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INTERFACE CABLE

KCT-31

SERVICE MANUAL

KENWOOD

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CONTENTS

| | |
|-------------------------|---|
| OUTLINE | 2 |
| FEATURES | 2 |
| TERMINAL FUNCTION | 2 |
| INSTALLATION | 2 |
| PARTS LIST | 3 |
| SCHEMATIC DIAGRAM | 3 |
| PC BOARD VIEWS | 4 |

KCT-31

OUTLINE/FEATURES/TERMINAL FUNCTION/INSTALLATION

OUTLINE

- The KCT-31 is a RS-232C interface cable for LMR Mobile radios, TK-780,880,980,981 and TK-785,885.
The 9-pin (D-sub) connector is connected to an external RS-232C terminal.
The other end of the cable is connected to the internal connector of LMR mobile radio.
Note: You cannot write a firmware with the KCT-31.

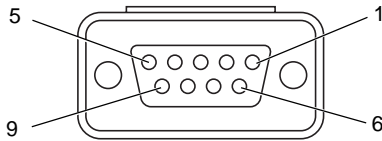
FEATURES

- This KCT-31 has a RS-232C-TTL level interface circuit.
- This KCT-31 does not require an external power supply.
- This KCT-31 can be used up to 9600 bps.
- Compatible with an ER terminal of DTE that has the voltage 6V or more.

TERMINAL FUNCTION

D-SUB Connector

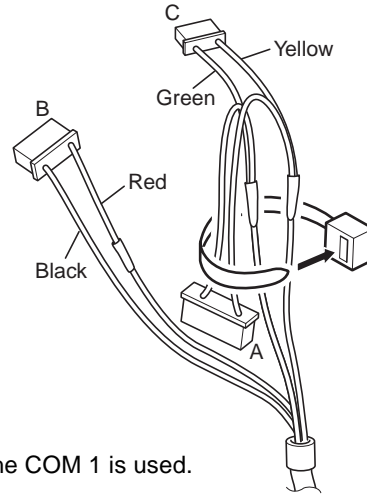
| Pin No. | I/O | Port Name | Function |
|---------|-----|-----------|---------------------|
| 1 | I | CD | Carrier detect |
| 2 | I | RD | Receive data |
| 3 | O | SD | Transmit data |
| 4 | O | ER | Data terminal ready |
| 5 | - | SG | Signal ground |
| 6 | I | DR | Data set ready |
| 7 | O | RS | Request to send |
| 8 | I | CS | Clear to send |
| 9 | - | CI | Ring indicator |



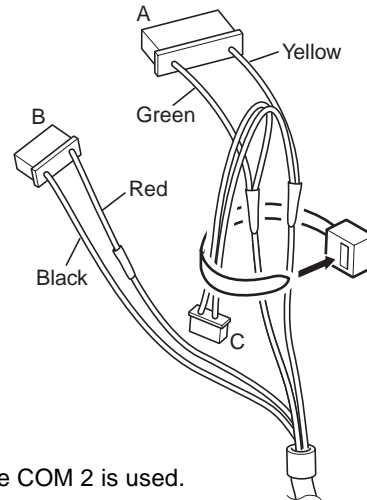
INSTALLATION

Note: When the COM 1 is used, A connector is unused.
When the COM 2 is used, C connector is unused.

- Bind the unused connector to the cable with a retaining band as shown.



When the COM 1 is used.



When the COM 2 is used.

Fig. 1

| connector | A | B | C |
|-----------|-----|-----|-----|
| COM1 | NO | YES | YES |
| COM2 | YES | YES | NO |

- Make sure the unit's power is tuned off.

INSTALLATION/PARTS LIST/SCHEMATIC DIAGRAM

- Remove the upper case of the transceiver and lift the DC cable bushing (1) from the chassis.
- Remove the pad as shown in figure2 (2).

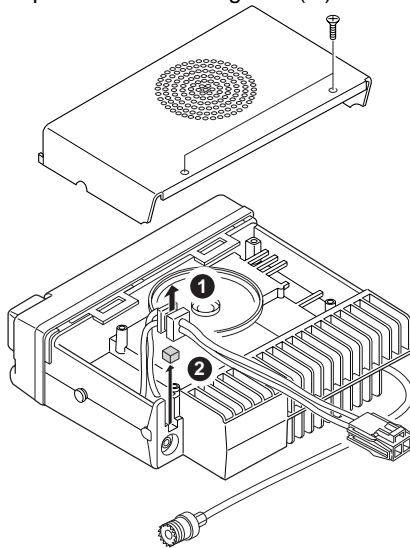


Fig. 2

- Insert the KCT-31 cable (3) into the chassis (4). The wire retaining band (5) must be inside the chassis.
- Replace the DC cable bushing (6).
- Connect the KCT-31 to the TX-RX unit (A/2) as shown in figure 3 (7).
- Replace the upper case.

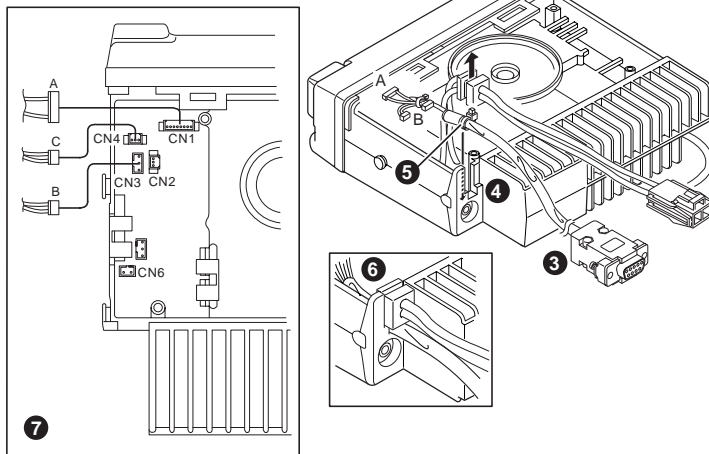


Fig. 3

When using a COM2 port, replace the 47 k Ω (R675) chip resistor on the TX-RX unit B/2 with a 4.7 k Ω resistor.

Original
47k Ω (RK73GB1J473J) → New
4.7k Ω (RK73GB1J472J)

Note:

The above modification has already been applied to the TK-780/TK-880 transceivers with a serial number of 30200001 or greater.

Note:

Enable the Serial Port function on the terminal. Refer to the service manual of each radio or the help file that came with the FPU (Field Programming Unit) for details.

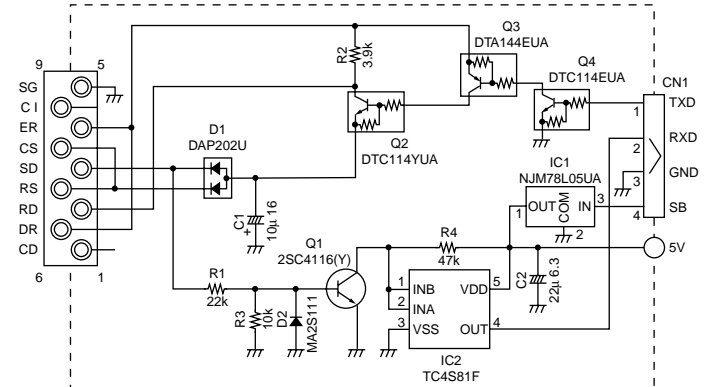
PARTS LIST

* New Parts. Δ indicates safety critical components.
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

KCT-31

| Ref. No. | Address | New parts | Parts No. | Description | Destination |
|---------------|---------|-----------|--------------|---------------------|-------------|
| KCT-31 | | | | | |
| C1 | | | C92-0601-05 | ELECTRO 10UF 16VV | |
| C2 | | | C92-0712-05 | CHIP-TAN 22UF 6.3VV | |
| D1 | | | DAP202U | DIODE | |
| D2 | | | MA2S111 | DIODE | |
| IC1 | | | NJM78L05UA | BI-POLAR IC | |
| IC2 | | | TC4S81F | MOS IC | |
| Q1 | | | 2SC4116(Y) | TRANSISTOR | |
| Q2 | | | DTC114YUA | TRANSISTOR | |
| Q3 | | | DTA144EUA | TRANSISTOR | |
| Q4 | | | DTC114EUA | TRANSISTOR | |
| R1 | | | RK73GB1J223J | CHIP R 22K J 1/16W | |
| R2 | | | RK73GB1J392J | CHIP R 3.9K J 1/16W | |
| R3 | | | RK73GB1J103J | CHIP R 10K J 1/16W | |
| R4 | | | RK73GB1J473J | CHIP R 47K J 1/16W | |

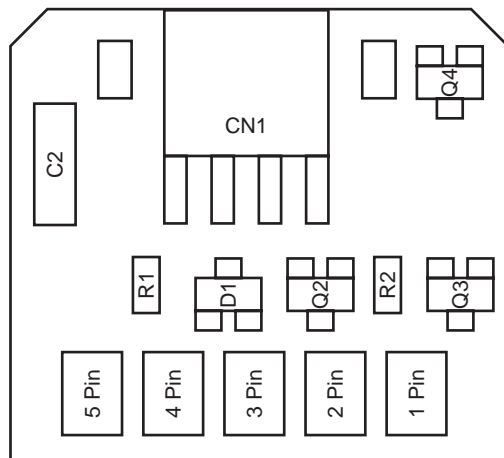
SCHEMATIC DIAGRAM



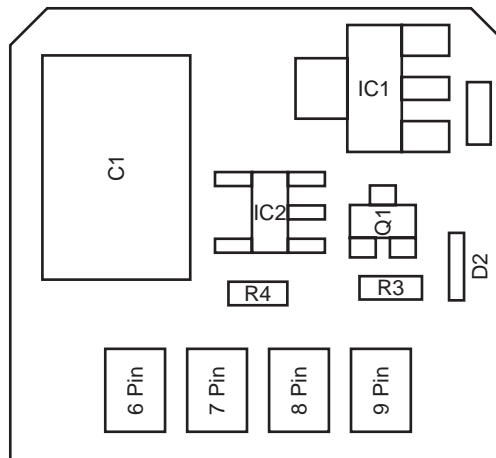
KCT-31

PC BOARD VIEWS

Component Side View



Foil Side View



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