

ADVANCED MANUAL

HF ALL BAND TRANSCEIVER 1C-718



Thank you for choosing this Icom product. This product is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of troublefree operation.

ABOUT THE MANUALS

You can use the following manuals to understand and operate this transceiver. (As of November 2024)

TIP: You can download each manual and guide from the Icom website. https://www.icomjapan.com/support/

Enter "IC-718" into the Search box in the site.

• Basic manual (Comes with the transceiver) Instructions for basic operations.

 Advanced manual (This manual) Instructions for advanced operations.

For Reference

HAM Radio Terms (PDF type)
 A glossary of HAM radio terms in English.

TRADEMARKS

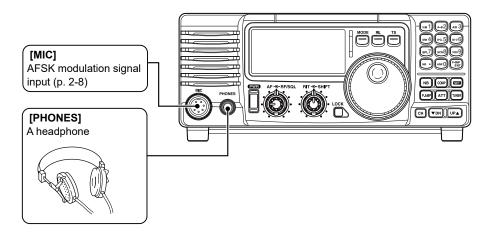
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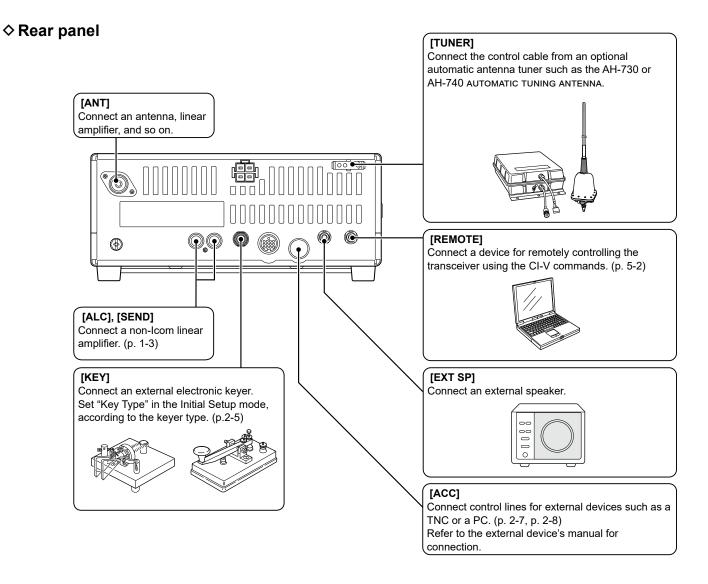
Section 1 ADVANCED CONNECTIONS

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Advanced connections

♦ Front panel



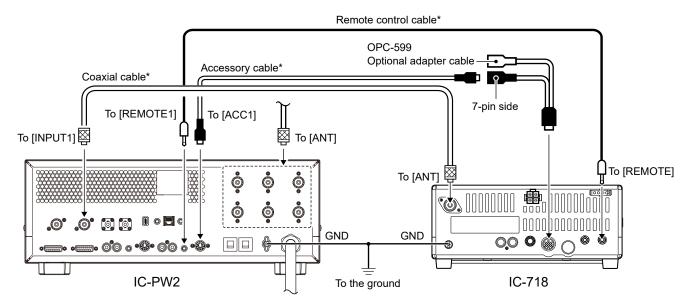


Linear amplifier connections

♦ Connecting an Icom linear amplifier

See the illustration below to connect an Icom linear amplifier. Refer to the amplifier's instruction manual for operation.

Example: Connecting the optional IC-PW2 HF/50 MHz ALL BAND 1 kW LINEAR AMPLIFIER



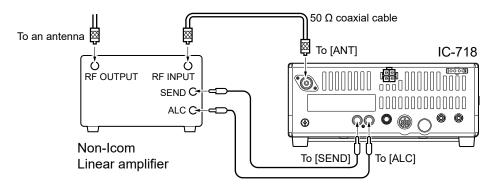
^{*} Supplied with the linear amplifier.

♦ Connecting a non-lcom linear amplifier

△ WARNING!

- Set the transceiver output power and linear amplifier ALC output level referring to the linear amplifier's manual.
- The ALC input level must be from 0 V to -4 V.
- The transceiver does not accept a positive voltage. Therefore, unmatched ALC and RF power settings could cause a fire or ruin the linear amplifier.

NOTE: The specifications for the SEND relay are 16 V DC 2 A. Above this level, larger external relays must be used.



Section 2 ADVANCED OPERATIONS

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2 ADVANCED OPERATIONS

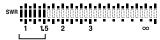
Measuring SWR

The IC-718 has a built-in circuit to measure antenna SWR. No external equipment or special adjustments are necessary.

- 1. Confirm that the output power is over 30 W.
- 2. Push [SET] to display the SWR meter.
 - "SWR" is displayed.



- 3. Push [MODE] to select CW or RTTY mode.
- 4. Push down the Key or push [PTT] to transmit, and then read the actual SWR from the meter.
 - ≤ 1.5: Well matched antenna.
 - ≥ 1.5: Check the antenna or the cable connection, and so on.



Adjust the SWR into this range.

Using an external antenna tuner

Optional external tuner operation

⚠ **DANGER! HIGH VOLTAGE! NEVER** touch the antenna element while tuning or transmitting. Always place it in a secure place.

CAUTION: DO NOT operate the external antenna tuner without an antenna connected. The tuner and transceiver will be damaged.

CAUTION: Transmitting before tuning may damage the transceiver.

NEVER operate the external antenna tuner if it is not grounded.

AH-730

The AH-730 matches the IC-718 to a long wire antenna more than 7 m/23 ft long (3.5 MHz and above).

- · See page 3-4 for connection details.
- See also the antenna tuner's instruction manual for installation and connection details.

AH-740

The optional AH-740 covers 2.5 to 30 MHz range with a supplied whip antenna element. Or when using with the optional NVIS kit, it covers 2.2 to 30 MHz range.

- See page 3-4 for connection details.
- See the AH-740 instruction manual for the installation and connection details.

Tuner operation

NOTE: Antenna tuning is necessary for each frequency.

Retune the antenna before transmitting when you change the frequency, even slightly.

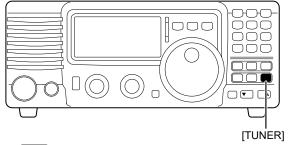
Setting the tuner type

- 1. Hold down [PWR] for 1 second to turn OFF the transceiver.
- 2. While holding down [SET], push [PWR] to enter the Initial Set mode.
- 3. Push [UP▲] or [▼DN] to select "TUNER."
- 4. Rotate [MAIN DIAL] to select "4."

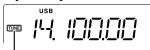
 ① Select "4" when using the AH-730 or AH-740.
- 5. Hold down [PWR] for 1 second to turn OFF the transceiver.
- 6. Push [PWR] to turn ON with the new setting.

Manual tuning

- 1. Set the operating frequency an HF band.
 - The transceiver will not transmit outside the ham bands.
- 2. Hold down [TUNER] for 1 second to start a manual tuning.



- "TUNE" blinks and "CW" is displayed while tuning.
- "TUNE" is continuously displayed when the tuning has been completed.
- ① When the tuning has not been successful, "TUNE" disappears and the antenna tuner is passed through.
- ① To manually bypass the antenna tuner, push [TUNER] to turn it OFF.



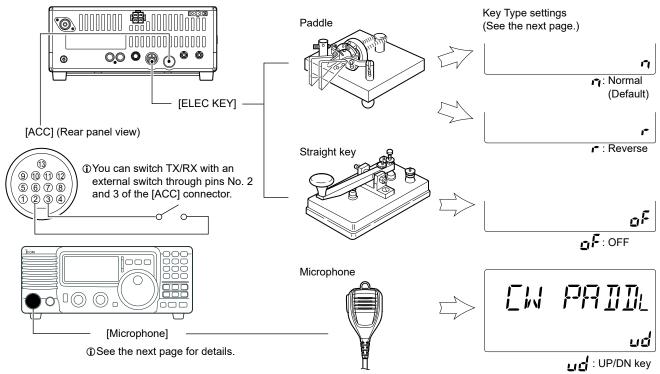
Tuning indicator

- Blinks while tuning.
- · Displayed when the tuning is completed.
- Disappears when the tuning could not be completed.

2 ADVANCED OPERATIONS

Operating CW

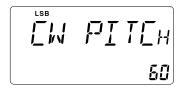
♦ Connection for CW



♦ Setting the CW pitch control

You can set the received CW audio pitch and the CW side tone to suit your preference, without changing the operating frequency.

- Hold down [SET] for 1 second to enter the Quick Set mode.
- 2. Push [▼DN] or [UP▲] to select "CW PITCH."



- 3. Rotate [MAIN DIAL] to set the pitch to between 30 (300 Hz) and 90 (900 Hz).
- 4. Push [SET] to exit the Quick Set mode.

Operating CW

♦ The electronic Keyer function

The IC-718 has an built-in electronic keyer.

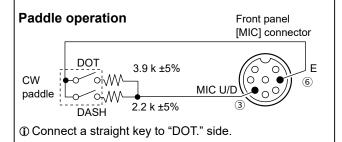
Setting the Key type

- 1. Push [MODE] to select the CW mode.
- 2. While holding down [SET], push [PWR] to turn ON the transceiver.
 - Enters the Initial Set mode and a setting item is displayed.
- 3. Push [UP▲] or [▼DN] to select "CW PADDL."
- 4. Rotate the [MAIN DIAL] to set the paddle type.
 - n: Normal (Default) (for an electronic keyer)
 - r: Reverse (for an electronic keyer)
 - oF: Turns OFF the electronic keyer (for a straight key)
 - ud: For using the microphone's Up/Down keys instead of the paddle
 In this case, you cannot use squeeze keying.
- 5. Hold down [PWR] for 1 second to turn OFF the transceiver.
- 6. Push [PWR] to turn ON the transceiver with the revised settings.

Paddle operation from the [MIC] connector

Connect a CW paddle to the [MIC] connector on the front panel to operate the built-in electronic keyer.

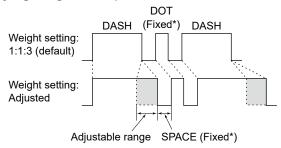
① This function is usable only on the [MIC] connector on the front panel.



Setting the keying weight

- 1. Push [SET] to enter the Quick Set mode.
- 2. Push [UP▲] or [▼DN] to select "KEY RAT."
- 3. Rotate the [MAIN DIAL] to set weight to between 2.8 and 4.5.
- 4. Push [SET] to exit the Quick Set mode.

Keying weight example: morse code "K"

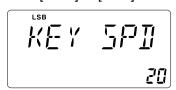


* SPACE and DOT length can be adjusted in "KEY SPD" setting in the Quick Set mode.

Setting the key speed

You can set the keying speed of the internal electronic keyer.

- Hold down [SET] for 1 second to enter the Quick Set mode.
- 2. Push [▼DN] or [UP▲] to select "KEY SPD."



- 3. Rotate [MAIN DIAL] to set the key speed to between 6 and 60 wpm.① Some value may not be selectable.
- 4. Push [SET] to exit the Quick Set mode.

Operating CW

♦ Using the Break-in function

Use the Break-in function in the CW mode to automatically switch between transmit and receive when keying. The IC-718 is capable of operating in the Semi Break-in and Full Break-in modes.

Semi Break-in operation

In the Semi Break-in mode, the transceiver transmits when keying, and then automatically returns to receive after a preset time after you stop keying.

① "BK" is displayed while Semi Break-in is selected.

· Full Break-in operation

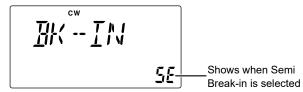
In the Full Break-in mode, the transceiver automatically transmits while keying down, and then immediately returns to receive after keying up.
① "F-BK" is displayed while Full Break-in is selected.

Setting the Break-in function

Before using the Break-in function, set the following items in the Quick Set mode.

- BK-IN (Break-in)
 Set the Break-in type from oF (OFF), SE (Semi Break-in), or FL (Full Break-in).

 "BK" is displayed while Semi Break-in is selected.
 - ① "BK" is displayed while Semi Break-in is selected or "F-BK" is displayed while Full Break-in is selected.
- BK-DELAY (Break-in Delay)
 Sets the delay time the transceiver returns to receive after the desired delay time after you stop.
- 1. Push [MODE] to select the CW (or CW-R) mode.
- 2. Hold down [SET] for 1 second to enter the Quick Set mode.
- 3. Push [UP▲]/[▼DN] to select the "BK-IN."
- 4. Rotate [MAIN DIAL] to set the Break-in type.



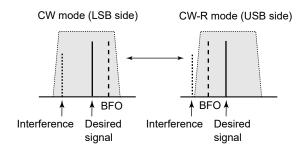
- 5. Push [UP▲]/[▼DN] to select the "BK-DELAY."
- 6. Rotate [MAIN DIAL] to set the Break-in delay time.

7. To exit the Quick Set mode, push [SET].

♦ About the CW Reverse mode

The CW-R (CW Reverse) mode reverses the receive Beat Frequency Oscillator (BFO) to receive CW signals.

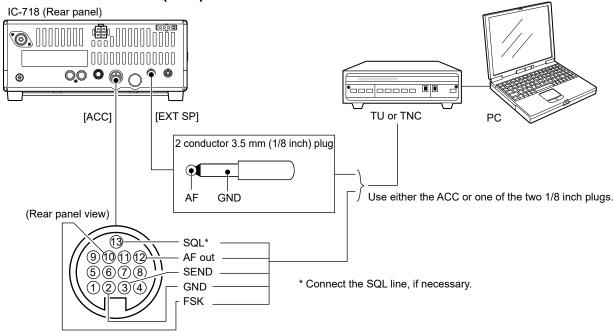
Use this mode when interfering signals are near the desired signal, and you want to use the CW-R to reduce interference.



- 1. Push [MODE] to select the CW mode.
- 2. Hold down [MODE] for 1 second to toggle between the CW and CW-R modes.
 - **REV** is displayed when the CW-R mode is selected.

Operating RTTY

♦ Connections for RTTY (FSK)



♦ RTTY (FSK) operation

- Select the RTTY mode by pushing [MODE].
 Hold down [MODE] for 1 second to select RTTY-R (reverse) mode, if necessary.
- 2. Select the desired tone and shift frequencies.
- 3. Set the desired operating frequency by rotating [MAIN DIAL].
- 4. Start using the PC or TNC (TU).

Presetting for RTTY

Before operating RTTY, set the following items in the Quick Set mode.

- Hold down [SET] for 1 second to enter the Quick Set mode.
- 2. Push [UP▲]/[▼DN] to select a setting item.
- 3. Rotate [MAIN DIAL] to set a value.
 - Tone frequency "TON 2125" Select a tone frequency.
 - Shift frequency "SIFT 170" Select the desired shift frequency.
- 4. Push [SET] to exit the Quick Set mode.

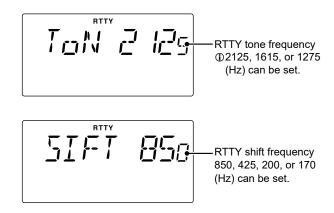
RTTY reverse mode

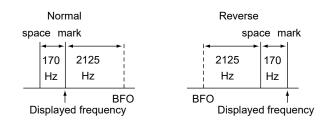
Received characters are occasionally garbled when the receive signal is reversed between MARK and SPACE. This reversal can be caused by incorrect TNC connections, settings, commands and so on.

To receive a reversed RTTY signal correctly, select the RTTY-R (RTTY reverse) mode.

REV is displayed when the RTTY reverse mode is selected.



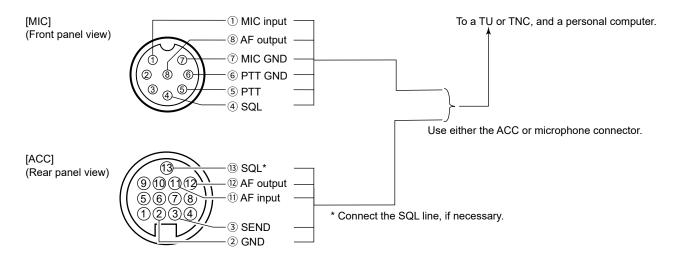




2 ADVANCED OPERATIONS

Operating RTTY

♦ Connections for RTTY (AFSK)



♦ RTTY (AFSK) operation

- Select the SSB (LSB) mode by pushing [MODE].
 Usually LSB is used on the HF bands.
- 2. Select the desired FSK tone frequency, shift frequency, and keying polarity, as described on the previous page.
- 3. Set the desired operating frequency by rotating [MAIN DIAL].
- 4. Start using the PC or TNC (TU).

Section 3 OPTIONS

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Carrying handle	
Mobile mounting bracket	3-3
Connecting an external antenna tuner	3-4

3 OPTIONS

Options

(As of January 2025)

Microphones

HM-219 HAND MICROPHONE
The same as supplied.
SM-30 DESKTOP MICROPHONE
SM-50 DESKTOP MICROPHONE

Speakers

SP-41 EXTERNAL SPEAKER **SP-35** EXTERNAL SPEAKER (Cable length: 2 m, 6.6 ft) **SP-35L** EXTERNAL SPEAKER (Cable length: 6 m, 19.7 ft)

Antennas

AH-5NV NVIS KIT
Use with the AH-740.
AH-710 FOLDED DIPOLE ANTENNA
AH-730 AUTOMATIC ANTENNA TUNER
Input power rating: 150 W Maximum
AH-740 AUTOMATIC TUNING ANTENNA
Frequency coverage with 1.54 m whip antenna:
2.5 MHz ~ 29.9999 MHz

Linear amplifier

IC-PW2 LINEAR AMPLIFIER

Cables

OPC-599 ADAPTER CABLE
13-pin, ACC connector to 7-pin + 8-pin ACC connectors.

OPC-1465 CONTROL CABLE
To connect the AH-730
Approximately 10 m, 32.8 ft

OPC-2321 CONTROL CABLE
To connect the AH-740
Approximately 6 m, 19.7 ft

Others

MB-23 CARRYING HANDLE
MB-118 MOBILE MOUNTING BRACKET

① Some options may not be available in some countries. Ask your dealer for details.

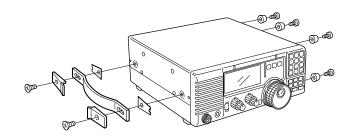
3 OPTIONS

Carrying handle

The MB-23 CARRYING HANDLE allows you to easily carry and transport the transceiver.

Attach the MB-23 with the supplied rubber feet, as shown to the right.

NOTE: Use only the supplied screws to attach the handle. Otherwise, the handle may not be attached correctly and may drop the transceiver.

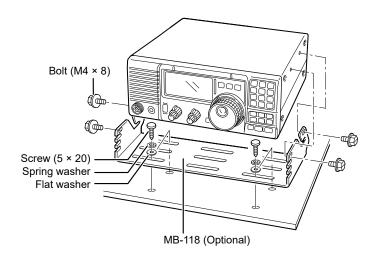


Mobile mounting bracket

The MB-118 MOBILE MOUNTING BRACKET can be used for fixed mounting.

Securely mount the transceiver with the 4 supplied screws (5 × 20) to a thick surface that can support more than 3.8 kg (8.4 lb).

CAUTION: DO NOT use non-supplied screws (longer than 8 mm; 5/16 in) or bolts. Otherwise, the internal equipment of the transceiver may be damaged.



3 OPTIONS

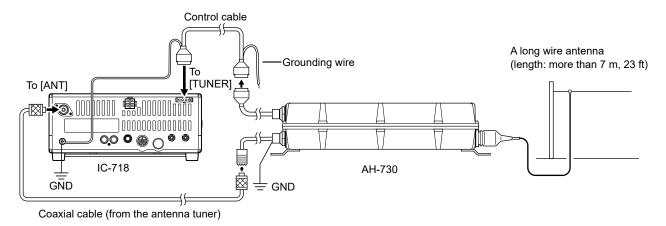
Connecting an external antenna tuner

You can connect an optional external antenna tuner. See the antenna tuner's manual for details.

DO NOT connect two or more antenna tuners at the same time. Both tuners will not function correctly.

NOTE: Before connecting the antenna tuner, turn OFF the transceiver. Otherwise, the transceiver and the antenna tuner may be damaged.

Example 1: AH-730 AUTOMATIC ANTENNA TUNER



Example 2: AH-740 AUTOMATIC TUNING ANTENNA

To [ANT]

To [TUNER]

Control cable (OPC-2321)

GND

GND

Coaxial cable (from the tuning antenna)

Section 4 CONNECTOR INFORMATION

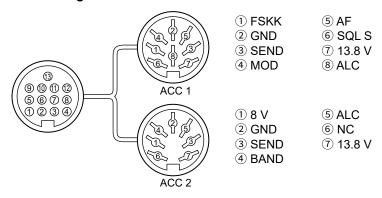
[ACC]	4-2
[MIC]	4-3
- [PHONES]	
- [DC 13.8V]	
- [ANT]	
- [KEY]	4-3
- [REMOTE]	4-4
- [EXT SP]	4-4
- [TUNER]	
- [SEND]	
 [ALC]	

[ACC]

Connects to an external equipment or a PC to control an external unit or the transceiver.

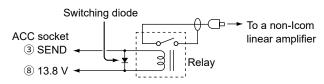
ACC	PIN No.	NAME	DESCRIPTION	SPI	ECIFICATIONS
	1	8 V	Regulated 8 V output.	Output voltage: Output current:	8 V ±0.3 V Less than 10 mA
	2	GND	Connects to ground.		_
	3	SEND	Input/output pin. Goes to ground when transmitting. When grounded, transmits.	Ground level: Input current:	–0.5 V ∼ +0.8 V Less than 20 mA
	4	BDT	Data line for the optional AT-180.		_
(9 00 10 00 (5 6 7 8)	5	BAND	Band voltage output. (Varies with amateur band)	Output voltage:	0 ~ 8.0 V
00000	6	ALC	ALC voltage input.	Control voltage: Input impedance	–4 ∼ 0 V : More than 10 kΩ
Rear panel view	7	NC	_		_
·	8	13.8 V	13.8 V output when power is ON.	Output current:	Less than 1 A
	9	TKEY	Key line for the AT-180.		_
	10	FSKK	RTTY keying input.	Ground level: Input current:	–0.5 ∼ 0.8 V Less than 10 mA
	11	MOD	Modulator input.	Input impedance Input level:	: 10 kΩ Approximately 100 mV rms
	12	AF	AF detector output. Fixed, regardless of [AF] position.	Output impedance Output level:	: 4.7 kΩ 100 ~ 300 mV rms
	13	SQL S	Squelch output. Goes to ground when squelch opens.	SQL open: SQL closed:	Less than 0.3 V/5 mA More than 6.0 V/100 μA

When using the OPC-599 ADAPTER CABLE



When the SEND terminal controls an inductive load, such as a relay, a counter-electromotive force can malfunction or damage the transceiver. To prevent this, we recommend adding a switching diode, such as an 1SS133, on the load side of the circuit to absorb the counter-electromotive force. When the diode is added, a delay in relay switching may occur. Be sure to check its switching action before operating.

(Example) ACC socket



4 CONNECTOR INFORMATION

[MIC]

Connect the supplied microphone. 8-pin connector (600 Ω)

(Front view)

(B) AF output

(C) GND
(Microphone ground)

(C) +8 V DC output

(C) GND
(Microphone ground)

(C) GND
(Microphone ground)

(C) FTT Ground

(C) Squelch line output

[MIC] PIN No.	FUNCTION	DESCRIPTION
2	+8 V DC output	Maximum 10 mA
,	Frequency up	Ground
3	Frequency down	Ground through 470 Ω
4	Squelch open	"LOW" level
4	Squelch close	"HIGH" level

CAUTION: DO NOT short the pin 2 to ground, otherwise the internal 8 V regulator may be damaged. DC voltage is also applied to the pin 1 for a microphone operation. Be careful when using a non-lcom microphone.

[PHONES]

Connect standard stereo headphones: Output impedance: 8 Ω



- ① While headphones are connected, both the internal and external speakers are deactivated.
- ① If you use headphones with high impedance, the output audio may be too loud.

[DC 13.8V]



Rear panel view

Accepts the regulated DC power for 13.8 V DC ±15% through the supplied DC power cable

⚠ **WARNING! NEVER** reverse the DC power cable polarity.

[ANT]



Connect an antenna for HF bands with a PL-259 plug.

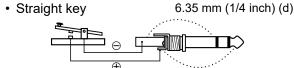
Input/Output impedance: 50 Ω

(unbalanced)

[KEY]

Connect a Paddle key or Straight key.

- ① You can select the key type in "Key Type" item in the Initial Set mode.
- Paddle key 6.35 mm (1/4 inch) (d)



4 CONNECTOR INFORMATION

[REMOTE]

Connects to a PC for remote control using CI-V commands.

3.5 mm (1/8 inch) (d)



[SEND]

An external unit controls the transceiver. When the SEND pin goes to ground, the transceiver transmits.

SEND GND

The terminal goes low when the transceiver transmits.

RCA plug

Connects an external speaker. 2-conductor, 3.5 mm (1/8 inch) (d) Output impedance: 8 Ω

① The internal speaker is deactivated while an external speaker is connected.

[ALC]

When operating with a non-lcom linear amplifier, input ALC voltage (-4 ~ 0 V) from the linear amplifier.



The output impedance and output level differ, depending on the amplifier that is used.

RCA plug



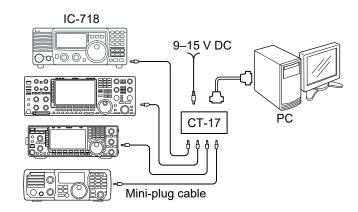
Accepts the control cable from an optional AH-730 or AH-740 automatic antenna tuner.

Section 5 CONTROL COMMANDS

♦ About the data format	5-2
♦ Command table	5-3
♦ Command formats	5-5

The transceiver's operating frequency, mode can be remotely controlled using a PC. The Icom Communications Interface V (CI-V) controls the transceiver. Set the "CI-V address," "CI-V Baud Rate," and "CI-V transceive" function in the Initial set mode. (Refer to the basic manual.)

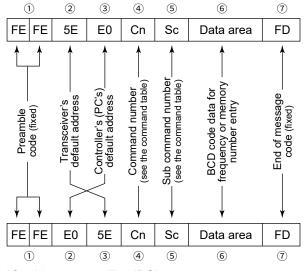
When you remotely control the transceiver, use an optional CT-17 CI-V LEVEL CONVERTER (discontinued product) or cable (user supplied) to connect the PC. The transceiver can be connected through the CT-17 to a PC equipped with an RS-232C port.



♦ About the data format

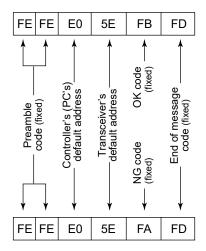
The CI-V system can be written using the following data formats. Data formats differ according to command numbers. A data area or sub command is added for some commands.

Controller (PC) to IC-718



IC-718 to controller (PC)

OK message to controller (PC)



NG message to controller (PC)

♦ Command table

Cmd.	Sub cmd.	Data	Description
00		See	Send frequency data (transceive)
00		p. 5-5	
04		See	Send mode data (transceive)
01		p. 5-5	,
00		See	Read the band edge frequencies
02		p. 5-5	
02		See	Read the operating frequency
03		p. 5-5	
04		See	Read the operating mode
04		p. 5-5	
05		See	Set the operating frequency
03		p. 5-5	
06		See	Set the operating mode
		p. 5-5	
07			Select the VFO mode
	00		Select VFO A
	01		Select VFO B
	A0		Equalize VFO A and B
	- D0		Valid only in the VFO mode.
	В0		Exchange VFO A and B
00			Valid only in the VFO mode.
08		00.04	Select the Memory mode
		00 01 ~	Set Memory CH
		00 99	(00 01=M-CH01, 00 99=M-CH99)
		01 00 01 01	Select program scan edge channel P1
09		0101	Select program scan edge channel P2
			Memory write
0A			Memory copy to VFO
0B			Memory clear
0E	00		Cancel the Scan
	01		Start a Program/Memory scan
	D0		Set Scan Resume function OFF
	D3		Set Scan Resume function ON
0F	00		Set Split function OFF
	01		Set Split function ON
10*		00 ~ 06	Send/read the tuning step
			(00=OFF (10Hz or 1Hz),
			01=100Hz, 02=1kHz, 03=5kHz,
			04=9kHz, 05=10kHz, 06=100kHz)
11*	00	00/01	Send/read attenuator OFF setting
L			(00=OFF (0dB), 01=20dB)
14*	01	00 00 ~	Send/read the AF gain
		02 55	(00 00=Minimum ~ 02 55=Maximum)
	02	00 00 ~	Send/read the RF gain
	02	02 55	(00 00=Minimum ~ 02 55=Maximum)
	03	00 00 ~	Send/read the squelch level
	06	02 55 00 00 ~	(00 00=Minimum ~ 02 55=Maximum) Send/read the NR level
	00	00 00 ~	(00 00=Minimum ~ 02 55=Maximum)
	09	00 00 ~	Send/read CW pitch
	00	02 55	(00 00=300Hz ~ 01 28=600Hz ~
		02 00	02 55=900Hz (in 10Hz steps))
	0A	00 00 ~	Send/read the selected band's RF Power
	0,1	02 55	(00 00=Minimum ~ 02 55=Maximum)
	0B	00 00 ~	Send/read the MIC gain
		02 55	(00 00=Minimum ~ 02 55=Maximum)
	0C	00 00 ~	Send/Read the KEY speed
		02 55	(00 00=6 wpm ~ 02 55=60 wpm)
	0F	00 00 ~	Send/Read the BK-IN Delay
		02 55	(00 00=Minimum ~ 02 55=Maximum)

Cmd.	Sub cmd.	Data	Description
15	01	00/01	Read SQL Open/Close
			(00=Close, 01=Open)
	02	00 00 ~	Read S-meter level
		02 55	(00 00=less than S0, 02 55=S9+60 or
			over)
	11	00 00 ~	Read Po meter level
		02 55	(00 00=no transmission, 02 31=100 W (approximate))
	12	00 00 ~	Read SWR meter level
		02 55	(00 00=SWR1, 02 55=antenna open)
	13	00 00 ~	Read ALC meter level
		02 55	(00 00=minimum, 01 20=S9
			(approximate))
16*	02	00/01	Read/send Preamplifier
			(00=OFF, 01=ON)
	22	00/01	Read/send Noise blanker
			(00=OFF, 01=ON)
	40	00/01	Read/send Noise reduction
			(00=OFF, 01=ON)
	41	00/01	Read/send the Auto Notch function
			(00=OFF, 01=ON)
	44	00/01	Read/send the Compressor function
		00101	(00=OFF, 01=ON)
	46	00/01	Read/send the VOX function (00=OFF, 01=ON)
	47	00/01/	Read/send the Break-In function
	- - ' '	00/01/	(00=OFF, 01=SEMI, 02=FULL)
19	00	02	Read the transceiver ID
19		l	Tread the daliseered in

^{*(}Asterisk) Send/read data

♦ Command table

Cmd	Cub	omd	Doto	Description
Cmd.	_			Description
1A*	01	01	00 00 ~	Read/send VOX gain
			02 55	(00 00=1 ~ 02 51=99, 02 55=H)
		02	00 00 ~	Read/send VOX delay
			00 20	(00 00=0, 00 20=20 second)
		03	00 00 ~	Read/send Anti VOX level
			02 55	(00 00=1 ~ 02 51=99, 02 55=H)
		04	00 28 ~	Read/send Key ratio
			00 45	(00 28=2.8 ~ 00 45=4.5)
		05	00 ~ 02	Read/send RTTY mark tone
		06	00 - 02	(00=1275, 01=1615, 02=2125) Read/send RTTY shift
		06	00 ~ 03	
		07	00 ~ 02	(00=170, 01=200, 02=425, 03:850) Read/send Dimmer
		07	00 ~ 02	
		08	00 00 ~	(00=OFF, 01=Lo, 02=Hi) Read/send Noise blanker level
		00	02 55	(00 00=1 ~ 02 51=99, 02 55=H)
		09	00 ~ 02	Read/send Meter function
		03	00 4 02	(00=Po, 01=ALC, 02=SWR)
		10	See	Read/send Mode select
		10	p. 5-5.	00=OFF, 01=RX, 02=RX&TX
		11	00 00 ~	Read/send RF/SQL VR
		''	02 55	(00=SQL, 01=AUTO, 02=RF&SQL)
		12	00/01	Read/send Beep setting
		'-	00,01	(00=OFF, 01=ON)
		13	00 00 ~	Read/send Beep level
		.	02 55	(00 00=1 ~ 02 55=99)
		14	00/01	Read/send Band Edge Beep setting
				(00=OFF, 01=ON)
		15	00 00 ~	Read/send Side Tone level
		.	02 55	(00 00=1 ~ 02 55=99)
		16	00/01	Read/send Meter peak hold setting
			00,0.	(00=OFF, 01=ON)
		17	00/01	Read/send Scan speed
				(00=Lo, 01=Hi)
		18	00/01	Read/send AM Noise Blanker setting
				(00=OFF, 01=ON)
		19	00/01	Read/send Auto TS setting
				(00=OFF, 01=ON)
		20	00 ~ 03	Read/send KeyType
		-	00/04	(00=n, 01=r, 02=oF, 03=ud)
		21	00/01	Read/send Auto tune setting
		22	00/01	(00=OFF, 01=ON) Read/send PTT Tune setting
		~~	00/01	(00=OFF, 01=ON)
		23	00/01	Read/send Speech Language
			00/01	(00=En (English), 01=JP (Japanese))
		24	00/01	Read/send Speech Speed
				(00=Lo (slow), 01=HI (Fast))
		25	00/01	Read/send Speech S-meter level setting
				(00=OFF, 01=ON)
		26	00/01	Read/send CI-V Transceive setting
				(00=OFF, 01=ON)
		27	00/01	Read/send CI-V 731 mode
				(00=OFF, 01=ON)
		28	00 ~ 05	Read/send Optional Filter selection
				(00=no, 01=52A, 02=53A, 03=96,
			00/5:	04=222, 05=257)
		29	00/01	Read/send Filter Expansion
		20	00 - 07	(00=OFF, 01= ON)
		30	00 ~ 07	Read/send Expanded filter selection
				(Wide)
				(00=no, 01=52A, 02=53A, 03=96,
		31	00 ~ 07	04=222, 05=257, 06=NoR, 07=THU) Read/send Expanded filter selection
		"	30 - 07	(Narrow)
				(00=no, 01=52A, 02=53A, 03=96,
				04=222, 05=257, 06=NoR, 07=THU)
				1 0 . LLL, 00 LOI, 00 HOR, 01-1110)

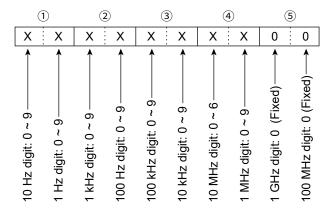
Cmd.	Sub	cmd.	Data	Description
1C*	01		00/01	Send/read the transceiver's status
				(00=RX, 01=TX)

^{*(}Asterisk) Send/read data

♦ Command formats

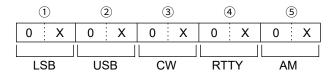
Operating frequency

Command: 00, 03, 05



Mode select

Command: 1A 10



Code	Mode select
00	OFF
01	RX
02	RX & TX

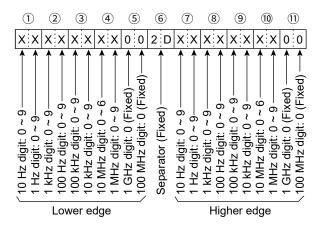
Operating mode

Command: 01, 04, 06

Code	Operating mode
00	LSB
01	USB
02	AM
03	CW
04	RTTY
07	CW-R
08	RTTY-R

• Band edge frequency settings

Command: 02



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