

3-2. THE INITIAL OPERATION

1. Turn OFF the power supply, RC-20, IF-20, and transceivers.
2. Turn ON the power supply.
3. Turn ON the transceiver's power switch.
4. Turn ON the Remote Controller RC-20's power switch.

3-3. THE ORDINARY OPERATION

• MOBILE STATION

RC-20's power switch automatically controls the transceiver (ON/OFF).

CAUTION:

The following transceivers cannot be turned ON or OFF by the RC-20 power switch.

TM-221A/221E

TM-321A

TM-421A/421E

TM-521A/521E

TM-621A

TM-721A/721E

• FIXED STATION

1. Turn ON the power supply.
2. Turn ON the Remote Controller RC-20's power switch.

3-4. MICROPROCESSOR MEMORY BACK-UP

A lithium battery is contained in the IF-20. The battery life is estimated at 5 years. When the battery has been exhausted erroneous information might appear in the display.

Lithium battery replacement should be performed by an authorized KENWOOD service facility, or your authorized KENWOOD dealer.

3-5. OPTIONAL ACCESSORIES

EXTENSION CABLE KIT

PG-4J

MICROPHONE CABLE (Approx. 3 m)

EXTERNAL SPEAKER CABLE (Approx. 3 m)

DC CABLE (Approx. 4 m)

INTERFACE CONNECTING CABLE

PG-4H

For use to connect more than 2 transceivers with IF-20.

INTERFACE

IF-20

INSTRUCTION MANUAL

KENWOOD

KENWOOD CORPORATION

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90/6 5 4 3 2 1 89/12 11 10 9 8 7 6 5 4 3 2 1 '88/12

Thank you for purchasing this new interface.

1. SPECIFICATIONS and ACCESSORIES

1-1. SPECIFICATIONS

Operating temperature	-20°C ~ +60°C
Dimensions	140W × 40H × 140D mm
(Projections included)	141W × 45H × 150D mm
Weight	850 g
Power requirements	13.8 VDC ± 15%
Current drain (IF-20 only)	Less than 1 A
(Receive mode with no signal)	
Output	More than 1.5 W (across 8 ohms load 5% distortion)

Ext. Speaker impedance 8 ohms

Circuit and ratings are subject to change without notice due to advancement in technology.

1-2. ACCESSORIES

Unpack your new equipment carefully, and confirm that the accessories listed below are included in the box.

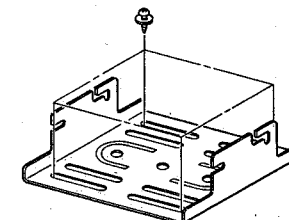
Mobile Bracket	J29-0437-03	1 ea.
Stack plate (L)	J21-4266-04	2 ea.
Stack plate (R)	J21-4267-04	2 ea.
Mounting Kit	N99-0332-05	1 ea.
SEMS Screw		4 ea.
SEMS Screw		4 ea.
Self tapping Screw		4 ea.
Flat Washer		4 ea.
Lead with terminals	E30-2156-05	3 ea.
Connecting Cable	E30-2146-05	2 ea.
Instruction Manual	B50-8283-XX	1 copy
Warranty Card (U.S.A. version, European version)		1 ea.

2. INSTALLATION and CONNECTION

2-1. INSTALLATION

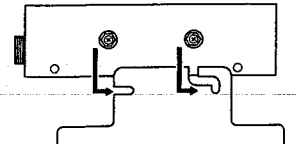
When installing the equipments in a vehicle consider the ease of operation and safety when selecting the location for the mounting bracket.

1. Secure the Bracket using the supplied Flat Washers and Self tapping Screws (4 pieces each).

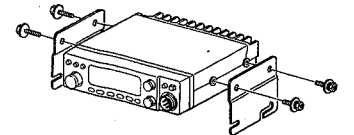


2. Attach the 4 SEMS screws loosely to the IF-20.

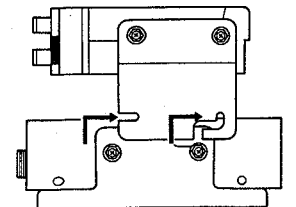
3. Align the grooves in the bracket with the IF-20's screws and slide the IF-20 to the rear.



4. Attach the stack plates with the 4 SEMS screws, that are supplied with transceiver, loosely to the transceiver.

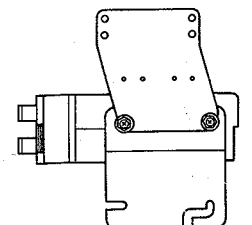


5. Align the grooves in the stack plates with the IF-20's rear screws and slide the IF-20 to the rear.



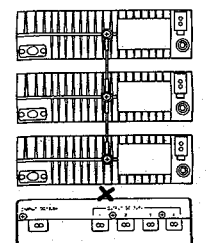
6. Repeat steps 4 and 5 to attach the next transceiver.

7. If you wish to stack 3 or 4 transceivers, use the stack plate supplied with transceivers.



8. Hold the transceivers in place and tighten all the SEMS screws.

9. To reduce the possibility of alternator noise, be sure to connect the supplied ground wire to the rear panel of the transceiver, as shown right figure.



CAUTION:

To prevent injury and other trouble when installing more than 2 transceivers with IF-20 in a vehicle **DO NOT SUSPEND THE BRACKET**, place the unit on the floor.

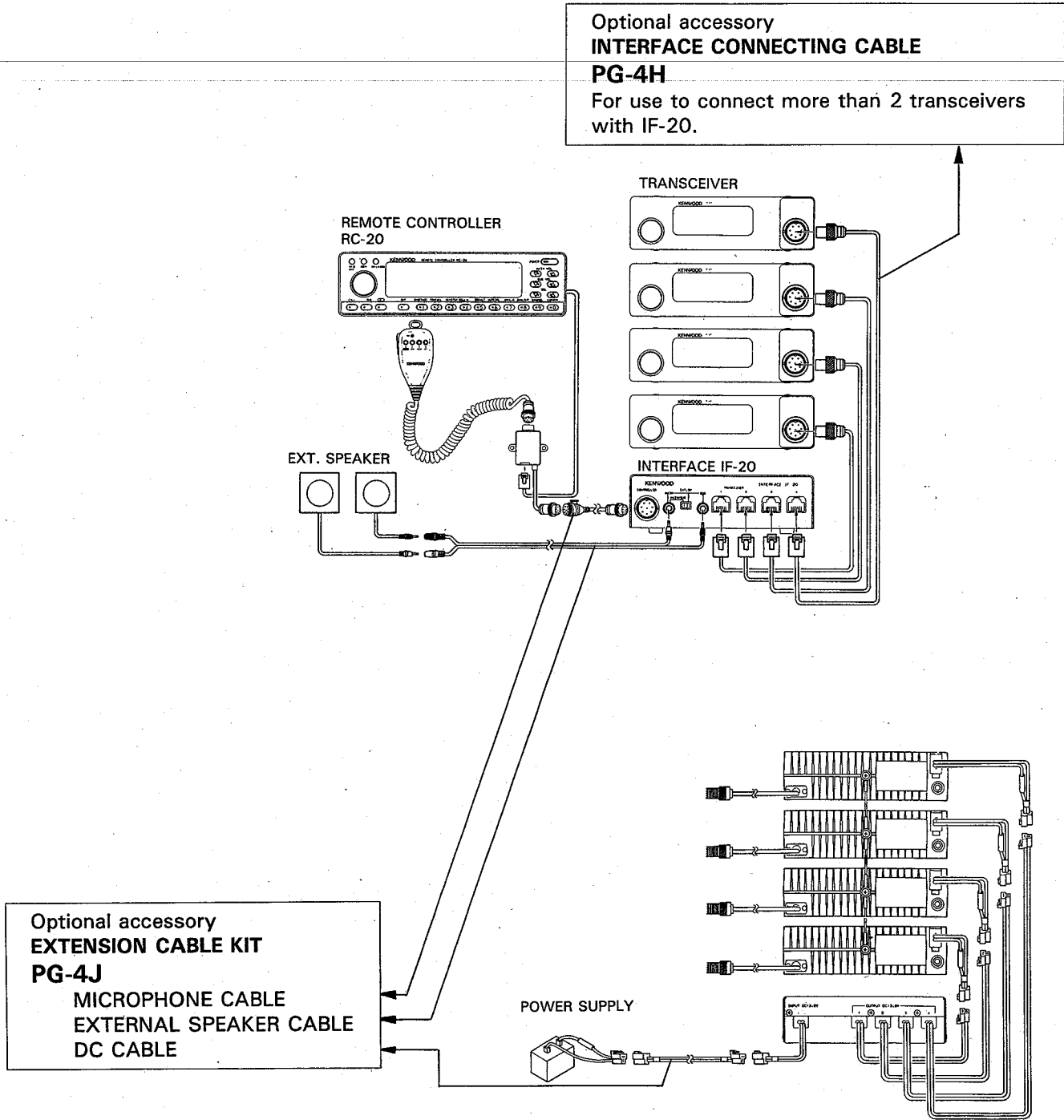
2-2. CONNECTION

CAUTIONS (Mobile installation):

- 1. Before installing the power cable, be sure to remove the negative lead from the battery for safety.
- 2. After installation and wiring, be sure to double check for correct installation before reconnecting the negative lead to the battery terminal.
- 3. After completing the wiring, wrap the fuse holder with heat resistant tape to protect against heat and moisture.

CAUTIONS (Fixed station):

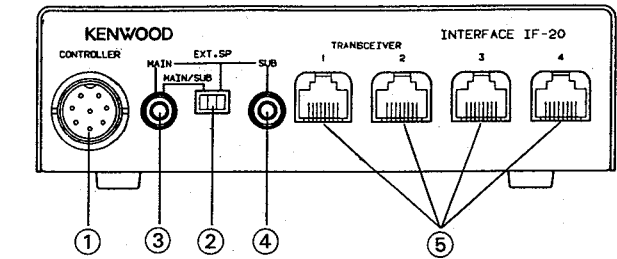
- 1. Before connecting and disconnecting the power connector, be sure to turn off the power switches of both the transceiver and the DC power supply.
- 2. Never connect the AC power cable to the AC outlet until all other connections have been made.



CAUTION:
Connect the DC power connector of the transceiver to the IF-20 DC OUTPUT connector.

3. OPERATION

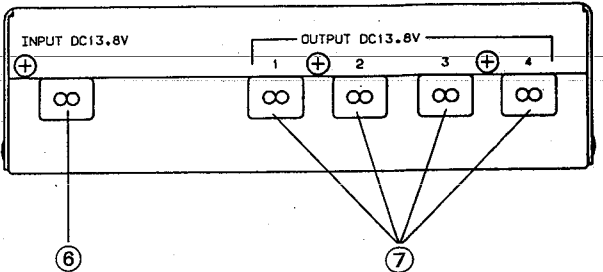
3-1. OPERATING CONTROLS



- ① **RC-20 cable connector**
Connect the RC-20 control cable to this connector.
- ② **External speaker switch**
This switch is used to select MAIN and/or SUB external speaker. Details are tabulated as below Diagram 1.
- ③ **MAIN (MAIN/SUB) EXT.SPEAKER jack**
- ④ **SUB EXT.SPEAKER jack**
- ⑤ **Connector**
Connect the supplied connecting cable to this jack, and the other end of the connector cable to the transceiver.

The initial state of the microprocessor as delivered from the factory is described below.
When two transceivers are connected to the IF-20, couple the transceiver with the lowest connector number to the RC-20 main band and the transceiver with the highest connector number to the RC-20 sub band.

If more than two transceivers are used, connect the transceiver with the lowest connector number to the RC-20 main band.
If connector four is used, couple that transceiver to the RC-20 sub band. IF connector four is not used, connect transceiver on connector number two to the RC-20 sub band.



- ⑥ **13.8 VDC POWER INPUT connector**
Connect the supplied DC Power Cable to this connector. Pay close attention to the polarity; red is positive and black is negative.
- ⑦ **13.8 VDC power OUTPUT connector**
Connect the DC Power Cable of the transceiver to this connector.

Diagram 1

External speaker	Select the MAIN (MAIN/SUB) EXT.SPEAKER jack	Select the SUB EXT.SPEAKER jack
Not connected	Both voice of dual band will be heard from IF-20 internal speaker. ●	Voice of currently displayed band will be heard from IF-20 internal speaker.
Connect a speaker to MAIN jack	Both voice of dual band will be heard from the external speaker. ●	Voice of currently displayed band will be heard from the external speaker.
Connect a speaker to SUB jack	Both voice of dual band will be heard only from IF-20 internal speaker. The external speaker is not active.	Voice of currently displayed band will be heard from IF-20 internal speaker. Voice of not displayed band will be heard from the external speaker. ●
Connect two speakers to both jack	Both voice of dual band will be heard from external speaker connected to the MAIN jack.	Voice of currently displayed band will be heard from the external speaker connected to the MAIN jack. Voice of not displayed band will be heard from the external speaker connected to the SUB jack. ●

●: Recommended connection