory channel D0 Set Scan resume function OFF D3 Set Scan resume function ON O255=900 Hz O255=900 Hz | | | | | | 50 | | 1 |
| A5 Set the ±30 kHz ⊿F scan span A6 Set the ±500 kHz ⊿F scan span A7 Set the ±1 MHz ⊿F scan span B0 Set as the Non-select Memory channel D0 Set Scan resume function OFF D3 Set Scan resume function ON OA 0000 to Send/read the RF power level (0000=min. to 0255=max.) OB 0000 to Send/read the MIC gain level (0000=min. to 0255=max.) OC 0000 to Send/read the KEY SPEED (0000=6 WPM to 0255=48 WPM | | | | | | | | [` |
| A5 | | | | • | | 0A | 0000 to | |
| A7 Set the ±1 MHz ⊿F scan span OB 0000 to 000 to 000 (0000=min. to 0255 = max.) B0 Set as the Non-select Memory channel 0C 0000 to 000 to 000 (0000=min. to 0255 = max.) B1 Set as the Select Memory channel 0C 0000 to 000 to 000 (0000=6 WPM to 0255=48 | | | | | | | 0255 | |
| A7 Set the ±1 MHz ZIF scan span 0255 (0000=min. to 0255=max.) | | | | | | 0B | 0000 to | Send/read the MIC gain level |
| B1 Set as the Select Memory channel D0 Set Scan resume function OFF D3 Set Scan resume function ON Set Scan resume function ON OC 0000 to Send/read the REY SPEED O255 (0000=6 WPM to 0255=48 WP) OD 0000 to Send/read the NOTCH setting O255 (0000=lowest, 0128=center, | | | | · | | | | |
| D0 Set Scan resume function OFF D3 Set Scan resume function ON D6 Set Scan resume function ON D7 Set Scan resume function ON D8 Set Scan resume function ON D9 Set Scan resume function ON | | | | | | 0C | 0000 to | Send/read the KEY SPEED |
| D3 Set Scan resume function ON 0255 (0000=lowest, 0128=center, | | | | • | | | 0255 | (0000=6 WPM to 0255=48 WPM) |
| 0255 (0000-lowest, 0120-center, | | | | | | 0D | 0000 to | Send/read the NOTCH setting |
| 0255-highest) | | D3 | | Set Scan resume function ON | | | 0255 | (0000=lowest, 0128=center, |
| | | | | | | | | 0255-highest) |

♦ Command table (Continued)

| Cmd. | Sub cmd. | Data | Description |
|------|----------|----------------|--|
| 14 | 0E | 0000 to | Send/read the COMP level |
| | | 0255 | (0000=0 to 0255=10) |
| | 0F | 0000 to | Send/read the Break-IN Delay |
| | | 0255 | setting |
| | | | (0000=2.0d to 0255=13.0d) |
| | 12 | 0000 to | Send/read NB level |
| | | 0255 | (0000=0% to 0255=100%) |
| | 15 | 0000 to | Send/read the Monitor gain level |
| | | 0255 | (0000=0% to 0255=100%) |
| | 16 | 0000 to | Send/read the VOX gain level |
| | | 0255 | (0000=0% to 0255=100%) |
| | 17 | 0000 to | Send/read the Anti VOX gain level |
| | | 0255 | (0000=0% to 0255=100%) |
| | 18 | 0000 to | Send/read the LCD contrast level |
| | 10 | 0255 | (0000=0% to 0255=100%) |
| | 19 | 0000 to | Send/read the LCD backlight level |
| | 19 | 0255 | (0000=0% to 0255=100%) |
| 15 | 01 | | |
| 15 | 01 | 00 | Read the squelch status (squelch closed) |
| | | 01 | Read the squelch status |
| | | " | (squelch open) |
| | 02 | 0000 to | Read the S-meter level |
| | 02 | | |
| | | 0255 | (0000=S0, 0120=S9, 0241=S9+60 |
| | 05 | 00 | dB) Read various SQL function's status |
| | 05 | " | |
| | | 01 | (squelch closed) Read various SQL function's status |
| | | " | (squelch open) |
| | 11 | 0000 to | Read the PO meter level |
| | 11 | | |
| | 10 | 0255 | (0000=0%, 0143=50%, 213=100%) |
| | 12 | 0000 to | Read the SWR meter level |
| | | 0255 | (0000=SWR1.0, 0048=SWR1.5, |
| | 13 | 0000 to | 0080=SWR2.0, 0120=SWR3.0) |
| | 13 | 0000 to | Read the ALC meter level |
| | | 0255 | (0000=Min. to 0120=Max.) |
| | 14 | 0000 to | Read the COMP meter level |
| | | 0255 | (0000=0 dB, 0130=15 dB, |
| | 45 | 0000 +- | 0241=30 dB) |
| | 15 | 0000 to | Read the Vd meter level |
| | 40 | 0255 | (0000=0 V, 0013=10 V, 0241=16 V) |
| | 16 | 0000 to | Read the Id meter level |
| | | 0255 | (0000=0, 0097=10, 0146=15, |
| 10 | 00 | | 0241=25) |
| 16 | 02 | 00 | Send/read Preamp OFF |
| | | 01 | Send/read Preamp ON |
| | | | (144/430 MHz) |
| | | | Send/read Preamp 1 ON |
| | | ļ | (HF/50 MHz) |
| | | 02 | Send/read Preamp 2 ON |
| | | l <u>.</u> . | (HF/50 MHz) |
| | 12 | 01 | Send/read AGC FAST |
| | | 02 | Send/read AGC MID |
| | | 03 | Send/read AGC SLOW |
| | 22 | 00 | Send/read Noise Blanker OFF |
| | | 01 | Send/read Noise Blanker ON |
| | 40 | 00 | Send/read Noise Reduction OFF |
| | | 01 | Send/read Noise Reduction ON |
| | 41 | 00 | Send/read Auto Notch function OFF |
| | '' | 01 | Send/read Auto Notch function ON |
| | 42 | 00 | Send/read Repeater tone OFF |
| | | | Condition in the case in the Contract of the C |
| | 42 | | Conditional Deposits the CAL |
| | | 01 | Send/read Repeater tone ON |
| | 43 | 01 00 01 | Send/read Repeater tone ON Send/read Tone squelch OFF Send/read Tone squelch ON |

| Cmd. | Sub cmd. | Data | Description |
|------|----------|--------------|--|
| 16 | 44 | 00 | Send/read Speech compressor |
| | | | OFF |
| | | 01 | Send/read Speech compressor ON |
| | 45 | 00 | Send/read Monitor function OFF |
| | | 01 | Send/read Monitor function ON |
| | 46 | 00 | Send/read VOX function OFF |
| | | 01 | Send/read VOX function ON |
| | 47 | 00 | Send/read BK-IN function OFF |
| | | 01 | Send/read Semi BK-IN function ON |
| | | 02 | Send/read Full BK-IN function ON |
| | 48 | 00 | Send/read Manual notch function OFF |
| | | 01 | Send/read Manual notch function ON |
| | 4B | 00 | Send/read DTCS OFF |
| | | 01 | Send/read DTCS ON |
| | 4C | 00 | Send/read VSC function OFF |
| | | 01 | Send/read VSC function ON |
| | 4F | 00 | Send/read Twin Peak Filter OFF |
| | | 01 | Send/read Twin Peak Filter ON |
| | 50 | 00 | Send/read Dial lock function OFF |
| | | 01 | Send/read Dial lock function ON |
| | 56 | 00 | Send/read DSP filter type SHARP |
| | | 01 | Send/read DSP filter type SOFT |
| | 57 | 00 | Send/read manual notch width |
| | - | " | WIDE |
| | | 01 | Send/read manual notch width MID |
| | | 02 | Send/read manual notch width NAR |
| | 58 | 00 | Send/read SSB transmit bandwidth |
| | | l | WIDE |
| | | 01 | Send/read SSB transmit bandwidth MID |
| | | 02 | Send/read SSB transmit bandwidth |
| | | 02 | NAR |
| | 5B | 00 | Send/read DSQL/CSQL OFF |
| | 05 | "" | (DV mode only) |
| | | 01 | Send/read DSQL ON |
| | | l | (DV mode only) |
| | | 02 | Send/read CSQL ON |
| | | l | (DV mode only) |
| 17 | | see p. 20-11 | Send CW messages*1 |
| 18 | 00 | | Turn OFF the transceiver |
| | 01 | | Turn ON the transceiver*2 |
| | | | |

^{*1} In the CW mode, if an external TX switch is ON, or the Break-in function is ON, a message will be transmitted as CW code when you send it from your PC.

- 19200 bps: 25, 9600 bps: 13, 4800 bps: 7,
- 1200 bps: 3, 300 bps: 2

Example: When operating with 4800 bps

| | | | | | | - | ! | | , | Γ. | _ | | , | | 1 |
|---|--------------|---|---|---|---|---|---|---|---|----|---|---|---|---|---|
| F | E | F | E | F | ≣ | e | 8 | E | c | 1 | 2 | e | 1 | = | D |
| | , | | | | | | | | | | | | | | _ |

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)

^{*2} When sending the power ON command (18 01), the command "FE" must be sent before the basic format.

| Cmd. | Sul | b cmd. | Data | Description | Cmd. | Su | b cmd. | Data | Description |
|------|-----|--------|-----------------|--|-------|--------|---------|----------------|--|
| 19 | | 00 | | Read the transceiver ID | 1A | 05 | 0015 | 00/01 | Send/read the Quick Split function |
| 1A | | 00 | see p. 20-16 | Send/read the Memory channel contents | | | | | setting (00-OFF, 01-ON) |
| | | 01 | see p. 20-12 | Send/read the Band stacking regis- | | | 0016 | | |
| | | 02 | see p. 20-13 | ter contents Send/read the Memory keyer | | | 0017 | 00/01 | Send/read the Split Lock function setting |
| | | 03 | 00 to 49 | contents* Send/read the selected filter width | | | 0018 | 200 p 20 12 | (00=OFF. 01=ON) |
| | | 03 | 00 10 49 | (AM: 00=200 Hz to 49=10 kHz; other than AM modes: 00=50 Hz to | | | 0018 | see p. 20-13 | Send/read the Duplex offset fre- quency Send/read the One Touch Repeater |
| | | 04 | 00 to 13 | 40/31=3600 Hz/2700 Hz) Send/read the selected AGC time | | | 55.5 | | setting (00=DUP-, 01=DUP+) |
| 1 1 | | • | 00 10 10 | constant | | | 0020 | 00 to 02 | Send/read the Auto Repeater set- |
| 1 1 | | | | (00=OFF, AM: 01=0.3 sec. to | | | | | ting |
| 1 1 | | | | 13=8.0 sec., SSB/CW/RTTY: | | | | | (0=OFF, 1=ON(DUP) (for USA |
| 1 1 | 05 | 0001 | 00/01 | 01=0.1 sec. to 13=6.0 sec.) Send/read the TX Monitor function | | | | | version) or ON (for Korea version), 2=ON(DUP,TONE)(for USA |
| | | | 55/51 | setting | | | | | version) |
| 1 1 | | | | (00=OFF, 01=ON) | | | 0021 | 00/01 | Send/read the Tuner Auto Start |
| | | 0002 | 0000 to 0255 | Send/read the TX Monitor level (0000=0% to 0255=100%) | | | | | setting (00-OFF, 01-ON) |
| | | 0003 | | Send/read the Beep level (0000=0% to 0255=100%) | | | 0022 | 00/01 | Send/read the PTT Tune setting (00=OFF, 01=ON) |
| | | 0004 | 00/01 | Send/read the Beep level limit setting | | | 0023 | 00 | Send/read the Manual selection for the [TUNER] Switch function. |
| | | | | (00=OFF. 01=ON) | | | | 01 | Send/read the Auto selection for the |
| | | 0005 | 00/01 | Send/read the Confirmation beep setting | | | 0024 | 00/01 | [TUNER] Switch function. Send/read [SPEECH/LOCK] key |
| | | 0006 | 00 to 03 | Send/read the Band edge beep | | | | | function setting (00=Push: SPEECH, Hold down: |
| | | 0006 | 00 10 03 | setting | | | | | LOCK), 01=Push: LOCK, Hold down: SPEECH) |
| | | | | (00=OFF, 01=ON(Default), 02=ON(User), | | | 0025 | 00/01 | Send/read the Lock function setting |
| | | | | 03=ON(User & TX Limit)) | | | | | (00=MAIN DIAL 01=PANEL) |
| | | 0007 | 00 to 02 | Send/read the RF/SQL Control | | | 0026 | 00/01 | Send/read the number of memo |
| | | | | setting (00=Auto, 01=SQL, 02=RF+SQL) | | | | | pad channels (00=5CH, 01=10CH) |
| | | 0008 | 00 to 05 | Send/read the TX Delay setting | | | 0027 | 00 to 02 | Send/read the Auto TS setting for |
| | | | | (HF) | | | | | the Dial |
| | | | | (00=OFF, 01=10ms, 02=15ms, 03=20ms 04=25ms 05=30ms) | | | 0028 | 00/01 | (00=OFF. 01=LOW, 02=HIGH) Send/read the microphone Up/ |
| | | 0009 | 00 to 05 | Send/read the TX Delay setting | | | 0020 | 00/01 | Down speed setting |
| | | | | (50M) | | | | | (00=Slow 01=Fast) |
| | | | | (00=OFF, 01=10ms, 02=15ms, | | | 0029 | 00 to 02 | Send/read the Notch function set- ting for SSB mode |
| | | 0010 | 00 to 05 | 03=20ms 04=25ms 05=30ms) Send/read the TX Delay setting | | | | | (00=Auto, 01=Manual, |
| | | 00.0 | 00 10 00 | (70M) | | | | | 02-Auto/Manual) |
| | | | | (00=OFF, 01=10ms, 02=15ms, | | | 0030 | 00 to 02 | Send/read the Notch function set- |
| | | 0011 | 00 to 05 | 03=20ms 04=25ms 05=30ms) Send/read the TX Delay setting | | | | | ting for AM mode (00=Auto, 01=Manual, |
| | | 0011 | 00 10 03 | (144M) | | | | | 02=Auto/Manual) |
| | | | | (00=OFF, 01=10ms, 02=15ms, | | | 0031 | 00/01 | Send/read the SSB/CW Synchro- |
| | | 0040 | 001.05 | 03=20ms 04=25ms 05=30ms) | | | | | nous Tuning function setting (00=OFF, 01=ON) |
| | | 0012 | 00 to 05 | Send/read the TX Delay setting (430M) | | | 0032 | 00/01 | Send/read the CW normal side |
| | | | | (00=OFF, 01=10ms, 02=15ms, | | | | | setting |
| | | | | 03=20ms 04=25ms 05=30ms) | | | | 00/04 | (00=LSB, 01=USB) |
| | | 0013 | 00 to 05 | Send/read the Time-Out Timer | | | 0033 | 00/01 | Send/read the voice 1st menu (00=VOICE-Root, 01-VOICE-TX) |
| | | | | setting (0=OFF, 1=3 min., 2=5 min., 3=10 | | | 0034 | 00/01 | Send/read the keyer 1st menu |
| | | | | min. 4=20 min., 5=30 min.) | | | | | (00=KEYER-Root, |
| | | 0014 | 00/01 | Send/read the PTT Lock function | | | | I | 01=KEYER-SEND) |
| | | | | setting I(00=OFF, 01=ON) | | | | | only one channel. Before inserting the |
| | | | 1 | NOO-OIT, OI-ON) | count | er, De | sure to | ciear the coun | nter on another channel. |

| Cmd. | Sul | b cmd. | Data | Description | Cmd. | Su | b cmd. | Data | Description |
|------|-----|--------|----------|--|------|----|--------|--------------|---|
| 1A | 05 | 0035 | 00/01 | Send/read the Speaker output | 1A | 05 | 0050 | 00/01 | Send/read the S-Level SPEECH |
| | | | | setting | | | | | function setting |
| | - | | | (00=OFF, 01=ON) | | | | | (00-OFF, 01-ON) |
| | | 0036 | 00/01 | Send/read the MIC AF output set- | | | 0051 | 00/01 | Send/read the MODE SPEECH |
| | | | | ting | | | | | function setting |
| | ł | 0037 | 00 to 22 | Send/read the function of [F-1] on | | | 0052 | 00/01 | (00-OFF 01-ON) Send/read the speech language |
| | | 0037 | 00 10 22 | the HM-151 | | | 0032 | 00/01 | (00=English 01=Japanese) |
| | | | | (00=, 01=P.AMP/ATT, 02=AGC, | | | 0053 | 00/01 | Send/read the Alphabet setting for |
| 1 1 | | | | 03=NB, 04=NR, 05=NOTCH, | | | | 55.51 | SPEECH |
| 1 1 | | | | 06=RIT, 07=AUTOTUNE/RX>CS, | | | | | (00=Normal, 01=Phonetic Code) |
| 1 1 | | | | 08=TS, 09=MPAD, 10=M-CLR, | | | 0054 | 00/01 | Send/read the speech speed set- |
| 1 1 | | | | 11=BANK, 12=SPLIT, 13=A/B, | | | | | ting |
| | | | | 14=DUP, 15=TONE/DSQL, | | | | | (00=Slow 01=Fast) |
| | | | | 16=COMP, 17=TBW, 18=METER, | | | 0055 | 0000 to | Send/read the speech level |
| | | | | 19=DR, 20=FROM/TO (DR), | | | | 0255 | (0000=0% to 0255=100%) |
| | ŀ | 0000 | 001-00 | 21=SCAN, 22=Voice TX (T1)) | | | 0056 | see p. 20-11 | Send/read the SSB RX HPF/LPF |
| | | 0038 | 00 to 22 | Send/read the function of [F-2] on the HM-151 | | | 0057 | 00 to 10 | settinq Send/read the SSB RX Tone (Bass) |
| | | | | (00=, 01=P.AMP/ATT, 02=AGC, | | | 0057 | 00 10 10 | level |
| | | | | 03=NB, 04=NR, 05=NOTCH, | | | | | (00=–5 to 10=+5) |
| | | | | 06=RIT, 07=AUTOTUNE/RX>CS, | | | 0058 | 00 to 10 | Send/read the SSB RX Tone |
| | | | | 08=TS, 09=MPAD, 10=M-CLR, | | | | | (Treble) level |
| | | | | 11=BANK, 12=SPLIT, 13=A/B, | | | | | (00=-5 to 10=+5) |
| 1 1 | | | | 14=DUP, 15=TONE/DSQL, | | | 0059 | see p. 20-11 | Send/read the AM RX HPF/LPF |
| 1 1 | | | | 16=COMP, 17=TBW, 18=METER, | | | | | setting |
| 1 1 | | | | 19=DR, 20=FROM/TO (DR), | | | 0060 | 00 to 10 | Send/read the AM RX tone (Bass) |
| 1 1 | | 0000 | 00/04 | 21=SCAN, 22=Voice TX (T1)) | | | | | level |
| 1 1 | | 0039 | 00/01 | Send/read the SSB mode selection of the [MODE] key on the HM-151 | | | 0061 | 00 to 10 | (005 to 10-+5) Send/read the AM RX Tone (Treble) |
| 1 1 | | | | (00=OFF, 01=ON) | | | 0001 | 00 10 10 | level |
| 1 1 | | 0040 | 00/01 | Send/read the CW mode selection | | | | | (005 to 10-+5) |
| 1 1 | | | | of the [MODE] key on the HM-151 | | | 0062 | see p. 20-11 | Send/read the FM RX HPF/LPF |
| 1 1 | | | | (00=OFF, 01=ON) | | | | | setting |
| 1 1 | | 0041 | 00/01 | Send/read the RTTY mode selec- | | | 0063 | 00 to 10 | Send/read the FM RX tone (Bass) |
| 1 1 | | | | tion of the [MODE] key on the | | | | | level |
| 1 1 | | | | HM-151 | | | 0064 | 00 to 10 | (00=–5 to 10=+5) Send/read the FM RX Tone (Treble) |
| 1 1 | ŀ | 0042 | 00/01 | (00=OFF, 01=ON) Send/read the AM mode selection | | | 0004 | 00 10 10 | level |
| 1 1 | | 0042 | 00/01 | of the [MODE] key on the HM-151 | | | | | (00=–5 to 10=+5) |
| 1 1 | | | | (00=OFF, 01=ON) | | | 0065 | see p. 20-11 | Send/read the DV RX HPF/LPF |
| 1 1 | 1 | 0043 | 00/01 | Send/read the FM mode selection | | | | · | setting |
| 1 1 | | | | of the [MODE] key on the HM-151 | | | 0066 | 00 to 10 | Send/read the DV RX tone (Bass) |
| 1 1 | | | | (00=OFF, 01=ON) | | | | | level |
| | | 0044 | 00/01 | Send/read the DV mode selection | | | -0007 | 00 + 10 | (00-5 to 10-+5) |
| | | | | of the [MODE] key on the HM-151 | | | 0067 | 00 to 10 | Send/read the DV RX Tone (Treble) |
| | | 0045 | 00/01 | I(00=OFF, 01=ON) Send/read the WFM mode selection | | | | | level (005 to 10-+5) |
| | | 0040 | 00/01 | of the [MODE] key on the HM-151 | | | 0068 | 00 to 10 | Send/read the WFM RX Tone |
| | | | | (00=OFF, 01=ON) | | | | | (Bass) level |
| | | 0046 | 00/01 | Send/read the Power OFF setting | | | | | (00=-5 to 10=+5) |
| | | | | when no controller is connected. | | | 0069 | 00 to 10 | Send/read the WFM RX Tone |
| | | | | (00=OFF, 01=ON) | | | | | (Treble) level |
| | | 0047 | 0000 to | Send/read the REF Adjust setting | | | 0070 | 00 += 10 | (00=-5 to 10=+5) |
| | | | 0255 | (0000=0%, 0128=50%, | | | 0070 | 00 to 10 | Send/read the CW RX HPF/LPF setting |
| | | 0048 | 00 to 02 | _ 0255=100%) Send/read the RX Call Sign | | | 0071 | 00 to 10 | Send/read the RTTY RX HPF/LPF |
| | | 0040 | 00 10 02 | SPEECH setting | | | 5571 | 55.55.15 | setting |
| | | | | (00=OFF, 01=ON (Kerchunk), | | | 0072 | 00 to 10 | Send/read the SSB TX Tone (Bass) |
| | | | | 02=ON (All)) | | | | | level |
| | 1 | 0049 | 00/01 | Send/read the RX>CS SPEECH | | | | | (005 to 10-+5) |
| | | | | function setting | | | 0073 | 00 to 10 | Send/read the SSB TX Tone |
| | | | | (00=OFF, 01=ON) | | | | | (Treble) level |
| | | | | | | | | I . | (00=-5 to 10=+5) |

| Cmd. | Sul | cmd. | Data | Description | Cmd. | Su | b cmd. | Data | Description |
|------|----------|------|-----------------|---|------|----|--------|-----------------|--|
| 1A | 05 | 0074 | see p. 20-11 | Send/read the WIDE SSB TX | 1A | 05 | 0096 | 00 to 02 | Send/read the "USB2" (COM port) |
| | | 0075 | 000 n 20 11 | _bandwidth Send/read the MID SSB TX band- | | | | | function setting |
| | | 0075 | See p. 20-11 | width | | | | | (00=OFF, 01=RTTY Decode, 02=DV Data) |
| | | 0076 | see p. 20-11 | Send/read the NARROW SSBTX | | | 0097 | 00 to 03 | Send/read the [DATA1] function |
| | | | | bandwidth | | | | | setting |
| | | 0077 | 00 to 10 | Send/read the AM TX tone (Bass) | | | | | (00=OFF, 01=RTTY Decode, |
| | | | | level](00=-5 to 10=+5) | | | 0098 | 00/01 | 02=DV Data. 03=GPS) Send/read the GPS output setting |
| | | 0078 | 00 to 10 | Send/read the AM TX Tone (Treble) | | | 0090 | 00/01 | (00=OFF, 01=DATA1→USB2) |
| | | | | level | | | 0099 | 00/01 | Send/read the DV or GPS data |
| | | | | (00=-5 to 10=+5) | | | | | transfer speed |
| | | 0079 | 00 to 10 | Send/read the FM TX tone (Bass) | | | 0400 | | (00=4800 bps, 01=9600 bps) |
| | | | | level (00=-5 to 10=+5) | | | 0100 | 00 to 04 | Send/read the RTTY decode speed (00=300 bps, 01=1200 bps, |
| | | 0800 | 00 to 10 | Send/read the FM TX Tone (Treble) | | | | | 02=4800 bps, 03=9600 bps, |
| | | | | level | | | | | 04=19200 bps) |
| | | 0001 | | (00=-5 to 10=+5) | | | 0101 | 00 to 02 | Send/read the band setting for |
| | | 0081 | 00 to 10 | Send/read the DV TX tone (Bass) level | | | | | the [ACC] socket's pin 7 (VSEND usage) |
| | | | | (00=-5 to 10=+5) | | | | | (00-OFF, 01-UHF, 02-VHF/UHF) |
| | | 0082 | 00 to 10 | Send/read the DV TX Tone (Treble) | | | 0102 | 00/01 | Send/read the 9600bps Mode |
| | | | | level | | | | | setting |
| | | 0000 | 00/01 | (00=-5 to 10=+5) Send/read the USB audio squelch | | | 0100 | 0000 to | (00-OFF, 01-ON) |
| | | 0083 | 00/01 | setting | | | 0103 | 0000 to 0255 | Send/read the LCD contrast setting (0000=0% to 0255=100%) |
| | | | | (00-OFF (OPEN), 01=ON) | | | 0104 | 0000 to | Send/read the LCD Backlight set- |
| | [| 0084 | 00/01 | Send/read the ACC and USB | | | | 0255 | ting |
| | | | | output setting | | | | | (0000=0% to 0255=100%) |
| | | 0085 | 0000 to | (00-AF, 01-IF) Send/read the ACC and USB AF | | | 0105 | 0000 to | Send/read the Key Backlight setting |
| | | 0005 | 0255 | output Level | | | 0106 | 0255 | (0000=0% to 0255=100%) Send/read the Meter Peak Hold |
| | l | | | (0000-0% to 0255-100%) | | | 0100 | 00/01 | setting |
| | | 0086 | 0000 to | Send/read the ACC and USB IF | | | | | (00-OFF, 01-ON) |
| | | | 0255 | output Level (0000-0% to 0255-100%) | | | 0107 | 00/01 | Send/read the PBT shifting value |
| | | 0087 | 0000 to | Send/read the ACC modulation | | | | | display setting while rotating [TWIN PBT] |
| | | | 0255 | level | | | | | (00=OFF, 01=ON) |
| | | | | (0000-0% to 0255-100%) | | | 0108 | 00/01 | Send/read the IF filter width and |
| | | 8800 | 0000 to 0255 | Send/read the DATA modulation level | | | | | shifting value display setting when |
| | | | 0200 | (0000=0% to 0255=100%) | | | | | the IF filter is switched |
| | | 0089 | 0000 to | Send/read the USB modulation | | | 0109 | 00 to 02 | (00=OFF, 01=ON) Send/read the RX Call sign display |
| | | | 0255 | level | | | 0.00 | 00 10 02 | setting |
| | | 0000 | 00 += 00 | (0000=0% to 0255=100%) Send/read the modulation input set- | | | | | (00=OFF, 01=AUTO, 02=Auto (RX |
| | | 0090 | 00 to 03 | ting in the DATA mode OFF | | | 0110 | 00/01 | Hold)) |
| | | | | (00=MIC, 01=ACC, 02=MIC,ACC, | | | 0110 | 00/01 | Send/read the RX message display setting |
| | | | | 03-USB) | | | | | (00-OFF, 01-ON) |
| | | 0091 | 00 to 03 | Send/read the modulation input set- | | | 0111 | 00/01 | Send/read the RX position display |
| | | | | ting in the DATA mode ON (00=MIC, 01=ACC, 02=MIC, ACC, | | | | | setting when the received Auto |
| | | | | 03=USB) | | | | | Reply signal includes the position (00=OFF, 01=ON) |
| | | 0092 | 00/01 | Send/read the external keypad set- | | | 0112 | 00 to 02 | Send/read the TX Call sign display |
| | | | | ting for VOICE | | | | | setting |
| | | 0093 | 00/01 | (00=OFF, 01=ON) Send/read the external keypad set- | | | | | (00=OFF, 01=Your Call Sign, |
| | | 0093 | 00/01 | ting for Memory KEYER | | | 0113 | 00/04 | 02=My Call Sign) |
| | | | | (00=OFF, 01=ON) | | | 0113 | 00/01 | Send/read the Scroll Speed setting (00-Slow 01-Fast) |
| | | 0094 | 00/01 | Send/read the external keypad set- | | | 0114 | 00/01 | Send/read the VOICE TX Name |
| | | | | ting for RTTY Memory | | | | | Display setting |
| | | 0095 | l 00/01 | (00=OFF. 01=ON) Send/read the CI-V transceive | | | 0445 | 00/04 | (00-OFF, 01-ON) |
| | | 0030 | 55/51 | setting | | | 0115 | 00/01 | Send/read the KEYER Memory Display setting |
| | | | | (00=OFF. 01=ON) | | | | | (00=OFF, 01=ON) |
| | | | | | | | | | 1,55 511, 61-617 |

| Cmd. | $\overline{}$ | o cmd. | Data | Description | Cmd. | | b cmd. | Data | Description |
|------|---------------|--------|-------------|--|------|----|--------|----------|---|
| 1A | 05 | 0116 | 00/01 | Send/read the Opening Message (00=OFF, 01=ON) | 1A | 05 | 0139 | 00/01 | Send/read Mic. up/down keyer setting |
| | Ì | 0117 | 00/01 | Send/read the Power ON Check | | | | | (00-OFF. 01-ON) |
| | | | | setting | | | 0140 | 00/01 | Send/read the Twin Peak Filter |
| | ļ | | | (00=OFF. 01=ON) | | | | | setting |
| | | 0118 | 00/01 | Send/read the Display Language | | | | | (00-OFF, 01-ON) |
| | | | | (00=English, 01=Japanese) | | | 0141 | 00 to 02 | Send/read the RTTY mark fre- |
| | | 0119 | 00/01 | Send/read the System Language | | | | | quency |
| | | | | (00=English 01=Japanese) | | | | | (00=1275 Hz, 01=1615 Hz, |
| | | 0120 | | Send/read the date setting | | | | | 02=2125 Hz) |
| | | | 20991231 | (20000101=2000/01/01 to | | | 0142 | 00 to 02 | Send/read the RTTY shift width |
| | | 0121 | 0000 to | 20991231=2099/12/31) | | | | | (00=170 Hz, 01=200 Hz, |
| | | 0121 | 2359 | Send/read the time setting (0000(0:00) to 2359(23:59)) | | | 0143 | 00/01 | 02=425 Hz\ Send/read the RTTY keying polari |
| | | 0122 | 00/01 | Send/read the GPS time correction | | | 0143 | 00/01 | (00=Normal, 01=Reverse) |
| | | 0122 | 00/01 | setting | | | 0144 | 00/01 | Send/read the RTTY decode USC |
| | | | | (00=OFF. 01=Auto) | | | 0.11 | 00/01 | setting |
| | | 0123 | see n 20-13 | Send/read the UTC offset setting | | | | | (00=OFF. 01=ON) |
| | | 0124 | 00/01 | Send/read the clock display mode | | | 0145 | 00/01 | Send/read the RTTY decode new |
| | | 0124 | 00/01 | (00=LOCAL, 01=UTC) | | | | | line code setting |
| | | 0125 | 00 to 04 | Send/read the Auto Power OFF | | | | | (00=CR,LF,CR+LF, 01=CR+LF) |
| | | | | function setting | | | 0146 | 00/01 | Send/read the RTTY TX USOS |
| | | | | (00=OFF, 01=30 min., 02=60 min., | | | | | setting |
| | | | | 03=90 min., 04=120 min.) | | | | | (00=OFF, 01=ON) |
| | | 0126 | 00 to 10 | Send/read the compression level | | | 0147 | 00/01 | Send/read the RTTY Decode Log |
| | | | | (00=0 to 10=10) | | | | | setting |
| | | 0127 | 00 to 14 | Send/read the repeat interval to | | | . 0440 | 00/04 | (00=OFF, 01=ON) |
| | | | | transmit the recorded voice audio | | | 0148 | 00/01 | Send/read the RTTY Decode Log file type |
| | | 0400 | 00/04 | (00=1 sec. to 14=15 sec.) | | | | | (00=Text, 01=HTML) |
| | | 0128 | 00/01 | Send/read the TX voice audio moni- | | | 0149 | 00/01 | Send/read the RTTY Decode Log |
| | | | | tor function setting _(00=OFF, 01=ON) | | | 0143 | 00,01 | Time Stamp setting |
| | | 0129 | 00 to 04 | Send/read the numbering system | | | | | (00=OFF, 01=ON) |
| | | 0123 | 001004 | used for contest (serial) numbers | | | 0150 | 00/01 | Send/read the RTTY Decode Log |
| | | | | (00=Normal, 01=190 ANO, | | | | | Time Stamp (Time) |
| | | | | 02=190 ANT, 03=90 NO, | | | | | (00=Local_01=UTC) |
| | | | | 04=90 NT) | | | 0151 | 00/01 | Send/read the RTTY Decode Log |
| | | 0130 | 01 to 04 | Send/read the count-up trigger | | | | | Time Stamp (Frequency) |
| | | | | channel | | | | | (00=OFF_ 01=ON) |
| | | | | (01-M1 to 04-M4) | | | 0152 | 00 to 03 | Send/read the DTMF Speed setting |
| | | 0131 | 0001 to | Send/read the current contest serial | | | | | (00=100 msec., 01=200 msec., |
| | | | 9999 | number | | | 0153 | 00/01 | 02=300 msec. 03=500 msec.) Send/read the Scan speed setting |
| | | 0400 | 20001- | (0001-1 to 9999-9999) | | | 0153 | 00/01 | (00=Slow 01=Fast) |
| | | 0132 | 0000 to | Send/read the CW sidetone level | | | 0154 | 00/01 | Send/read the Scan resume setting |
| | | 0400 | 0255 | (0000=0% to 0255=100%) | | | 0134 | 00,01 | (00=OFF, 01=ON) |
| | | 0133 | 00/01 | Send/read the CW sidetone level | | | 0155 | 00 to 10 | Send/read the Scan pause timer |
| | | | | limit setting | | | 0.00 | 00 10 10 | setting |
| | | 0134 | 01 to 60 | (00=OFF, 01=ON) Send/read the CW keyer repeat | | | | | (00=2 sec. to 09=20 sec., |
| | | 0134 | 01 to 60 | time | | | | | 10=HOLD) |
| | | | | (01=1 sec. to 60=60 sec.) | | | 0156 | 00 to 06 | Send/read the Scan resume timer |
| | | 0135 | 28 to 45 | Send/read the CW keyer dot/dash | | | | | (00=0 sec. to 05=5 sec., 6=HOLD) |
| | | 0100 | 201043 | ratio | | | 0157 | 00/01 | Send/read the Dial function during |
| | | | | (28=1:1:2.8 to 45=1:1:4.5) | | | | | a scan |
| | | 0136 | 00 to 03 | Send/read the CW Rise time setting | | | | | (00=OFF_ 01=Up/Down) |
| | | | | (00=2 msec, 01=4 msec, 02=6 | | | 0158 | 0000 to | Send/read the NB level |
| | | | I | msec, 03=8 msec) | | | | 0255 | (0000=0% to 0255=100%) |
| | | 0137 | 00/01 | Send/read the paddle polarity | | | 0159 | 00 to 09 | Send/read the NB depth |
| | | | | setting | | | | | (00=1 to 09=10) |
| | | | <u> </u> | (00=Normal 01=Reverse) | | | 0160 | 0000 to | Send/read the NB width |
| | Ī | 0138 | 00 to 02 | Send/read the keyer type setting | | | | 0255 | (0000=1 to 0255=100) |
| | | | 1 | (00=Straight, 01=BUG-Key, | | | 0161 | 00 to 15 | Send/read the NR level for other |
| | | | I | 02=ELEC-Key) | | | | | than the DR mode |
| | | | | | | | | | (00=0 to 15=15) |

| Cmd. | $\overline{}$ | cmd. | Data | Description | Cmd. | | Data | Description |
|------|---------------|-------|-----------------|--|------|---------|---------------|--|
| 1A | 05 | 0162 | 00 to 15 | Send/read NR level for the DR | 1A | 05 0186 | see p. 20-13 | Send/read the manually pro- |
| | | | | mode | | | | grammed position |
| | | | | (00-0 to 15-15) | | 0187 | 00/01 | Send/read the GPS Indicator set- |
| | | 0163 | 0000 to | Send/read the VOX gain | | | | ting |
| | | | 0255 | _(0000=0% to 0255=100%) | | | | (00=OFF, 01=ON) |
| | | 0164 | 0000 to | Send/read the ANTI-VOX gain | | 0188 | 00/01 | Send/read the Position Format |
| | | | 0255 | (0000=0% to 0255=100%) | | | | setting |
| | | 0165 | 00 to 20 | Send/read the VOX delay time | | | | (00=ddd°mm.mm', 01=ddd°mm'ss' |
| | | | | (00=0.0 sec. to 20=2.0 sec.) | | 0189 | 00/01 | Send/read the Distance and |
| | | 0166 | 0020 to | Send/read the BK-IN delay time | | | | Altitude unit |
| | l | | 0130 | (0020=2.0d to 0130=13.0d) | | | | (00=meter 01=feet/mile) |
| | | 0167 | 00/01 | Send/read the recording mode | | 0190 | 00 to 02 | Send/read the GPS speed unit |
| | l | | | (00=TX&RX, 01=RX Only) | | 0101 | 00 10 | (00-km/h, 01-mph, 02-knots) |
| | | 0168 | 00/01 | Send/read the squelch status for | | 0191 | | Send/read GPS alarm area (Grou |
| | | | | the RX voice audio recording | | 0192 | 00 to 02 | Send/read GPS alarm area |
| | | | | (00=Always 01=Squelch Auto) | | | | (RX/Memory) |
| | | 0169 | 00/01 | Send/read the QSO audio record | | | | (00=Limited, 01=Extended, |
| | | | | file Split function setting | | . 0100 | 001-00 | 02=Both) |
| | | | | (00=OFF, 01=ON) | | 0193 | 00 to 02 | Send/read the GPS TX Mode |
| | | 0170 | 00/01 | Send/read the PTT Automatic | | | | setting |
| | | | | Recording function setting | | | | (00=OFF, 01=GPS(DV-G), |
| | | | | (00=OFF, 01=ON) | | 0104 | 00/01 | 02=GPS-A(DV-A)) |
| | | 0171 | 00 to 03 | Send/read the Skip Timer setting | | 0194 | 00/01 | Send/read the GPS (RMC) |
| | | | | while playing back | | | | Sentence setting |
| | | | | (00=3 sec., 01=5 sec., 02=10 sec., | | 0105 | 00/01 | (00=OFF, 01=ON) |
| | | | | 03=30 sec.\ | | 0195 | 00/01 | Send/read the GPS (GGA) |
| | | 0172 | 00 to 02 | Send/read the Standby Beep set- | | | | Sentence setting |
| | | | | ting | | 0196 | 1 00/04 | (00=OFF, 01=ON) |
| | | | | (00=OFF, 01=ON, 02=ON (to | | 0196 | 00/01 | Send/read the GPS (GLL) |
| | | | | me:High Tone) | | | | Sentence setting |
| | | 0173 | 00 to 02 | Send/read Auto Reply setting | | . 0197 | 00/01 | (00=OFF. 01=ON) Send/read the GPS (GSA) |
| | | 2.2. | | (00=OFF. 01=ON. 02=Voice) | | 0197 | 00/01 | Sentence setting |
| | | 0174 | 00/01 | Send/read the DV Data TX setting | | | | (00=OFF, 01=ON) |
| | H | 0.175 | 001-00 | (00=PTT_01=Auto) | | . 0198 | 00/01 | Send/read the GPS (VTG) |
| | | 0175 | 00 to 02 | Send/read the Digital Monitor set- | | 0190 | 00/01 | Sentence setting |
| | | | | ting | | | | (00=OFF, 01=ON) |
| | | 0176 | 00/01 | (00=Auto, 01=Digital, 02=Analog) | | . 0199 | 00/01 | Send/read the GPS (GSV) |
| | | 0176 | 00/01 | Send/read the Digital Repeater set- | | 0100 | 00/01 | Sentence setting |
| | | | | ting function setting | | | | (00=OFF, 01=ON) |
| | H | 0177 | 00/01 | Send/read the RX Call Sign Auto | | . 0200 | see p. 20-14 | Send/read the GPS Message |
| | | 01// | 00/01 | Write setting | | 0201 | | Send/read the Unproto Address |
| | | | | (00-OFF, 01-Auto) | | 0202 | 00/01 | Send/read the position data |
| | H | 0178 | 00/01 | Send/read the RX RPT Call Sign | | 0202 | 00/01 | extension setting |
| | | 01/0 | 00/01 | Auto Write setting | | | | (00=OFF, 01=COURSE/SPEED) |
| | | | | (00-OFF, 01-Auto) | | 0203 | 00 to 02 | Send/read the GPS-A Time Stamp |
| | | 0179 | 00/01 | Send/read the DV Auto Detect | | 0203 | 001002 | setting |
| | | 01/3 | 00/01 | setting | | | | (00=OFF. 01=DHM, 02=HMS) |
| | | | | (00-OFF, 01-ON) | | 0204 | 00/01 | Send/read the GPS-A altitude |
| | H | 0180 | 00/01 | Send/read the RX Record (RPT) | | 0204 | 00/01 | setting |
| | | 0100 | 00/01 | setting | | | | (00=OFF, 01=ON) |
| | I | | | (00=ALL 01=Latest Only) | | 0205 | 00 to 03 | Send/read the GPS-A Symbol |
| | H | 0181 | 00/01 | Send/read the BK function setting | | 0203 | 00 10 03 | (00=No.1, 01=No.2, 02=No.3, |
| | | 0101 | 00/01 | (00=OFF, 01=ON) | | | | (00=N0.1, 01=N0.2, 02=N0.3, 03=No.4) |
| | | 0182 | 00/01 | Send/read the EMR mode setting | | 0206 | coo n 20 12 | Send/read the GPS-A Symbol No |
| | | 0102 | 00/01 | | | 0206 | See p. 20-13 | setting |
| | H | 0192 | 0000 to | (00-OFF, 01-ON) | | 0207 | coo p 20 12 | Send/read the GPS-A Symbol No |
| | | 0183 | 0000 to 0255 | Send/read EMR AF Level (0000=0% to 0255=100%) | | 0207 | See p. 20-13 | setting |
| | | 0104 | | , | | 0208 | leee n 20 12 | Send/read the GPS-A Symbol No |
| | I | 0184 | 00 to 02 | Send/read the external GPS re- | | 0208 | Jace h. 50-13 | |
| | I | | | ceiver setting | | 0000 | leee n 20 12 | setting Send/read the GPS-A Symbol No. |
| | | | | (00=OFF, 01=External GPS, | | 0209 | See p. 20-13 | |
| | | 040- | 00 % | 02=Manual) | | -0010 | I 00 to 40 | setting |
| | I | 0185 | 00/01 | Send/read the GPS Receiver Baud | | 0210 | 00 to 42 | Send/read the GPS-A SSID |
| | | | | setting | | | I | (00=, 01=(-0), 02=-1 to 16=-15, |
| | | I | | (00=4800 bps, 01=9600 bps) | | | 1 | 17=-A to 42=-Z) |

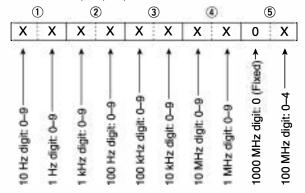
| Cmd. | Sub c | | Data | Description | Cmd. | Sub cmd. | Data | Description |
|-------------------|----------------------|----------|--|---|-------|--|--|--|
| 1A | 05 0 | 211 | see p. 20-14 | Send/read the GPS-A comment | 1C | 00 | 00 | Send/read transceiver's status (RX |
| | 0 | 212 | 00 to 08 | Send/read the GPS Auto TX inter- | | | | When "CI-V Output (for ANT)" |
| | | | | val setting | | | | (Command: 1C 04) is set to |
| | | | | (00=OFF, 01=5 sec., 02=10 sec., | | | | "ON," automatically outputs when |
| | | | | 03=30 sec., 04=1 min., 05=3 min., | | | | changed. |
| | | | | 06=5 min., 07=10 min., | | | 01 | Send/read transceiver's status (TX |
| | | | | _ 08=30 min.) | | | | When "CI-V Output (for ANT)" |
| | 0 | 213 | 00/01 | Send/read the QSO Log setting | | | | (Command: 1C 04) is set to |
| | l ⊨ | | | (00=OFF, 01=ON) | | | | "ON," automatically outputs when |
| | 0 | 214 | 00/01 | Send/read the RX History Log func- | | | | changed. |
| | | | | tion setting | | 01 | 00 | Send/read Antenna tuner OFF |
| | l ⊢ | | | (00=OFF, 01=ON) | | | | (through) |
| | 0 | 215 | 00 to 02 | Send/read the QSO/RX Log CSV | | | 01 | Send/read Antenna tuner ON |
| | | | | format setting (Separator/Decimal) | | | 02 | Send/read the Manual tuning selec |
| | | | | (00=Separator is "," and | | | | tion |
| | | | | Decimal is ".", | | 02 | 00 | Send/read Transmit frequency |
| | | | | 01=Separator is ";" and | | | l | monitor check OFF |
| | | | | Decimal is ".", | | | 01 | Send/read Transmit frequency |
| | | | | 02=Separator is ";" and | | | 22.11 | monitor check ON |
| | <u> </u> | 0.10 | | Decimal is "") | | 03 | | Read transmit frequency. |
| | 0 | 216 | 00 to 02 | Send/read the QSO/RX Log CSV | | | | When "CI-V Output (for ANT)" (Com |
| | | | | format setting (Date) | | | | mand: 1C 04) is set to "ON," auto- |
| | | | | (00="yyyy/mm/dd", | | | | matically outputs when changed. |
| | | | | 01="mm/dd/yyyy", | | 04 | 00 | Send/read command to disable |
| | <u> </u> | 047 | 00/04 | 02="dd/mm/yyyy") | | | | to output the antenna controller |
| | 0 | 217 | 00/01 | Send/read the Weather Alert setting | | | | status (frequency and so on) from |
| | | | | (USA only) | | | 01 | [REMOTE]. Send/read command to enable to |
| | <u> -</u> | 218 | 00 to 00 | (00=OFF, 01=ON) | | | " | output the antenna controller status |
| | " | 218 | 00 to 02 | Send/read the Memory Name | | | | (frequency and so on) from [RE- |
| | | | | Display setting | | | | MOTEI. |
| | | | | [System language: English] (00=OFF, 01=ON) | 1E | 00 | | Read number of available TX fre- |
| | | | | [System language: Japanese] | 1. | 00 | | quency band |
| | | | | (00=OFF, 01=Normal 02=Large) | | 01 | see n 20-12 | Read the TX band edge frequen- |
| | | 219 | 00/01 | Send/read the Display Type setting | | ٠. | COO P. 20 12 | cies |
| | " | 2.10 | 00/01 | for the DR mode | | . 02 | | Read number of User-set TX fre- |
| | | | | (00=Normal 01=Large) | | | | quency band |
| | | 220 | 00 to 02 | Send/read the Compass Direction | | 03 | see p. 20-12 | Send/read the User-set TX band |
| | " | | 00 10 02 | setting | | | ' | edge frequencies |
| | | | | (00=Heading Up, 01=North Up, | 1F | 00 | see p. 20-14 | Send/read the DV MY call sign |
| | | | | 02=South Up) | | 01 | see p. 20-14 | Send/read the DV TX call signs |
| | Ιlo | 221 | 00 | Send/read command to disable | | 02 | | Send/read the DV TX message |
| | " | | | to output the antenna controller | 20 | 00 00 | 00/01*3 | Send/read the Auto DV RX Call |
| | | | | • | | 00 00 | 00/01 | |
| . ! | | | | status (trequency and so on) from | | | l . | ISIANS OUTDUT SEITINA |
| | | | | status (frequency and so on) from [REMOTE]. | | | | signs output setting (00=OFF, 01=ON) |
| | | | 01 | | | 01 | | (00=OFF. 01=ON) |
| | | | 01 | [REMOTE]. | | 01 | see p. 20-15 | (00=OFF. 01=ON) Output the DV RX Call signs |
| | | | 01 | [REMOTE]. Send/read command to enable to | | 02 | see p. 20-15 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs |
| | | | 01 | IREMOTE]. Send/read command to enable to output the antenna controller status | | | see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX mes- |
| | 06 | 3 | see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [REMOTE]. Send/read the DATA mode setting | | 02 | see p. 20-15 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting |
| 1B | 06 00 | | see p. 20-14 | [REMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [REMOTE]. | | 02 01 00 | see p. 20-15 see p. 20-15 00/01*3 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) |
| 1B | | | see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency | | 02 00 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message |
| 1B | |) | see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone | | 01 00 01 01 02 02 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message |
| 1B | 00 |) | see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency | | 02 00 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Send/read the Auto DV RX status |
| 1B | 00 |) | see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch fre- | | 01 00 01 01 02 02 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting |
| 1B | 00 01 02 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity | | 01 00 00 00 00 00 00 00 00 00 00 00 00 0 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 00/01*3 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) |
| 1B \ | 00 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and | | 01 00 00 00 00 00 00 00 00 00 00 00 00 0 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 00/01*3 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) Output the DV RX status |
| 18 | 00 01 02 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity | or ' | 01 00 00 00 00 00 00 00 00 00 00 00 00 0 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) Output the DV RX status Read the DV RX status |
| 1B | 00 01 02 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity Send/read the CSQL code (DV | 21 | 02 00 00 01 02 02 00 01 02 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 oo/01*3 see p. 20-15 see p. 20-15 see p. 20-15 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) Output the DV RX status Read the DV RX status Send/read RIT frequency. |
| 1B | 00 01 02 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity Send/read the CSQL code (DV | 21 | 01 00 00 00 00 00 00 00 00 00 00 00 00 0 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 see p. 20-17 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) Output the DV RX status Read the DV RX status Read the DV RX status Send/read RIT frequency. Send/read RIT setting OFF. |
| 1B | 00 01 02 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity Send/read the CSQL code (DV | | 02 00 00 01 02 02 00 01 02 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 see p. 20-17 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) Output the DV RX status Read the DV RX status Read the DV RX status Send/read RIT frequency. Send/read RIT setting OFF. Send/read RIT setting ON. |
| 1B | 00 01 02 | ! | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity Send/read the CSQL code (DV | 21 25 | 02 00 00 01 02 02 00 01 02 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 see p. 20-17 | (00=OFF: 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF: 01=ON) Output the DV RX message Read the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF: 01=ON) Output the DV RX status Read the DV RX status Read the DV RX status Send/read RIT frequency. Send/read RIT setting OFF. Send/read RIT setting ON. Send/read the selected or unse- |
| | 00 01 02 07 | 2 | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity Send/read the CSQL code (DV mode) | 25 | 02 00 00 01 02 02 00 01 02 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 see p. 20-17 00 01 see p. 20-17 | (00=OFF. 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF. 01=ON) Output the DV RX message Read the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF. 01=ON) Output the DV RX status Read the DV RX status Read the DV RX status Send/read RIT frequency. Send/read RIT setting OFF. Send/read RIT setting ON. Send/read the selected or unse-lected VFO frequency. |
| ³ Outp | 00 01 02 07 | ing is | see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 see p. 20-14 | IREMOTE]. Send/read command to enable to output the antenna controller status (frequency and so on) from [RE-MOTE]. Send/read the DATA mode setting Send/read the Repeater tone frequency Send/read the Tone squelch frequency Send/read the DTCS code and polarity Send/read the CSQL code (DV | | 02 00 00 01 02 02 00 01 02 00 | see p. 20-15 see p. 20-15 00/01*3 see p. 20-15 00/01*3 see p. 20-15 see p. 20-15 see p. 20-17 00 01 see p. 20-17 | (00=OFF. 01=ON) Output the DV RX Call signs Read the DV RX Call signs Send/read the Auto DV RX message output setting (00=OFF. 01=ON) Output the DV RX message Read the DV RX message Send/read the Auto DV RX status output setting (00=OFF. 01=ON) Output the DV RX status Read the DV RX status Read the DV RX status Send/read RIT frequency. Send/read RIT setting ON. Send/read the selected or unse- |

Remote jack (CI-V) information (Continued)

♦ Data content description

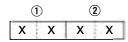
Operating frequency

Command: 00, 03, 05, 1C 03



Operating mode

Command: 01, 04, 06



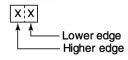
| ① Ope | rating mode | 2 Filter setting |
|----------|-------------|------------------|
| 00: LSB | 05: FM | 01: FIL1 |
| 01: USB | 06: WFM | 02: FIL2 |
| 02: AM | 07: CW-R | 03: FIL3 |
| 03: CW | 08: RTTY-R | - I |
| 04: RTTY | 17: DV | _ |

• Filter setting (②) can be skipped with command 01 and 06. In that case, "FIL1" is automatically selected with command 01, and the default filter setting of the operating mode is automatically selected with command 06.

• When the WFM mode is selected with command 06, "FIL1" is automatically selected with command 01.

SSB transmission bandwidth setting

Command: 1A 05 0074, 0075, 0076



Higher edge Lower edge 0: 100Hz 0: 2500Hz 1: 2700Hz 1: 200Hz 2: 300Hz 2: 2800Hz 3: 500Hz 3: 2900Hz

RX HPF and LPF settings in each operating mode

Command: 1A 05 0056, 0059, 0062, 0065



HPF

00: through

01 to 20: 100 to 2000 Hz

05 to 24: 500 to 2400 Hz

25: through

Set the LPF value larger than HPF one.

• CW message contents

Command: 17

Set a CW message of up to 30 characters.

· Character's code

| Character | ASCII code | Description |
|---------------------------------------|------------|-------------------------|
| 0–9 | 30–39 | Number |
| A–Z | 41–5A | Alphabetical characters |
| a–z | 61–7A | Alphabetical characters |
| space | 20 | Word space |
| 1 | 2F | Symbol |
| ? | 3F | Symbol |
| 304 | 2E | Symbol |
| _ | 2D | Symbol |
| , 2C | | Symbol |
| : : : : : : : : : : : : : : : : : : : | 3A | Symbol |
| , | 27 | Symbol |
| (| 28 | Symbol |
|) | 29 | Symbol |
| = | 3D | Symbol |
| + | 2B | Symbol |
| 'n | 22 | Symbol |
| @ | 40 | Symbol |

"FF" stops sending CW messages.
 "^" is used to transmit a string of characters with no inter-character space.

♦ Data content description (Continued)

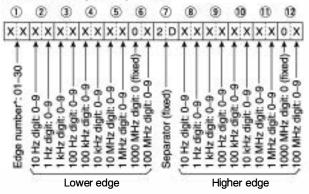
Character code setting

Command: 1A 00, 1A 05 0200, 1A 05 0201, 1A 05 0206, 1A 05 0207, 1A 05 0208, 1A 05 0209, 1A 05 0211, 1F 02, 20 0001, 20 0002

| 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 | 38 | 60 |
| ٨ | 5E | + | 2B |
| _ | 2D | * | 2A |
| / | 2F | ov : | 2E |
| , | 2C | 34 | 3A |
| 11-3 | 3B | = (| 3D |
| < | 3C | > | 3E |
| (| 28 |) | 29 |
| | 5B |] | 5D |
| { | 7B | } | 7D |
| | 7C | | 5F |
| i - II | 7E | @ | 40 |

Band edge frequency setting

Command: 02*, 1E 01, 1E 03



^{*} Edge number (1) is not sent with command 02 (reading the band edge frequencies).

Band stacking register

Command: 1A 01

1 2 X : XX : X

When sending the contents, the codes, such as operating frequency and operating mode*, should be added after the frequency band code and register code, as shown below.

*See ⑤ to ⑤ on 'Memory content setting.' (p. 20-16)

1) Frequency band code

| Code | Freq. band | Frequency range (unit: MHz) |
|------|------------|-----------------------------|
| 01 | 1.8 | 1.800000- 1.999999 |
| 02 | 3.5 | 3.400000-4.099999 |
| 03 | 7 | 6.900000- 7.499999 |
| 04 | 10 | 9.900000-10.499999 |
| 05 | 14 | 13.900000-14.499999 |
| 06 | 18 | 17.900000-18.499999 |
| 07 | 21 | 20.900000-21.499999 |
| 08 | 24 | 24.400000-25.099999 |
| 09 | 28 | 28.000000-29.999999 |
| 10 | 50 | 50.000000-54.000000 |
| 11 | 144 | 144.000000-148.000000 |
| 12 | 430 | 420.000000-450.000000 |
| 13 | GENE | Other than above |

(2) Register code

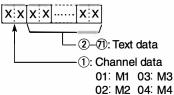
| - riogiotor ocuo | | | | |
|------------------|----------------|--|--|--|
| Code | Registered No. | | | |
| 01 | 1 (latest) | | | |
| 02 | 2 | | | |
| 03 | 3 (oldest) | | | |

To read the contents, the register code should be added after the frequency band code, as shown below. Example: When reading the oldest contents in the 21 MHz band, the code "0703" is used.

♦ Data content description (Continued)

Memory keyer contents

Command: 1A 02

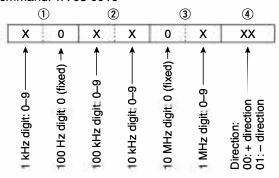


Character's code

| Character | ASCII code | Description |
|-----------|------------|---|
| 0–9 | 30–39 | Number |
| A–Z | 41–5A | Alphabetical characters |
| a-z | 61–7A | Alphabetical characters |
| space | 20 | Word space |
| | 2F | Symbol |
| ? | 3F | Symbol |
| , | 2C | Symbol |
| 10 | 2E | Symbol |
| @ | 40 | Symbol |
| ٨ | 5E | e.g., to send BT, enter ^BT |
| * | 2A | Inserts contest number (can be used for 1 channel only) |

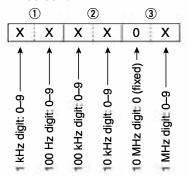
Split offset frequency setting

Command: 1A 05 0016



Duplex Offset frequency setting

Command: 1A 05 0018



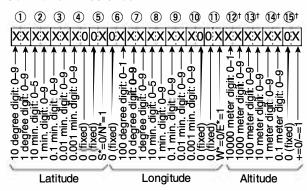
UTC Offset setting

Command: 1A 05 0123

| (| D | | 2) | 3 |
|---------------------|---------------------|----------------------|----------------------|--|
| Χ | Х | Х | Х | ХX |
| 10 hour digit. 0–1→ | 1 hour digit: 0−9—▶ | 10 min. digit: 0–5 → | 1 min. digit: 0−9 —▶ | Direction 00=+ direction —→ 01=– direction |

My position data setting

Command: 1A 05 0186



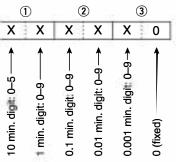
*S: South latitude N: North latitude W: West longitude E: East longitude

† When reading the contents with no altitude, sends 12, 13, 14 and 15 as "FF."

When sending the contents with no altitude, set 12, 13, 14 and 15 to "FF."

Alarm area (Group) setting

Command: 1A 05 0191



Unproto Address setting

Command: 1A 05 0201

Set an unproto address of up to 56 characters.

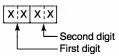
See 'Character code setting.' (p. 20-12)

Data content description (Continued)

GPS-A Symbol setting

Command

: 1A 05 0206, 0207, 0208, 0209



//, \, 0 to 9, A to Z can be used for the first digit character.

See 'Character code setting' for the second digit character. (p. 20-12)

Comment setting

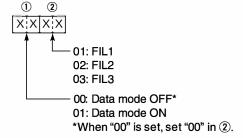
Command: 1A 05 0211 Set a comment of up to 43 characters. See 'Character code setting.' (p. 20-12)

GPS message setting

Command: 1A 05 0200 Set a GPS message of up to 20 characters. See 'Character code setting.' (p. 20-12)

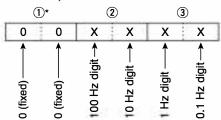
Data mode with filter width setting

Command: 1A 06



Repeater tone/tone squelch frequency setting

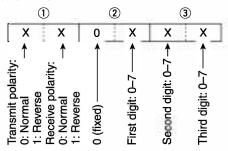
Command: 1B 00, 1B 01



*Not necessary when setting a frequency.

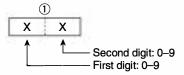
DTCS code and polarity setting

Command: 1B 02



Digital code squelch setting

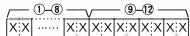
Command: 1B 07



• DV MY call sign setting

Command: 1F 00

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



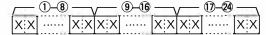
1)-8 Your own call sign setting

9-12 Note setting

DV TX call signs setting

Command: 1F 01

Set "UR," "R1" and "R2" call signs of 8 characters (fixed).



1)-8 UR (Destination) call sign setting

9-16 R1 (Access repeater) call sign setting

17-24 R2 (Gateway/Link repeater) call sign setting

Character's code of the call sign

| Character | ASCII code | Character | ASCII code |
|-----------|------------|-----------|------------|
| 0–9 | 30–39 | A–Z | 41–5A |
| Space | 20 | / | 2F |

DV TX message setting

Command: 1F 02

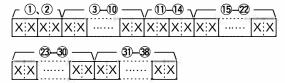
Set the transmit message of up to 20 characters. See 'Character code setting.' (p. 20-12)

% "FF" stops sending or reading messages.

♦ Data content description (Continued)

DV RX call sign setting

Command: 20 0001, 20 0002



1 Header flag data (First byte)

| Data | | Description | |
|------|--------------|--------------------------------|--|
| Bit | | Description | |
| 7 | 0 (fixed) | _ | |
| 6 | 0 (fixed) | _ | |
| 5 | 0 (fixed) | _ | |
| 4 | 0/1 | 0= Voice, 1= Data | |
| 3 | 0/1 | 0= Direct, 1= Through repeater | |
| 2 | 0/1 | 0= No Break-in, 1= Break-in | |
| 1 | 0/1 | 0= Data, 1= Control | |
| 0 | 0/1 | 0= Normal, 1= Emergency | |

② Header flag data (Second byte)

| Data | | | Function | |
|-------|-------|-------|------------------------|--|
| Bit 2 | Bit 1 | Bit 0 | Function | |
| 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 | |

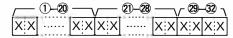
- 3-10 Caller station's call sign (8 characters; fixed)
- ①—④ Caller station's note (4 characters; fixed)
- (5-22) Called station's call sign (8 characters; fixed)
- 33-30 Access repeater's call sign (R1) (8 characters)
- 31–38 Gateway/Link repeater's call sign (R2) (8 characters; fixed)

See 'Character code setting.' (p. 20-12)

#FF" stands for no call sign receiving after turning ON the transceiver.

DV RX message setting

Command: 20 0101, 20 0102



- 1)-20 RX message (20 characters; fixed)
- 2)—28 Call sign of the calling station (8 characters; fixed)
- 29–32 Note of the calling station (4 characters; fixed)

See 'Character code setting.' (p. 20-12)

"FF" stands for no message receiving after turning ON the transceiver.

DV RX Status setting

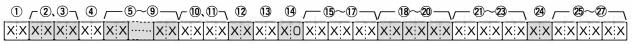
Command: 20 0201, 20 0202

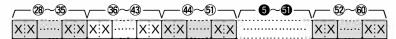
| Da | ata | Otatus | Description | |
|-----|-----|---------------------------------------|---|--|
| Bit | | Status | | |
| 7 | 0 | | _ | |
| 6 | 0/1 | Receiving a voice call | During receiving a digital voice signal, select "1." (Regardless of DSQL and CSQL setting) | |
| 5 | 0/1 | Last call finisher | When the last call was fin- ished by you, select "1." | |
| 4 | 0/1 | Receiving a sig- nal | When the audio tone can be heard, select "1." | |
| 3 | 0/1 | Receiving a BK call | During receiving a BK call, select "1." | |
| 2 | 0/1 | Receiving a EMR call | During receiving a EMR call, select "1." | |
| 1 | 0/1 | Receiving a sig- nal other than DV | When "DV" and "FM" are blinking, select "1." | |
| 0 | 0/1 | Packet loss sta- tus | During displaying a packet loss | |

Data content description (Continued)

Memory content setting

Command: 1A 00





1) Bank number

01: A, 02: B, 03: C, 04: D, 05: E

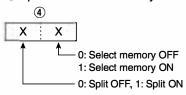
2, 3 Memory channel number

0001-0099: Memory channel 1 to 99

0100: Programmed scan edge 1A 0101: Programmed scan edge 1b 0102: Programmed scan edge 2A 0103: Programmed scan edge 2b 0104: Programmed scan edge 3A 0105: Programmed scan edge 3b 0106: Call channel 144-C1

0107: Call channel 144-C2 0108: Call channel 430-C1 0109: Call channel 430-C2

4 Split and Select memory settings



When the program channel is selected, both settings should be "0."

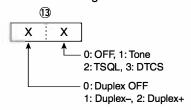
When the Call channel is selected, the Select memory setting should be "0."

5-9 Operating frequency setting See '• Operating frequency.' (p. 20-11)

(10, (1) Operating mode setting See '• Operating mode.' (p. 20-11)

12 Data mode setting 1 byte data (XX) 00: Data mode OFF 01: Data mode ON

(13) Duplex and Tone settings



① Digital squelch setting



0: Digital squelch function OFF

1: Digital call sign squelch function ON (DSQL)

2: Digital code squelch function ON (CSQL)

(5-17) Repeater tone frequency setting

18–20 Tone squelch frequency setting

See '• Repeater tone/tone squelch frequency setting.' (p. 20-14)

21-23 DTCS code setting

See '• DTCS code and polarity setting.' (p. 20-14)

24 Digital code squelch setting

See '• Digital code squelch setting.' (p. 20-14)

25–27 Duplex offset frequency setting

See '• Duplex Offset frequency setting.' (p. 20-13)

28-35 Destination call sign setting (8 characters; fixed)

36-43 R1 (Access repeater) call sign setting (8 characters; fixed)

49-51 R2 (Gateway/Link repeater) call sign setting (8 characters; fixed)

See '• DV TX call signs setting.' (p. 20-14)

52-67 Memory name setting

16 characters (Fixed)

See '• Character code setting.' (p. 20-12)

About clearing operation:

"1A 00" command with the format as below clears the data of the selected memory channel.

2, 3: Memory channel 0 to 99

(4):

5 or later: None

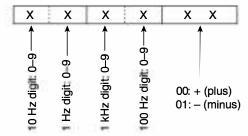
• When the Split function is ON, the data of **5–5** is

NOTE:
• The same data as ⑤—⑤ are stored in ⑤—⑤.
• When the Split function is ON, the data of ⑥ used for transmit.
• Even if the Split function is OFF, enter the dat ⑤—⑥ to match your transceiver. We recomthat you set the same data as ⑥—⑥. • Even if the Split function is OFF, enter the data into **5**–**5** to match your transceiver. We recommend that you set the same data as 5-51.

Data content description (Continued)

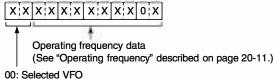
RIT frequency settings

Command: 21 00



Selected or unselected VFO frequency settings

Command: 25

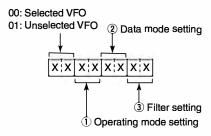


00: Selected VFO 01: Unselected VFO

Selected or unselected VFO's operating mode and filter settings

Command: 26

Both data and filter settings can be skipped. In that case, "DATA OFF" and the default filter setting of the operating mode is automatically selected.



| ① Operating mode | | ② Data mode setting | 3 Filter setting |
|------------------|------------|---------------------|------------------|
| 00: LSB | 05: FM | 00: Data mode OFF | 01: FIL1 |
| 01: USB | 06: WFM | 01: Data mode ON | 02: FIL2 |
| 02: AM | 07: CW-R | _ | 03: FIL3 |
| 03: CW | 08: RTTY-R | _ | |
| 04: RTTY | 17: DV | _ | - 5/ |