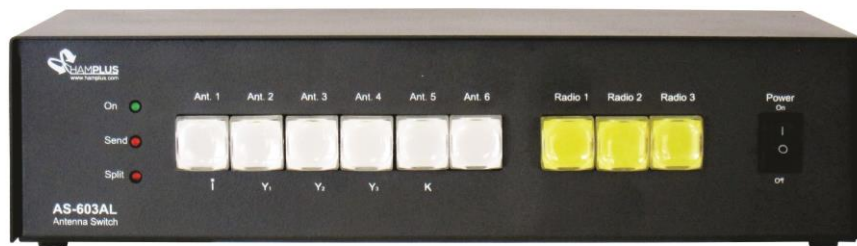


AS-603AL

6 Antennas x 3 Radios Automatic Antenna Switch

Operation from 30 KHz to 54 MHz

Operation Manual



V-2.3.1

AS-603AL

Operation Manual

Automatic Antenna Switch 6x3

The AS-603AL is an automatic antenna switch for three radios and six antennas. It has internally two independent keys. One to select the radios and another to select the antennas. Between these two switches it is possible to insert a linear amplifier or a wattmeter, or both. In this way the equipment will always be connected with the Radio and the antenna selected. The operation is individual, which means that only the selected radio will have access to the antennas. Unused antennas are automatically grounded.

To facilitate the operation, the AS-603AL also has a third internal switch that switches the Send commands and the Com port to the selected Radio.

The AS-603AL supports communication with the following radios: Icom (CI-V), Kenwood (RS-232), Elecraft K3 (RS-232), Yaesu (RS-232), FLEX or any other Radio that uses one of these communication protocols.

Procedure for connecting the AS-603AL to the radio:

- 1- On the **AS-603AL** press and hold the yellow radio select Push button and turn on the **AS-603AL**.
- 2- Then press the Antenna Push Button corresponds to the model of the radio that you will connect, according to the list below;
 - a- **Ant 1** Push Button for **Icom** (CI-V) radios **Baud rate 19200**
 - b- **Ant 2** Push Button for **Yaesu** type FT-817, FT-857 and others. **Baud rate 4800**
 - c- **Ant 3** Push Button for **Yaesu** type FT-1000 MP radios and others. **Baud rate 4800**
 - d- **Ant 4** Push Button for **Yaesu** type FT-5000 radios and others. **Baud rate 4800**
 - e- **Ant 5** Push Button for **Kenwood, Elecraft, Flex Radio**, and others. **Baud rate 4800**
 - f- **Yaesu and Elecraft radios, when using a control cable with a BCD to CI-V converter, must configure the antenna switch to work with Icom Radio.**

After the choice, the **Split LED** stops blinking, this indicates the end of this procedure.

Procedure to activate Split mode:

To activate Split mode, the **AS-603AL** must be connected to the radio with the appropriate cable and the **TX Delay** of the radio must be set to 20 ms or more.

- 1- Press the PTT on the radio and watch the AS-603AL's Send LED light up.
- 2- Then, with the PTT still pressed, press and release the button of the antenna that you want to receive. At this moment Split LED indicator lights up.
- 3- When PTT is released, the AS-603AL will switch to the chosen receiving antenna. Each time you press the PTT, it returns to the transmitting antenna.

Any change of antenna or band on the radio deactivates Split mode.

Testing and using the automatic antenna selection feature of the AS-603AL with a connected and selected radio:

NOTE: No computer programming, PC connection or internal changes are required. A connected radio means that it is interfaced to the AS-603AL with a cable, such as Hamplus ERC-6, IRC-6, KRC-6, YRC-6, FRC-6, and the radio set to the correct baud rate (19,200 baud CI-V or 4800 baud CAT and COM) and set up as described in the previous section.

If the AS-603AL is not interfaced as described, then it may be operated as a Manual Antenna Switch.

When connected, the AS-603AL is an Automatic Band Memory Antenna Switch that may be operated manually. "Programming" automatic antenna selections are made as each different band is selected on the connected and selected radio. The initial manual selection of a specific antenna for that band is made by depressing the desired Ant button, which is then automatically memorized. There is no "SAVE" button nor is there a multi-button programming sequence. Just set the antenna by the band on the radio.

Restated, simply assign or reassign any AS-603AL Ant button number to any band by initial or subsequent manual selection. For every and any band chosen and displayed on the connected and selected radio, every time a different antenna button is manually depressed, that selection is memorized.

Here is an example of antenna memorization by band setting on the transceiver connected to and selected as Radio 1 on the AS-603AL:

1. Select 40 meters on Radio 1 and press Ant 2 on the AS-603AL (as if your 40 meters antenna is connected to the Ant 2 port on the AS-603AL)
2. Select 80 meters on Radio 1 and press Ant 1 on the AS-603AL (as if your 80 meters antenna is connected to the Ant 1 port on the AS-603AL)
3. Select 20 meters on Radio 1 and press Ant 3 on the AS-603AL (as if your 20 meters antenna is connected to the Ant 3 port on the AS-603AL) ... and so on.

Now, test the automation by changing back to the 40 meters band on your radio. The AS-603AL should now automatically switch to Ant 2.

Then, select 80 meters on your radio and the AS-603AL automatically switches to Ant1, and so on.

If automatic antenna selection by band or frequency does not occur, then reattempt the Procedure for connecting the AS-603AL to the radio in the section above.

Supporting the use of a multi-band antenna:

The AS-603AL provides the ability to assign any single antenna port to any number of bands on the connected radio, also by initial manual selection.

For example:

A 20/15/10 meters tri-band beam coaxial cable is connected to Ant 3 port on the AS-603AL.

4. Select 20 meters on the connected radio and press Ant 3 on the AS-603AL (because your tri-band antenna is connected to Ant 3 port on the AS-603AL)
5. Select 15 meters on the connected radio and press Ant 3 on the AS-603AL (because your tri-band antenna is connected to Ant 3 port on the AS-603AL)
6. Select 10 meters on the connected radio and press Ant 3 on the AS-603AL (because your tri-band antenna is connected to Ant 3 port on the AS-603AL)

Now, test the tri-bander automation by selecting any of those bands, 20, 15 and 10 meters, on your radio. The AS-603AL will now automatically stay on Ant 3, or go back to Ant 3 after selecting a band with a different band memorized.

7. Select 80 meters on your radio and the AS-603AL automatically switches to Ant 1,
8. Then, select 20 meters on your radio and the AS-603AL automatically switches back to Ant 3... and so on.

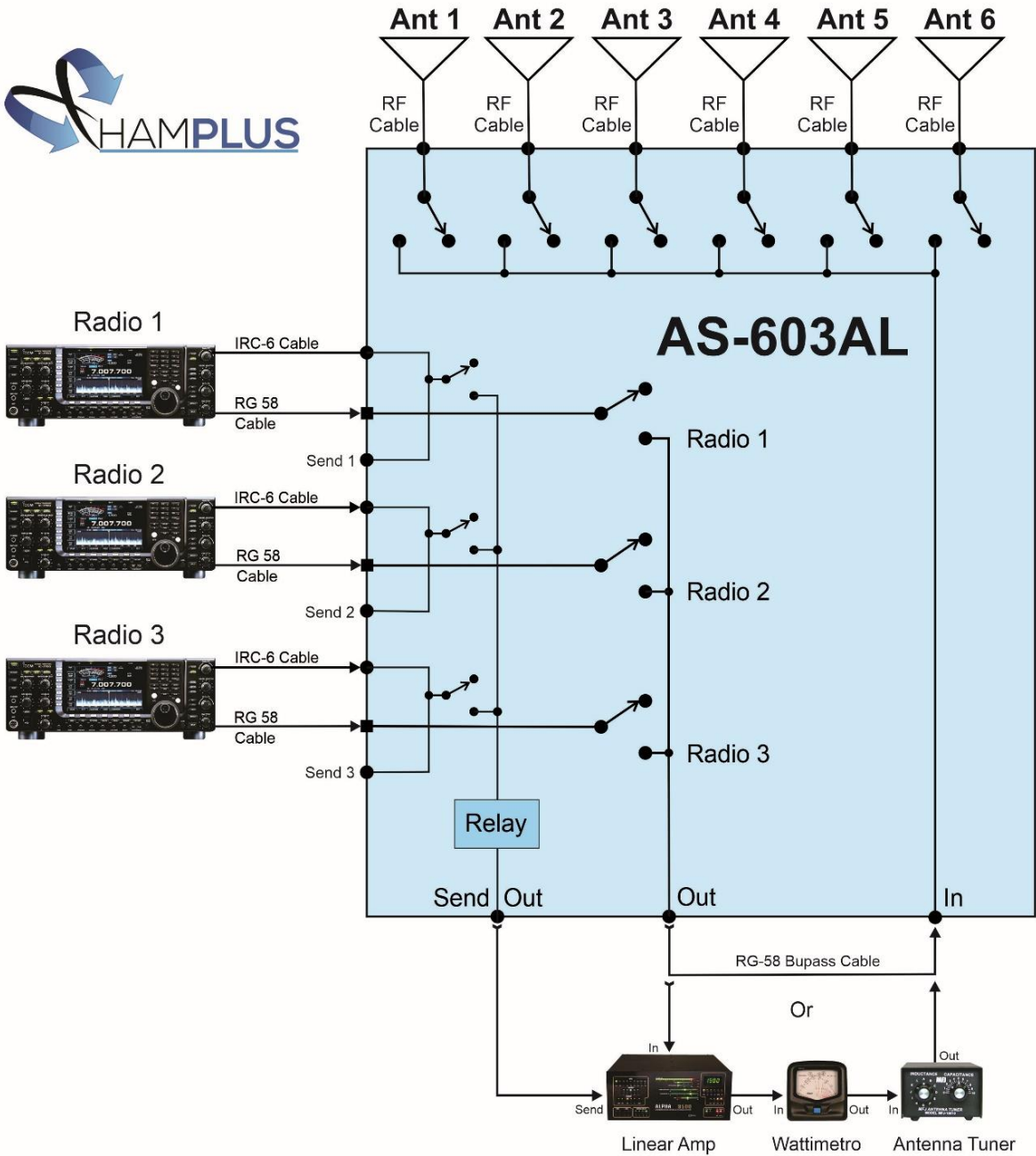
IMPORTANT FEATURE: PC interface to this antenna switch controller is not necessary. Interfaced transceivers that are also controlled locally or remotely by USB or LAN will continue to benefit from this Automatic Band Memory Antenna Switch. This smart controller method of automatic antenna selection is simply made by band or frequency selection with the radio control program.

REMINDER: Reassignment of any band or frequency to a different antenna port is simply made by manual reselection of the new antenna port number whenever the connected radio is set on that specific band or frequency. The manual change is automatically updated by the AS-603AL for only the selected radio. Simply stated, reassign any Ant # to any band by manual reselection of the new Ant # whenever the radio is set to that band.

For example, let's say that you now want to move your 40 meters antenna to the Ant 5 port on the AS-603AL. Simply select 40 meters on the connected radio and press Ant 5 on the AS-603AL, and it memorizes this change. Each time you change this radio to a 40 meters frequency, Ant 5 will now be automatically selected.

NOTE: On any given radio band, any manual antenna selection that is made, even if it happens to be incorrect, will be memorized. So, check and recheck each of your band memorized antenna selections by changing to each of the bands on your connected and selected radio and watching the AS-603AL automatically change to the correct antenna. Correct any wrong Ant # on any band by manual selection.

-----X-----

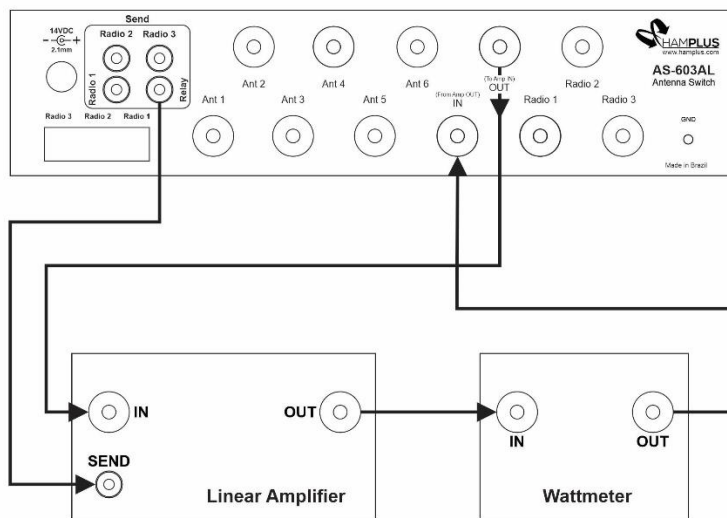




Bypass Cable

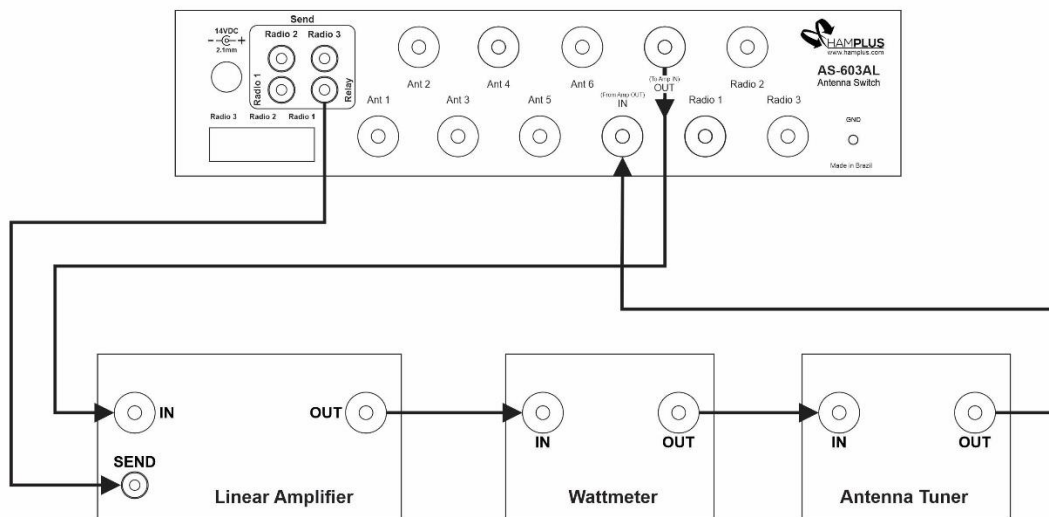
- Connect the Bypass cable or the Linear Amplifier.

Connection of Linear Amplifier and Wattmeter

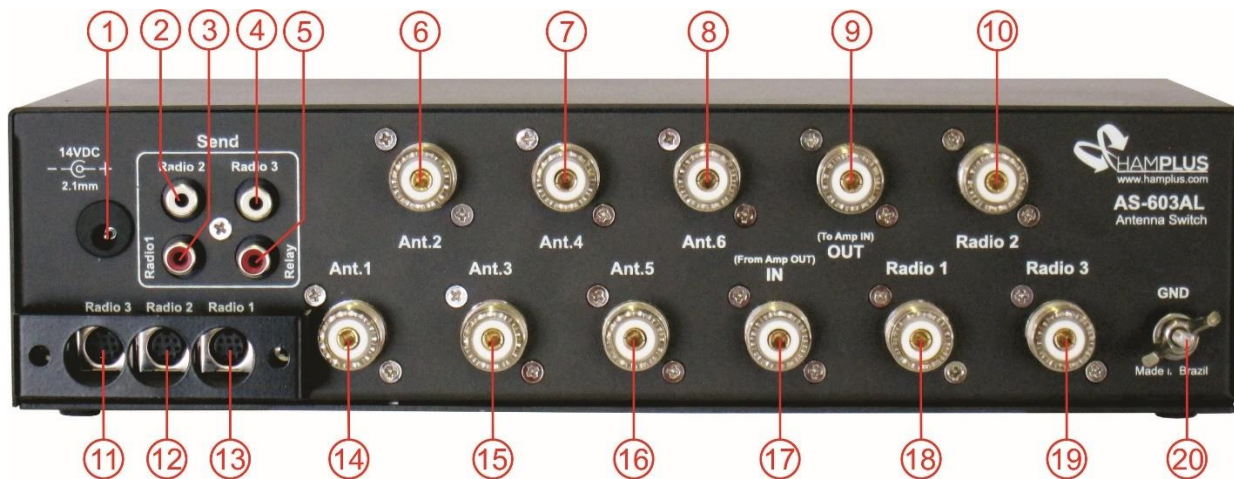


Date: 18 / 10 / 2023 By: Valmor
 Filename: DI-AS603AL-Linear-Tuner Rev.: 1.0

Connection of Linear Amplifier, Wattmeter and Antenna Tuner



Date: 18 / 10 / 2023 By: Valmor
 Filename: DI-AS603AL-Linear-Tuner-Sint Rev.: 1.0



- | | |
|--------------------------------------|-------------------------------|
| 1- Auxiliar Power Supply In 13.8 VDC | 11- Control Cable to Radio 1 |
| 2- Send 2 In/Out | 12- Control Cable to Radio 2 |
| 3- Send 1 In/Out | 13- Control Cable to Radio 3 |
| 4- Send 3 In/Out | 14- RF to Antenna 1 |
| 5- Switched Relay Send Out | 15- RF to Antenna 3 |
| 6- RF to Antenna 2 | 16- RF to Antenna 5 |
| 7- RF to Antenna 4 | 17- RF In from Linear Amp Out |
| 8- RF to Antenna 6 | 18- RF from Radio 1 |
| 9- RF Out to Linear Amp In | 19- RF from Radio 3 |
| 10- RF from Radio 2 | 20- GND |

Labels for identifying buttons

Labels - print on transparent paper with laser printer

160 m	80 m	40 m	30 m	20 m	18 m	17 m	15 m	12 m	10 m	6 m	2 m
70 cm	80 m 40 m	20 m 15 m 10 m	80 m 160 m	LOG	MULTI BANDA	IC 706	IC 756	IC-756 PRO	IC-756 PROII	IC-756 PROIII	IC 757
K3	YAESU	ICOM	FLEX	KEN WOOD	IC 7000	IC 7100	IC 7300	IC 7600	IC 7610	IC 7700	FT 450
K3 1	YAESU 1	ICOM 1	FLEX 1	KEN WOOD 1	FT 450D	FT 757GX_{II}	FT 817	FT 817ND	FT 847	FT 857	FT 857D
K3 2	YAESU 2	ICOM 2	FLEX 2	KEN WOOD 2	FT 897	FT 920	FT 950	FT 990	FT 991	FT 1000	FT 1000MP
K3 3	YAESU 3	ICOM 3	FLEX 3	KEN WOOD 3	FT 2000	FT_{DX} 10	FT_{DX} 101	FT_{DX} 101D	FT_{DX} 101MP	FT_{DX} 1200	FT_{DX} 3000
					FT_{DX} 5000	FT_{DX} 9000D	FT_{DX} 9100	TS-480 HX	TS-480 SAT	TS 590S	FT_{DX} 3000D

Printable file available on the website www.hamplus.com on the product page in downloads.

Procedure to place labels on the keys

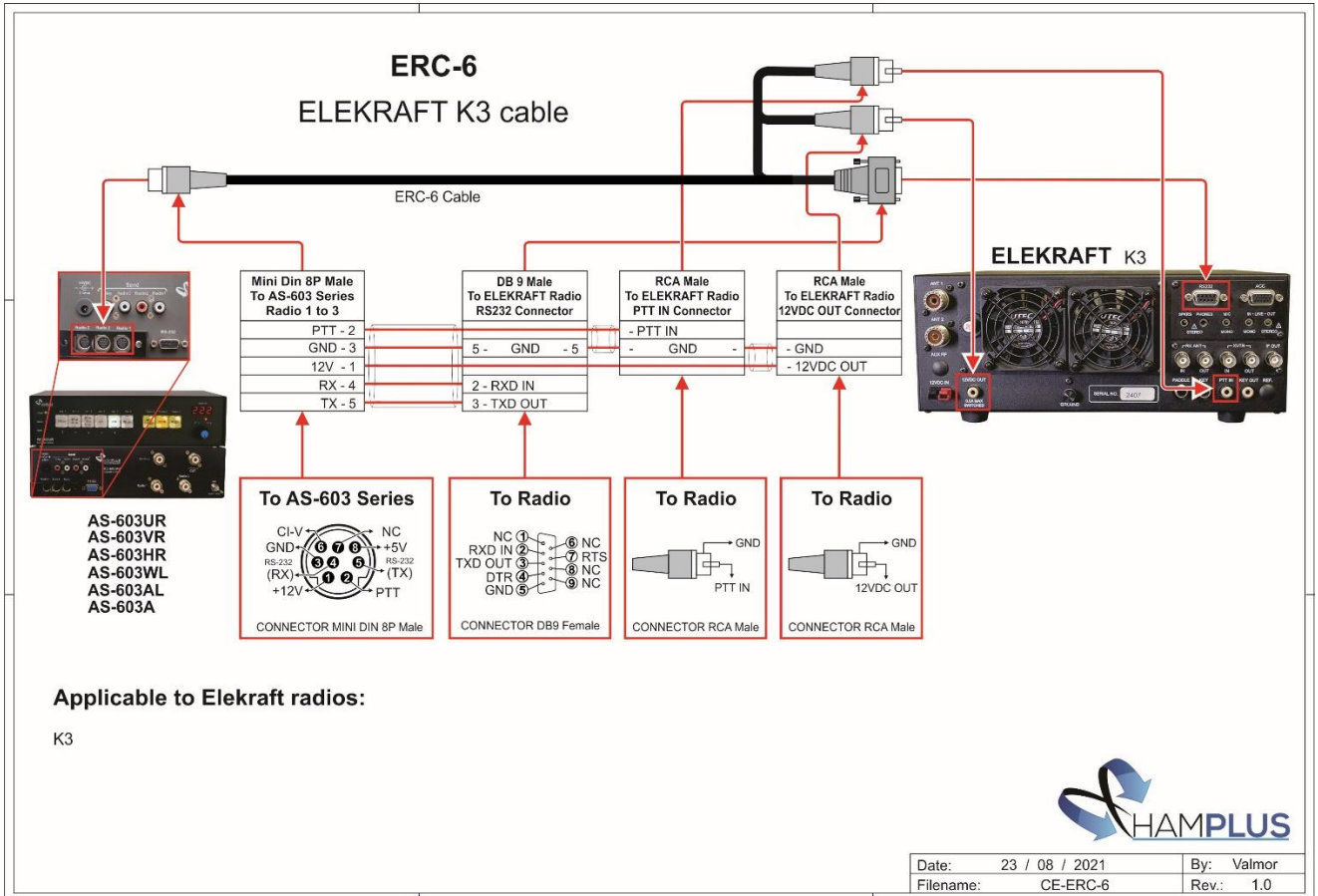
Push Button Labels

HAMPLUS		
Size: A4	Number: Push Button Labels	Rev: 1.0
Date: 29 / 04 / 2019	By: Valmor	
Filename: Labels	Page: 1 / 1	

AS-603AL - IDENTIFICATION PIN

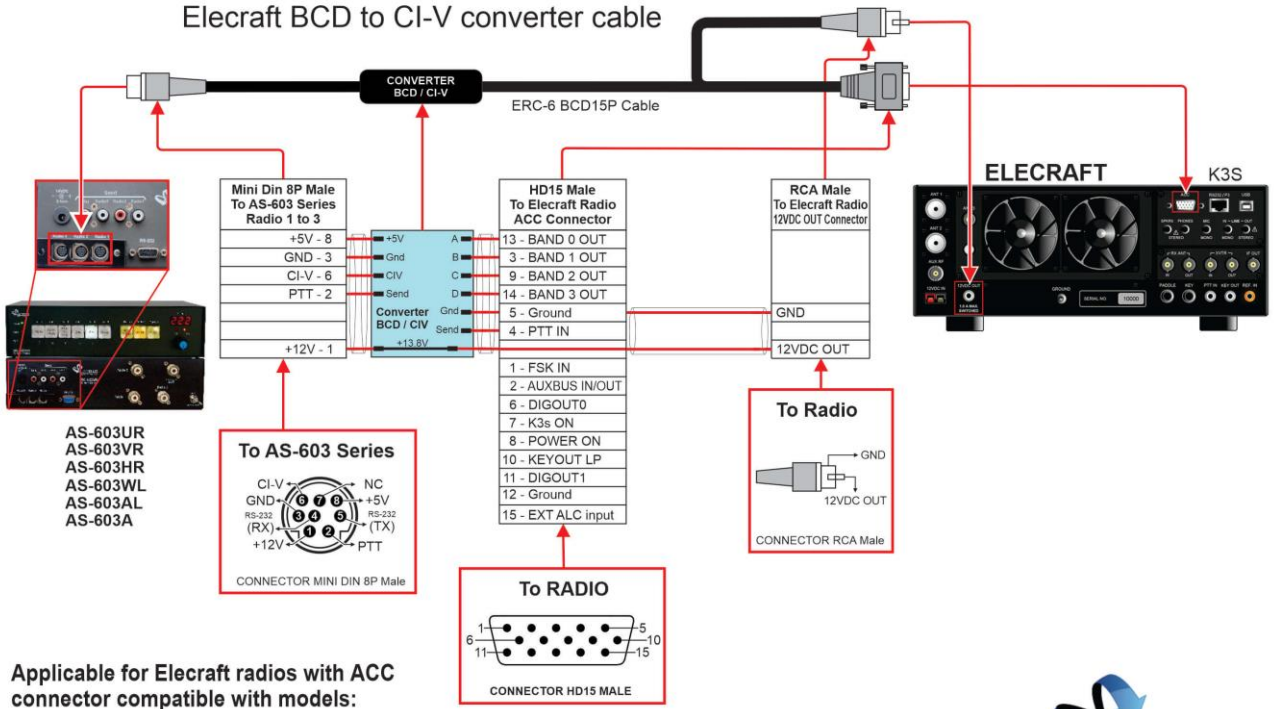
AS-603AL

HAMPLUS			
Size: A4	Number: Identification Pin	Rev: 1.0	
Date: 11 / 10 / 2023	By: Valmor		
Filename: PLAS603AL	Page: 1 / 1		



ERC-6 BCD15P Cable

Elecraft BCD to CI-V converter cable

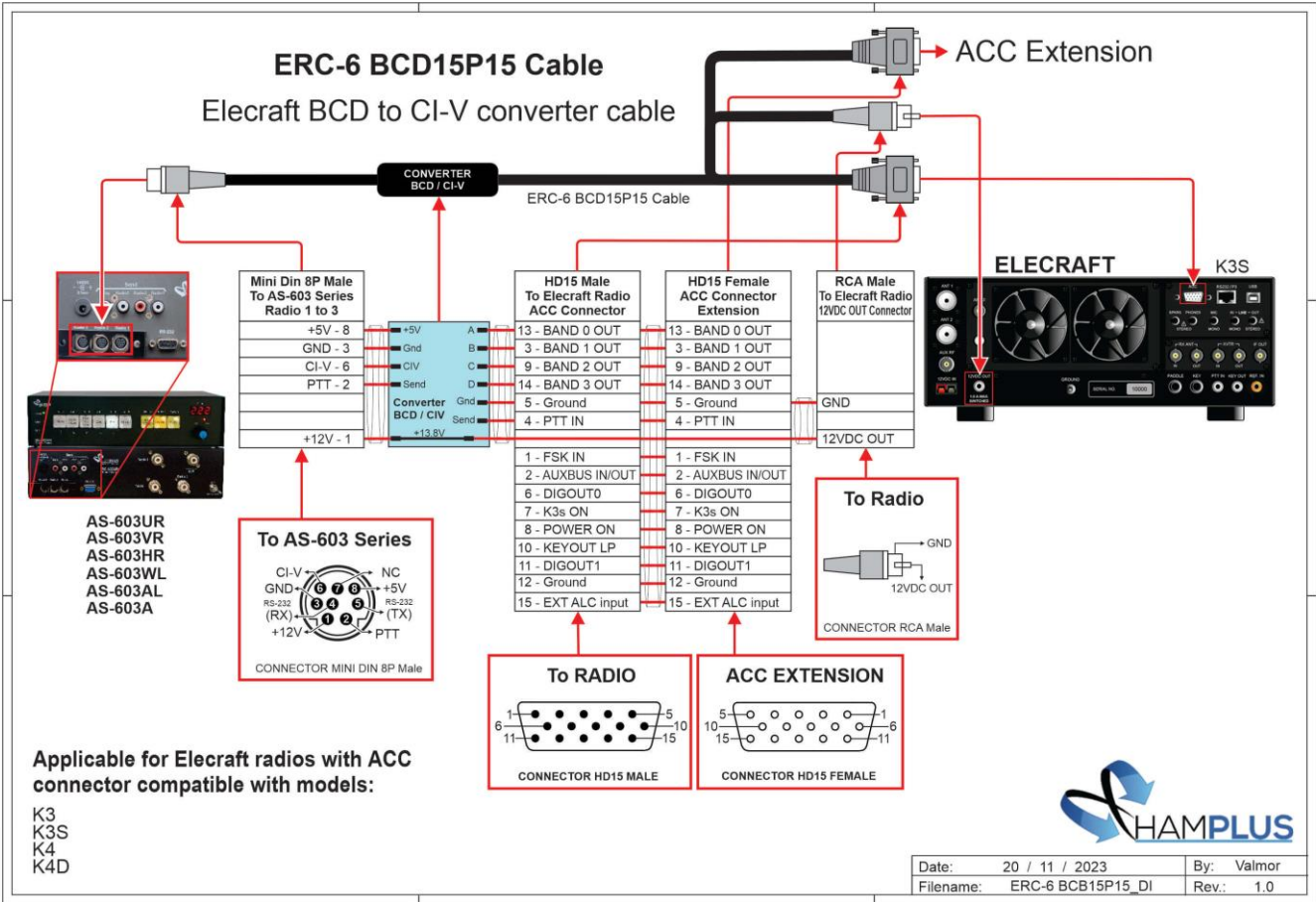


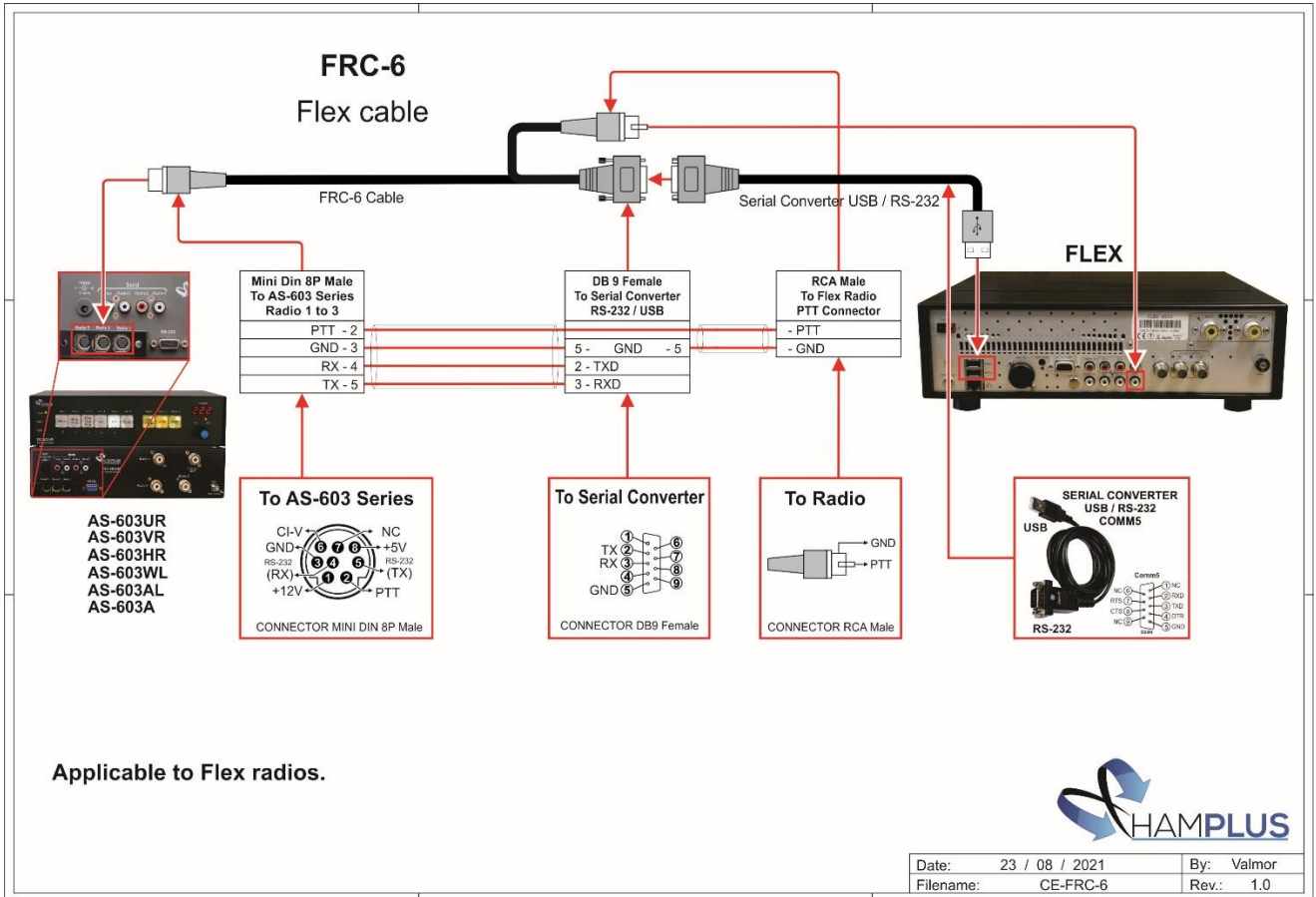
Applicable for Elecraft radios with ACC connector compatible with models:

- K3
- K3S
- K4
- K4D

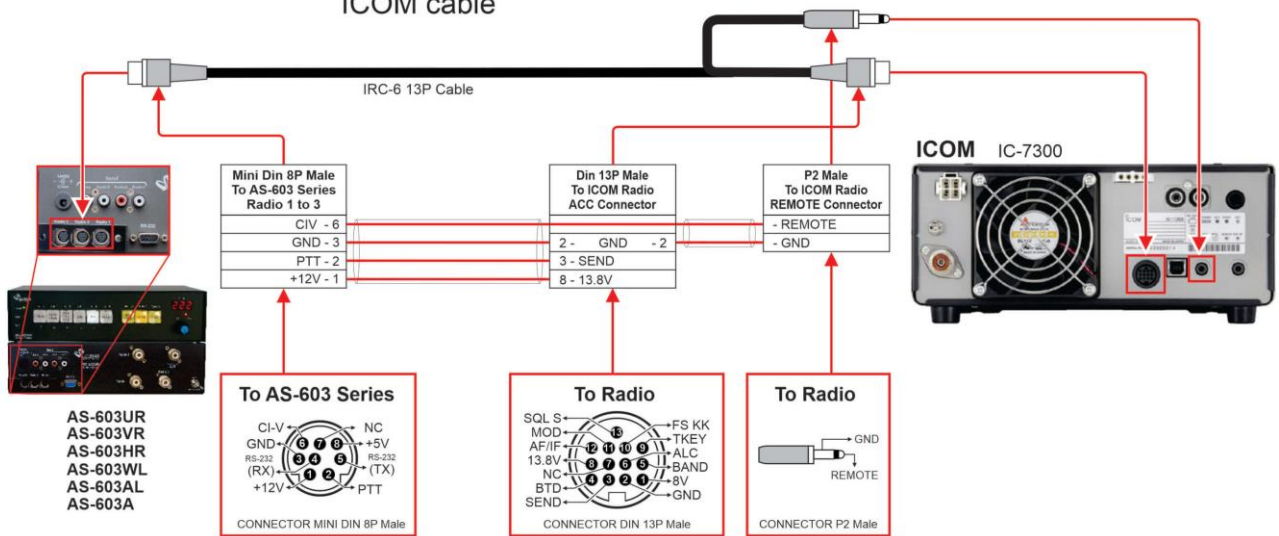


Date: 20 / 11 / 2023	By: Valmor
Filename: ERC-6 BCB15P_DI	Rev.: 1.0





IRC-6 13P ICOM cable

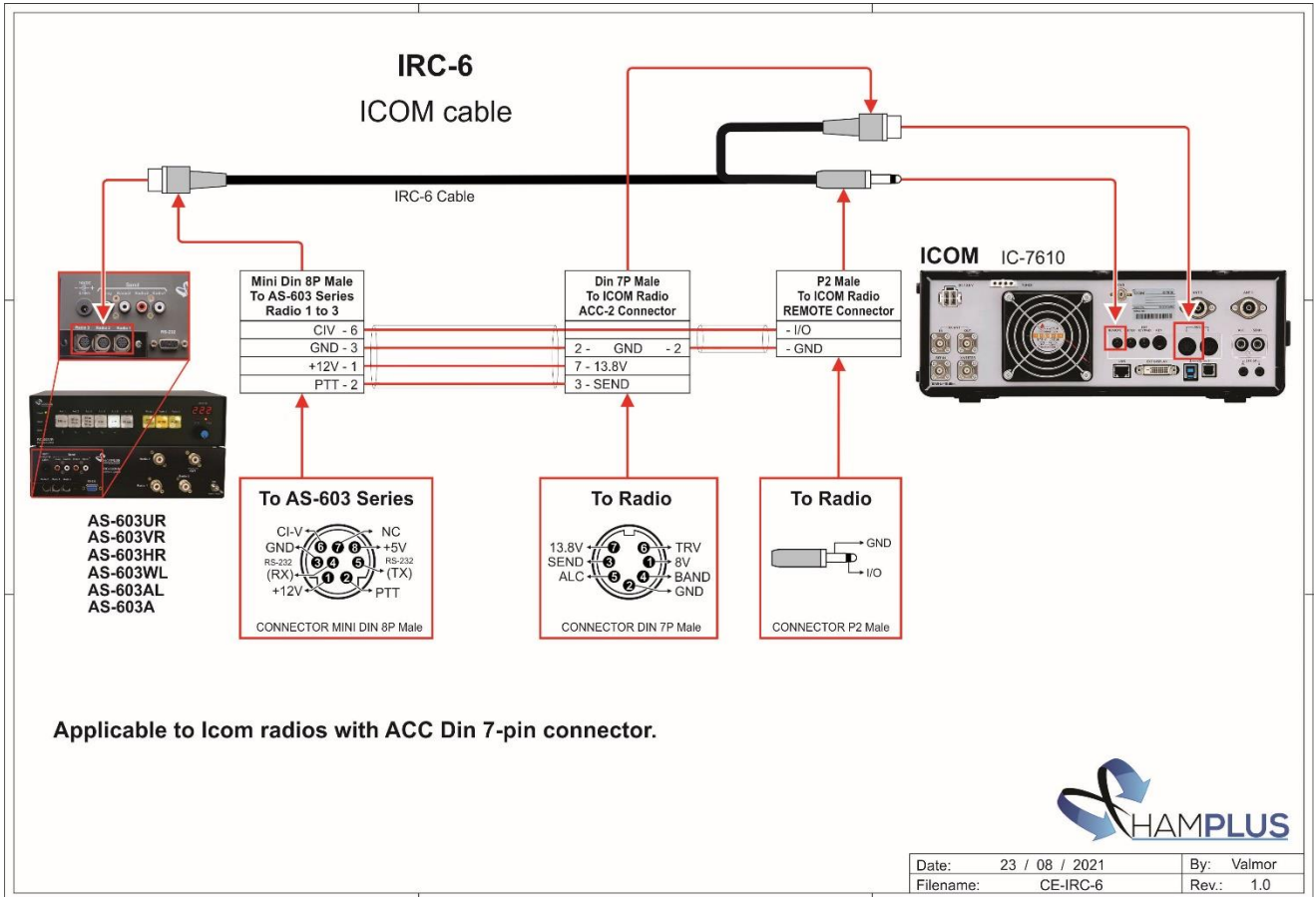


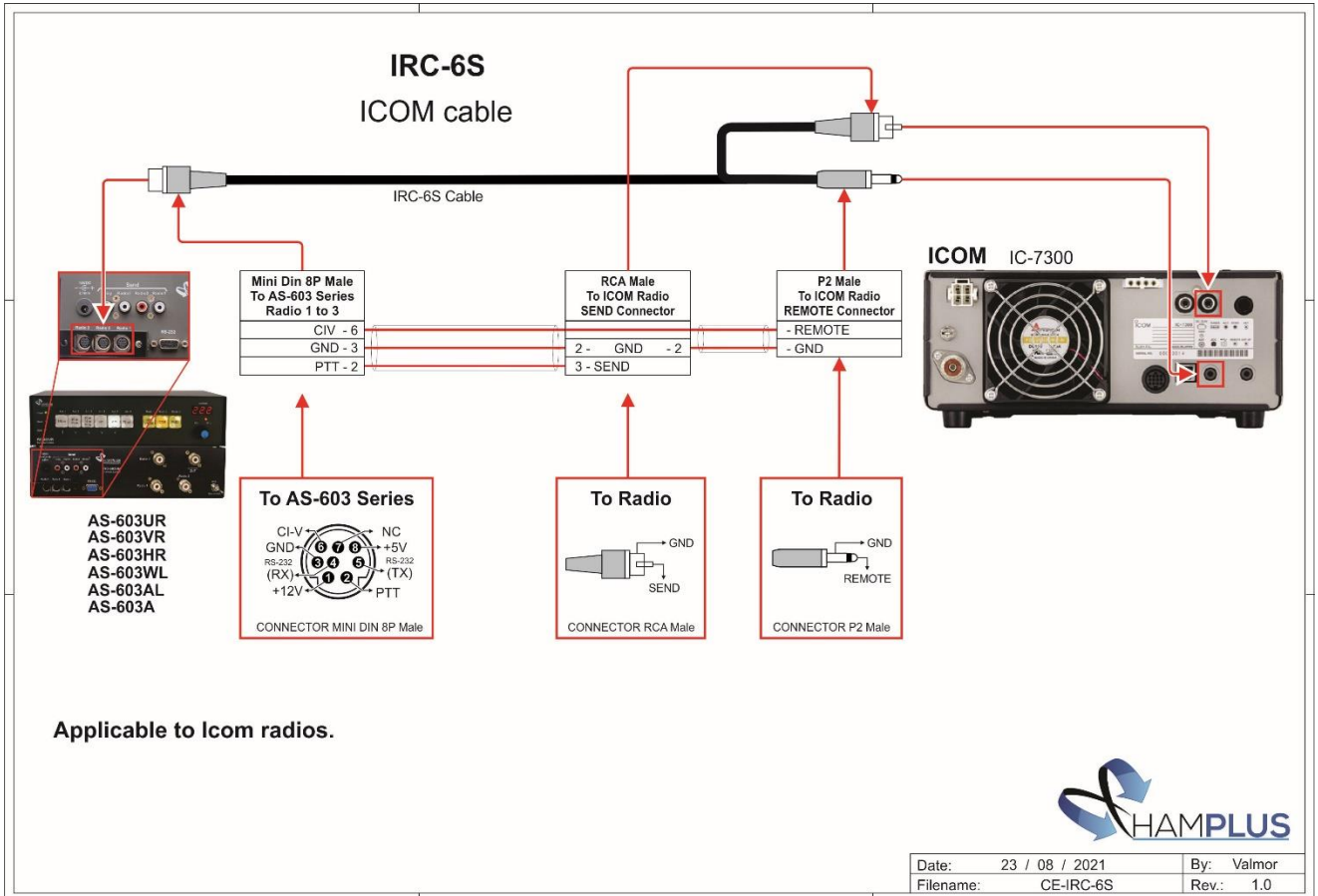
Applicable to Icom radios with ACC Din 13-pin connector.

- IC-7000
- IC-7100
- IC-7300
- IC-9100

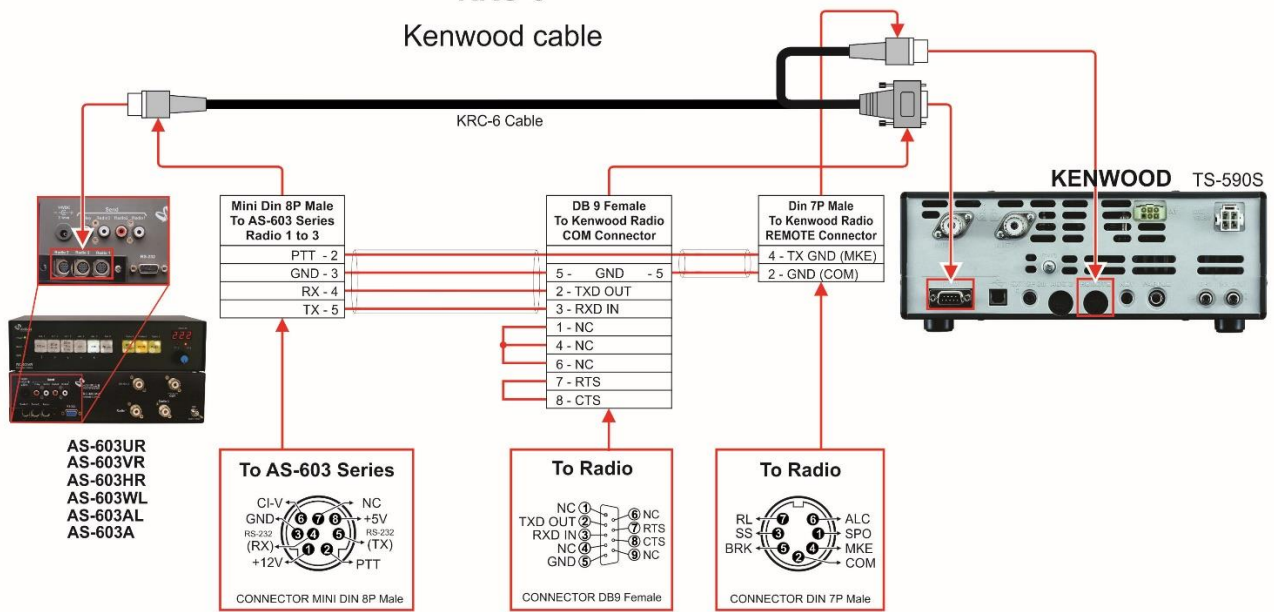


Date: 10 / 10 / 2023	By: Valmor
Filename: IRC-6 13P_DI	Rev.: 1.0





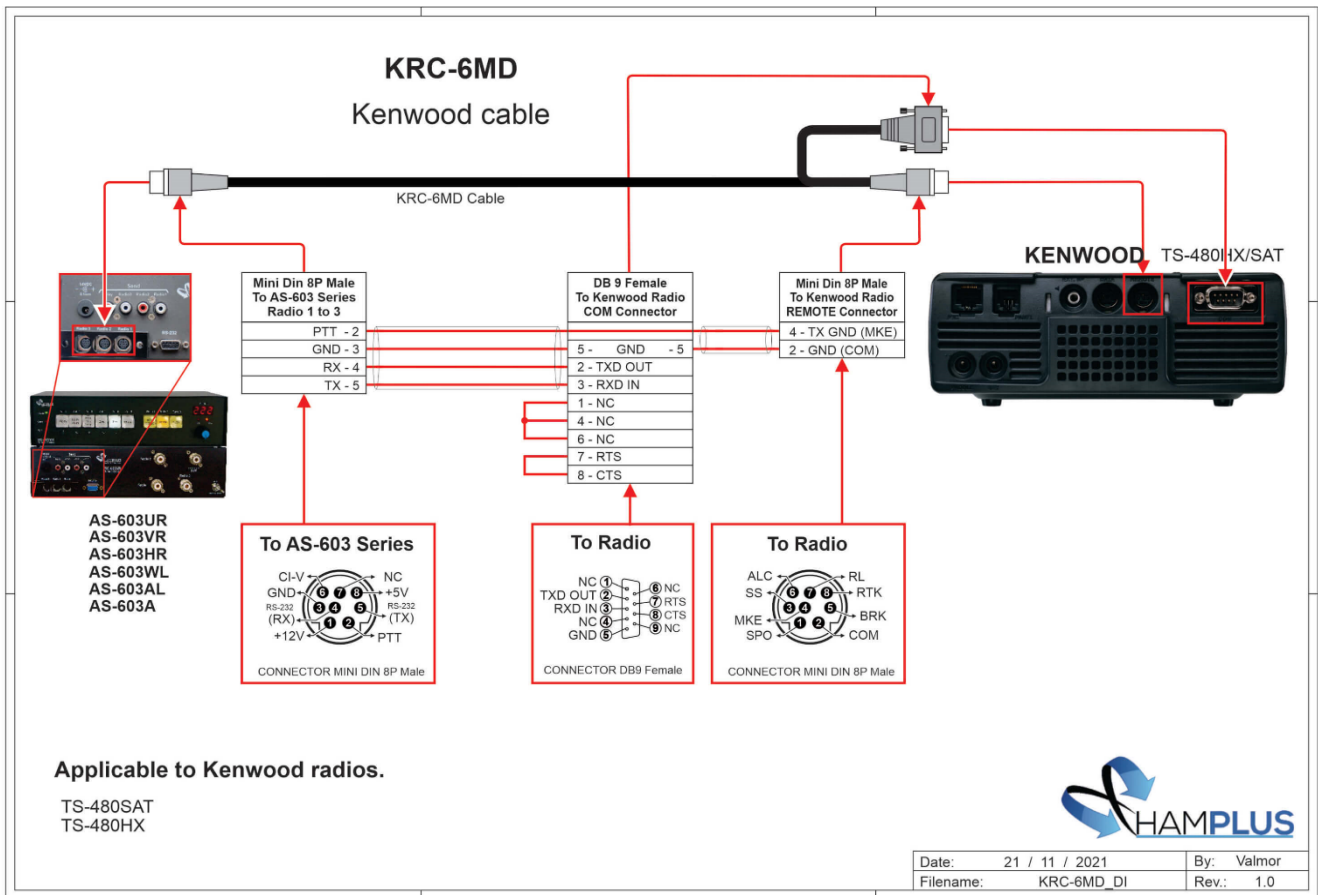
KRC-6 Kenwood cable



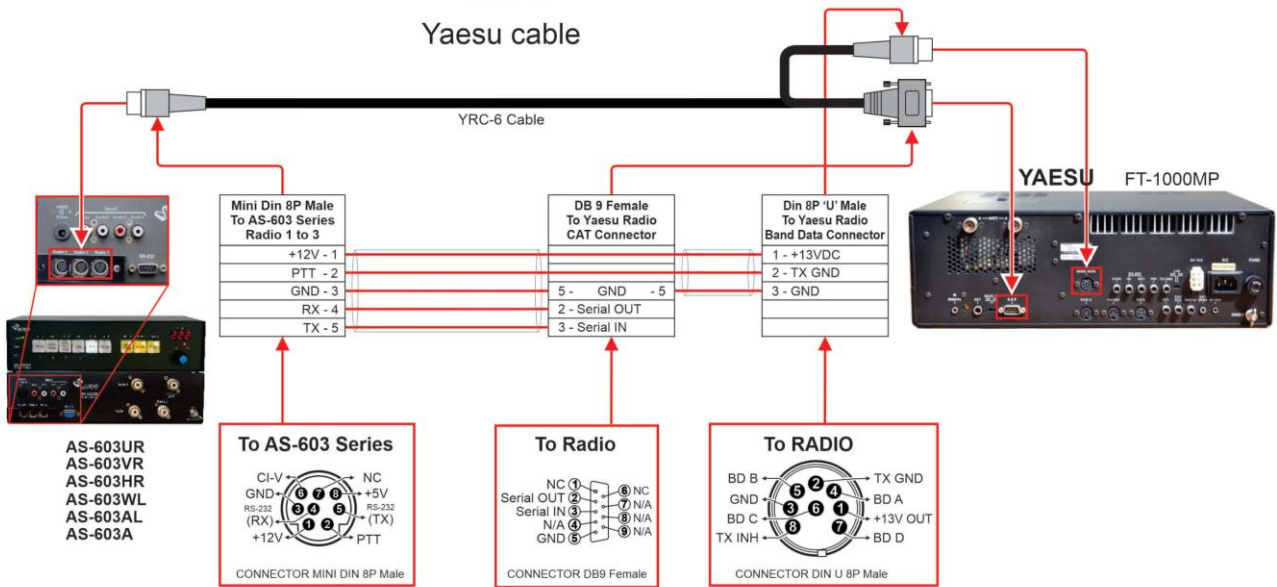
Applicable to Kenwood radios.



Date: 23 / 08 / 2021	By: Valmor
Filename: CE-KRC-6	Rev.: 1.0



YRC-6 Yaesu cable



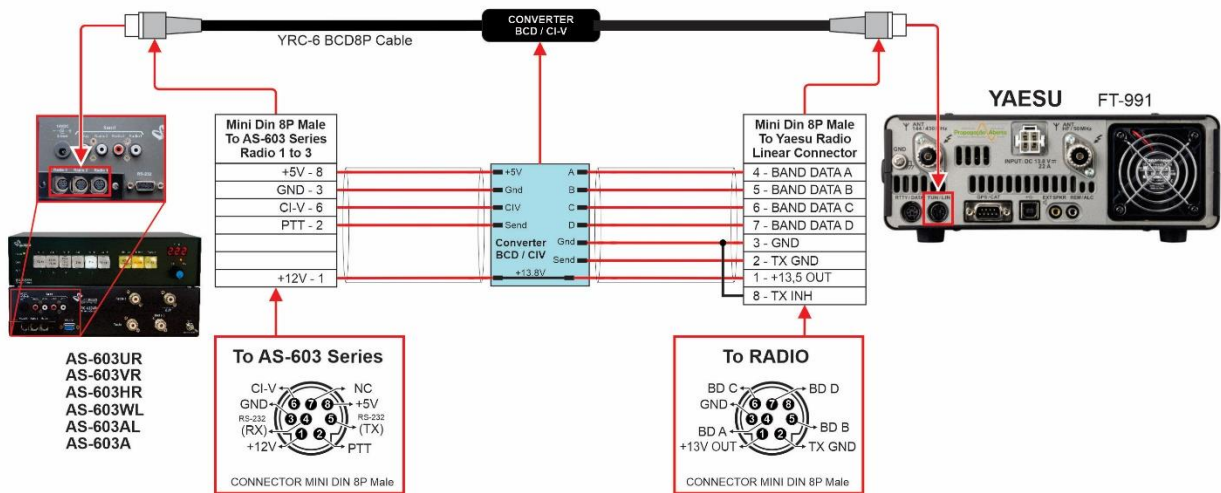
Applicable to Yaesu radios with RS-232 protocol compatible with FT-1000MP model.



Date: 09 / 10 / 2023	By: Valmor
Filename: YRC-6_DI	Rev.: 1.0

YRC-6 BCD8P Cable

Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

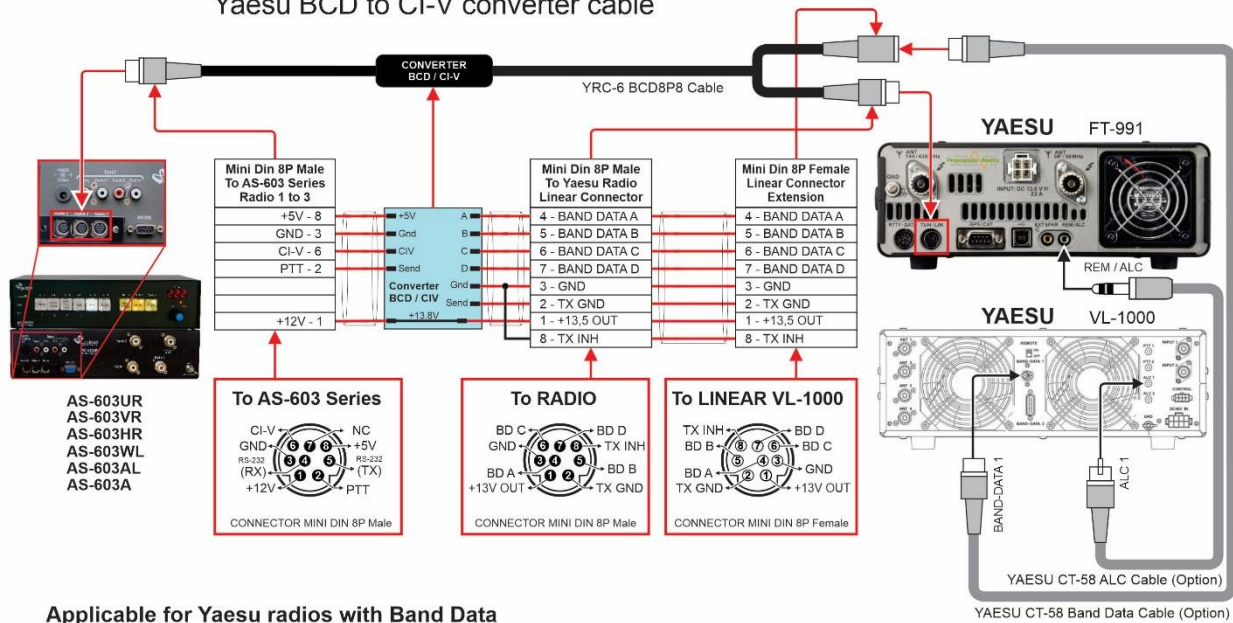
FT-710
FT-991
FT-991A



Date:	29 / 04 / 2024	By:	Valmor
Filename:	YRC-6 BCB8P	Rev.:	1.0

YRC-6 BCD8P8 Cable

Yaesu BCD to CI-V converter cable



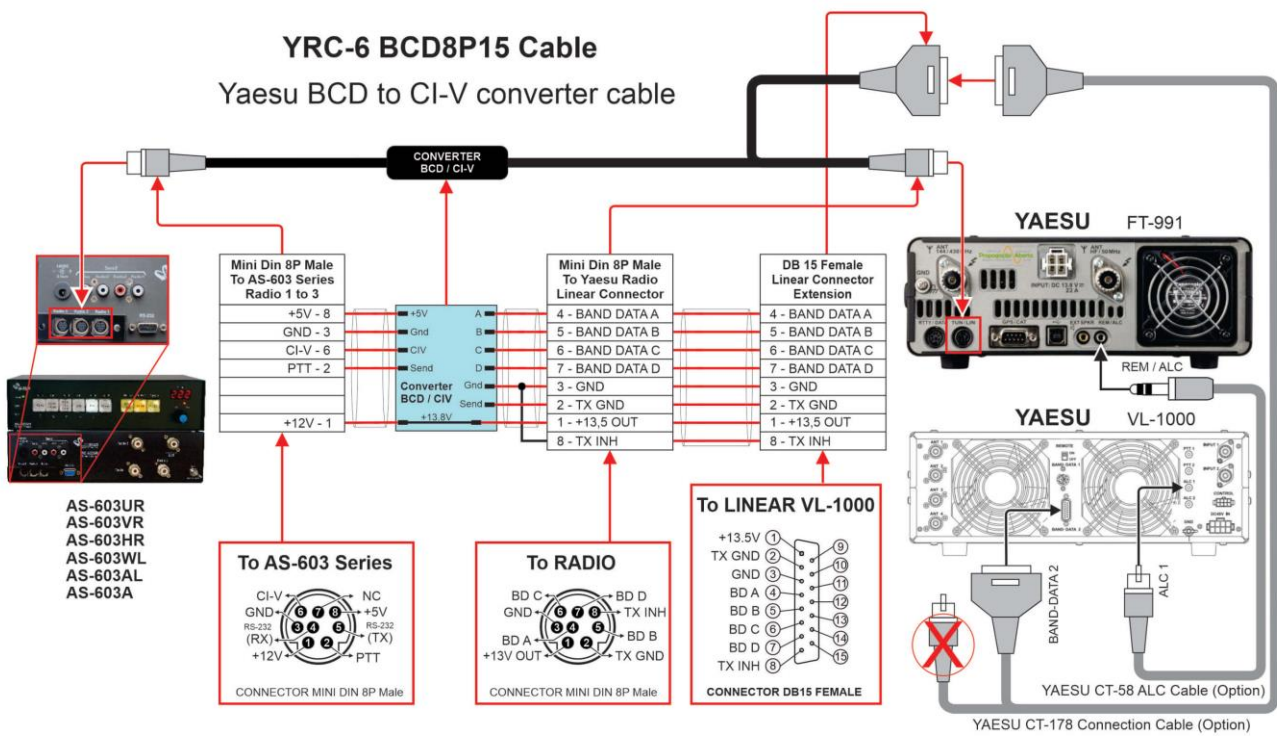
Applicable for Yaesu radios with Band Data connector compatible with models:

FT-710
FT-991
FT-991A



Date:	24 / 04 / 2024	By:	Valmor
Filename:	YRC-6 BCB8P8_DI	Rev.:	1.0

YRC-6 BCD8P15 Cable
Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

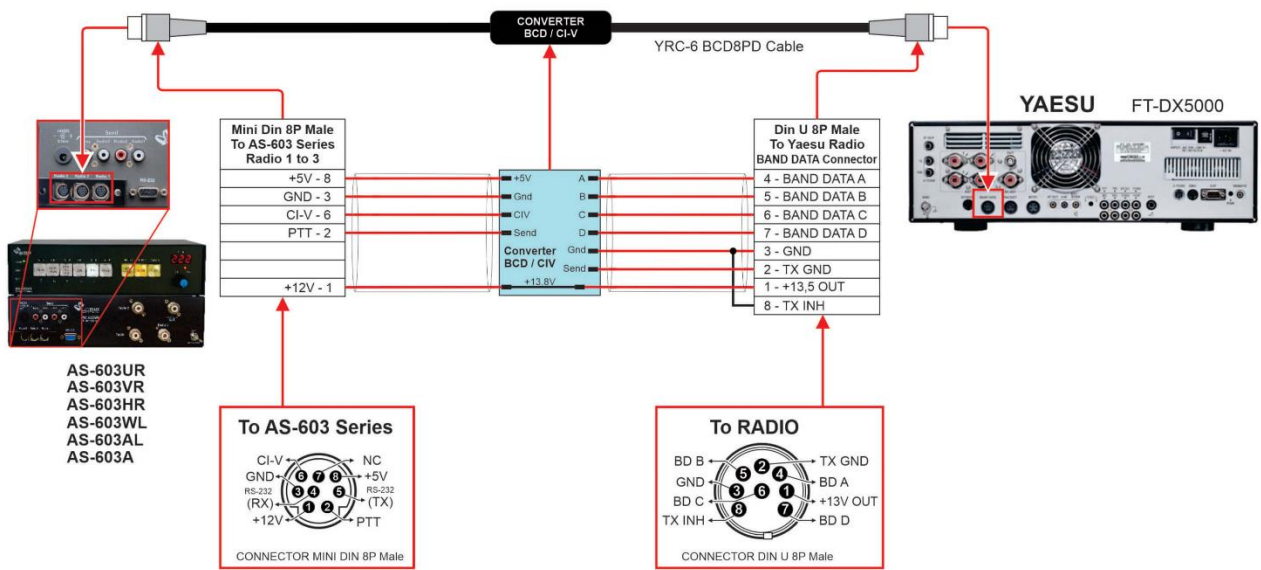
FT-991
FT-991A



Date: 07 / 07 / 2023 By: Valmor
Filename: YRC-6 BCB8P15 DI Rev.: 1.0

YRC-6 BCD8PD Cable

Yaesu BCD to CI-V converter cable



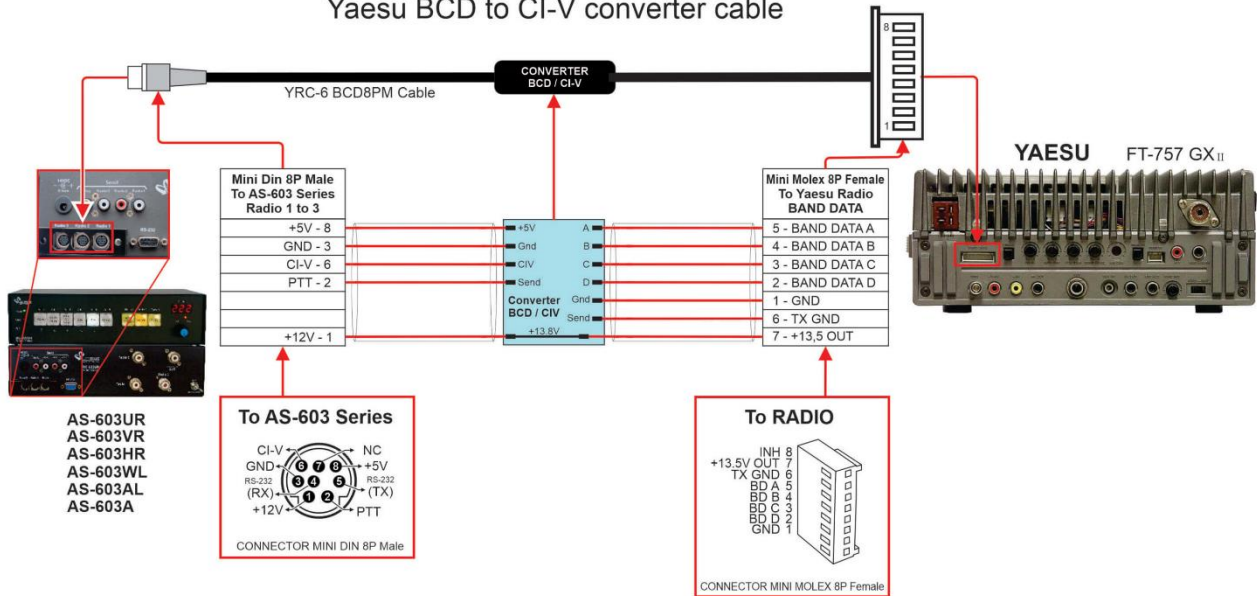
Applicable for Yaesu radios with Band Data connector compatible with models:

- FT-DX5000
- FT-2000
- FT-1000MP
- FT-990



Date:	09 / 10 / 2023	By:	Valmor
Filename:	YRC-6 BCB8PD_DI	Rev.:	1.0

YRC-6 BCD8PM Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

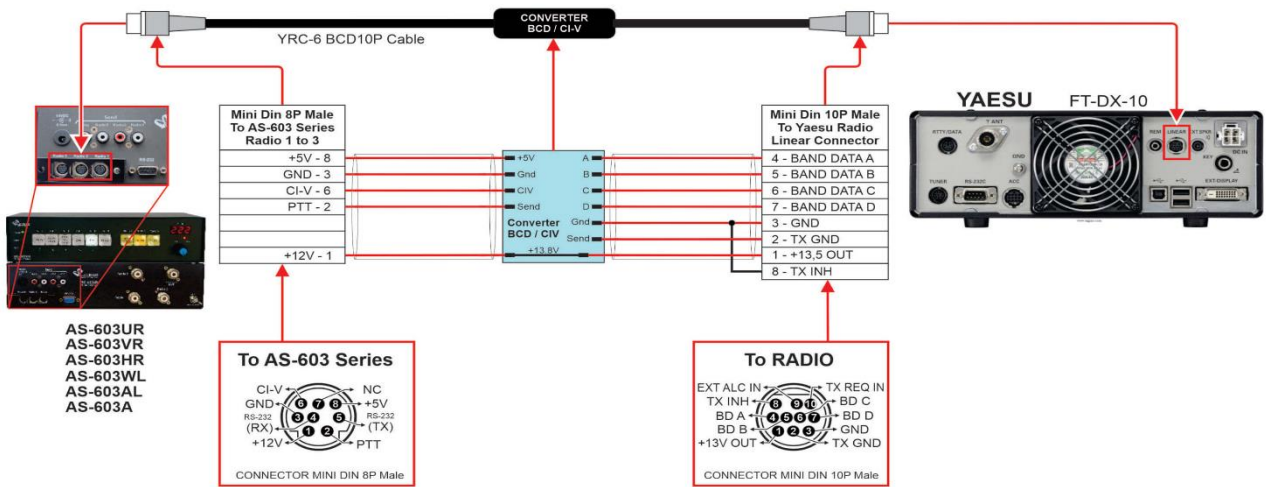
FT-757GX
FT-757GX II



Date: 22 / 11 / 2021	By: Valmor
Filename: YRC-6 BCB8PM_DI	Rev.: 1.0

YRC-6 BCD10P Cable

Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

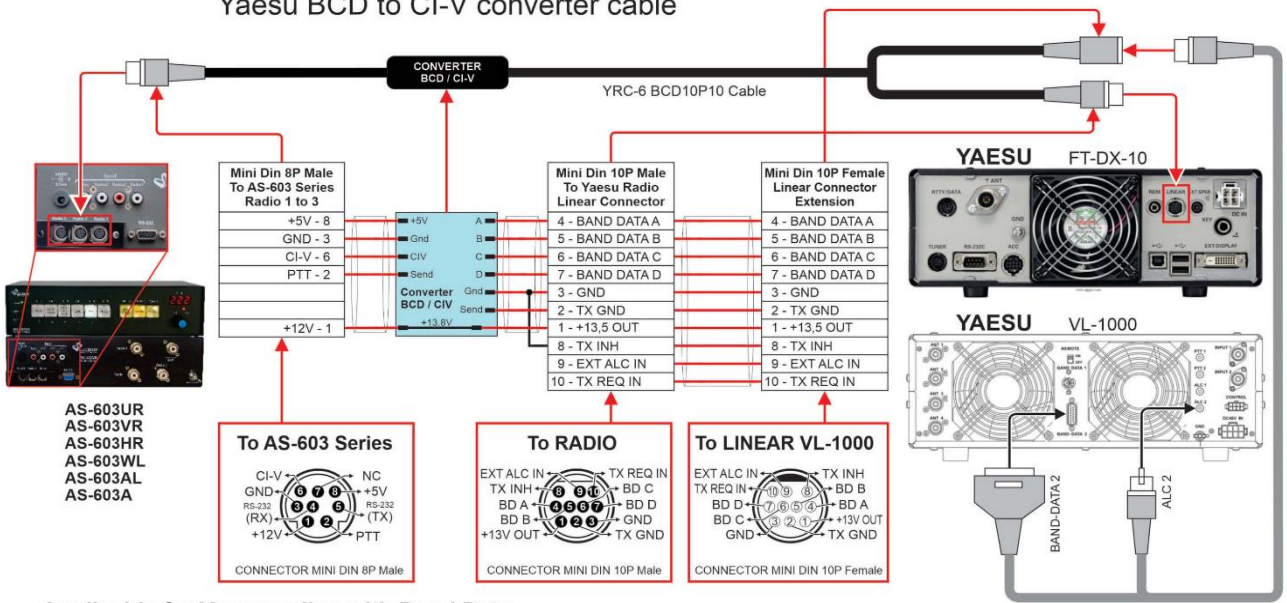
**FT-DX10
FT-DX1200
FT-450D
FT-950**



Date:	02 / 01 / 2023	By:	Valmor
Filename:	YRC-6 BCB10P_DI	Rev.:	1.0

YRC-6 BCD10P10 Cable

Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

- FT-DX10
- FT-DX1200
- FT-450D
- FT-950

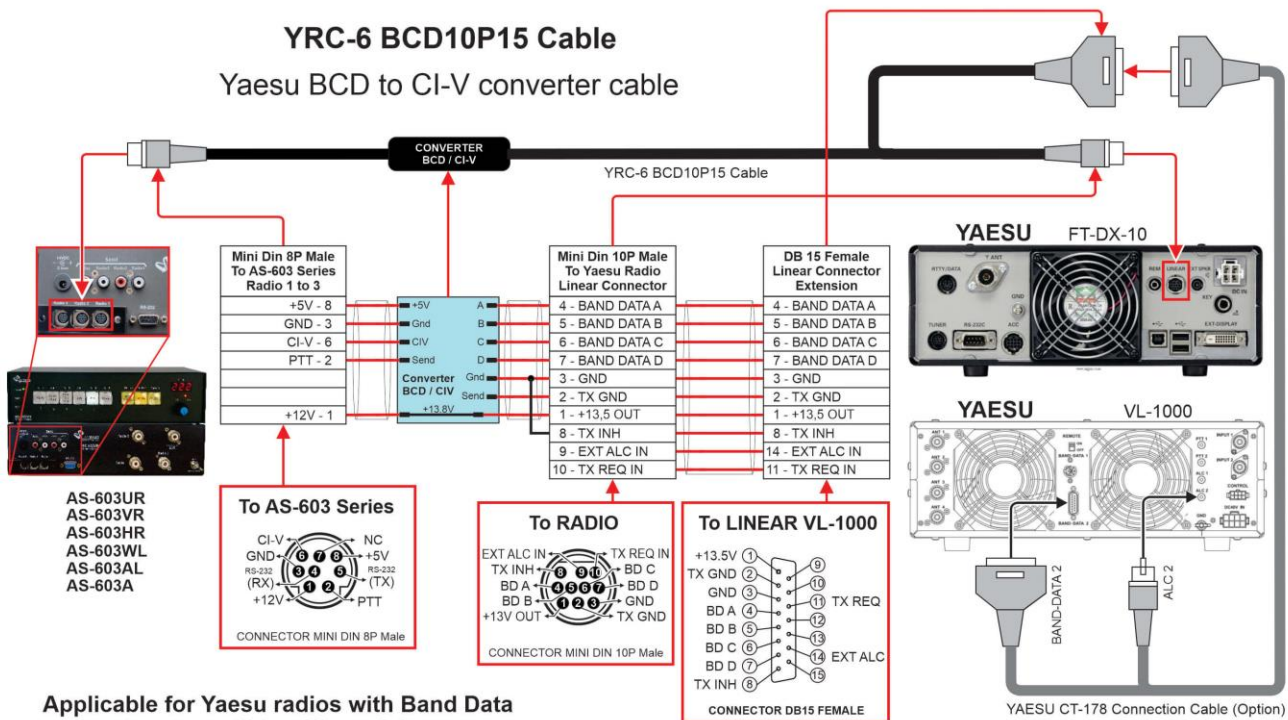
YAESU CT-118 Connection Cable (Option)



Date: 03 / 10 / 2022	By: Valmor
Filename: YRC-6 BCB10P10_DI	Rev.: 1.0

YRC-6 BCD10P15 Cable

Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

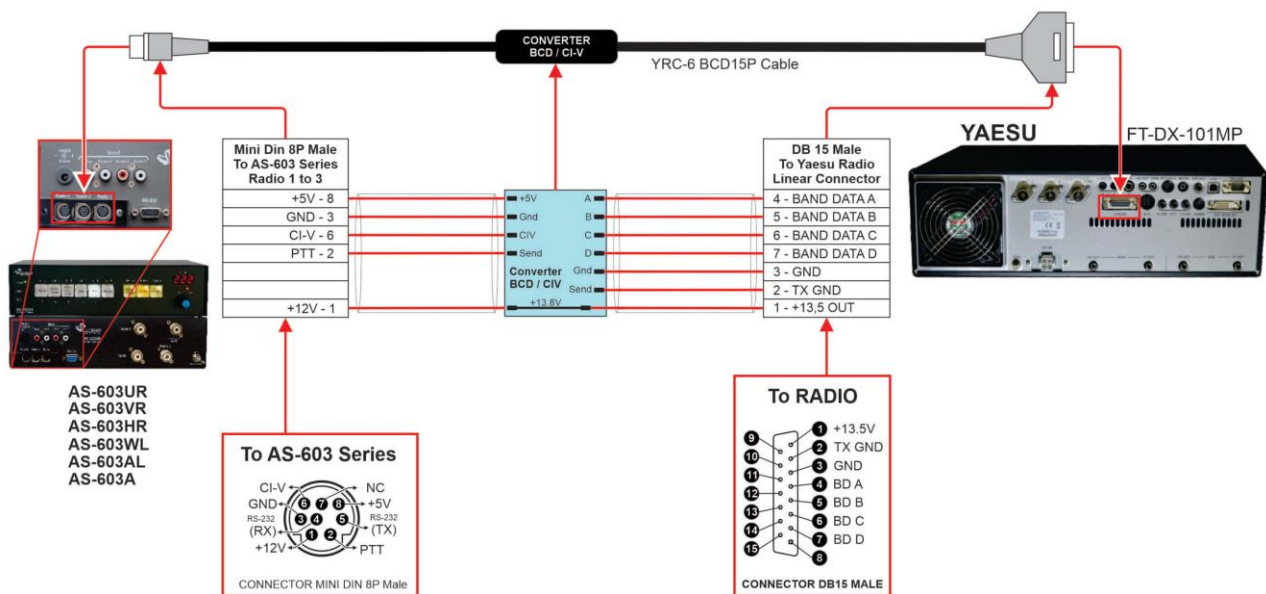
- FT-DX10
- FT-DX1200
- FT-450D
- FT-950



Date: 30 / 10 / 2022	By: Valmor
Filename: CE-YRC-6 BCB10P15_DI	Rev.: 1.0

YRC-6 BCD15P Cable

Yaesu BCD to CI-V converter cable



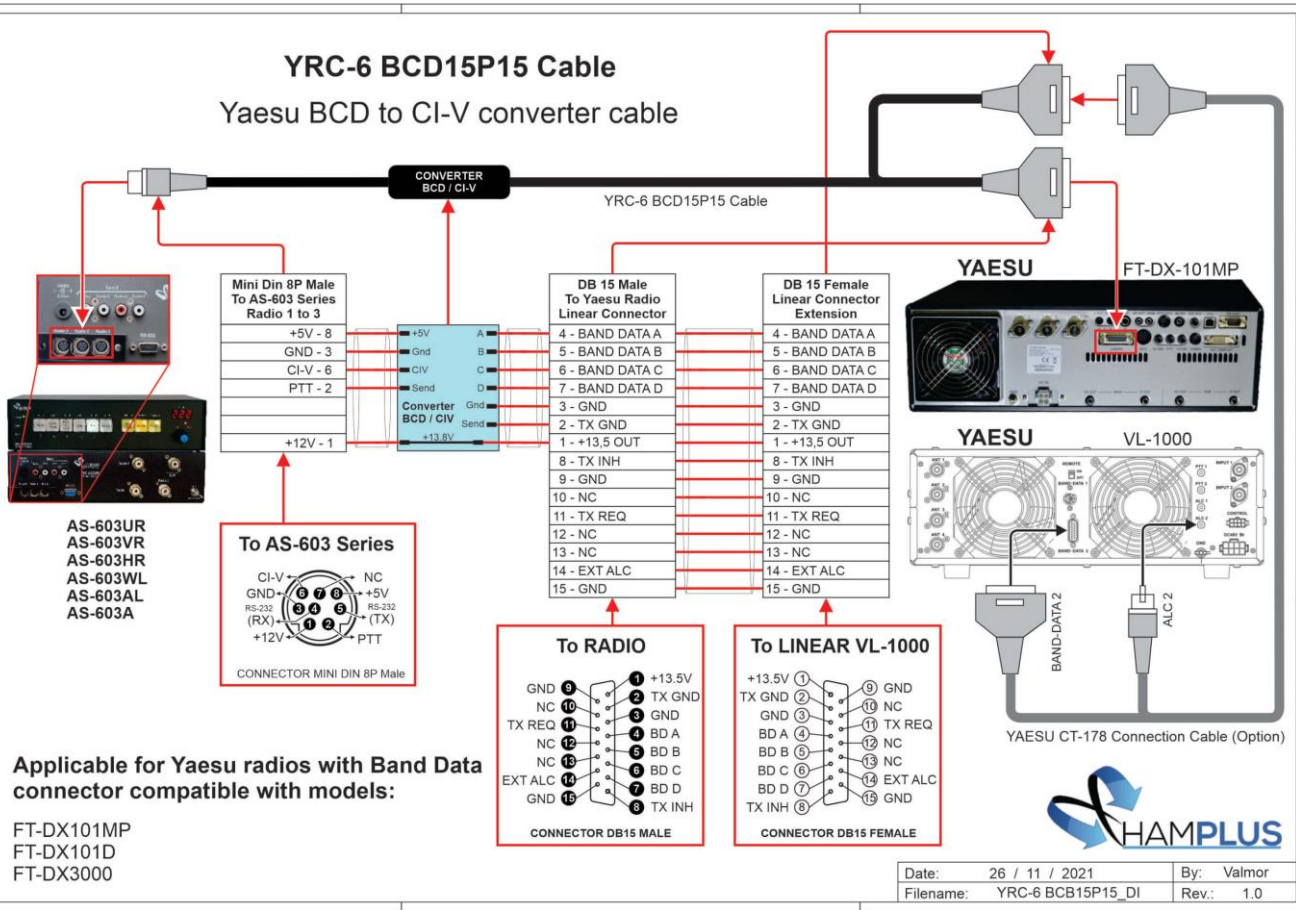
Applicable for Yaesu radios with Band Data connector compatible with models:

FT-DX101MP
 FT-DX101D
 FT-DX3000



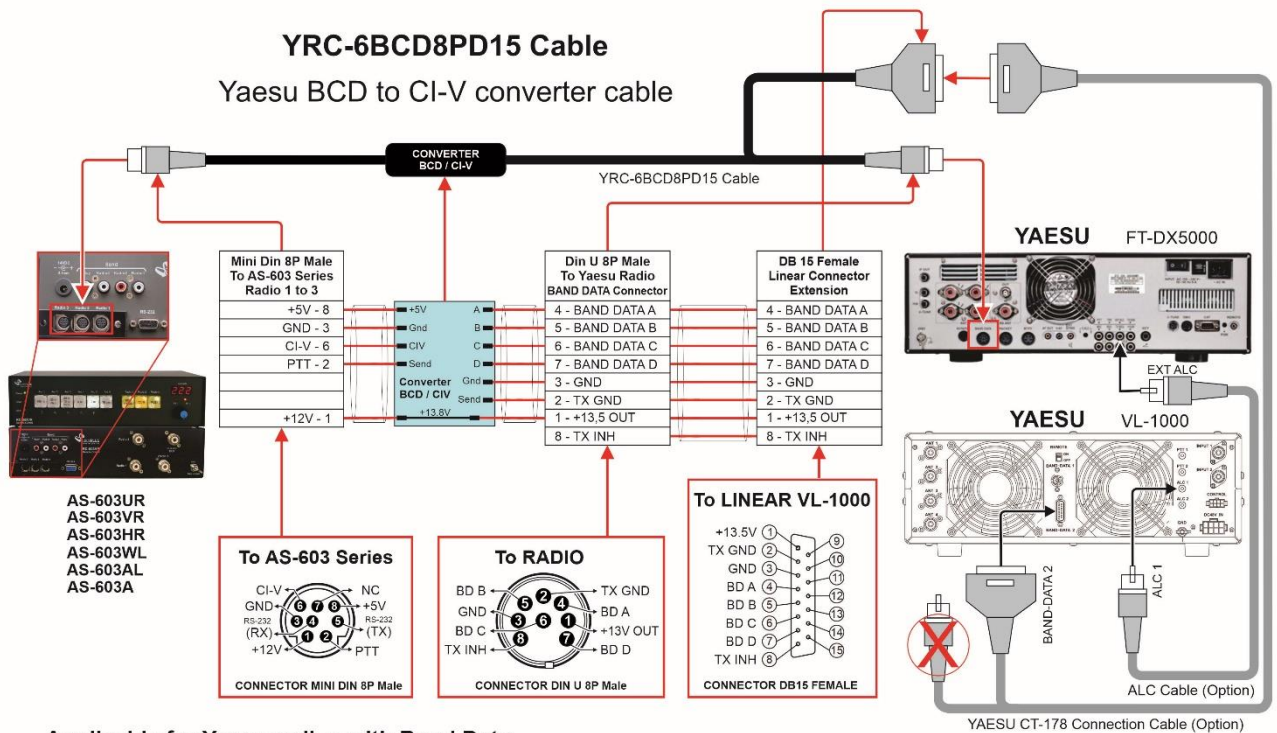
Date: 23 / 08 / 2021	By: Valmor
Filename: YRC-6 BCB15P_DI	Rev.: 1.0

YRC-6 BCD15P15 Cable Yaesu BCD to CI-V converter cable



Date: 26 / 11 / 2021 By: Valmor
Filename: YRC-6 BCB15P15_DI Rev.: 1.0

YRC-6BCD8PD15 Cable
Yaesu BCD to CI-V converter cable



Applicable for Yaesu radios with Band Data connector compatible with models:

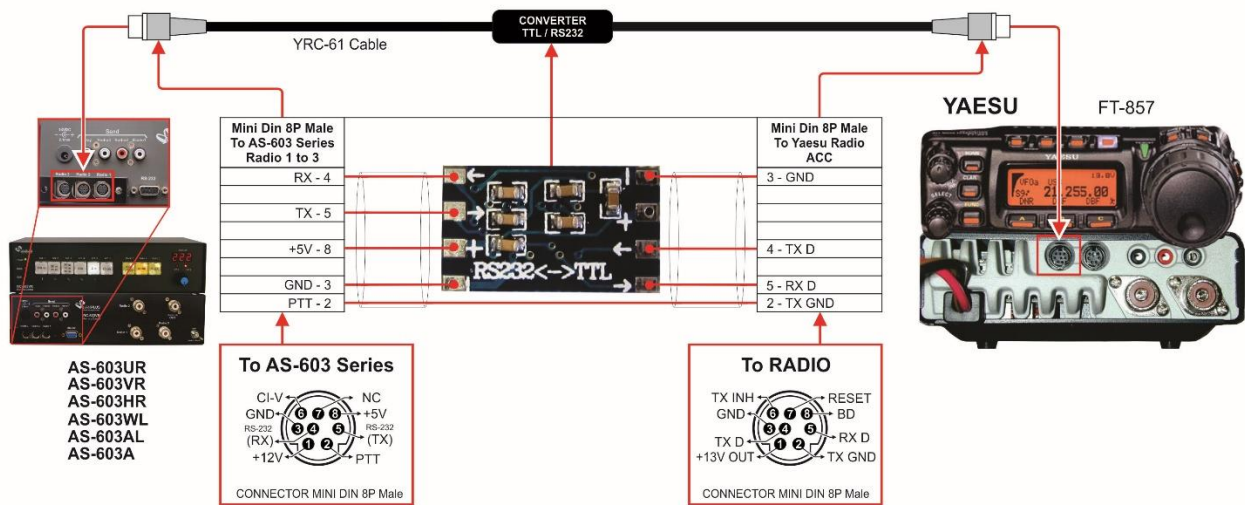
FT-DX5000
FT-990



Date:	12 / 01 / 2022	By:	Valmor
Filename:	CE-YRC-6BCB8PD15	Rev.:	1.0

YRC-61 Cable

Yaesu TTL to RS232 converter cable

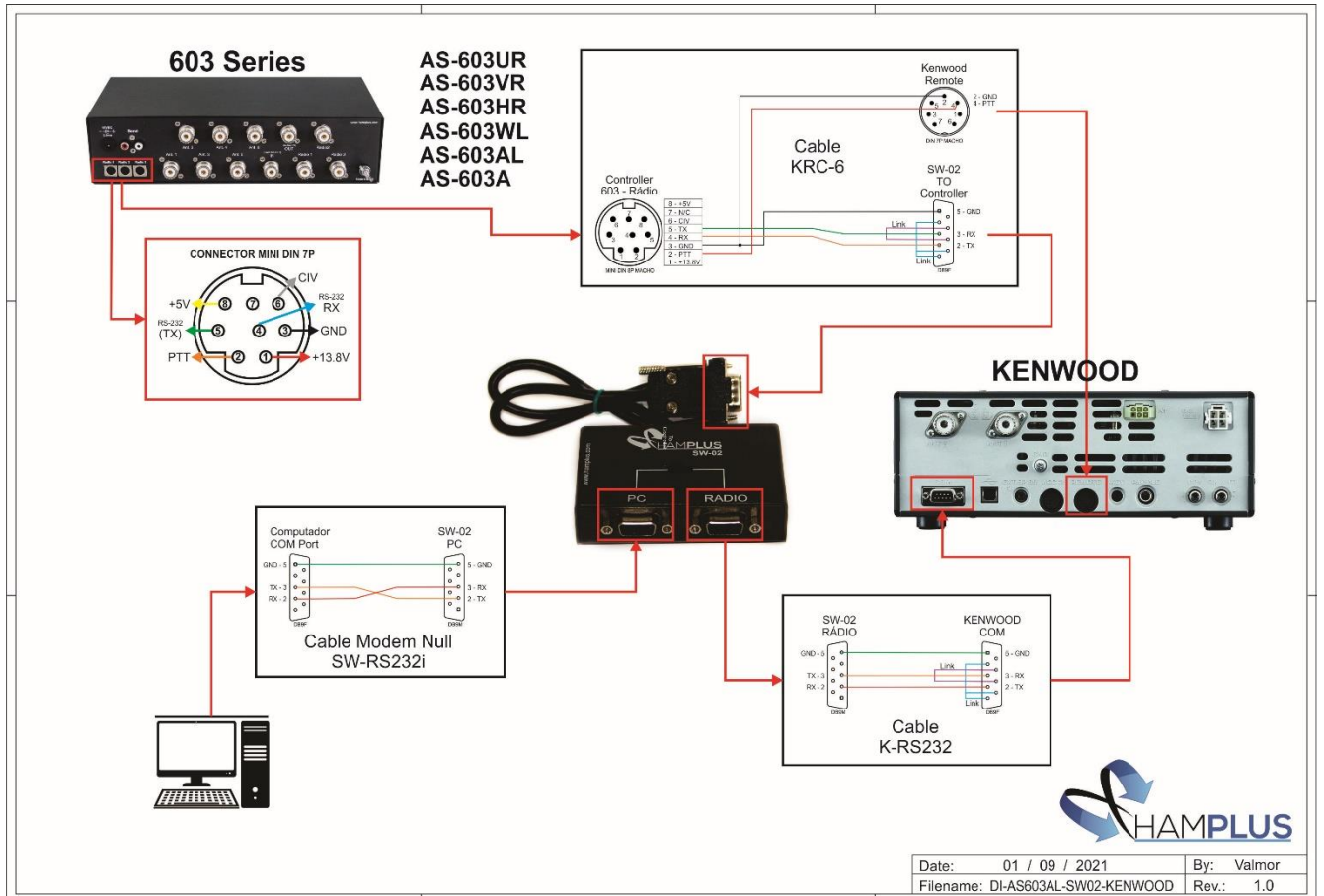


Applicable to Yaesu radios with RS-232 protocol compatible with FT-857 model.



Date:	23 / 08 / 2021	By:	Valmor
Filename:	CE-YRC-61	Rev.:	1.0

Diagram for sharing the radio's RS-232 Comm port with the Hamplus antenna switch and the personal computer using the SW-02 Serial RS-232 Expander.





AS-603AL

January 22, 2025

HAMPLUS.COM

Rua Joe Collaco, 954 - Florianopolis - Brazil