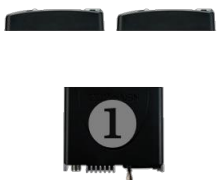
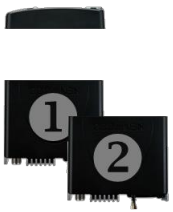
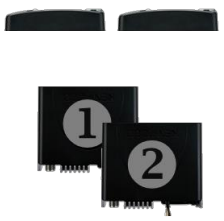
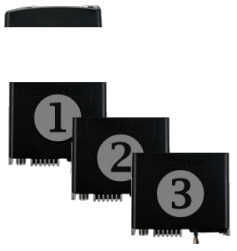
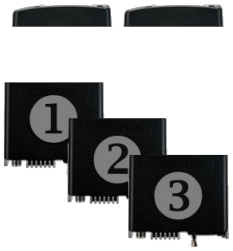
Multi RF Deck / Multi Control Head

The following sections provide a step-by-step instruction on the initial set-up and configuration for the NX-5xxx-series for multiple control heads and multiple RF decks. This includes Single Head, Single Deck.

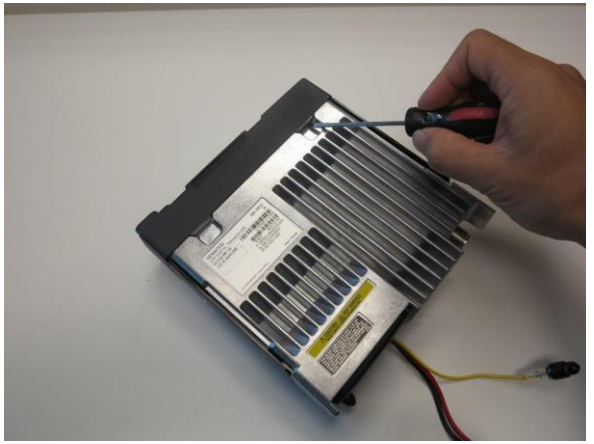
1. Configurations

Select the appropriate configuration for the application.

# of RF Deck	Single RF Deck		Dual RF Deck		Triple RF Deck	
# of Control Head	Single Head	Dual Head	Single Head	Dual Head	Single Head	Dual Head
Six Remote Mount Configuration Designs						

2. Firmware Update

Firmware shall be updated to V1.62 or later for multi-control head / multi-deck support. The firmware shall be identical in each deck and control head for proper operation. During set-up, the firmware shall be updated in each RF deck individually due to architecture of the radio. This shall be done with a single deck connected to a single control head.



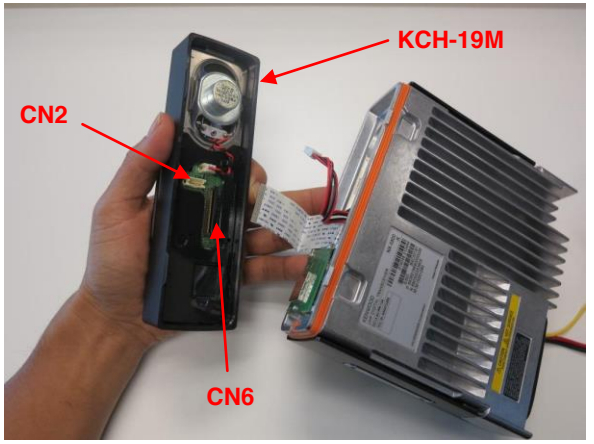
Assemble as follows:

- NX-5000 RF Deck with **KRK-15BM**
- KCH-19M with **KRK-14HM**
  (If used, KCH-20RM requires no assembly)

KRK-15BM Assembly Instruction

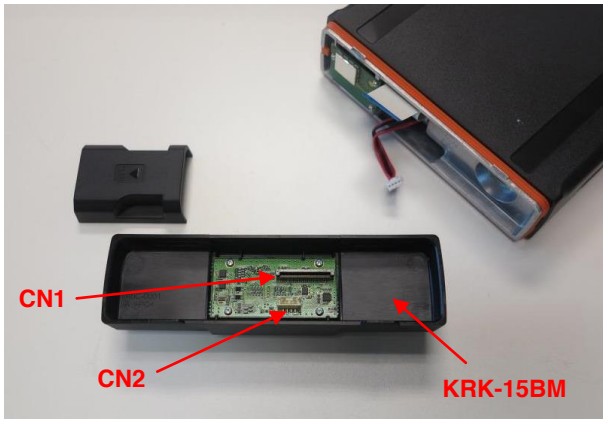
If the radio has been previously configured for dash mounting using the KCH-19M, remove the KCH-19M from the radio(s).
If using the NX-5xxx RF deck only then instruction 1-3 below may be skipped.

1) Lift the two tabs of the panel on the bottom of the radio with a flat-head screwdriver and remove the panel from the chassis <Figure 1>.
2) Remove the flat cable from the display unit connector (CN6) of the panel.
3) Remove the cable from the display unit connector (CN2) of the panel.

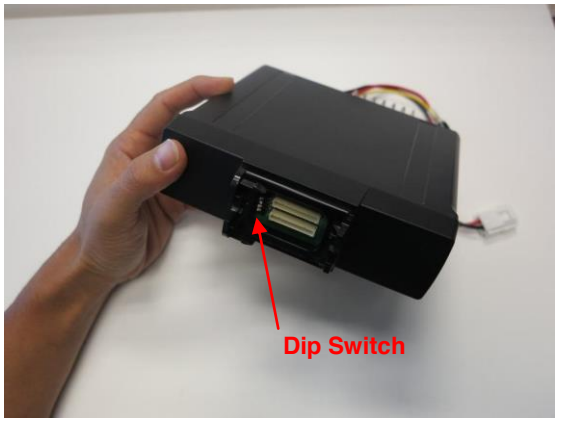


< Figure 2 >

4) Insert the cable into the connector (CN2) of the KRK-15BM <Figure 3>.
5) Insert the flat cable into the connector (CN1) of the KRK-15BM. **Note:** Exercise care when inserting the flat cable into CN1.
6) Fit the KRK-15BM with four tabs onto the front of the chassis. **Note:** Per Figure 4, the dip switch shall be on the left side as shown.



< Figure 3 >



< Figure 4 >

KRK-14HM Assembly Instructions

KRK-14HM is required if the basic head, KCH-19RM is used.
It is not required for the full feature control head, KCH-20RM.

1) Insert the cable into the connector (CN2) of KCH-19M.
2) Insert the flat cable into the connector (CN6) of KCH-19M.
   Note: Exercise care when inserting the flat cable into CN6.
   Note: The position of the flat cable needs to be inserted properly so the traces on the cable line up with the connector CN6.

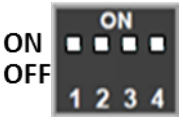

< Figure 5 >


< Figure 6 >

3) Fit the four tabs of the KRK-14HM into the KCH-19M. **Note:** Apply limited pressure to lock in position.

CAUTION:
When writing firmware for the initial setup, verify that he DIP switches (1~4) mounted on each interface adapter (KRK-14H, KRK-15B, and KCH-20R) are set to ON.

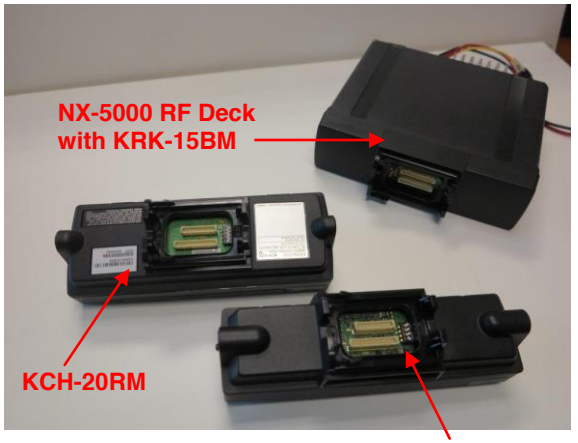
< DIP Switch >



Update Firmware and Radio Feature

Firmware shall be updated in the following items and as shown in Figure 7 to firmwareV1.62 or later.

- NX-5000 RF Deck with KRK-15BM
- KCH-19M with KRK-14HM
- KCH-20RM



< Figure 7 >

Repeat the following steps for the items noted above:

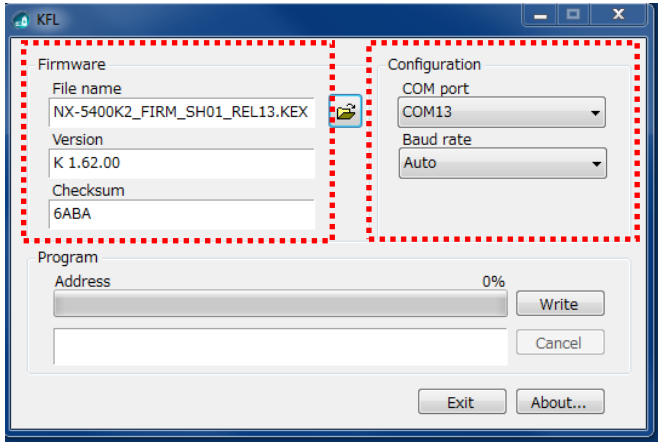
1. Connect a single RF deck with a single control head using the KCT-71 cable as shown in Figure 8 and then power on the radio.

   Note: Connect cable KCT-71 to the top connector of KRK-15BM.

< Figure 8 >

2. Write Firmware

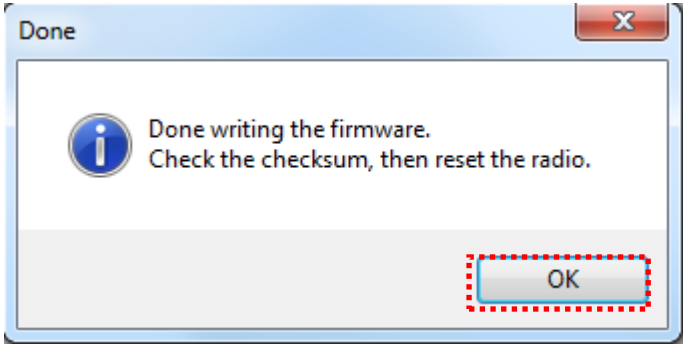
   1) Start up the KFL and open the Firmware for NX-5000 series (Ver.1.62 or later). Set the “COM Port.”. Set the “Baud Rate” to Auto.



   2) Connect the radio to the PC with KPG-46UM or KPG-46XM.

   3) Click the “Write” button of the KFL.

4) Click the “OK” button of the following window displayed after writing is finished.



5) Confirm the firmware checksum in the LCD display to insure that the appropriate firmware has been written.
(If checksum is incorrect, then repeat from procedure 1).

6) Reboot the radio.

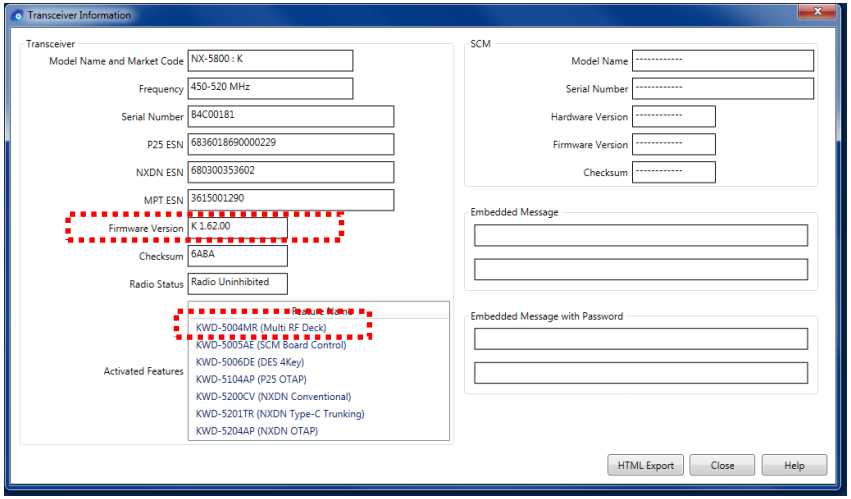
3. Authenticate Radio Feature License “KWD-5004MR”*

* This is necessary only for radios with S/No. B5900000 or earlier.

4. Check Firmware Version and Radio Feature License

1) Confirm that the radio’s data has the correct Firmware Version and Activated Features using the “Transceiver Information” of KPG-D1N.
[Firmware Version] “K 1.62.00” or later
[Activated Features］“KWD-5004MR” (Multi Receive)

2) Power off the radio and remove Head from Deck.

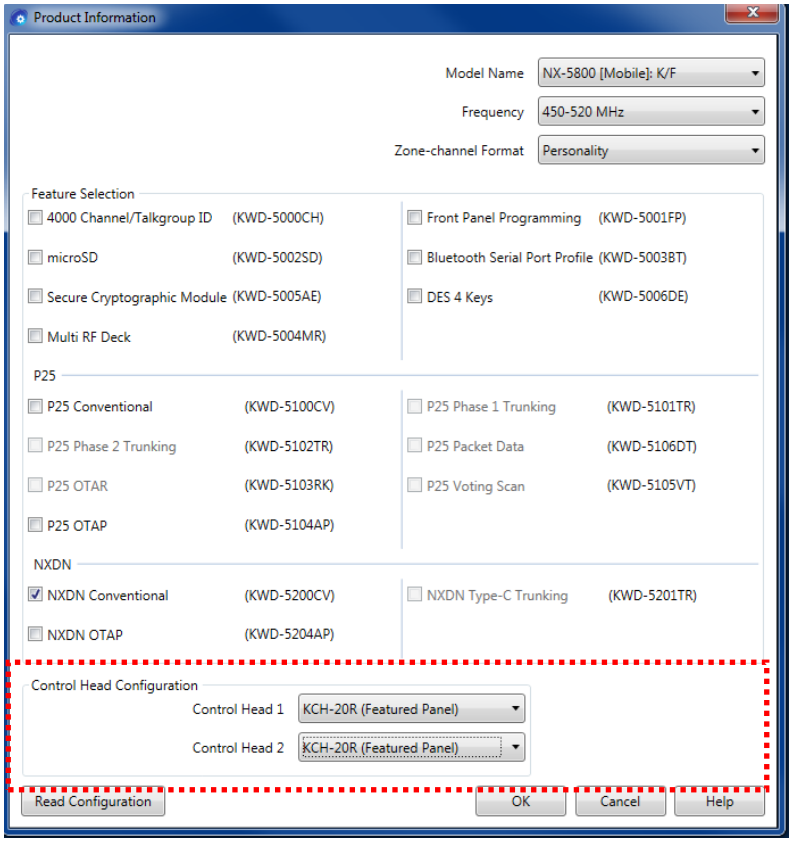


<Transceiver Information on KPG-D1 >

3. Write FPU Data

For Single RF Deck Configuration

1. Launch KPG-D1N
2. Create FPU Data file
   1) If using an existing data file, open the file.
   2) Open Product Information.



   3) Select Control Head 1 and Control Head 2.
   4) Program additional settings.

3. Write FPU Data file

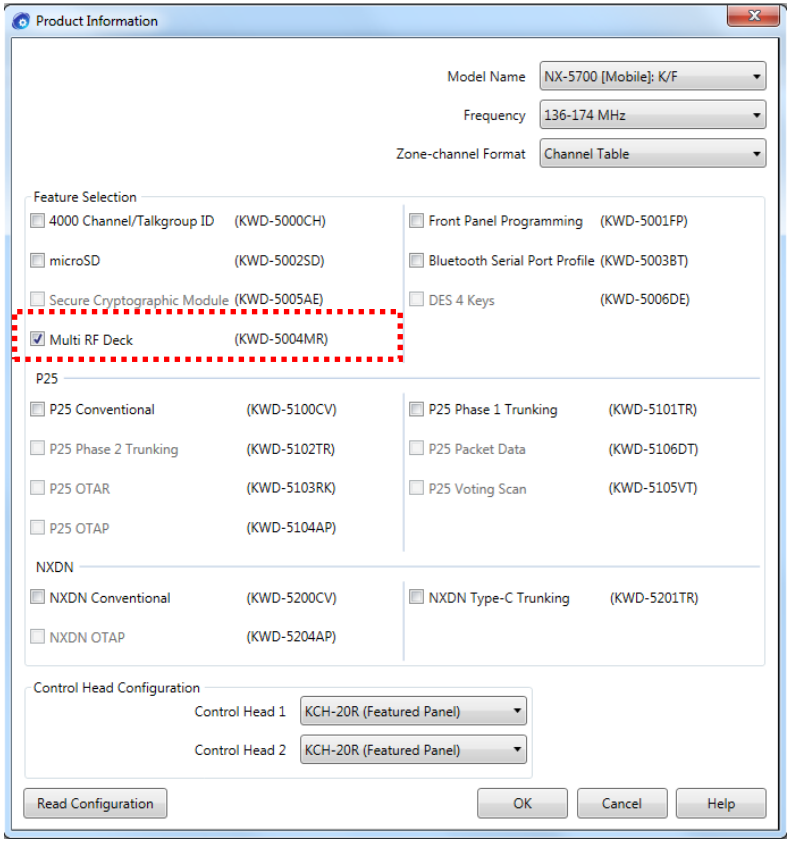
1) Power on the radio.
2) Connect the radio to the PC with the KPG-46 Cable via Control Head 1.
3) Write the FPU Data to the radio by clicking the “Write” button of KPG-D1N.
4) Power off the radio.

For Multi RF Deck Configuration

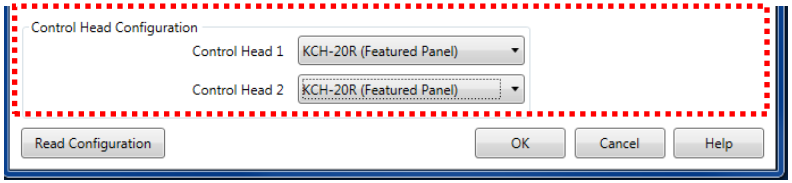
1. Launch KPG-D1N
2. Create FPU Data file for each RF Deck separately

   Note: Repeat this procedure for each RF Deck separately.

   1) If applying existing data file to Multi RF Deck, open the data file.
   2) Open Product Information and enable the Multi RF Deck Feature Selection.



3) Select Control Head 1 and Control Head 2.



4) Program additional settings.

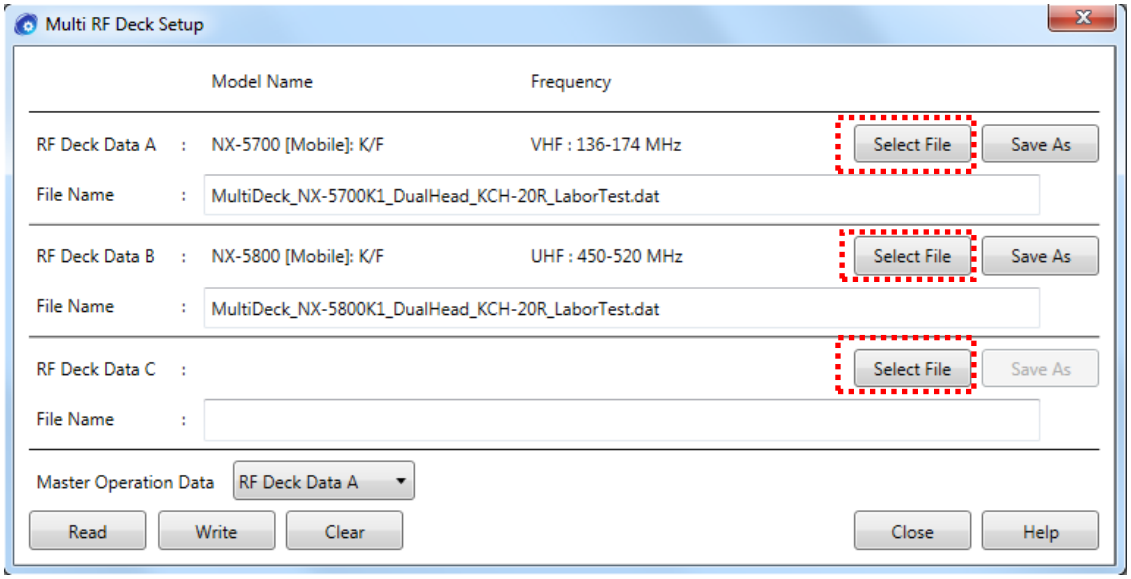
Note: At least one channel shall be programmed.

5) Save the data file.

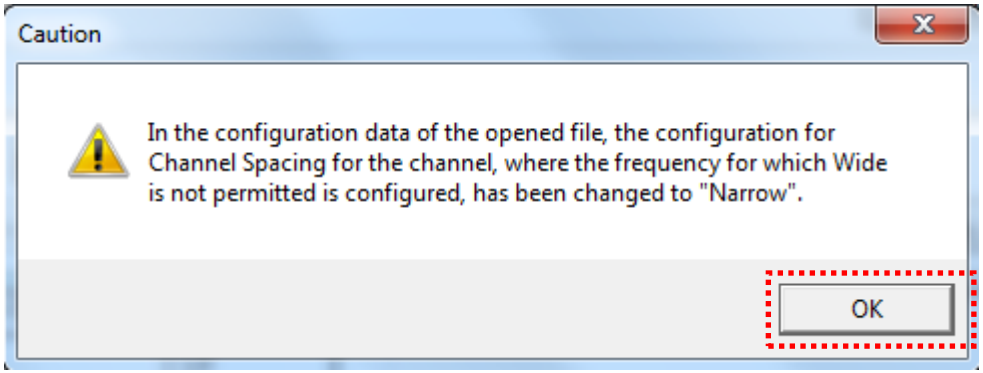
3. Select FPU Data file for Multi RF Deck

1) Program > Multi RF Deck Setup

2) Assign all of the FPU Data saved for each RF Deck to RF Deck Data A/B/C by clicking each Select File button.

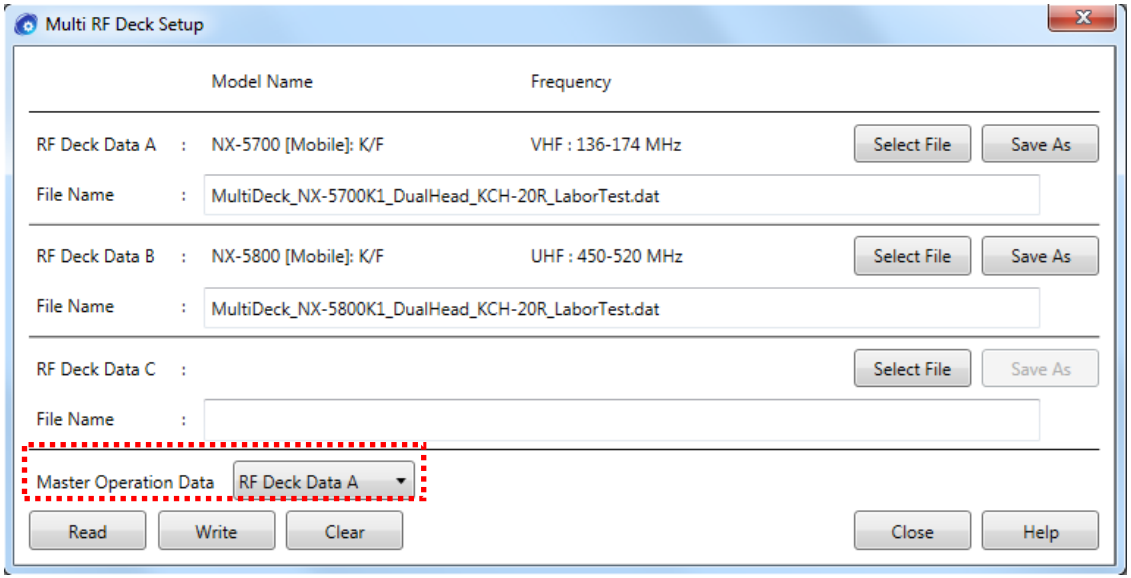


Note: If following window is displayed when FPU Data is opened, press OK Button.



3) Select Master Operation Data* from the Deck Data.

*Master Operation Data is the one used for Key Assignments and Emergency Profiles.



Note: If editing Deck Data for Master Operation Data, perform the following procedure.

i. Close the Multi RF Deck Setup Window by clicking Close button.

ii. Open that Deck Data and edit.

iii. Save that Deck Data

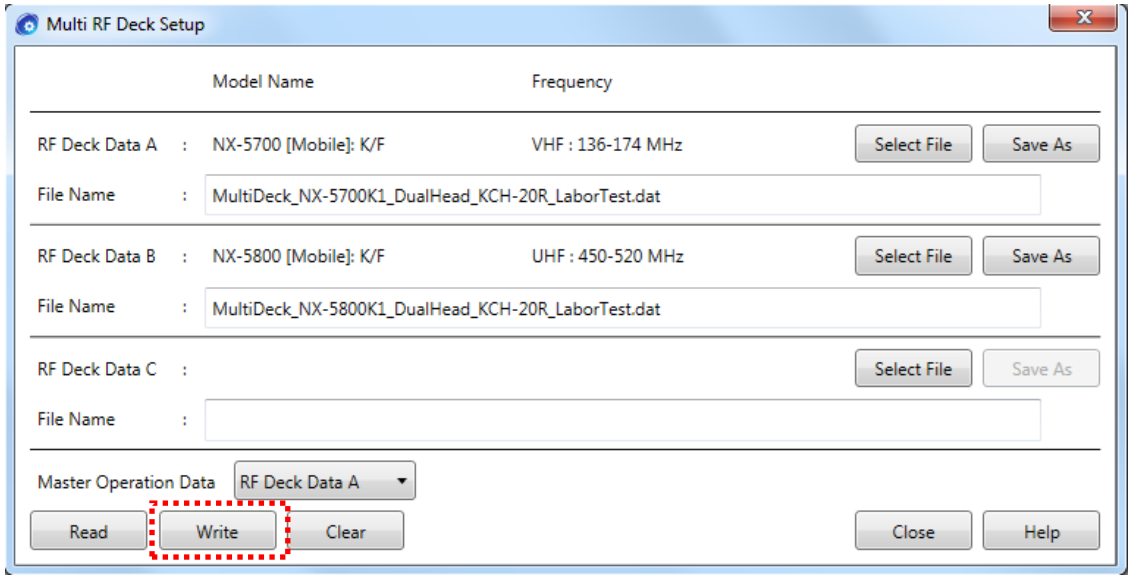
iv. Open the Multi RF Deck Setup Window by Program > Multi RF Deck Setup.

4. Write FPU Data file to each RF Deck separately

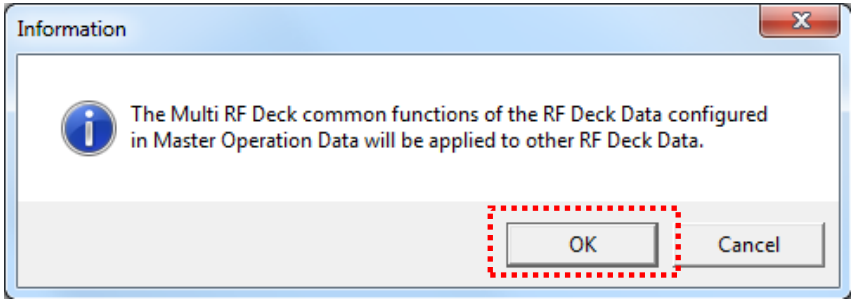
   Note: Repeat this procedure for each RF Deck separately.

   Note: Don't edit any programming set at procedure #3.

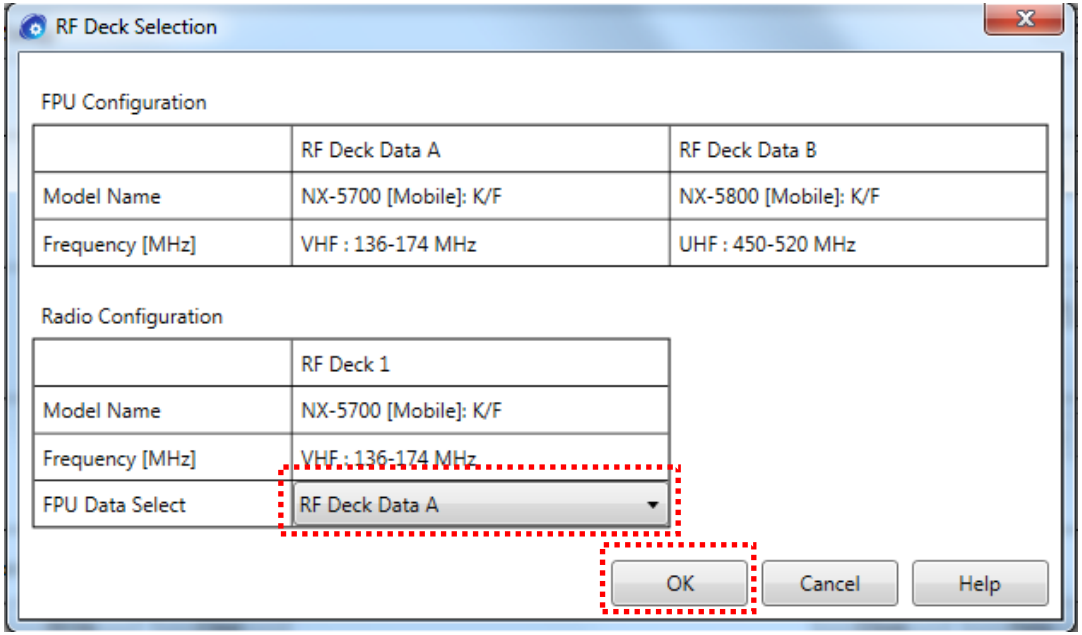
1) Connect Control Head 1 with one of the RF Decks using the KCT-71 cable.
2) Power on and connect the radio to the PC with the KPG-46U/46X.
3) Press "Write" Button.



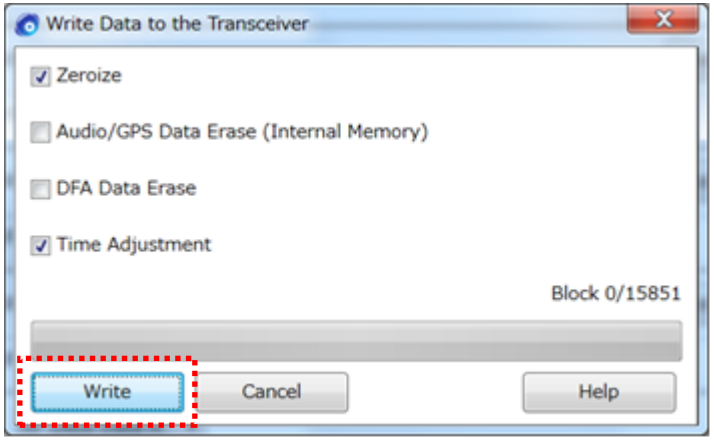
4) Press OK Button.



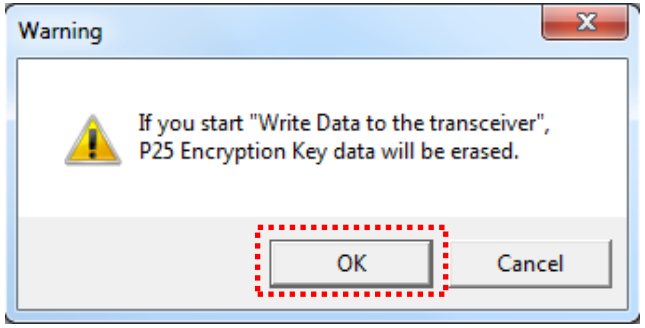
5) Select the “FPU Data Select” of the RF Deck Selection tab to match the radio connected to the PC.
Press OK.



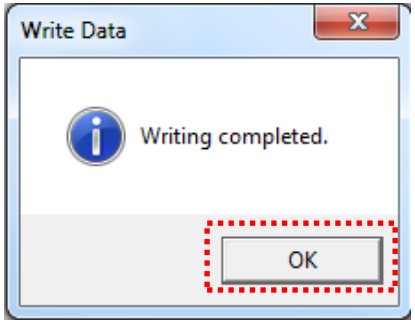
6) Press Write Button.



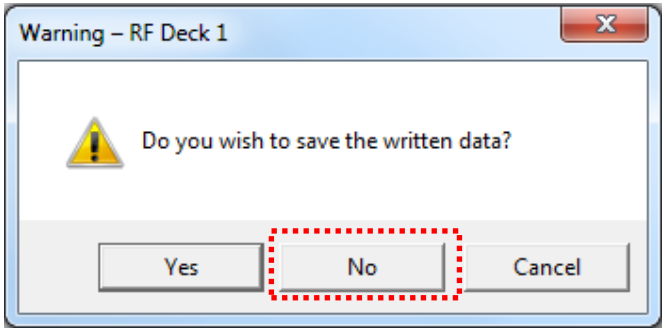
7) Press OK Button .



8) Press “OK” after the Write Data operation has been completed.



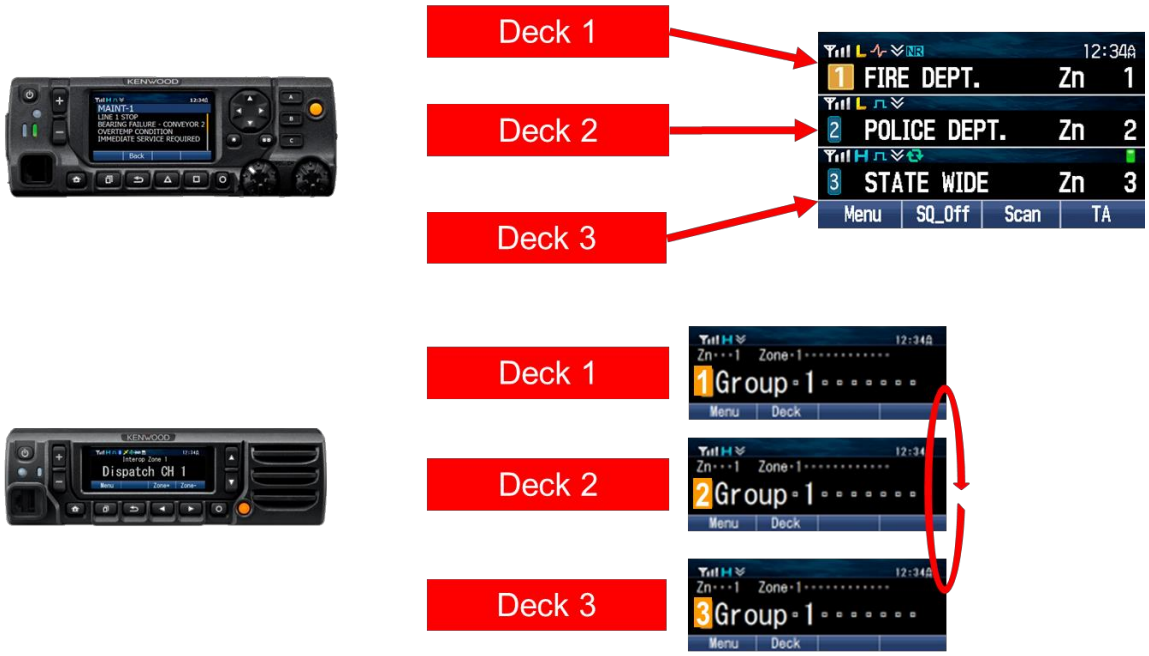
9) Press “No” button.



10) Power off; disconnect the single remote configuration after the FPU Data write has been completed.

4. Assemble Remote Configuration

1. Set DIP switches of each RF Deck and Control Heads as shown in the provided diagrams on next page.
   [Deck No. reflects how they are displayed on the control head.]



2. Connect all necessary KCT-71 cables between RF Decks and Heads as shown in the provided diagrams on next page.

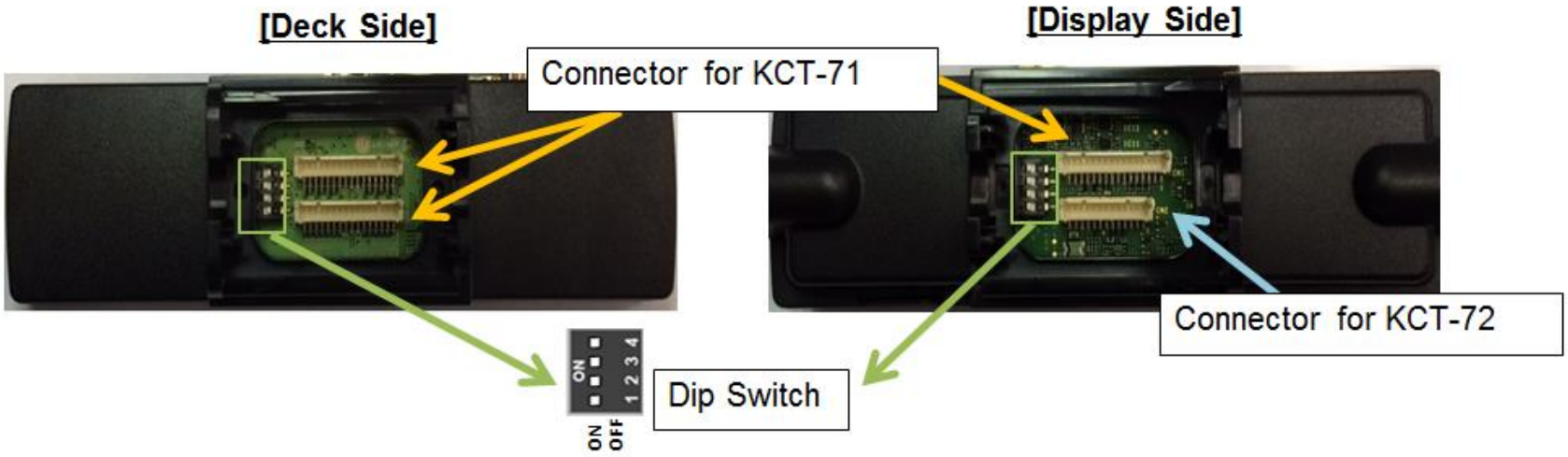
3. Install accessories such as KAP-2, KCT-72 if they are needed.
   (The Service Manual for each model describes the installation and pin position.)

Instruction for Assembling Multi RF Deck/ Display

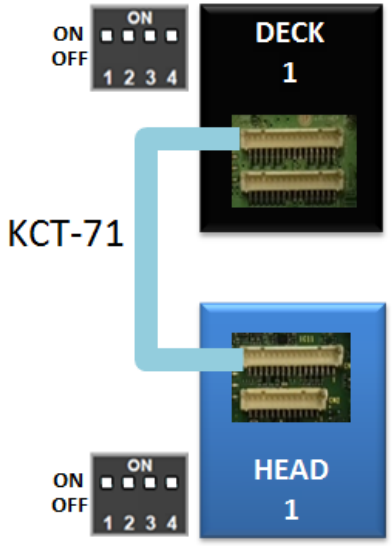
- Please use these instructions to connect the Multi RF Deck/ Display (KCT-71)

- Dip Switch diagrams are used for reference. If Multi RF Deck/ Display was configured at factory dip switches should not be moved.

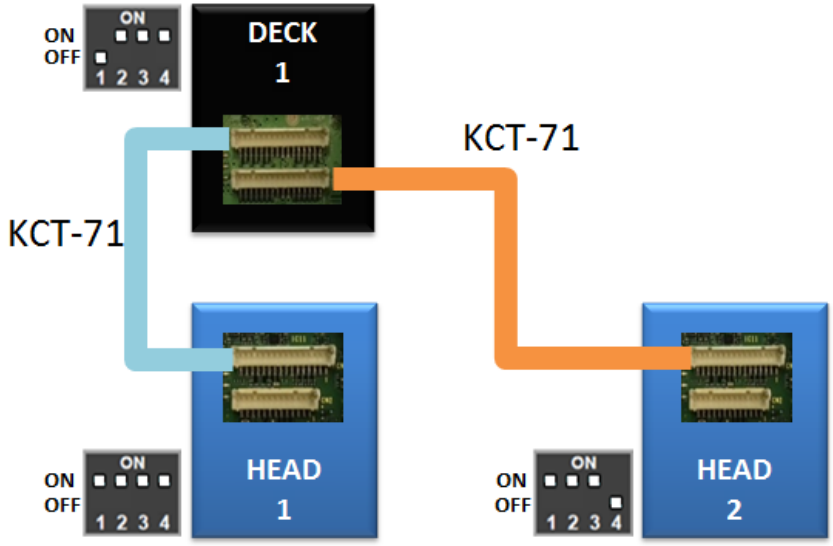
1. How to Assemble Remote Control Mount



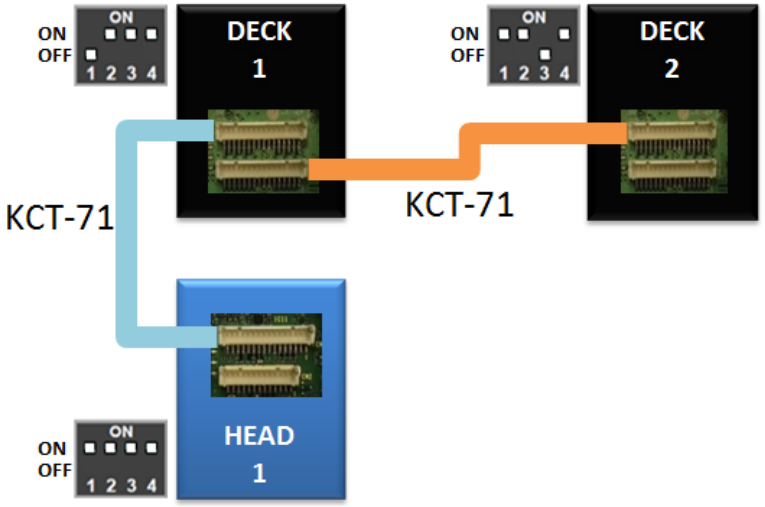
① *Single Deck Single Head Remote Mount*



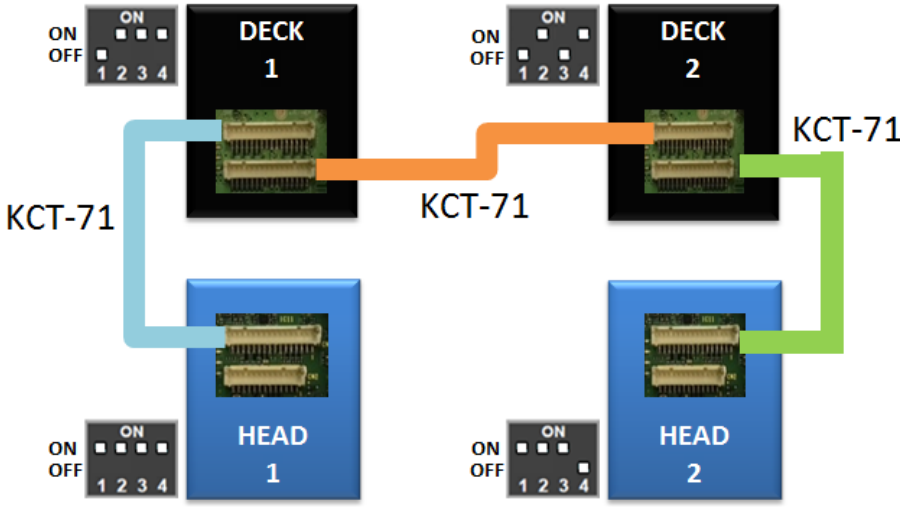
② *Single Deck Dual Head Remote Mount*



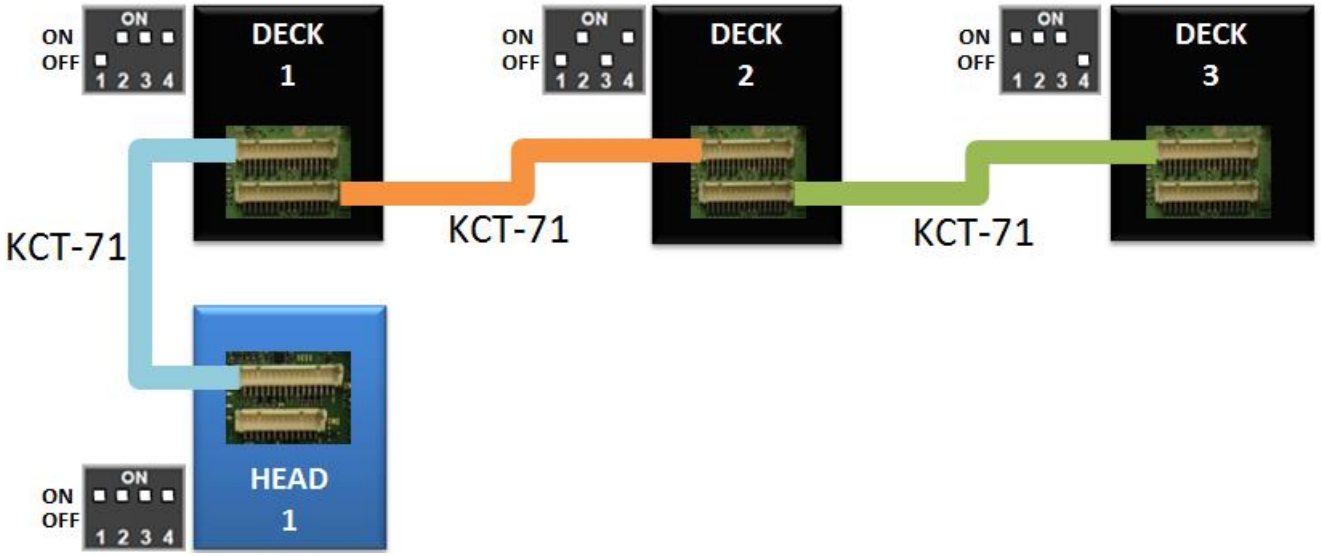
③ *Dual Deck Single Head Remote Mount*



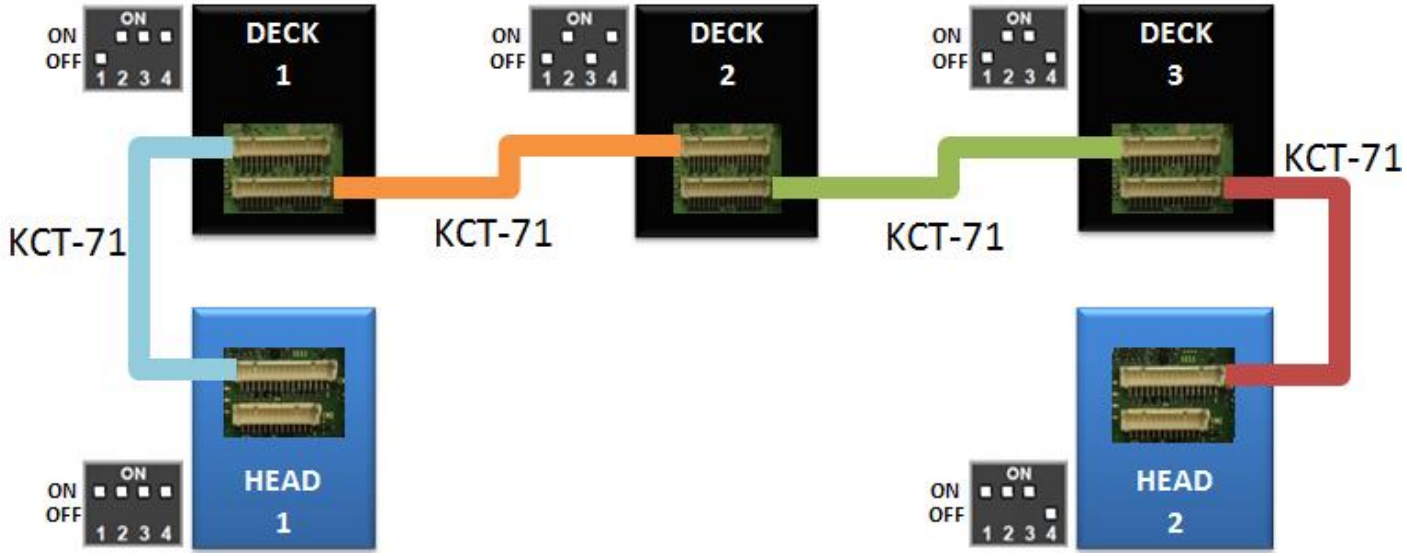
④ *Dual Deck Dual Head Remote Mount*



⑤ *Triple Deck Single Head Remote Mount*



⑥ *Triple Deck Dual Head Remote Mount*



2. Pin position of KCT-72

KCH-20R

Pin No.	Color	Name
1	RED	IGN
2	BLACK	SB
3	LIGHT GREEN	GND
4	LIGHT BLUE	AUX_MIC
5	YELLOW	AUX_ME
6	GRAY	Ai1
7	WHITE	Ai2
8	PURPLE	Ao1
9	PINK	Ao2
10	ORANGE	SP-
11	BROWN	SP+
12	DARK GREEN	GND

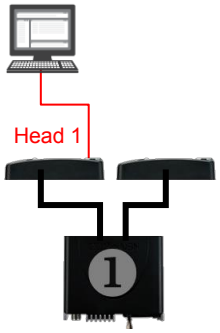
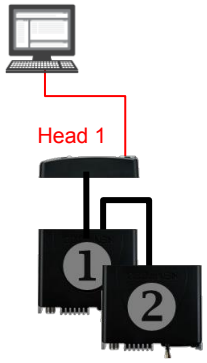
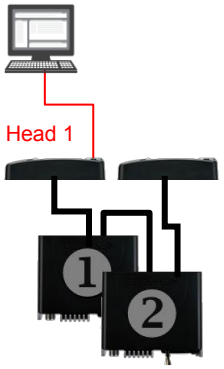
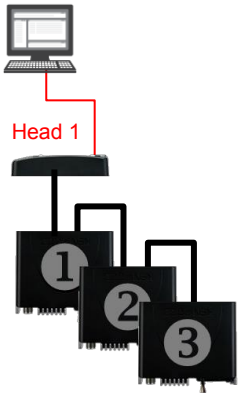
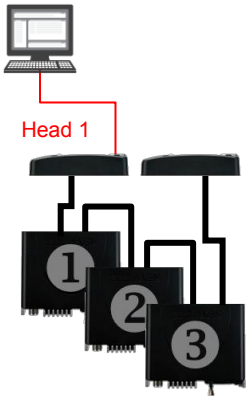
*** KES-5 cannot connect to KCH-19 because KCH-19 does not have speaker output port.**

3. GPS Antenna (KRA040GM)

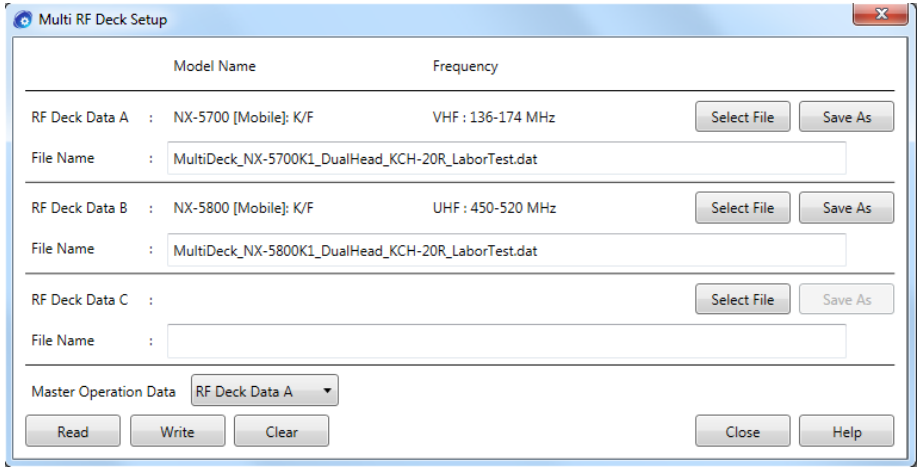
If you use GPS Antenna(KRA-40GM), you can connect KRA-40GM to only Deck 1.
The GPS data is transferred to Deck 2 and Deck 3 from Deck 1.

5. After Initial Setup

After the initial set-up, as described in the previous sections, has been completed, firmware update and FPU programming may be performed via Control Head #1 without disassembling the configuration noted below.

# of RF Deck	Single RF Deck		Dual RF Deck		Triple RF Deck	
# of Control Head	Single Head	Dual Head	Single Head	Dual Head	Single Head	Dual Head
Six Remote Mount Configuration Designs						

FPU Programming



FPU Data Read/Write is performed in the Multi RF Deck Setup menu under Program.

If you have another FPU data file that needs to replace the current selected file, specify the replacement data by “Select File.”

If you need to modify a current selected file, “Save as” the data, first. Then, open the saved file to make changes.

Select the saved file by “Select File”.

Once each deck has a correct data file selected, then “Write” the data through Control Head 1 once.