

# ACOM



## **CAT cables**

for ACOM S-series amplifiers

Technical Information

Wiring diagrams

**OUTSTANDING HF POWER PRODUCTS**

March 2025

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- Title of Documentation** CAT cables for ACOM S-series amplifiers  
 Technical Information  
 Wiring diagrams
- Type of Documentation** Technical Information
- Purpose of Documentation** This document explains connection between ACOM S-series amplifiers and transceiver via CAT interface cable.

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## 1. GENERAL INFORMATION

Congratulations on using one of ACOM solid-state amplifiers.

ACOM is pleased that you have chosen one of our products, and we will endeavor to provide you with the information and support you need to enjoy your purchase for many years.

We urge you to read all of the following materials before you embark on operating your new amplifier.

Traditionally, the ACOM solid-state series amplifiers are named as **nnnS** or **nnnnS**, where **nnn/nnnn** is a model number (for example, ACOM 700S or ACOM 1200S).

All these amplifiers feature a CAT (Computer Aided Transceiver) interface for connection to your transceiver.



In this document, ACOM solid-state amplifiers are also called ACOM S-series hereafter.

### 1.1. Introduction and Description

This document includes information (wiring diagrams) for the CAT connection cables for ACOM S-series amplifiers. This information will help you to assemble the right CAT cable to connect your ACOM S-series amplifier to your particular transceiver.

Most of the modern transceivers can be connected by CAT to the ACOM S-series amplifiers. This will allow the amplifier to track the transceiver frequency without any transmission and change the bands automatically when in OPERATE mode.



ACOM S-series amplifiers will operate normally with **CAT/AUX** unconnected if your transceiver has no such input.

ACOM S-series amplifiers require reliable CAT signal transmission between the amplifier and the transceiver. A key role in this is played by the cable and connecting element technology employed.

When you assemble a CAT connection cable by yourself, please use a cable and connectors according to international and your local standards for trouble-free operation.



This document includes information on non-ACOM products, e.g., transceivers.

Because of that, it is the user's sole responsibility to check the correctness of the information as well as to check the original documentation of his transceiver or other equipment.

ACOM is not liable for non-ACOM information correctness or for another's actions, and whole responsibility shall be assumed by the user/owner.

## 1.2. To the Reader of this Manual

This document is written for the technically qualified users who will use the ACOM amplifier.

To ensure your safety in accordance with safety and security standards, read this manual carefully and follow the steps described in it.

Everyone who will use the amplifier must read this manual and follow the instructions in it and other accompanying ACOM documentation (see Section **1.4 Additional Documentation**), and consider also the appropriate safety precautions.

### Informational notes

Observe the informational notes provided in this manual to ensure reliable and efficient operation of the amplifier. In this manual, you will find the following informational notes:



The information symbol highlights operating procedures or practices that may improve equipment reliability and/or personnel performance, or to emphasize a concept.



The book symbol represents a **cross reference** to external documentation, e.g., other ACOM manual.

### Symbols and fonts used for marking text

In this manual, the following symbols and fonts are used for marking text:

Format	Meaning
<b>Orange bold text</b>	Identifies all internal links in the document between <b>Sections, Figures, Tables</b> , etc., for your convenience.
<b>BOLD TEXT IN CAPITAL LETTERS</b>	Identifies the connectors, switches, and button names and labels.
TEXT IN CAPITAL LETTERS	Identifies the amplifier operating modes, menu names, messages, etc.

## 1.3. Documentation Validity

This document refers to the ACOM S-series power amplifiers and describes the CAT interface connectivity of all amplifiers produced till the publishing date of this manual.

This manual is valid till a new manual is issued.

#### 1.4. Additional Documentation

For further important information, please, refer to the following documentation:



- *ACOM 500S User's Manual;*
- *ACOM 700S User's Manual;*
- *ACOM 1200S User's Manual;*
- *ACOM 1400S User's Manual;*
- *ACOM 2020S User's Manual;*
- *Your transceiver/equipment Manuals.*

The ACOM documentation is available for download at [www.acom-bg.com](http://www.acom-bg.com).

#### 1.5. Owner Assistance

If assistance is needed, you should contact your local dealer first. If necessary, your dealer will contact ACOM for additional guidance.

If you still have an issue you need to discuss with one of ACOM's specialists, the contact information is as follows:

ACOM Ltd.

Web-site: [www.acom-bg.com](http://www.acom-bg.com) -> **Support** page

E-mail: [support@acom-bg.com](mailto:support@acom-bg.com)

Bulgaria | Bozhurishte 2227

Sofia-Bozhurishte Industrial Park | 6 Valeri Petrov Str.

GPS coordinates: 42.748616° | 23.209801°



Including the ACOM equipment's model name, serial number, and a detailed problem description in your service assistance request is mandatory. Without this information, we cannot proceed with your request, or the proceeding will take longer.

## 1.6. Safety Considerations, Explicit Definitions

The ACOM linear power amplifiers are a Safety Class I units regarding protection against electric shock. The third grounding lead of its mains cord (which is colored yellow with two green stripes) and the ground stud on the rear panel of the amplifier (usually marked **GND**) must be connected to the station's grounding system for safe operation.

The amplifiers are designed to meet international safety standards and complies with the CE safety and electromagnetic compatibility requirements, as well as the FCC regulations.

This document contains information, warnings (signal words **Danger, Warning, Caution** and **Notice**) and instructions, related to hazards, that should be followed by the user in order to ensure safe operation and to keep the amplifier in a safe working condition at all times.



The safety instructions contained in this document feature specific signal words (**Danger, Warning, Caution** and **Notice**) and, where required, a safety alert symbol, in accordance with actual standards ISO 3864 or ANSI Z535.

The EXPLICIT DEFINITIONS described below apply to this document:

### **DANGER**

*These notes call attention to a procedure or instructions which, if not correctly performed, **will result in serious personal injuries and even death.***

### **WARNING**

*These notes call attention to a procedure or instructions which, if not correctly performed, **could result in serious personal injuries and even death.***

### **CAUTION**

*These notes call attention to a procedure or instructions which, if not correctly performed, **could result in minor or moderate personal injuries.***

### **NOTICE**

*These notes call attention to a procedure or instructions which, if not correctly performed, **could result in property damage or equipment damage not exclusively to the amplifier but also to connected equipment.***

**PRECAUTIONS:**

**⚠ DANGER**

For safe operation, the amplifier's grounding stud on the rear panel (usually marked **GND** or **GROUND**) should be connected according to the applicable standards and local regulations for electric safety, fire safety and lightning protection, in all cases when the radio station is equipped with outdoor antenna(s)!

**⚠ DANGER**

NEVER underestimate the danger of lightning!

To prevent accidents, connection/disconnection to the grounding and antennas should only be carried out in clear, quiet, and sunny weather when there is no danger of lightning and static discharges.

**⚠ WARNING**

NEVER operate the equipment if you notice an abnormal odor, sound, or smoke. Immediately turn off the power and contact your dealer for assistance (see Section *1.5 Owner Assistance*).

**⚠ WARNING**

Do not undertake on your own repairs or changes in hardware or software of the amplifier in order not to endanger your or other's health and life and not to damage the amplifier and the equipment connected with it, not covered by warranty. The manufacturer is not liable for another's actions and responsibility shall be assumed by the doer.

**NOTICE**

This document includes information on non-ACOM products, e.g., transceivers.

And because of that, it is the sole user's responsibility to check the correctness of the information as well as to check the original documentation of his transceiver or other equipment.

ACOM is not liable for non-ACOM information correctness or for another's actions and whole responsibility shall be assumed by the user/doer.

**NOTICE**

To avoid any damage (not covered by the warranty), never connect, or disconnect cables while power is applied at either end of the cable.

Hot-plugging is technically incorrect and is a bad practice to connect or disconnect any piece of equipment while it is powered on. Make sure the device is switched off before connecting or disconnecting any cable.

## 2. UNDERSTANDING THE CAT CONNECTIONS

### How do I connect my ACOM S-series amplifier to my transceiver via the amp's CAT/AUX connector (interface)?

There are two methods for your linear amplifier to obtain operating frequency information from your transceiver automatically:

- CAT (either RS-232 or TTL) control method, and
- BAND (either BCD or Voltage interface) control method.

Some transceivers support only one method, while with others there may be a choice of using either. If so, you can use the information here to choose which you prefer.

You will then need to assemble by yourself or buy the corresponding CAT or BAND control cable as they are wired differently.

#### 2.1. CAT (either RS-232 or TTL) control method

With this control method, the amplifier is able to determine the exact frequency to which the transceiver is tuned. It then automatically switches to the correct band and, if an amplifier has an ACOM antenna tuner added, recalls the appropriate ATU setting from memory.

*- Benefit:*

The ACOM antenna tuners (optional equipment to the amplifier) are able to more accurately match the antenna before you transmit.

*- Controversial:*

May make it difficult or impossible to control the transceiver from your computer e.g. for logging software as the necessary port is occupied.



ACOM recommends the use of the CAT control method always, if possible, as this method is more accurate.



The CAT control method **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

If you use an incorrect control cable, the amplifier will generate an error message, like:  
CAT COMMUNICATION ERROR

Do not forget that when using the CAT control method, the CAT menus in both the transceiver and the amplifier also have to be set correctly. For example:

Yaesu FTDX101D Menu	ACOM CAT/AUX Settings Menu
GENERAL 232C RATE: <b>38400* bps</b>	INTERFACE: <b>RS232</b> BAUD RATE: <b>38400*</b> COMMAND SET: <b>2</b>
GENERAL 232C TIME OUT TIME: <b>1000 ms</b>	BYTE SPACING: <b>500 ms</b> POLLING TIME: <b>0</b>
GENERAL CAT RTS: <b>OFF</b>	

Note: \* Other baud rates will also work, as long as they match exactly.

To use the installed ACOM antenna tuner (models 04AT, 06AT, or 20AT) it MUST be activated in the ACOM amplifier menu, as follows:

ACOM USER PREFERENCES Menu	
ANTENNA TUNER/SWITCH INSTALLED	<b>YES</b>

## 2.2. BAND (either BCD or Voltage) control method

With this control method, the amplifier is able to determine the amateur BAND DATA that the transceiver is set to, not the transceiver frequency. It then automatically switches to the correct band.

- *Benefit:*

Does not use your transceiver's CAT connection so you can control the transceiver from your PC e.g. for logging software.

- *Controversial:*

- Band data can be ambiguous in certain cases e.g. the new 5 MHz band.



The BAND control method MUST NOT be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

When you do not have an ACOM antenna tuner, using BAND DATA from your transceiver is all that the amplifier needs because a broadband amplifier does not care about the TX frequency; it only needs the band.

## 2.3. Control cable between ACOM S-series amplifier and your transceiver

After selecting the control method (CAT or BAND) you prefer and your transceiver support, you must assemble by yourself or buy the corresponding control cable, as they are wired differently.

In Section **4 CONTROL CABLES WIRING DIAGRAMS** you can find examples of many wiring diagrams for different control cable types.

### 3. USED CONNECTING ELEMENTS



ACOM does not offer:

- unassembled cable material or connectors;
- ready-made CAT cables.

If you need these parts, please, contact your dealer or local radio amateur store.

D-sub connectors		
15-pin, 3-row (high density), male		
<p>Front view</p>	<p>Solder (rear) view</p>	
9-pin, 2-row, male		
<p>Front view</p>	<p>Solder (rear) view</p>	
9-pin, 2-row, female		
<p>Front view</p>	<p>Solder (rear) view</p>	
15-pin, 2-row, male		
<p>Front view</p>	<p>Solder (rear) view</p>	

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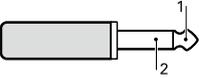
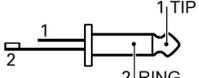
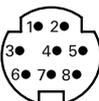
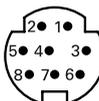
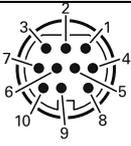
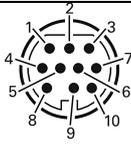
Phone plug, male connector		
		
Side view	Side view	
Circular connectors		
7 or 8 pin, male		
		
Front view	Solder (rear) view	
Horseshoe DIN plug, 8-pin, male		
		
Front view	Solder (rear) view	
Mini DIN plug, 8-pin, male		
		
Front view	Solder (rear) view	
Mini DIN plug, 10-pin, male		
		
Front view	Solder (rear) view	

Table 3-1 | Overview of the connectors used



The D-sub connectors (15-pin, 3-row (high density), male) used for connection to CAT connector on ACOM S-series amplifiers correspond to IEC 60 807 / DIN 41652 standards.

## 4. CONTROL CABLES WIRING DIAGRAMS

### 4.1. For YAESU Transceivers

#### 4.1.1. ACOM S-series to YAESU FT-710 CAT TTL + Keying + Power On control connection cable



This connection (interface) cable is applicable with other compatible transceivers.



This CAT TTL connection (interface) cable **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

#### **NOTICE**

The connection cable must be shielded.

\* The connection between pins 13-1 is for keying.

\*\* The connection between pins 11-2 is for remote power on and is not mandatory.

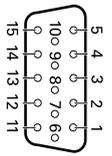
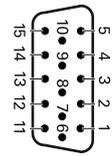
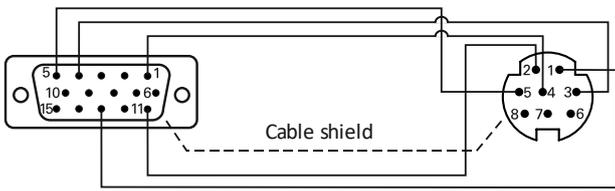
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FT-710 transceiver / Rear panel																																																																											
CAT/AUX connector				Tuner/Linear connector/jack																																																																											
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<table border="1"> <tr><td>1   RxD / RxTTL (IN)</td></tr> <tr><td>2   RxD / RxRS (IN)</td></tr> <tr><td>3   TxD / TxRS (OUT)</td></tr> <tr><td>4   TxD / TxTTL (OUT)</td></tr> <tr><td>5   GND</td></tr> <tr><td>6   BAND voltage (IN)</td></tr> <tr><td>7   Band data 0 (IN)</td></tr> <tr><td>8   Band data 1 (IN)</td></tr> <tr><td>9   Band data 2 (IN)</td></tr> <tr><td>10   Band data 3 (IN)</td></tr> <tr><td>11   ON RMT (IN)</td></tr> <tr><td>12   Debug mode</td></tr> <tr><td>13   KEY-IN</td></tr> <tr><td>14   KEY-OUT</td></tr> <tr><td>15   GND</td></tr> <tr><td>Housing</td></tr> </table>	1   RxD / RxTTL (IN)	2   RxD / RxRS (IN)	3   TxD / TxRS (OUT)	4   TxD / TxTTL (OUT)	5   GND	6   BAND voltage (IN)	7   Band data 0 (IN)	8   Band data 1 (IN)	9   Band data 2 (IN)	10   Band data 3 (IN)	11   ON RMT (IN)	12   Debug mode	13   KEY-IN	14   KEY-OUT	15   GND	Housing	 <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	<table border="1"> <tr><td>1</td><td>————</td><td>4</td></tr> <tr><td>2</td><td>Not connected</td><td>-</td></tr> <tr><td>3</td><td>Not connected</td><td>-</td></tr> <tr><td>4</td><td>————</td><td>3</td></tr> <tr><td>5</td><td>————</td><td>5</td></tr> <tr><td>6</td><td>Not connected</td><td>6</td></tr> <tr><td>7</td><td>Not connected</td><td>7</td></tr> <tr><td>8</td><td>Not connected</td><td>8</td></tr> <tr><td>9</td><td>Not connected</td><td>-</td></tr> <tr><td>10</td><td>Not connected</td><td>-</td></tr> <tr><td>11**</td><td>————</td><td>2**</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13*</td><td>————</td><td>1*</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	————	4	2	Not connected	-	3	Not connected	-	4	————	3	5	————	5	6	Not connected	6	7	Not connected	7	8	Not connected	8	9	Not connected	-	10	Not connected	-	11**	————	2**	12	Not connected	-	13*	————	1*	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 <p>Mini DIN plug, 8-pin, male (Solder view)</p>	<table border="1"> <tr><td>1   TX GND</td></tr> <tr><td>2   +13 V OUT</td></tr> <tr><td>3   RX D (Band B)</td></tr> <tr><td>4   TX D (Band A)</td></tr> <tr><td>5   GND</td></tr> <tr><td>6   TX INH</td></tr> <tr><td>7   Reset (Band D)</td></tr> <tr><td>8   Band C</td></tr> <tr><td>Housing</td></tr> </table>	1   TX GND	2   +13 V OUT	3   RX D (Band B)	4   TX D (Band A)	5   GND	6   TX INH	7   Reset (Band D)	8   Band C	Housing	 <p>Mini DIN connector, 8-pin, female (Rear panel front view)</p>
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14	Not connected	-																																																																													
15	Not connected	-																																																																													
Housing	Cable shield	Housing																																																																													
1   TX GND																																																																															
2   +13 V OUT																																																																															
3   RX D (Band B)																																																																															
4   TX D (Band A)																																																																															
5   GND																																																																															
6   TX INH																																																																															
7   Reset (Band D)																																																																															
8   Band C																																																																															
Housing																																																																															
																																																																															

Table 4-1 | Connection cable wiring

**4.1.2. ACOM S-series to YAESU FT-920  
CAT RS-232 control connection cable**



This connection (interface) cable is applicable with other compatible transceivers.



This CAT RS-232 connection (interface) cable **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

**NOTICE**

The connection cable must be shielded.

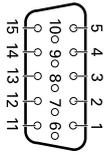
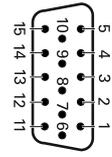
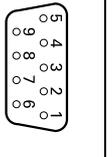
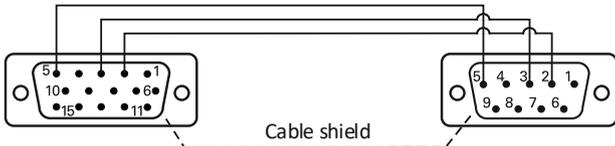
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FT-920 transceiver / Rear panel																																															
CAT/AUX connector				CAT connector																																															
 <p>1   RxD / RxTTL (IN) 2   RxD / RxRS (IN) 3   TxD / TxRS (OUT) 4   TxD / TxTTL (OUT) 5   GND 6   BAND voltage (IN) 7   Band data 0 (IN) 8   Band data 1 (IN) 9   Band data 2 (IN) 10   Band data 3 (IN) 11   ON RMT (IN) 12   Debug mode 13   KEY-IN 14   KEY-OUT 15   GND Housing</p> <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	 <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p> <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	<table border="1"> <tr><td>1</td><td>Not connected</td><td>1</td></tr> <tr><td>2</td><td>—————</td><td>2</td></tr> <tr><td>3</td><td>—————</td><td>3</td></tr> <tr><td>4</td><td>Not connected</td><td>4</td></tr> <tr><td>5</td><td>—————</td><td>5</td></tr> <tr><td>6</td><td>Not connected</td><td>6</td></tr> <tr><td>7</td><td>Not connected</td><td>7</td></tr> <tr><td>8</td><td>Not connected</td><td>8</td></tr> <tr><td>9</td><td>Not connected</td><td>9</td></tr> <tr><td>10</td><td>Not connected</td><td>-</td></tr> <tr><td>11</td><td>Not connected</td><td>-</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13</td><td>Not connected</td><td>-</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	1	2	—————	2	3	—————	3	4	Not connected	4	5	—————	5	6	Not connected	6	7	Not connected	7	8	Not connected	8	9	Not connected	9	10	Not connected	-	11	Not connected	-	12	Not connected	-	13	Not connected	-	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 <p>1   Not used 2   TxD (SERIAL OUT) 3   RxD (SERIAL IN) 4   Not used 5   Ground 6   Not used 7   Not used 8   Not used 9   Not used Housing</p> <p>D-sub connector, 9-pin, female (Rear panel front view)</p>
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15	Not connected	-																																																	
Housing	Cable shield	Housing																																																	
 <p style="text-align: center;">Cable shield</p>																																																			

Table 4-2 | Connection cable wiring

**4.1.3. ACOM S-series to YAESU FT-1000  
CAT RS-232 control connection cable**

**i** This connection (interface) cable is applicable with YAESU FT-1000, FT-450, FT-2000, FTDX3000, FT5000, FTDX101MP, FTDX101D, FTDX10, FT-991, FT-991A and other compatible transceivers.

**i** This CAT RS-232 connection (interface) cable **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

**NOTICE**

The connection cable must be shielded.

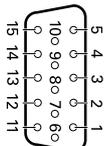
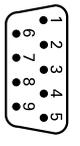
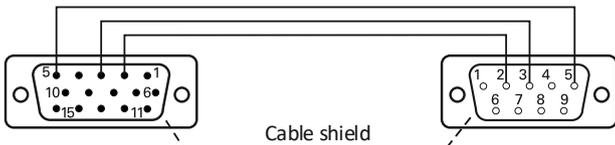
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FT-1000 transceiver / Rear panel																																																																															
CAT/AUX connector				CAT connector																																																																															
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<table border="1"> <tr><td>1</td><td>  RxD / RxTTL (IN)</td></tr> <tr><td>2</td><td>  RxD / RxRS (IN)</td></tr> <tr><td>3</td><td>  TxD / TxRS (OUT)</td></tr> <tr><td>4</td><td>  TxD / TxTTL (OUT)</td></tr> <tr><td>5</td><td>  GND</td></tr> <tr><td>6</td><td>  BAND voltage (IN)</td></tr> <tr><td>7</td><td>  Band data 0 (IN)</td></tr> <tr><td>8</td><td>  Band data 1 (IN)</td></tr> <tr><td>9</td><td>  Band data 2 (IN)</td></tr> <tr><td>10</td><td>  Band data 3 (IN)</td></tr> <tr><td>11</td><td>  ON RMT (IN)</td></tr> <tr><td>12</td><td>  Debug mode</td></tr> <tr><td>13</td><td>  KEY-IN</td></tr> <tr><td>14</td><td>  KEY-OUT</td></tr> <tr><td>15</td><td>  GND</td></tr> <tr><td colspan="2">Housing</td></tr> </table>	1	RxD / RxTTL (IN)	2	RxD / RxRS (IN)	3	TxD / TxRS (OUT)	4	TxD / TxTTL (OUT)	5	GND	6	BAND voltage (IN)	7	Band data 0 (IN)	8	Band data 1 (IN)	9	Band data 2 (IN)	10	Band data 3 (IN)	11	ON RMT (IN)	12	Debug mode	13	KEY-IN	14	KEY-OUT	15	GND	Housing		<table border="1"> <tr><td>1</td><td>Not connected</td><td>1</td></tr> <tr><td>2</td><td>————</td><td>2</td></tr> <tr><td>3</td><td>————</td><td>3</td></tr> <tr><td>4</td><td>Not connected</td><td>4</td></tr> <tr><td>5</td><td>————</td><td>5</td></tr> <tr><td>6</td><td>Not connected</td><td>6</td></tr> <tr><td>7</td><td>Not connected</td><td>7</td></tr> <tr><td>8</td><td>Not connected</td><td>8</td></tr> <tr><td>9</td><td>Not connected</td><td>9</td></tr> <tr><td>10</td><td>Not connected</td><td>-</td></tr> <tr><td>11</td><td>Not connected</td><td>-</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13</td><td>Not connected</td><td>-</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	1	2	————	2	3	————	3	4	Not connected	4	5	————	5	6	Not connected	6	7	Not connected	7	8	Not connected	8	9	Not connected	9	10	Not connected	-	11	Not connected	-	12	Not connected	-	13	Not connected	-	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 <p>D-sub connector, 9-pin, male (Rear panel front view)</p>
1	RxD / RxTTL (IN)																																																																																		
2	RxD / RxRS (IN)																																																																																		
3	TxD / TxRS (OUT)																																																																																		
4	TxD / TxTTL (OUT)																																																																																		
5	GND																																																																																		
6	BAND voltage (IN)																																																																																		
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9	Band data 2 (IN)																																																																																		
10	Band data 3 (IN)																																																																																		
11	ON RMT (IN)																																																																																		
12	Debug mode																																																																																		
13	KEY-IN																																																																																		
14	KEY-OUT																																																																																		
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15	Not connected	-																																																																																	
Housing	Cable shield	Housing																																																																																	
																																																																																			

Table 4-3 | Connection cable wiring

**4.1.4. ACOM S-series to YAESU FT-1000**  
**BAND Data BCD + Keying + Power On control connection cable**



The Band Data cables (either BCD or Voltage) **MUST NOT** be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

**NOTICE**

The connection cable must be shielded.

\* The connection between pins 13-2 is for keying. When using control cable with a keying signal, it is mandatory to **NOT** use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

\*\* The connection between pins 11-1 is for power on and is not mandatory.

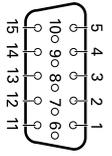
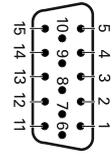
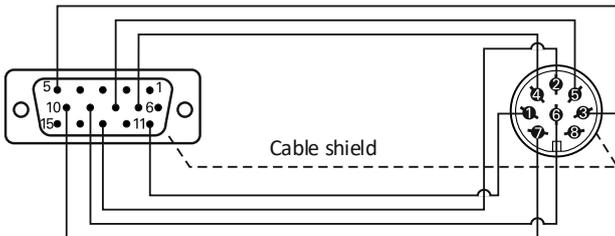
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FT-1000 transceiver / Rear panel																																																
CAT/AUX connector				Band Data connector																																																
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<p>1   RxD / RxTTL (IN)</p> <p>2   RxD / RxRS (IN)</p> <p>3   TxD / TxRS (OUT)</p> <p>4   TxD / TxTTL (OUT)</p> <p>5   GND</p> <p>6   BAND voltage (IN)</p> <p>7   Band data 0 (IN)</p> <p>8   Band data 1 (IN)</p> <p>9   Band data 2 (IN)</p> <p>10   Band data 3 (IN)</p> <p>11   ON RMT (IN)</p> <p>12   Debug mode</p> <p>13   KEY-IN</p> <p>14   KEY-OUT</p> <p>15   GND</p> <p>Housing</p>	 <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	<table border="1"> <tr><td>1</td><td>Not connected</td><td>8</td></tr> <tr><td>2</td><td>Not connected</td><td>-</td></tr> <tr><td>3</td><td>Not connected</td><td>-</td></tr> <tr><td>4</td><td>Not connected</td><td>-</td></tr> <tr><td>5</td><td>—————</td><td>3</td></tr> <tr><td>6</td><td>Not connected</td><td>-</td></tr> <tr><td>7</td><td>—————</td><td>4</td></tr> <tr><td>8</td><td>—————</td><td>5</td></tr> <tr><td>9</td><td>—————</td><td>6</td></tr> <tr><td>10</td><td>—————</td><td>7</td></tr> <tr><td>11**</td><td>—————</td><td>1**</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13*</td><td>—————</td><td>2*</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	8	2	Not connected	-	3	Not connected	-	4	Not connected	-	5	—————	3	6	Not connected	-	7	—————	4	8	—————	5	9	—————	6	10	—————	7	11**	—————	1**	12	Not connected	-	13*	—————	2*	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 <p>Horseshoe DIN connector, 8-pin, female (Rear panel front view)</p>
1	Not connected	8																																																		
2	Not connected	-																																																		
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Housing	Cable shield	Housing																																																		
		 <p>Horseshoe DIN plug, 8-pin, male (Solder view)</p>																																																		
		 <p>Cable shield</p>																																																		

Table 4-4 | Connection cable wiring

**4.1.5. ACOM S-series to YAESU FT-897  
CAT TTL + Keying control connection cable**

**i** This connection (interface) cable is applicable with YAESU FT-891 and other compatible transceivers.

**i** This CAT TTL connection (interface) cable **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

**NOTICE**

The connection cable must be shielded.

\* The connection between pins 13-1 is for keying. When using control cable with a keying signal, it is mandatory to **NOT** use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

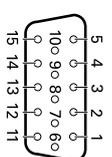
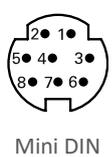
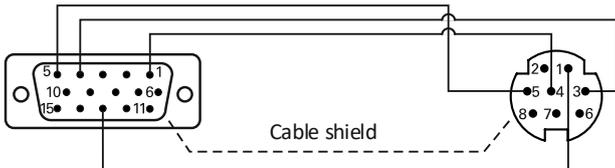
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FT-897 transceiver / Rear panel																																																																									
CAT/AUX connector				CAT/Tun/Lin connector/jack																																																																									
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<table border="1"> <tr><td>1   RxD / RxTTL (IN)</td></tr> <tr><td>2   RxD / RxRS (IN)</td></tr> <tr><td>3   TxD / TxRS (OUT)</td></tr> <tr><td>4   TxD / TxTTL (OUT)</td></tr> <tr><td>5   GND</td></tr> <tr><td>6   BAND voltage (IN)</td></tr> <tr><td>7   Band data 0 (IN)</td></tr> <tr><td>8   Band data 1 (IN)</td></tr> <tr><td>9   Band data 2 (IN)</td></tr> <tr><td>10   Band data 3 (IN)</td></tr> <tr><td>11   ON RMT (IN)</td></tr> <tr><td>12   Debug mode</td></tr> <tr><td>13   KEY-IN</td></tr> <tr><td>14   KEY-OUT</td></tr> <tr><td>15   GND</td></tr> <tr><td>Housing</td></tr> </table>	1   RxD / RxTTL (IN)	2   RxD / RxRS (IN)	3   TxD / TxRS (OUT)	4   TxD / TxTTL (OUT)	5   GND	6   BAND voltage (IN)	7   Band data 0 (IN)	8   Band data 1 (IN)	9   Band data 2 (IN)	10   Band data 3 (IN)	11   ON RMT (IN)	12   Debug mode	13   KEY-IN	14   KEY-OUT	15   GND	Housing	<table border="1"> <tr><td>1</td><td>—————</td><td>4</td></tr> <tr><td>2</td><td>Not connected</td><td>2</td></tr> <tr><td>3</td><td>Not connected</td><td>6</td></tr> <tr><td>4</td><td>—————</td><td>3</td></tr> <tr><td>5</td><td>—————</td><td>5</td></tr> <tr><td>6</td><td>Not connected</td><td>7</td></tr> <tr><td>7</td><td>Not connected</td><td>8</td></tr> <tr><td>8</td><td>Not connected</td><td>-</td></tr> <tr><td>9</td><td>Not connected</td><td>-</td></tr> <tr><td>10</td><td>Not connected</td><td>-</td></tr> <tr><td>11</td><td>Not connected</td><td>-</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13*</td><td>—————</td><td>1*</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	—————	4	2	Not connected	2	3	Not connected	6	4	—————	3	5	—————	5	6	Not connected	7	7	Not connected	8	8	Not connected	-	9	Not connected	-	10	Not connected	-	11	Not connected	-	12	Not connected	-	13*	—————	1*	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 <p>Mini DIN plug, 8-pin, male (Solder view)</p>	<table border="1"> <tr><td>1   TX GND (OUT)</td></tr> <tr><td>2   +13.8 V</td></tr> <tr><td>3   RX D (IN)</td></tr> <tr><td>4   TX D (OUT)</td></tr> <tr><td>5   GND</td></tr> <tr><td>6   TX INH</td></tr> <tr><td>7   Reset</td></tr> <tr><td>8   Band C</td></tr> <tr><td>Housing</td></tr> </table>  <p>Mini DIN connector, 8-pin, female (Rear panel front view)</p>	1   TX GND (OUT)	2   +13.8 V	3   RX D (IN)	4   TX D (OUT)	5   GND	6   TX INH	7   Reset	8   Band C	Housing
1   RxD / RxTTL (IN)																																																																													
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13*	—————	1*																																																																											
14	Not connected	-																																																																											
15	Not connected	-																																																																											
Housing	Cable shield	Housing																																																																											
1   TX GND (OUT)																																																																													
2   +13.8 V																																																																													
3   RX D (IN)																																																																													
4   TX D (OUT)																																																																													
5   GND																																																																													
6   TX INH																																																																													
7   Reset																																																																													
8   Band C																																																																													
Housing																																																																													
 <p style="text-align: center;">Cable shield</p>																																																																													

Table 4-5 | Connection cable wiring

**4.1.6. ACOM S-series to YAESU FT-897  
BAND Data BCD + Keying control connection cable**



This connection (interface) cable is applicable with YAESU FT-897, and FT-991.



The Band Data cables (either BCD or Voltage) MUST NOT be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

**NOTICE**

The connection cable must be shielded.  
\* The connection between pins 13-1 is for keying. When using control cable with a keying signal, it is mandatory to NOT use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

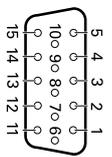
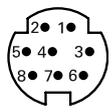
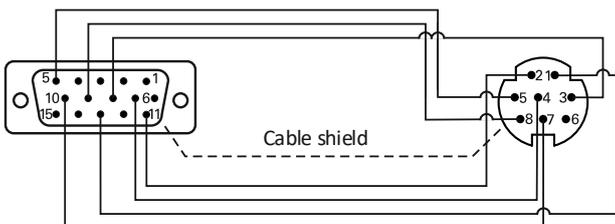
ACOM S-series amplifier Rear panel	Connecting cable					YAESU FT-897 transceiver / Rear panel																																																																															
CAT/AUX connector						CAT/Tun/Lin connector/jack																																																																															
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<table border="1"> <tr><td>1   RxD / RxTTL (IN)</td><td>1</td><td>Not connected</td><td>6</td></tr> <tr><td>2   RxD / RxRS (IN)</td><td>2</td><td>Not connected</td><td>-</td></tr> <tr><td>3   TxD / TxRS (OUT)</td><td>3</td><td>Not connected</td><td>-</td></tr> <tr><td>4   TxD / TxTTL (OUT)</td><td>4</td><td>Not connected</td><td>-</td></tr> <tr><td>5   GND</td><td>5</td><td>—————</td><td>5</td></tr> <tr><td>6   BAND voltage (IN)</td><td>6</td><td>Not connected</td><td></td></tr> <tr><td>7   Band data 0 (IN)</td><td>7</td><td>—————</td><td>4</td></tr> <tr><td>8   Band data 1 (IN)</td><td>8</td><td>—————</td><td>3</td></tr> <tr><td>9   Band data 2 (IN)</td><td>9</td><td>—————</td><td>8</td></tr> <tr><td>10   Band data 3 (IN)</td><td>10</td><td>—————</td><td>7</td></tr> <tr><td>11   ON RMT (IN)</td><td>11</td><td>—————</td><td>2</td></tr> <tr><td>12   Debug mode</td><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13   KEY-IN</td><td>13*</td><td>—————</td><td>1*</td></tr> <tr><td>14   KEY-OUT</td><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15   GND</td><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table> <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	1   RxD / RxTTL (IN)	1	Not connected	6	2   RxD / RxRS (IN)	2	Not connected	-	3   TxD / TxRS (OUT)	3	Not connected	-	4   TxD / TxTTL (OUT)	4	Not connected	-	5   GND	5	—————	5	6   BAND voltage (IN)	6	Not connected		7   Band data 0 (IN)	7	—————	4	8   Band data 1 (IN)	8	—————	3	9   Band data 2 (IN)	9	—————	8	10   Band data 3 (IN)	10	—————	7	11   ON RMT (IN)	11	—————	2	12   Debug mode	12	Not connected	-	13   KEY-IN	13*	—————	1*	14   KEY-OUT	14	Not connected	-	15   GND	15	Not connected	-	Housing	Housing	Cable shield	Housing	 <p>Mini DIN plug, 8-pin, male (Solder view)</p>	<table border="1"> <tr><td>1   TX GND (OUT)</td><td>2o 1o</td></tr> <tr><td>2   +13.8 V</td><td>5o 4o 3o</td></tr> <tr><td>3   Band B (OUT)</td><td>8o 7o 6o</td></tr> <tr><td>4   Band A (OUT)</td><td></td></tr> <tr><td>5   GND</td><td></td></tr> <tr><td>6   TX INH</td><td></td></tr> <tr><td>7   Band D (OUT)</td><td></td></tr> <tr><td>8   Band C (OUT)</td><td></td></tr> <tr><td>Housing</td><td></td></tr> </table> <p>Mini DIN connector, 8-pin, female (Rear panel front view)</p>	1   TX GND (OUT)	2o 1o	2   +13.8 V	5o 4o 3o	3   Band B (OUT)	8o 7o 6o	4   Band A (OUT)		5   GND		6   TX INH		7   Band D (OUT)		8   Band C (OUT)		Housing	
1   RxD / RxTTL (IN)	1	Not connected	6																																																																																		
2   RxD / RxRS (IN)	2	Not connected	-																																																																																		
3   TxD / TxRS (OUT)	3	Not connected	-																																																																																		
4   TxD / TxTTL (OUT)	4	Not connected	-																																																																																		
5   GND	5	—————	5																																																																																		
6   BAND voltage (IN)	6	Not connected																																																																																			
7   Band data 0 (IN)	7	—————	4																																																																																		
8   Band data 1 (IN)	8	—————	3																																																																																		
9   Band data 2 (IN)	9	—————	8																																																																																		
10   Band data 3 (IN)	10	—————	7																																																																																		
11   ON RMT (IN)	11	—————	2																																																																																		
12   Debug mode	12	Not connected	-																																																																																		
13   KEY-IN	13*	—————	1*																																																																																		
14   KEY-OUT	14	Not connected	-																																																																																		
15   GND	15	Not connected	-																																																																																		
Housing	Housing	Cable shield	Housing																																																																																		
1   TX GND (OUT)	2o 1o																																																																																				
2   +13.8 V	5o 4o 3o																																																																																				
3   Band B (OUT)	8o 7o 6o																																																																																				
4   Band A (OUT)																																																																																					
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6   TX INH																																																																																					
7   Band D (OUT)																																																																																					
8   Band C (OUT)																																																																																					
Housing																																																																																					
																																																																																					

Table 4-6 | Connection cable wiring

**4.1.7. ACOM S-series to YAESU FT-817**  
**Analog BAND Data + Keying control connection cable**

**i** This connection (interface) cable is applicable with other compatible transceivers.

**i** The Band Data cables (either BCD or Voltage) MUST NOT be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

**NOTICE**

The connection cable must be shielded.  
 \* The connection between pins 13-1 is for keying. When using control cable with a keying signal, it is mandatory to NOT use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

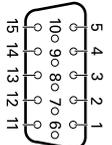
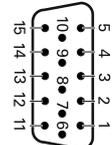
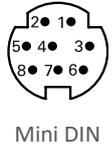
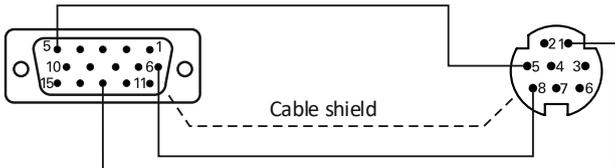
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FT-817 transceiver / Rear panel																																																
CAT/AUX connector				ACC connector																																																
 1   RxD / RxTTL (IN) 2   RxD / RxRS (IN) 3   TxD / TxRS (OUT) 4   TxD / TxTTL (OUT) 5   GND 6   BAND voltage (IN) 7   Band data 0 (IN) 8   Band data 1 (IN) 9   Band data 2 (IN) 10   Band data 3 (IN) 11   ON RMT (IN) 12   Debug mode 13   KEY-IN 14   KEY-OUT 15   GND Housing	 D-sub connector, 15-pin, 3-row, male (Solder view)	<table border="1"> <tr><td>1</td><td>Not connected</td><td>2</td></tr> <tr><td>2</td><td>Not connected</td><td>3</td></tr> <tr><td>3</td><td>Not connected</td><td>4</td></tr> <tr><td>4</td><td>Not connected</td><td>6</td></tr> <tr><td>5</td><td>————</td><td>5</td></tr> <tr><td>6</td><td>————</td><td>8</td></tr> <tr><td>7</td><td>Not connected</td><td>7</td></tr> <tr><td>8</td><td>Not connected</td><td>-</td></tr> <tr><td>9</td><td>Not connected</td><td>-</td></tr> <tr><td>10</td><td>Not connected</td><td>-</td></tr> <tr><td>11</td><td>Not connected</td><td>-</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13*</td><td>————</td><td>1*</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	2	2	Not connected	3	3	Not connected	4	4	Not connected	6	5	————	5	6	————	8	7	Not connected	7	8	Not connected	-	9	Not connected	-	10	Not connected	-	11	Not connected	-	12	Not connected	-	13*	————	1*	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 Mini DIN plug, 8-pin, male (Solder view)	 1   TX GND (OUT) 2   +13.8 V 3   RXD 4   TXD 5   GND 6   TX INH 7   ALC 8   BandData (OUT) Housing Mini DIN connector, 8-pin, female (Rear panel front view)
1	Not connected	2																																																		
2	Not connected	3																																																		
3	Not connected	4																																																		
4	Not connected	6																																																		
5	————	5																																																		
6	————	8																																																		
7	Not connected	7																																																		
8	Not connected	-																																																		
9	Not connected	-																																																		
10	Not connected	-																																																		
11	Not connected	-																																																		
12	Not connected	-																																																		
13*	————	1*																																																		
14	Not connected	-																																																		
15	Not connected	-																																																		
Housing	Cable shield	Housing																																																		
																																																				

Table 4-7 | Connection cable wiring

**4.1.8. ACOM S-series to YAESU FTDX-101  
BAND Data BCD + Keying + Power On control connection cable**



The Band Data cables (either BCD or Voltage) MUST NOT be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

**NOTICE**

The connection cable must be shielded.

\* The connection between pins 13-2 is for keying. When using control cable with a keying signal, it is mandatory to NOT use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

\*\* The connection between pins 11-1 is for power on and is not mandatory.

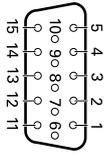
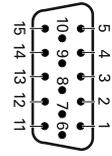
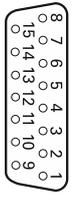
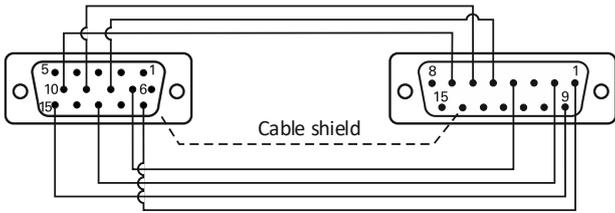
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FTDX-101 transceiver / Rear panel																																																
CAT/AUX connector				LINEAR connector																																																
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<p>1   RxD / RxTTL (IN)</p> <p>2   RxD / RxRS (IN)</p> <p>3   TxD / TxRS (OUT)</p> <p>4   TxD / TxTTL (OUT)</p> <p>5   GND</p> <p>6   BAND voltage (IN)</p> <p>7   Band data 0 (IN)</p> <p>8   Band data 1 (IN)</p> <p>9   Band data 2 (IN)</p> <p>10   Band data 3 (IN)</p> <p>11   ON RMT (IN)</p> <p>12   Debug mode</p> <p>13   KEY-IN</p> <p>14   KEY-OUT</p> <p>15   GND</p> <p>Housing</p>	 <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	<table border="1"> <tr><td>1</td><td>Not connected</td><td>3</td></tr> <tr><td>2</td><td>Not connected</td><td>8</td></tr> <tr><td>3</td><td>Not connected</td><td>-</td></tr> <tr><td>4</td><td>Not connected</td><td>-</td></tr> <tr><td>5</td><td>Not connected</td><td>-</td></tr> <tr><td>6</td><td>Not connected</td><td>-</td></tr> <tr><td>7</td><td>————</td><td>4</td></tr> <tr><td>8</td><td>————</td><td>5</td></tr> <tr><td>9</td><td>————</td><td>6</td></tr> <tr><td>10</td><td>————</td><td>7</td></tr> <tr><td>11**</td><td>————</td><td>1**</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13*</td><td>————</td><td>2*</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>————</td><td>9</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	3	2	Not connected	8	3	Not connected	-	4	Not connected	-	5	Not connected	-	6	Not connected	-	7	————	4	8	————	5	9	————	6	10	————	7	11**	————	1**	12	Not connected	-	13*	————	2*	14	Not connected	-	15	————	9	Housing	Cable shield	Housing	 <p>D-sub connector, 15-pin, female (Rear panel front view)</p>
1	Not connected	3																																																		
2	Not connected	8																																																		
3	Not connected	-																																																		
4	Not connected	-																																																		
5	Not connected	-																																																		
6	Not connected	-																																																		
7	————	4																																																		
8	————	5																																																		
9	————	6																																																		
10	————	7																																																		
11**	————	1**																																																		
12	Not connected	-																																																		
13*	————	2*																																																		
14	Not connected	-																																																		
15	————	9																																																		
Housing	Cable shield	Housing																																																		
																																																				

Table 4-8 | Connection cable wiring

### 4.1.9. ACOM S-series to YAESU FTDX-10 BAND Data BCD + Keying + Power On control connection cable



This connection (interface) cable is applicable with YAESU FTDX-10, FT-950, and FT-450.



The Band Data cables (either BCD or Voltage) MUST NOT be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

#### NOTICE

The connection cable must be shielded.

\* The connection between pins 13-2 is for keying. When using control cable with a keying signal, it is mandatory to NOT use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

\*\* The connection between pins 11-1 is for power on and is not mandatory.

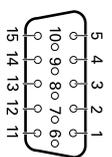
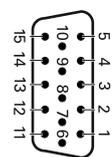
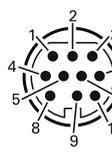
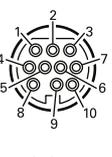
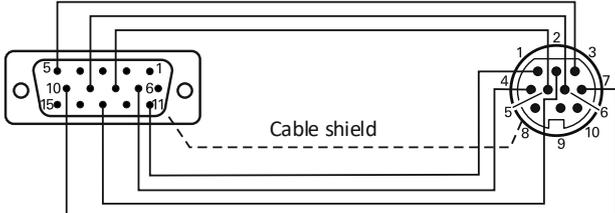
ACOM S-series amplifier Rear panel	Connecting cable			YAESU FTDX-10 transceiver / Rear panel																																																
CAT/AUX connector				LINEAR connector																																																
 1   RxD / RxTTL (IN) 2   RxD / RxRS (IN) 3   TxD / TxRS (OUT) 4   TxD / TxTTL (OUT) 5   GND 6   BAND voltage (IN) 7   Band data 0 (IN) 8   Band data 1 (IN) 9   Band data 2 (IN) 10   Band data 3 (IN) 11   ON RMT (IN) 12   Debug mode 13   KEY-IN 14   KEY-OUT 15   GND Housing	 D-sub connector, 15-pin, 3-row, male (Solder view)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%;">1</td><td style="width: 30%;">Not connected</td><td style="width: 15%;">8</td></tr> <tr><td>2</td><td>Not connected</td><td>9</td></tr> <tr><td>3</td><td>Not connected</td><td>10</td></tr> <tr><td>4</td><td>Not connected</td><td>-</td></tr> <tr><td>5</td><td>—————</td><td>3</td></tr> <tr><td>6</td><td>Not connected</td><td>-</td></tr> <tr><td>7</td><td>—————</td><td>4</td></tr> <tr><td>8</td><td>—————</td><td>5</td></tr> <tr><td>9</td><td>—————</td><td>6</td></tr> <tr><td>10</td><td>—————</td><td>7</td></tr> <tr><td>11**</td><td>—————</td><td>1**</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13*</td><td>—————</td><td>2*</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	8	2	Not connected	9	3	Not connected	10	4	Not connected	-	5	—————	3	6	Not connected	-	7	—————	4	8	—————	5	9	—————	6	10	—————	7	11**	—————	1**	12	Not connected	-	13*	—————	2*	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 Mini DIN plug, 10-pin, male (Solder view)	 1   +13.8 V (OUT) 2   TX GND (OUT) 3   GND 4   Band A (OUT) 5   Band B (OUT) 6   Band C (OUT) 7   Band D (OUT) 8   TX INH 9   EXT ALC 10   TX REQ IN Housing
1	Not connected	8																																																		
2	Not connected	9																																																		
3	Not connected	10																																																		
4	Not connected	-																																																		
5	—————	3																																																		
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11**	—————	1**																																																		
12	Not connected	-																																																		
13*	—————	2*																																																		
14	Not connected	-																																																		
15	Not connected	-																																																		
Housing	Cable shield	Housing																																																		
																																																				

Table 4-9 | Connection cable wiring

## 4.2. For ICOM Trasceivers

### 4.2.1. ACOM S-series to ICOM CAT CI-V control connection cable



This connection (interface) cable is applicable with other compatible transceivers.

#### NOTICE

The connection cable must be shielded.  
\* The pins 1 and 4 on ACOM's side 15-pin male connector must be connected.

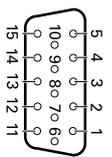
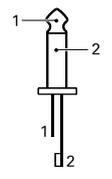
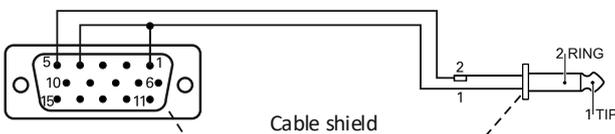
ACOM S-series amplifier Rear panel	Connecting cable			ICOM transceiver Rear panel
CAT/AUX connector				CI-V Remote socket/jack
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	1   RxD / RxTTL (IN)	1*	1	1   CI-V (IN/OUT)
	2   RxD / RxRS (IN)	2	Not connected	2   Ground
	3   TxD / TxRS (OUT)	3	Not connected	Housing
	4   TxD / TxTTL (OUT)	4*	Not connected	
	5   GND	5	2	 <p>Phone plug connector, d=3.5 mm (1/8"), male (Side view)</p>
	6   BAND voltage (IN)	6	Not connected	
	7   Band data 0 (IN)	7	Not connected	
	8   Band data 1 (IN)	8	Not connected	
	9   Band data 2 (IN)	9	Not connected	
	10   Band data 3 (IN)	10	Not connected	
	11   ON RMT (IN)	11	Not connected	
	12   Debug mode	12	Not connected	
	13   KEY-IN	13	Not connected	
	14   KEY-OUT	14	Not connected	
	15   GND	15	Not connected	
	Housing	Housing	Cable shield	Housing
				

Table 4-10 | Connection cable wiring

### 4.2.2. ACOM S-series to ICOM CAT CI-V + Keying + Power On control connection cable



This connection (interface) cable uses two connectors in its transceiver side.

#### NOTICE

The connection cable must be shielded.

- \* The pins 1 and 4 on ACOM's side 15-pin male connector must be connected.
- \*\* The pin 2 on ICOM's side phone plug and pin 2 on ICOM's side 7(8)-pin male connector must be connected.
- \*\*\* The connection between pins 13-3 is for keying. When using control cable with a keying signal, it is mandatory to NOT use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.
- \*\*\*\* The connection between pins 11-7 is for power on and is not mandatory.

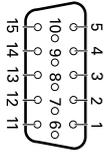
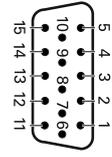
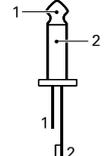
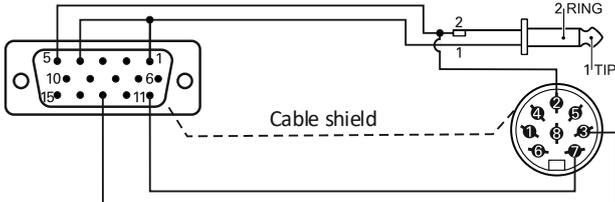
ACOM S-series amplifier Rear panel	Connecting cable			ICOM transceiver Rear panel																																																			
<b>CAT/AUX connector</b>				<b>CI-V Remote socket/jack</b>																																																			
 <p>1   RxD / RxTTL (IN) 2   RxD / RxRS (IN) 3   TxD / TxRS (OUT) 4   TxD / TxTTL (OUT) 5   GND 6   BAND voltage (IN) 7   Band data 0 (IN) 8   Band data 1 (IN) 9   Band data 2 (IN) 10   Band data 3 (IN) 11   ON RMT (IN) 12   Debug mode 13   KEY-IN 14   KEY-OUT 15   GND Housing</p> <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	 <p>15 14 13 12 11 10 9 8 7 6 5 4 3 2 1</p> <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">1*</td><td style="width: 10%; text-align: center;">—————</td><td style="width: 10%;">1</td></tr> <tr><td>2</td><td style="text-align: center;">Not connected</td><td>-</td></tr> <tr><td>3</td><td style="text-align: center;">Not connected</td><td>-</td></tr> <tr><td>4*</td><td style="text-align: center;">Not connected</td><td>-</td></tr> <tr><td>5</td><td style="text-align: center;">—————</td><td>2**</td></tr> <tr><td>6</td><td style="text-align: center;">Not connected</td><td>-</td></tr> <tr><td>7</td><td style="text-align: center;">Not connected</td><td>-</td></tr> <tr><td>8</td><td style="text-align: center;">Not connected</td><td>-</td></tr> <tr><td>9</td><td style="text-align: center;">Not connected</td><td>1</td></tr> <tr><td>10</td><td style="text-align: center;">Not connected</td><td>2**</td></tr> <tr><td>11****</td><td style="text-align: center;">—————</td><td>7****</td></tr> <tr><td>12</td><td style="text-align: center;">Not connected</td><td>4</td></tr> <tr><td>13***</td><td style="text-align: center;">—————</td><td>3***</td></tr> <tr><td>14</td><td style="text-align: center;">Not connected</td><td>5</td></tr> <tr><td>15</td><td style="text-align: center;">Not connected</td><td>6</td></tr> <tr><td>-</td><td style="text-align: center;">Not connected</td><td>8</td></tr> <tr><td>Housing</td><td style="text-align: center;">Cable shield</td><td>Housing</td></tr> </table>	1*	—————	1	2	Not connected	-	3	Not connected	-	4*	Not connected	-	5	—————	2**	6	Not connected	-	7	Not connected	-	8	Not connected	-	9	Not connected	1	10	Not connected	2**	11****	—————	7****	12	Not connected	4	13***	—————	3***	14	Not connected	5	15	Not connected	6	-	Not connected	8	Housing	Cable shield	Housing	 <p>1 2</p> <p>Phone plug connector, d=3.5 mm (1/8"), male (Side view)</p>	<p>1   CI-V (IN/OUT) </p> <p>2   Ground</p> <p>Phone socket, female (Rear panel front view)</p>
1*	—————	1																																																					
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15	Not connected	6																																																					
-	Not connected	8																																																					
Housing	Cable shield	Housing																																																					
			 <p>Connector, 7 or 8 pin, male (Solder view)</p>	<p><b>ACC 1 or ACC 2 sockets</b></p> <p>1   </p> <p>2   Ground</p> <p>3   SEND (OUT)</p> <p>4  </p> <p>5  </p> <p>6  </p> <p>7   +13.8 V (OUT)</p> <p>8  </p> <p>Housing</p> <p>Socket, 7 or 8 pin, female (Rear panel front view)</p>																																																			
 <p>Cable shield</p> <p>1 TIP, 2 RING</p>																																																							

Table 4-11 | Connection cable wiring

### 4.3. For KENWOOD Transceivers

#### 4.3.1. ACOM S-series to KENWOOD TS-480 CAT RS-232 control connection cable



This connection (interface) cable is applicable with KENWOOD TS-480, TS-590, TS-890, TS-990, TS-2000, and other compatible transceivers.



This RS-232 CAT connection (interface) cable **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

### NOTICE

Connection cable must be shielded.

\* The pins 7 and 8 on KENWOOD's side 9-pin female connector must be connected.

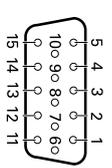
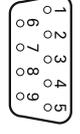
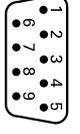
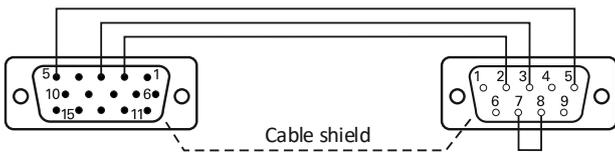
ACOM S-series amplifier Rear panel CAT/AUX connector	Connecting cable					KENWOOD transceiver / Rear panel COM connector																																																																																																																													
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	<table border="1"> <tr><td>1</td><td> </td><td>RxD / RxTTL (IN)</td></tr> <tr><td>2</td><td> </td><td>RxD / RxRS (IN)</td></tr> <tr><td>3</td><td> </td><td>TxD / TxRS (OUT)</td></tr> <tr><td>4</td><td> </td><td>TxD / TxTTL (OUT)</td></tr> <tr><td>5</td><td> </td><td>GND</td></tr> <tr><td>6</td><td> </td><td>BAND voltage (IN)</td></tr> <tr><td>7</td><td> </td><td>Band data 0 (IN)</td></tr> <tr><td>8</td><td> </td><td>Band data 1 (IN)</td></tr> <tr><td>9</td><td> </td><td>Band data 2 (IN)</td></tr> <tr><td>10</td><td> </td><td>Band data 3 (IN)</td></tr> <tr><td>11</td><td> </td><td>ON RMT (IN)</td></tr> <tr><td>12</td><td> </td><td>Debug mode</td></tr> <tr><td>13</td><td> </td><td>KEY-IN</td></tr> <tr><td>14</td><td> </td><td>KEY-OUT</td></tr> <tr><td>15</td><td> </td><td>GND</td></tr> <tr><td colspan="3">Housing</td></tr> </table>	1		RxD / RxTTL (IN)	2		RxD / RxRS (IN)	3		TxD / TxRS (OUT)	4		TxD / TxTTL (OUT)	5		GND	6		BAND voltage (IN)	7		Band data 0 (IN)	8		Band data 1 (IN)	9		Band data 2 (IN)	10		Band data 3 (IN)	11		ON RMT (IN)	12		Debug mode	13		KEY-IN	14		KEY-OUT	15		GND	Housing			<table border="1"> <tr><td>1</td><td>Not connected</td><td>1</td></tr> <tr><td>2</td><td>—————</td><td>2</td></tr> <tr><td>3</td><td>—————</td><td>3</td></tr> <tr><td>4</td><td>Not connected</td><td>4</td></tr> <tr><td>5</td><td>—————</td><td>5</td></tr> <tr><td>6</td><td>Not connected</td><td>6</td></tr> <tr><td>7</td><td>Not connected</td><td>7*</td></tr> <tr><td>8</td><td>Not connected</td><td>8*</td></tr> <tr><td>9</td><td>Not connected</td><td>9</td></tr> <tr><td>10</td><td>Not connected</td><td>-</td></tr> <tr><td>11</td><td>Not connected</td><td>-</td></tr> <tr><td>12</td><td>Not connected</td><td>-</td></tr> <tr><td>13</td><td>Not connected</td><td>-</td></tr> <tr><td>14</td><td>Not connected</td><td>-</td></tr> <tr><td>15</td><td>Not connected</td><td>-</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	1	2	—————	2	3	—————	3	4	Not connected	4	5	—————	5	6	Not connected	6	7	Not connected	7*	8	Not connected	8*	9	Not connected	9	10	Not connected	-	11	Not connected	-	12	Not connected	-	13	Not connected	-	14	Not connected	-	15	Not connected	-	Housing	Cable shield	Housing	 <p>D-sub connector, 9-pin, female (Solder view)</p>	<table border="1"> <tr><td>1</td><td> </td><td>Not used</td></tr> <tr><td>2</td><td> </td><td>TxD (OUT)</td></tr> <tr><td>3</td><td> </td><td>RxD (IN)</td></tr> <tr><td>4</td><td> </td><td>Not used</td></tr> <tr><td>5</td><td> </td><td>GND</td></tr> <tr><td>6</td><td> </td><td>Not used</td></tr> <tr><td>7</td><td> </td><td>RTS (IN)</td></tr> <tr><td>8</td><td> </td><td>CTS (OUT)</td></tr> <tr><td>9</td><td> </td><td>Not used</td></tr> <tr><td colspan="3">Housing</td></tr> </table>	1		Not used	2		TxD (OUT)	3		RxD (IN)	4		Not used	5		GND	6		Not used	7		RTS (IN)	8		CTS (OUT)	9		Not used	Housing			 <p>D-sub connector, 9-pin, male (Rear panel front view)</p>
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Housing	Cable shield	Housing																																																																																																																																	
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Table 4-12 | Connection cable wiring

## 4.4. For ELECRAFT Transceivers

### 4.4.1. ACOM S-series to ELECRAFT K3 CAT RS-232 control connection cable



This connection (interface) cable is applicable with ELECRAFT K3, K4, and other compatible transceivers.

The cable is applicable with ELECRAFT K3S if you use ELECRAFT RS-232 adapter cable (RJ45 to D-sub, 9-pin female connector).



This CAT RS-232 connection (interface) cable **MUST** be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

**NOTICE**

The connection cable must be shielded.

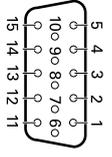
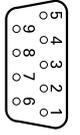
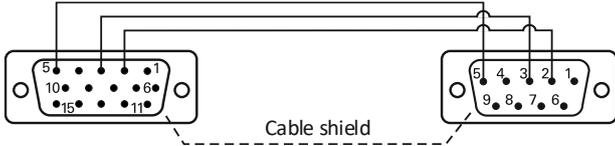
ACOM S-series amplifier Rear panel CAT/AUX connector	Connecting cable			ELECRAFT K3 transceiver / Rear panel RS-232 connector		
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	1   RxD / RxTTL (IN)	1	Not connected	1	1   Not used	 <p>D-sub connector, 9-pin, female (Rear panel front view)</p>
	2   RxD / RxRS (IN)	2	—————	2	2   RXD IN (OUT)	
	3   TxD / TxRS (OUT)	3	—————	3	3   TXD OUT (IN)	
	4   TxD / TxTTL (OUT)	4	Not connected	4	4   DTR	
	5   GND	5	—————	5	5   Ground	
	6   BAND voltage (IN)	6	Not connected	6	6   Not used	
	7   Band data 0 (IN)	7	Not connected	7	7   RTS	
	8   Band data 1 (IN)	8	Not connected	8	8   Not used	
	9   Band data 2 (IN)	9	Not connected	9	9   Not used	
	10   Band data 3 (IN)	10	Not connected	-	Housing	
	11   ON RMT (IN)	11	Not connected	-		
	12   Debug mode	12	Not connected	-		
	13   KEY-IN	13	Not connected	-		
	14   KEY-OUT	14	Not connected	-		
	15   GND	15	Not connected	-		
	Housing	Housing	Cable shield	Housing		
						

Table 4-13 | Connection cable wiring

#### 4.4.2. ACOM S-series to ELECRAFT K3

##### BAND Data BCD + Keying + Power On control connection cable



This connection (interface) cable is applicable with ELECRAFT K3, K3S, K4, and other compatible transceivers.



The Band Data cables (either BCD or Voltage) **MUST NOT** be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

#### **NOTICE**

The connection cable must be shielded.

\*\* The connection between pins 13-10 is for keying. When using control cable with a keying signal, it is mandatory to **NOT** use the other keying cable between the amplifier's **KEY IN** connector and the transceiver's TX-GND output.

\*\*\* The connection between pins 11-6 is for power on and is not mandatory.

#### **NOTICE**

Be careful not to swap the connectors, because they are of the same type.



\* Earlier K3 may require external Pull-up resistors to 5 V on lines 3, 9, 13, and 14 (transceiver connector side), typically 2.2÷10 kOhm (before Ser.N. 2370), after Dec. 10, 2008, Rev B KIO3 Digital Board.

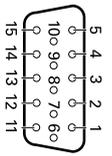
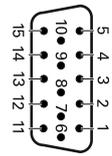
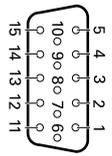
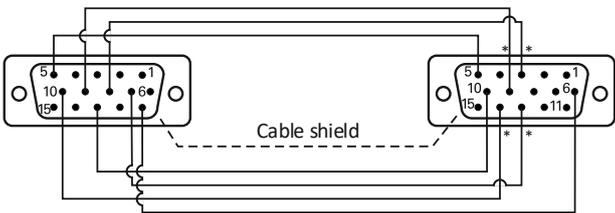
ACOM S-series amplifier Rear panel	Connecting cable			ELECRAFT K3 transceiver / Rear panel																																																													
CAT/AUX connector				ACC connector																																																													
 D-sub connector, 15-pin, 3-row, female (Rear panel front view)	 D-sub connector, 15-pin, 3-row, male (Solder view)	<table border="1"> <tr><td>1</td><td>Not connected</td><td>1</td></tr> <tr><td>2</td><td>Not connected</td><td>2</td></tr> <tr><td>3</td><td>Not connected</td><td>4</td></tr> <tr><td>4</td><td>Not connected</td><td>7</td></tr> <tr><td>5</td><td>————</td><td>5</td></tr> <tr><td>6</td><td>Not connected</td><td>8</td></tr> <tr><td>7</td><td>————</td><td>13*</td></tr> <tr><td>8</td><td>————</td><td>3*</td></tr> <tr><td>9</td><td>————</td><td>9*</td></tr> <tr><td>10</td><td>————</td><td>14*</td></tr> <tr><td>11***</td><td>————</td><td>6***</td></tr> <tr><td>12</td><td>Not connected</td><td>11</td></tr> <tr><td>13**</td><td>————</td><td>10**</td></tr> <tr><td>14</td><td>Not connected</td><td>12</td></tr> <tr><td>15</td><td>Not connected</td><td>15</td></tr> <tr><td>Housing</td><td>Cable shield</td><td>Housing</td></tr> </table>	1	Not connected	1	2	Not connected	2	3	Not connected	4	4	Not connected	7	5	————	5	6	Not connected	8	7	————	13*	8	————	3*	9	————	9*	10	————	14*	11***	————	6***	12	Not connected	11	13**	————	10**	14	Not connected	12	15	Not connected	15	Housing	Cable shield	Housing	 D-sub connector, 15-pin, 3-row, female (Rear panel front view)														
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<table border="1"> <tr><td>1</td><td>  RxD / RxTTL (IN)</td></tr> <tr><td>2</td><td>  RxD / RxRS (IN)</td></tr> <tr><td>3</td><td>  TxD / TxRS (OUT)</td></tr> <tr><td>4</td><td>  TxD / TxTTL (OUT)</td></tr> <tr><td>5</td><td>  GND</td></tr> <tr><td>6</td><td>  BAND voltage (IN)</td></tr> <tr><td>7</td><td>  Band data 0 (IN)</td></tr> <tr><td>8</td><td>  Band data 1 (IN)</td></tr> <tr><td>9</td><td>  Band data 2 (IN)</td></tr> <tr><td>10</td><td>  Band data 3 (IN)</td></tr> <tr><td>11</td><td>  ON RMT (IN)</td></tr> <tr><td>12</td><td>  Debug mode</td></tr> <tr><td>13</td><td>  KEY-IN</td></tr> <tr><td>14</td><td>  KEY-OUT</td></tr> <tr><td>15</td><td>  GND</td></tr> <tr><td>Housing</td><td></td></tr> </table>	1	RxD / RxTTL (IN)	2	RxD / RxRS (IN)	3	TxD / TxRS (OUT)	4	TxD / TxTTL (OUT)	5	GND	6	BAND voltage (IN)	7	Band data 0 (IN)	8	Band data 1 (IN)	9	Band data 2 (IN)	10	Band data 3 (IN)	11	ON RMT (IN)	12	Debug mode	13	KEY-IN	14	KEY-OUT	15	GND	Housing		<table border="1"> <tr><td>1</td><td>  FSK IN</td></tr> <tr><td>2</td><td>  AUXBUS IN/OUT</td></tr> <tr><td>3</td><td>  BAND1 OUT</td></tr> <tr><td>4</td><td>  PTT IN</td></tr> <tr><td>5</td><td>  Ground</td></tr> <tr><td>6</td><td>  DIGOUT0</td></tr> <tr><td>7</td><td>  K3 ON / TX INH</td></tr> <tr><td>8</td><td>  POWER ON</td></tr> <tr><td>9</td><td>  BAND2 OUT</td></tr> <tr><td>10</td><td>  KEYOUT-LP</td></tr> <tr><td>11</td><td>  DIGOUT1</td></tr> <tr><td>12</td><td>  Ground</td></tr> <tr><td>13</td><td>  BAND0 OUT</td></tr> <tr><td>14</td><td>  BAND3 OUT</td></tr> <tr><td>15</td><td>  EXT ALC input</td></tr> <tr><td>Housing</td><td></td></tr> </table>	1	FSK IN	2	AUXBUS IN/OUT	3	BAND1 OUT	4	PTT IN	5	Ground	6	DIGOUT0	7	K3 ON / TX INH	8	POWER ON	9	BAND2 OUT	10	KEYOUT-LP	11	DIGOUT1	12	Ground	13	BAND0 OUT	14	BAND3 OUT	15	EXT ALC input	Housing	
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Table 4-14 | Connection cable wiring

### 4.5. For FlexRadio Transceivers

#### 4.5.1. ACOM S-series to FLEX-6000 CAT RS-232 control connection cable



This RS-232 CAT connection (interface) cable MUST be used if you have an ACOM S-series amplifier and ACOM antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system.

The connection between the FlexRadio transceiver and ACOM S-series amplifier is made through the transceiver USB port and amplifier CAT/AUX connector. For this purpose, you need 2 cables, connected to each other:

- "USB to RS-232" interface converter, and
- Custom made RS-232 cable (see section [4.8 For ACOM S-series to USB-RS-232 interface converter CAT connection cable](#)).

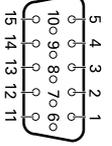
ACOM S-series amplifier Rear panel CAT/AUX connector	Custom made RS-232 cable	Interface converter USB to RS-232	FlexRadio transceiver Rear panel USB connector
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	See section <a href="#">4.8</a>		 <p>USB-A connector, female (Rear panel front view)</p>

Table 4-15 | Connection cable wiring



The ACOM recommends using "USB to RS-232" interface converters produced by FTDI ([www.ftdichip.com](http://www.ftdichip.com)) or based on an FTDI chip.

Suitable "USB to RS-232" interface converters are:

- FTDI, PN: UT232R-200 (USB (connector type A) to RS-232 (connector D-sub, 9-pin, male), 2 m cable length). This converter can be ordered from:
  - DigiKey ([www.digikey.com](http://www.digikey.com)), PN: 768-1084-ND;
  - Mouser ([www.mouser.com](http://www.mouser.com)), PN: 895-UT232R-200;
  - Farnell ([www.farnell.com](http://www.farnell.com)), PN: 2352013.
- FTDI, PN: UT232R-500 (USB (connector type A) to RS-232 (connector D-sub, 9-pin, male), 5 m cable length). This converter can be ordered from:
  - DigiKey ([www.digikey.com](http://www.digikey.com)), PN: 768-1085-ND;
  - TME ([www.tme.eu](http://www.tme.eu)), PN: UT232R-500;
  - Mouser ([www.mouser.com](http://www.mouser.com)), PN: 895-UT232R-500;
  - Farnell ([www.farnell.com](http://www.farnell.com)), PN: 2352014.

### 4.5.2. ACOM S-series to FLEX-6000 BAND Data BCD control connection cable



The Band Data cables (either BCD or Voltage) MUST NOT be used if you have an ACOM automatic antenna tuner and switch (models 04AT, 06AT, or 20AT) in your radio system. Only serial CAT cables (either RS-232 or TTL) can be used in such a case.

#### NOTICE

The connection cable must be shielded.

The connection between the FlexRadio transceiver and ACOM S-series amplifier is made through the transceiver USB port and amplifier CAT/AUX connector. For this purpose, you need:

- "USB to MPSSE" serial adapter cable (SPI/I2C/JTAG master with +3.3 V digital level signals, free cable ends), and
- D-Sub, 15-pin, male connector.

You must solder the D-Sub, 15-pin, male connector to the free cable ends of the "USB to MPSSE" adapter (see [Table 4-16 | Connection cable wiring](#)).



The ACOM recommends using "USB to MPSSE" serial adapter cable produced by FTDI ([www.ftdichip.com](http://www.ftdichip.com)) or based on an FTDI chip.



Figure 4-1 | Examples of "USB to MPSSE" cable (free cable ends)

Suitable "USB to MPSSE" serial adapter cable is:

- FTDI, PN: C232HM-DDHSL-0 (USB (connector type A) - free cable ends), 0.5 m cable length). This converter can be ordered from:
  - DigiKey ([www.digikey.com](http://www.digikey.com)), PN: 768-1106-ND;
  - Mouser ([www.mouser.com](http://www.mouser.com)), PN: 895-C232HM-DDHSL-0;
  - Farnell ([www.farnell.com](http://www.farnell.com)), PN: 2352015.

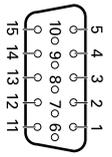
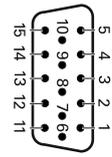
ACOM S-series amplifier Rear panel		Connecting cable					FlexRadio transceiver Rear panel
CAT/AUX connector							USB connector
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	1   RxD / RxTTL (IN)	 <p>D-sub connector, 15-pin, 3-row, male (Solder view)</p>	1	Not connected	VCC, Red	 <p>USB-A connector, male, (Front view)</p>	 <p>USB-A connector, female (Rear panel front view)</p>
	2   RxD / RxRS (IN)		2	Not connected	GPIOL0, Gray		
	3   TxD / TxRS (OUT)		3	Not connected	GPIOL1, Purple		
	4   TxD / TxTTL (OUT)		4	Not connected	GPIOL2, White		
	5   GND		5	————	GND, Black		
	6   BAND voltage (IN)		6	Not connected	GPIOL3, Blue		
	7   Band data 0 (IN)		7	————	TCK, Orange		
	8   Band data 1 (IN)		8	————	TDI, Yellow		
	9   Band data 2 (IN)		9	————	TD0, Green		
	10   Band data 3 (IN)		10	————	TMS, Brown		
	11   ON RMT (IN)		11	Not connected	-		
	12   Debug mode		12	Not connected	-		
	13   KEY-IN		13	Not connected	-		
	14   KEY-OUT		14	Not connected	-		
	15   GND		15	Not connected	-		
Housing	Housing	Cable shield	Housing				
							

Table 4-16 | Connection cable wiring

#### 4.6. For SunSDR Transceivers



For information about SunSDR transceivers CAT connection to ACOM S-series amplifiers, please, contact the producer Expert Electronics directly.

- [www.eesdr.com/en](http://www.eesdr.com/en).



It is the sole user's responsibility to check the correctness of the information as well as to check the original documentation of his transceiver or other equipment.

ACOM is not liable for non-ACOM information correctness or for another's actions and whole responsibility shall be assumed by the user/doer.

#### 4.7. For ANAN Transceivers



For information about ANAN transceivers CAT connection to ACOM S-series amplifiers, please, contact the producer Apache Labs directly.

- [www.apache-labs.com](http://www.apache-labs.com).



It is the sole user's responsibility to check the correctness of the information as well as to check the original documentation of his transceiver or other equipment.

ACOM is not liable for non-ACOM information correctness or for another's actions and whole responsibility shall be assumed by the user/doer.

### 4.8. For ACOM S-series to USB–RS-232 interface converter CAT connection cable



The USB to RS-232 converter is used to connect ACOM S-series amplifier to: PC's USB port, if your PC hasn't integrated RS-232 serial port.

#### NOTICE

The connection cable must be shielded.

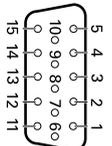
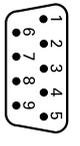
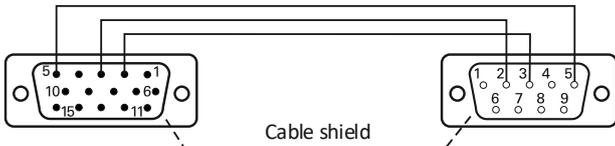
ACOM S-series amplifier Rear panel	Connecting cable			USB to RS-232 interface converter		
CAT/AUX connector				RS-232 connector		
 <p>D-sub connector, 15-pin, 3-row, female (Rear panel front view)</p>	1   RxD / RxTTL (IN)	1	Not connected	1	1   Not used	 <p>D-sub connector, 9-pin, male (Rear panel front view)</p>
	2   RxD / RxRS (IN)	2	————	3	2   RxD (IN)	
	3   TxD / TxRS (OUT)	3	————	2	3   TxD (OUT)	
	4   TxD / TxTTL (OUT)	4	Not connected	4	4   Not used	
	5   GND	5	————	5	5   Ground	
	6   BAND voltage (IN)	6	Not connected	6	6   Not used	
	7   Band data 0 (IN)	7	Not connected	7	7   Not used	
	8   Band data 1 (IN)	8	Not connected	8	8   Not used	
	9   Band data 2 (IN)	9	Not connected	9	9   Not used	
	10   Band data 3 (IN)	10	Not connected	-	Housing	
	11   ON RMT (IN)	11	Not connected	-		
	12   Debug mode	12	Not connected	-		
	13   KEY-IN	13	Not connected	-		
	14   KEY-OUT	14	Not connected	-		
	15   GND	15	Not connected	-		
Housing	Housing	Cable shield	Housing			
						

Table 4-17 | Connection cable wiring



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