Kenwood TK-840/940/941 Interface

The following items are included in the Kenwood TK-840/940/941 interface kit:

1. TK-840/940/941 interface cable assembly.
2. 3 short pieces of wire.
3. 3 short pieces of heat shrink tubing.
4. Instruction sheet.

The following steps outline the procedure for interfacing the Kenwood TK-840/940/941 radio to the TrakIt-20. The Kenwood TK-840/940/941 radio can operate in either trunking or conventional mode but the interface will depend upon the mode selected as detailed in the following steps.

1. The enclosed interface cable needs to have one pin installed in the appropriate location. For a Kenwood **TK-840/940/941**, install the loose pin (brown wire) into pin number **10** on the molex end of the interface cable. For a Kenwood **TK-880/980/981**, install the loose pin (brown wire) into pin number **2** on the molex end of the interface cable.

2. For a Kenwood **TK-840/940/941**, the resistor inside of the hood on the DB15 connector needs to be removed. Disassemble the hood, cut the resistor out and reassemble the hood.

3. Set the TrakIt-20 up for a bench test and use the AVL Installer program to set the following operating constants in the installer table to the indicated value:

<div align="center">

Trunking

Transmit indicator active:	Low
Receive indicator active:	High
PTT output active:	Low
Enable mic mute gate on transmit:	Yes
External output active:	Low
External output mode:	Speaker mute

Conventional

Transmit indicator active:	High
Receive indicator active:	High
PTT output active:	Low
Enable mic mute gate on transmit:	Yes
Enable Tx indicator as event 2:	No
External output active:	Low
External output mode:	Speaker mute

</div>

Kenwood TK-840/940/941 Interface (cont.)

2. Configure the following jumpers as indicated:

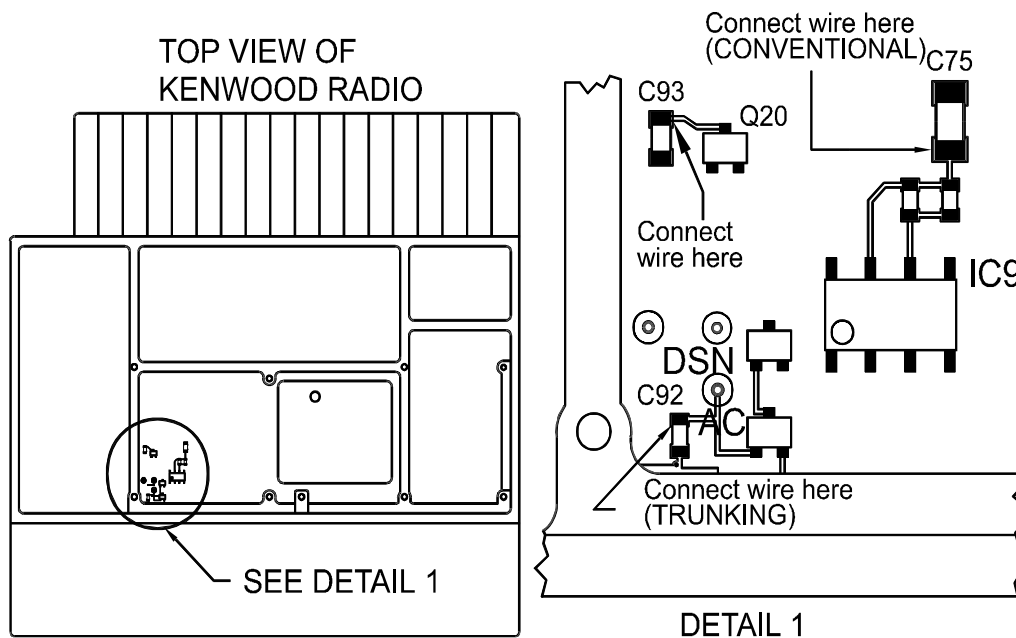| Trunking		Conventional	
JP1	Installed	JP1	Installed
JP4	B-C	JP4	A-B

3. Install the KCT-19 accessory connection cable into the TK-840/940/941 radio by following the instructions in the TK-840/940/941 service manual. The cable connectors should be connected to the TX-RX unit as follows:

Cable	TX-RX unit
B	CN4
C	No connection
D	CN1
E	CN2

4. Place the speaker and speaker holder off to the side and remove the shield cover located beneath the speaker.

5. Locate capacitor C93 and solder a piece of wire to the side of C93 that is connected to Q20 as shown in the following diagram.

6. **Trunking only**: Locate capacitor C92 and solder a piece of wire to the side of C92 that is connected to the hole labeled "AC" as shown in the following diagram.
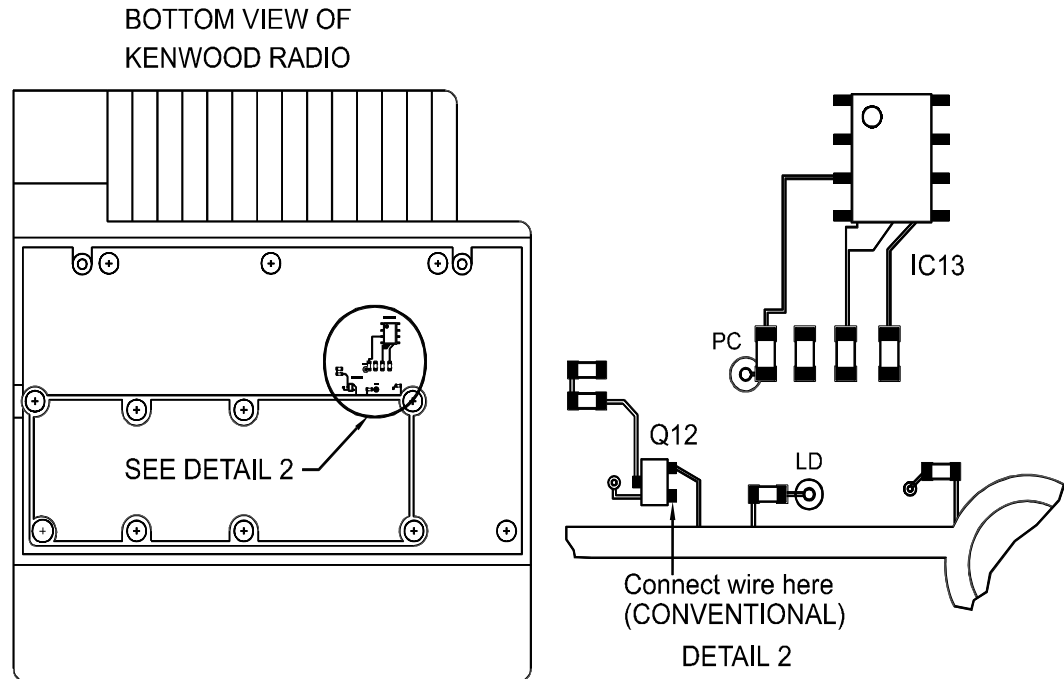
    Conventional only: Locate capacitor C75 and solder a piece of wire to the side of C75 that is connected to pin 7 of IC9 as shown in the following diagram.

Kenwood TK-840/940/941 Interface (cont.)

TOP VIEW OF
KENWOOD RADIO

SEE DETAIL 1

Connect wire here
(CONVENTIONAL) C75

C93

Q20

Connect
wire here

IC9

DSN

C92

AC

Connect wire here
(TRUNKING)

DETAIL 1

7. Cut the brown wire going to pin 1 of connector B (the larger 3 position connector) on the KCT-19 cable. Place a piece of heat shrink tubing on this wire and solder this wire to the wire that was soldered to C93.

8. **Trunking only**: Cut the gray wire going to pin 8 of connector D (the 8 position connector) on the KCT-19 cable. Place a piece of heat shrink tubing on this wire and solder this wire to the wire that was soldered to C92.

   Conventional only: Cut the brown wire going to pin 1 of connector D (the 8 position connector) on the KCT-19 cable. Place a piece of heat shrink tubing on this wire and solder this wire to the wire that was soldered to C75.

9. Move the heat shrink tubing into place and shrink it.

10. Replace the shield cover making sure the wires pass through slots in the cover without being pinched.

11. **Conventional only**: On the bottom side of the radio, locate transistor Q12 and solder a piece of wire to Q12 as indicated in the following diagram. Pass this wire through a hole in the PC board to the top side of the radio.

Kenwood TK-840/940/941 Interface (cont.)

BOTTOM VIEW OF
KENWOOD RADIO

SEE DETAIL 2

IC13

PC

Q12

LD

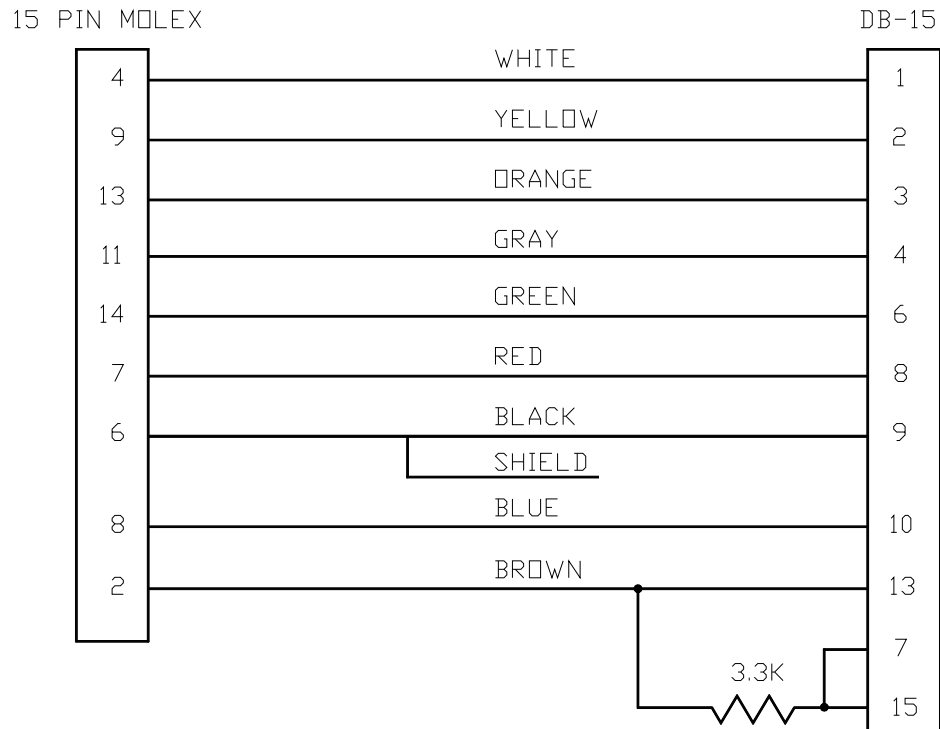Connect wire here
(CONVENTIONAL)
DETAIL 2

12. **Conventional only**: Cut the white wire going to pin 1 of connector E (the smaller 3 position connector) on the KCT-19 cable. Place a piece of heat shrink tubing on this wire and solder this wire to the wire that was soldered to Q12 in the previous step. Move the heat shrink tubing into place and shrink it.

13. Replace the speaker holder, speaker, and the radio covers.

14. Connect the DB-15 end of the TK-840/940/941 interface cable to the DB-15 connector on the back of the TrakIt-20.

15. Connect the Molex plug end of the TK-840/940/941 interface cable to the KCT-19 cable.

16. Check the TrakIt-20's audio levels by performing the alignment procedure described in the TrakIt-20 manual.

NOTE: When programming the TK-840/940/941 radio, be sure to set "Access logic sig" in the Feature Option screen to continuous if the radio is being used in trunking mode. This will allow the TrakIt-20 to detect when the TK-840/940/941 radio is transmitting. If the radio is being used in conventional mode, set "Off hook decode" in the Feature Option screen to enabled. This will prevent the TrakIt-20 from receiving data transmissions that are being sent to mobiles with a different ID. Also, for either mode, if there will not be any voice transmissions, set "Minimum volume" to 0 in the Feature Option screen.

Kenwood TK-840/940/941 Interface (cont.)

TK-840/940/941 Interface Cable


```
15 PIN MOLEX                                        DB-15

   4    ──────────── WHITE ────────────    1

   9    ──────────── YELLOW ───────────    2

  13    ──────────── ORANGE ───────────    3

  11    ──────────── GRAY ─────────────    4

  14    ──────────── GREEN ────────────    6

   7    ──────────── RED ──────────────    8

   6    ──────────── BLACK ────────────    9
              ┌───── SHIELD
              │      BLUE
   8    ──────────── BLUE ─────────────   10

   2    ──────────── BROWN ───────────┐   13

                                      │   7
                         3.3K         │
                        ──/\/\/──────┘   15
```

KENWOOD TK-840/940/941 INTERFACE CABLE KIT
800-2080

Item	Description	Part No.	Qty.
1	HEAT SHRINK TUBE 3/8	199-6099	1
2	SCREW/CLIP KIT	231-0014	1
3	MOLEX PIN MALE	231-0034	9
4	CONN DB15 MALE	231-0035	1
5	COVER DB15	231-0036	1
6	CONN 15 POS MOLEX	231-0054	1
7	3.3K RESISTOR	312-0035	1
8	10 COND CABLE	800-1115	6”

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