



Xiegu GPA100  
100 W Solid-State Linear Power Amplifier  
1.8 ... 54 MHz

# Radioddity Extended manual for Xiegu GPA100

V1.0.0, December 1<sup>st</sup> 2025

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## About Radioddity

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## 1 Preface

This extended manual goes far beyond the original Xiegu GPA100 Operation Manual. Firmware updates can change the functions of the Xiegu GPA100. New functions may also be added or existing functions may be completely removed. For this reason, we endeavor to keep this extended manual up to date at all times.

Support is available via [support@radioddity.com](mailto:support@radioddity.com). If you find something in this document that should be corrected or added, please let us know via the same e-mail address.

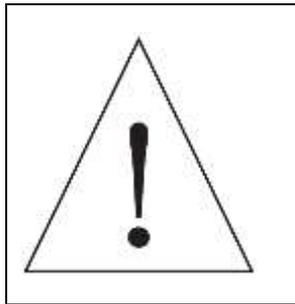
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## 2 Revision history of this document

We are constantly striving to update our manuals in line with changes resulting from manufacturer's new firmware versions. If you miss an aspect in this document or believe that something has been described incorrectly or misleadingly, please give us feedback via our central e-mail address [support@radioddity.com](mailto:support@radioddity.com). We will do our best to make the next version of this document even better for our customers.

revision	changes	released
V1.0.0	<ul style="list-style-type: none"><li>• First version, based on the official Xiegu Operation Manual Rev. 1.01, but significantly enhanced, corrected and completed with a lot more of valuable details.</li><li>• This version is based on firmware V1.0.6 as of October 28<sup>th</sup> 2025 16:43:09</li></ul>	2025-12-01

## 3 Product safety and radio frequency exposure



Before using the Xiegu GPA100, please carefully read this extended manual. It contains important instructions for the safe and proper use of the HF power amplifier as well as operating instructions for compliance with the limits for radio frequency exposure in accordance with the applicable national and international standards.

### 3.1 Safety precautions

- Do not use the Xiegu GPA100 during storms involving lightning or other severe weather. Disconnect the power supply and antenna before storms arrive.
- Do not touch the antenna while this device is transmitting.
- Do not apply AC power to the DC socket on the back-side panel of Xiegu GPA100. Otherwise, it may cause fire and will damage the device.
- Do not apply more than 15V DC voltage to the DC socket on the back-panel of the Xiegu GPA100. Otherwise, it may cause fire or damage the device.
- Do not reverse the polarity of the DC power. Otherwise, it may cause fire or damage the Xiegu GPA100.
- Do not operate or touch the device with wet hands. Otherwise, it may cause electric shock or damage the device.
- In case of smoke or a peculiar smell, turn off the power supply immediately, remove the power cable, and then contact your supplier.
- Do not use the device in areas, vehicles or aircraft where such use is prohibited.
- Do not use the Xiegu GPA100 in petrol (aka gas) stations, or any place where combustible gas is present.
- Do not use the Xiegu GPA100 in hospitals or in any environment where people wear medical devices.
- Do not expose the Xiegu GPA100 to rain, snow, moisture or any liquid. Do not place the device in a dusty or damp location. Doing so can cause damage to the Xiegu GPA100.
- Do not disassemble or modify the Xiegu GPA100. Doing so will void any warranty.
- Do not place the Xiegu GPA100 near a heat source or in direct sunlight.
- Do not place the Xiegu GPA100 in a poorly ventilated place. Otherwise, the device may be damaged due to overheating.
- Do not wipe the Xiegu GPA100 with organic solvents, such as benzene or alcohol. This may damage the case of the Xiegu GPA100.
- Avoid any forceable impact to the Xiegu GPA100, such may cause fire within or damage to the Xiegu GPA100.
- Do not place the Xiegu GPA100 in the area with temperature range beyond 0°C ... +55°C during storage or use.

- Disconnect the power supply by removing the external power cable if the Xiegu GPA100 is not to be used for a long time.
- Use this device responsibly and observe all local laws and regulations.

### **Notes:**

- *Do not use this device outside its specified limits!*
- *The temperature of the Xiegu GPA100 is high when in use. Do not block the air inlet at the bottom which would restrict ventilation. Pay attention to high temperatures to prevent burns.*
- *Do not use the Xiegu GPA100 without connecting it to a suitable resonant antenna or dummy load.*

## **3.2 Operating permit**

You must be qualified and hold a legal and valid operating certificate (licence) issued by your national government before making a transmission on the amateur radio frequency bands.

## **3.3 Important tips**

- Make sure your antenna feed system meets the transmitting requirements before actually transmitting.
- The HF-amplifier may become extremely hot after continuous long-session transmissions (such as in digital data operations). If this is the case, you must extend the non-transmitting interval and assist external heat dissipation through better ventilation.
- Store your HF-amplifier in a safe and secure place to avoid unsupervised access from children or unauthorized persons.

## 4 Maintenance and care

To ensure the best performance and extend the service life, you should familiarize yourself with the following maintenance and care measures.

### 4.1 Maintenance

- Do not scratch or puncture the case of your Xiegu GPA100 with hard or sharp objects.
- Do not expose the Xiegu GPA100 to direct sunlight or an environment where electronic circuits may corrode.
- Do not operate the Xiegu GPA100 in a dusty environment.
- Do not carry the Xiegu GPA100 by holding any cables connected to it.
- Opening or modifying the Xiegu GPA100 in any way will void the warranty.
- The use of firmware not supplied by the manufacturer for use with the Xiegu GPA100 will invalidate the warranty and may cause it to not operate within licence requirements for interference suppression.

### 4.2 Care

- Please clean your Xiegu GPA100 regularly with a dry, clean cloth or a soft brush to wipe dust off the outside surfaces.
- The keypads and the housing of the Xiegu GPA100 can become dirty through use. Please use non-woven cloths for cleaning around these buttons.
- Do not use chemical cleaning agents such as alcohol, sprays or petroleum products on the surface of the Xiegu GPA100 or the printed labels. Chemicals can damage the housing and the display and may remove the print from labels. Before switching on the Xiegu GPA100, make sure that it is completely dry.

## 5 General information

The Xiegu GPA100 adopts efficient and stable solid-state amplification technology. It is equipped with an advanced cooling system and an intelligent control unit, providing powerful output for a more reliable operational experience for amateur radio enthusiasts. The new circuit design ensures that the Xiegu GPA100 has lower distortion and a higher power efficiency. It can maintain excellent signal quality even when running at full power.

At anytime the high-resolution display indicates the current working status including output-power, output-SWR, selected band, DC input voltage, DC input current, temperature of final transistors, as well as alerting for overdriving or faults conditions.

- High-Performance Linear Amplification
- Intuitive & Flexible Operation
- Compact & Portable Design
- Clear Operational Status Monitoring
- Supports wireless band switching control
- Has a broad Transceiver Model Compatibility
- Intelligent Control & Comprehensive System Protection

Features Include:

- A maximum RF output power of 100 Watts
- The Power Amplifier can be activated/deactivated (Bypass-mode)
- A built-in attenuator of -6dB
- A wide frequency range of 1.8 - 54 MHz
- Harmonic suppression of 50 dB
- Band-selection via Bluetooth (supported by ICOM IC-705)
- The maximum output power is automatically kept constant (currently, only for X108G, X5105, G90, G1M, X6100, X6200 and Xiegu follow-up models)

**Notes:** *Amateur radio equipment is intended to be used for communication between amateur radio stations and is not authorised to be used to set up radio links for other radio services.*

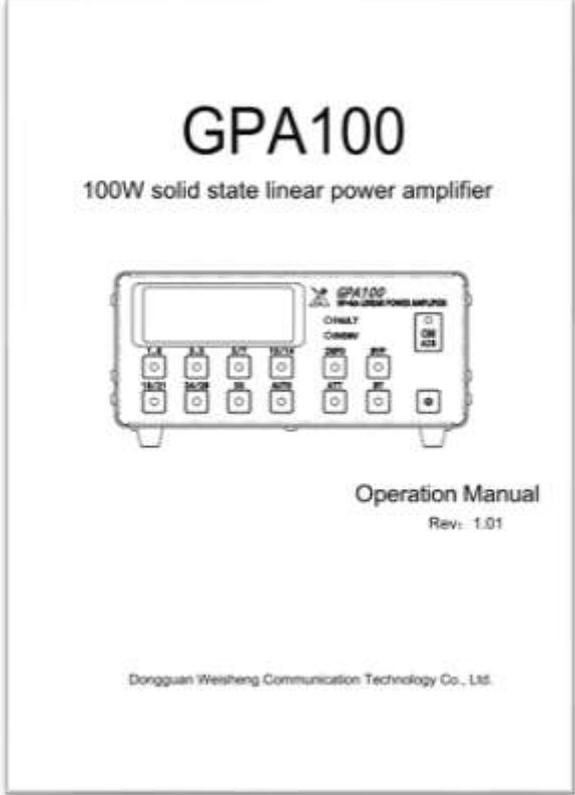
*Amateur radio equipment is only allowed to transmit in the amateur radio frequency bands authorised by the owner's licence.*

## 6 What is included in the box?

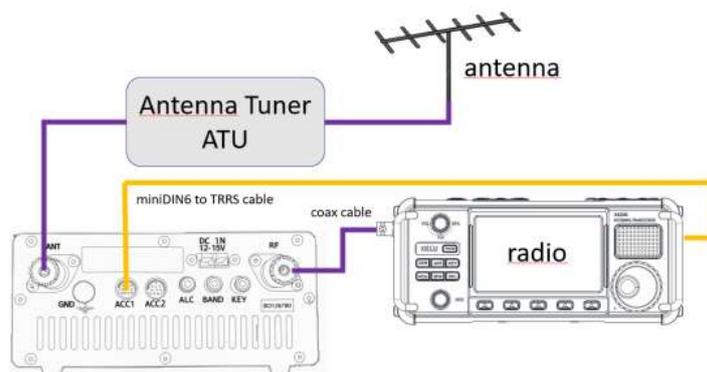
Thank you for purchasing a Xiegu GPA100 from Radioddity. We recommend that you first check the delivery list below and keep the packaging for possible later usage. If anything is missing or damaged, please contact Radioddity immediately.

Part	Picture
<p>Xiegu GPA100 amplifier with built-in attenuator</p>	
<p>3.5mm TRRS to miniDIN6 cable (Xiegu L4001) For connection to Xiegu X6100 and Xiegu X6200</p>	
<p>miniDIN8 cable *) for connection to other Xiegu radios (not X6100, X6200 and X108G)</p>	
<p>DC Power Cable With Anderson Powerpole® compatible connectors, inline fuse (25A) and open ends 2x4.0mm²x160cm</p>	

**\*) Note:** *If you want to connect a Xiegu X108G directly or a Xiegu G1M, G90, G106 or X5105 via a Xiegu CE-19 interface to the Xiegu GPA100, you will need an additional miniDIN6 cable.*

Part	Picture
<p>Operation Manual Original Xiegu manual</p>	
<p>Product Warranty Card It is not required those to be filled out</p>	
<p>Certificate of conformity</p>	<p><i>Is printed on the packaging box label</i></p> <p><i>Full certificate to download is at <a href="https://www.radioddity.com/">https://www.radioddity.com/</a> (Accreditations)</i></p>

The Xiegu GPA100 is intended to be connected to an antenna matching the frequency you plan to use. If your antenna does not match to the frequency used, you will need an additional 'antenna tuner' (ATU) such as the Radioddity ATU-100. Such needs to be inserted between the ANT-output of the Xiegu GPA100 and the actual antenna.



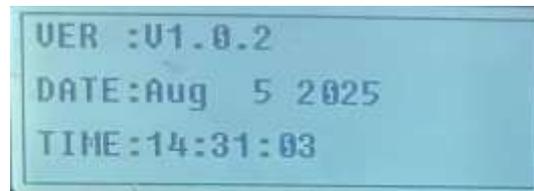
## 7 Quick start the Xiegu GPA100

The start-up and shutdown operations of the Xiegu GPA100 require less than 2 seconds.

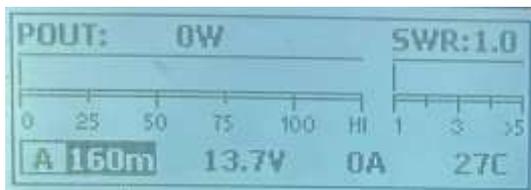
### 7.1 Startup

Briefly press the [⏻] button on the lower right of the front panel. On the large display you will see the Xiegu logo, followed by version details of the currently installed firmware before the standby-mode screen will be shown. There may also be clicks from one or more of the relays heard. 

At first you will see the Xiegu-  ... followed by the version details of the current firmware ...



... before the default idle screen (not transmitting) will be shown.



### 7.2 Shutdown

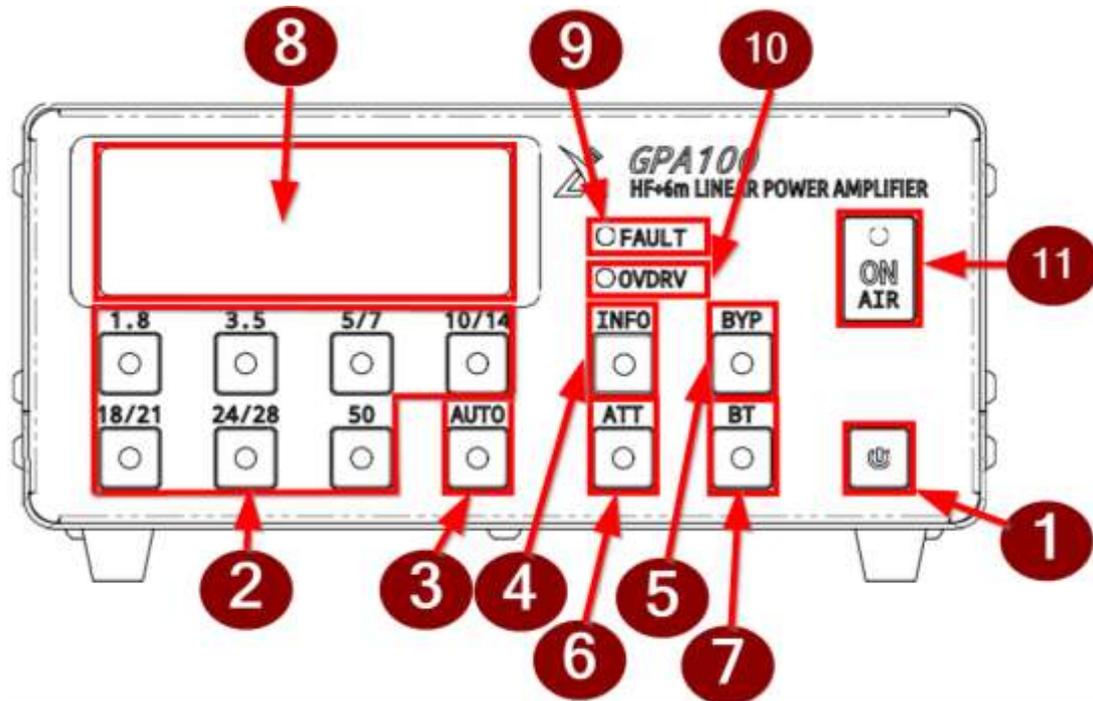
Hold down the [⏻] button until the screen turns dark. Then release the [⏻] button. 

**Notes:** Please perform the correct shutdown operation and do not forcibly power off by removing power to avoid damage to the electronic circuits.

## 8 Operating controls and connections

All operating controls are found on the front of the Xiegu GPA100. All connections are located on the backside of the Xiegu GPA100.

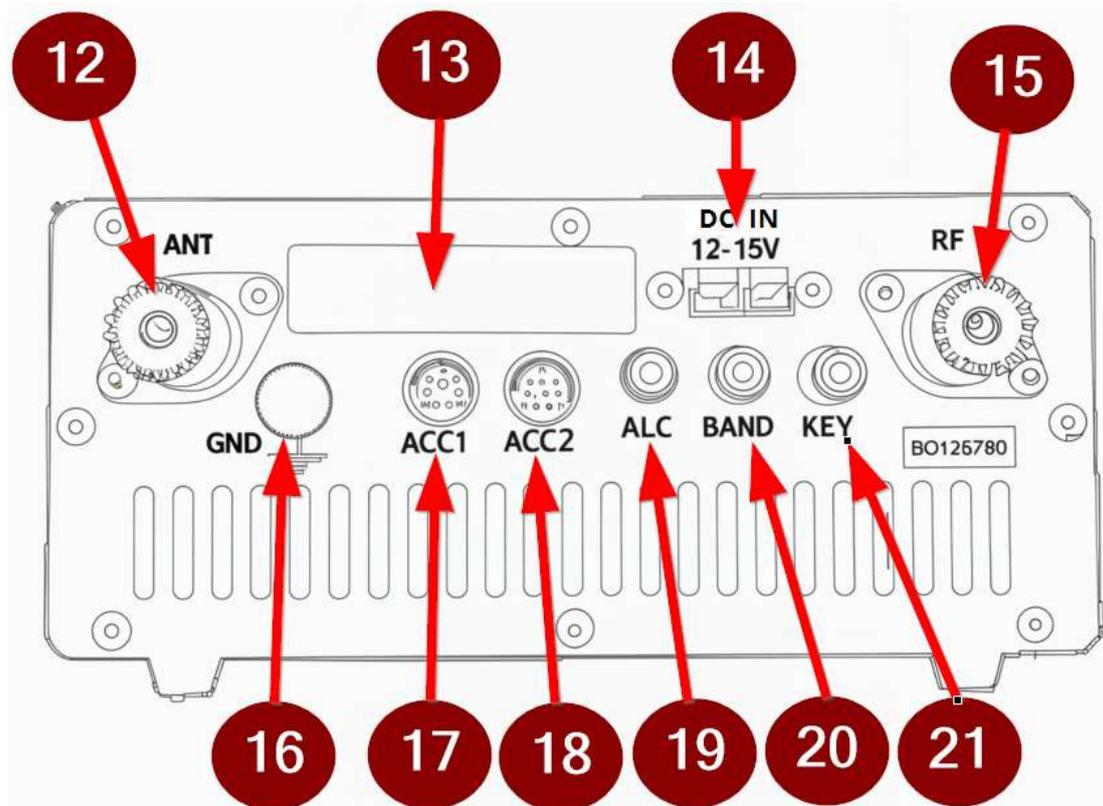
### 8.1 Controls on the front of the Xiegu GPA100



No.	Name	Function
1	Power button	<ul style="list-style-type: none"> <li>Briefly press this button and to turn on the Xiegu GPA100</li> <li>Press this button and hold it for 2 seconds to turn off the Xiegu GPA100</li> </ul>
2	Manual BAND selection buttons	<ul style="list-style-type: none"> <li>Using these buttons, you can manually select the working band to be used.</li> <li>As soon as any of those buttons is pressed, AUTOMATIC band-switching will be disabled.</li> </ul>
3	<b>AUTO</b> matic BAND selection button	<ul style="list-style-type: none"> <li>Briefly press this button to activate/deactivate automatic band selection.</li> <li>If any of the manual band selection buttons is pressed, automatic band selection will be disabled.</li> </ul>
4	<b>INFO</b> button	<ul style="list-style-type: none"> <li>Briefly press this button to enter the error information interface, press it again to exit</li> <li>Long press to clear the recorded alarm and turn off the FAULT LED.</li> </ul>

No.	Name	Function
5	<b>BYP</b> ass button	<ul style="list-style-type: none"> <li>• Briefly press this button to switch the Power Amplifier into or out of circuit</li> <li>• Press it for 2 seconds to toggle the audio alarm on or off.</li> </ul>
6	<b>ATT</b> enuation button	Briefly press this button to activate/deactivate the built-in attenuator.
7	<b>BlueT</b> ooth button	<ul style="list-style-type: none"> <li>• Briefly press this button to activate/deactivate automatic BAND selection over Bluetooth.</li> <li>• Press it for 2 seconds to display the Bluetooth name, MAC address and connection status.</li> </ul>
8	Display	All working status information is displayed here. The display is covered by an organic glass protective plate.
9	<b>FAULT</b> status-LED	A fault has occurred. Press the [INFO] button to check what it is before you decide whether to continue to operate the Xiegu GPA100.
10	<b>OV</b> er <b>DR</b> iVe status-LED	If the transmitted output power is $\geq 125\text{W}$ for more than 30s, by-pass mode will automatically be activated to avoid damage to the Xiegu GPA100.
11	<b>ON AIR</b> status-LED	<ul style="list-style-type: none"> <li>• In idle/receive-mode (RX) the LED lights up green.</li> <li>• In transmit-mode (TX) the LED lights up red.</li> </ul>

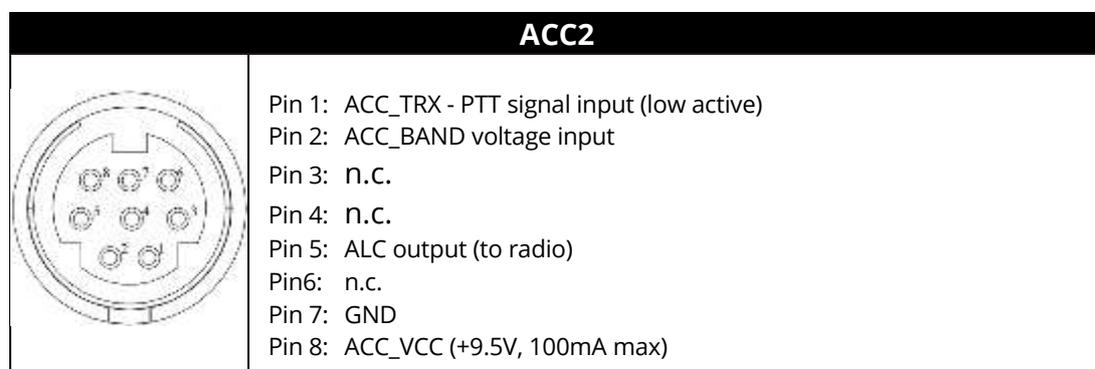
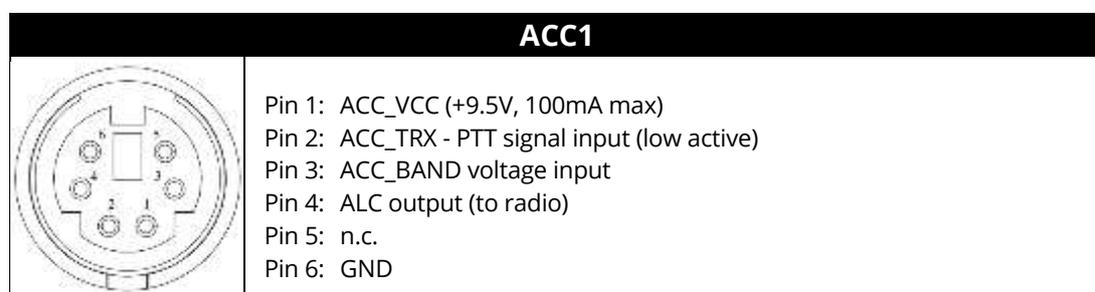
## 8.2 Connections on the back of the Xiegu GPA100



No.	Name	Function
12	ANT output	Connect your antenna to the SO-239 socket, using a PL-259 plug.
13	BT antenna cover	The Bluetooth antenna is located inside the Xiegu GPA100 behind this cover
14	DC IN socket	GPA100 uses 12~15V DC voltage. "DC" marks the negative side (black), and "IN" marks the positive side (red) of the Anderson compatible Powerpole® connector.
15	RF input	This is where you connect the coax lead from your transceiver, using a PL-259 plug.

No.	Name	Function
16	Ground Terminal screw	Used for adding a ground connection "Shack Earth" – good grounding can improve receiving and transmitting performance and reduce the possibility of RF ingress.
17	ACC1	Using the supplied TRRS to miniDIN6 control cable that came with this Xiegu GPA100, this HF-amplifier may be connected to a Xiegu X6100 or X6200 radios.
18	ACC2	Using the supplied miniDIN8 control cable that came with this Xiegu GPA100, this HF-amplifier may be connected to the Xiegu G1M, G90, G106 or X5105 radios.
19	ALC	Automatic Level Control voltage output to control the drive power level from the connected transceiver.
20	BAND	BAND voltage input – used to trigger correct low-pass filter band selection
21	KEY	(aka PTT control) Input low level to enter the transmitting state, and input high level to enter the receiving state.

### 8.3 Electrical connection diagrams for the Xiegu GPA100



DC IN Powerpole®	
	<p>Red: + 12...15.0V DC Black: - GND</p>
ALC	
	<p>External ALC input port for automatic level control. Same signal as found on 'ACC1' and 'ACC2'.</p>
BAND	
	<p>Used to switch the working band of the Xiegu GPA100 by application of an external voltage. For more details see section 8.4.2 'BAND control input'. Same signal as found on 'ACC1' and 'ACC2'.</p>
KEY (TRX - PTT)	
	<p>Input low level to enter the transmitting state, and input high level to enter the receiving state. Same TRX-PTT signal as found on 'ACC1' and 'ACC2'.</p>

## 8.4 Explanation of the electrical control signals

This section provides the information required to connect the Xiegu GPA100 with QRP radios. Please do not exceed the level input requirements of each interface. The operation of the GPA100 is controlled by several input and output signals. Those are ALC, BAND and KEY/PTT.

### 8.4.1 ALC control output

The ALC (**A**utomatic **L**evel **C**ontrol) output signal of the Xiegu GPA100 can be used to adapt the output power of the radio driving the amplifier to prevent clipping or Overdrive-conditions (see section 10.8 'Overdrive handling' for more details). The ALC control output signal ensures that the output power of the Xiegu GPA100 will be safely maintained at around 100 W. An ALC output voltage of about 3V

corresponds to 100% output power, whereas an ALC output voltage of 0V corresponds to zero output power.

#### 8.4.2 BAND control input

Band selection either needs to be made manually using the seven [BAND] buttons corresponding to the bands as explained in section 10.2 'Band selection' or the connected transceiver needs to provide the proper voltage level at the [BAND] control input signal for automatic band selection according to the table below.

**Notes:** *Correct operation of the automatic band selection depends highly on the correct BAND voltage level being applied by the radio to this input pin. We recommend to power the radio and the Xiegu GPA100 from the same power supply to accomplish that. Additional clip-on ferrites may also be used to suppress any stray radiation that may influence the BAND signal voltage.*

The following table lists the voltages and their corresponding band:

Band	Voltage	Band	Voltage	Band	Voltage
160m 1.8 MHz	230mV	30m 10 MHz	1150mV	12m 24 MHz	2070mV
80m 3,5 MHz	460mV	20m 14 MHz	1380mV	10m 28 MHz	2300mV
60m 5,0 MHz	690mV	17m 18 MHz	1610mV	6m 50 MHz	2530mV
40m 7,0 MHz	920mV	15m 21 MHz	1840mV		

#### 8.4.3 PTT control input

The KEY/PTT input signal input is internally pulled up to about 9.5V. Voltages between 1.2 and 9.5V will set the Xiegu GPA100 to RX-mode. To switch the Xiegu GPA100 from RX to TX, the KEY/PTT signal of the Xiegu GPA100 needs to be connected to a level below 0.7V, e.g., to GND.

If the PTT output signal of the transceiver is at high level (HIGH level signal for signaling TX-mode), the high level needs to be converted into a low level, and then input to the GPA100 KEY/PTT port by the use of a relay or other switching circuit (not part of the Xiegu GPA100).

**Notes:** *If a voltage of  $\geq 9.5V$  is applied to the KEY/PTT port of the GPA100, the internal processor will be permanently damaged!*

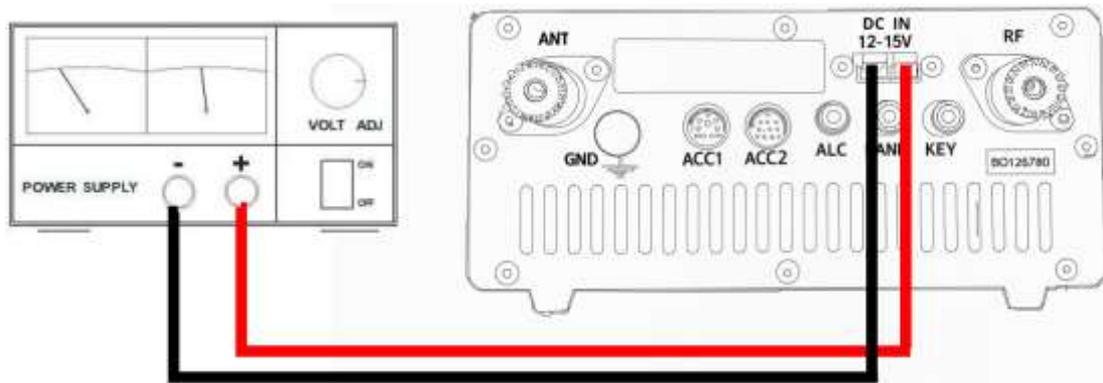
## 8.5 Connecting to an external power supply

Connect your power supply or battery to the DC-IN connector. Current capability of the DC power supply should be at least 30 amps. Batteries should supply 12-15V DC (but no more) and have a capacity to supply up to 30 amps. Typical current requirements on transmit are generally less than 25A. Use the provided, fused, DC power cable to connect the Xiegu GPA100 to your DC supply.

**Notes:** Voltages higher than 15V DC will cause serious damage to the Xiegu GPA100. Such damages are not covered by the warranty.

### 8.5.1 Check polarity of DC power supply

The DC power supply must be connected in strict accordance with the following figure to avoid a reverse polarity connection. The red wire must be connected to the positive pole and the black wire to the negative pole of the power supply. Polarity of power cables should be checked carefully to avoid reverse polarity when connecting your power supply or battery. Always check the polarity before connecting to the Xiegu GPA100.



- When using an external power supply, please check the polarity of the power applied to the supplied DC cord carefully. Do not reverse the polarity of the power cord.
- Reverse power connection may cause serious damage to the Xiegu GPA100.
- The Xiegu GPA100 only supports DC power input.
- Recommended operating voltage: 13.8V DC.
- Do not connect an external power supply with an output higher than 15.0V DC, otherwise it will cause serious damage to the Xiegu GPA100.
- Please make sure to take effective grounding measures for the radio and the Xiegu GPA100, and put a ferrite ring with a magnetic permeability of 300-800 on the end of the DC connecting cables close to the Xiegu GPA100 to improve the anti-interference ability of the equipment.

## 8.6 Protect against EMI

A ferrite choke / anti-EMC magnetic core may be attached to the power wires close to the Xiegu GPA100 to prevent external RF from entering the unit and RF interference from inside the amplifier radiating externally via the power cable. Such anti-EMI devices may also be added to the radio that is driving the Xiegu GPA100.

## 8.7 Built-in protection measures

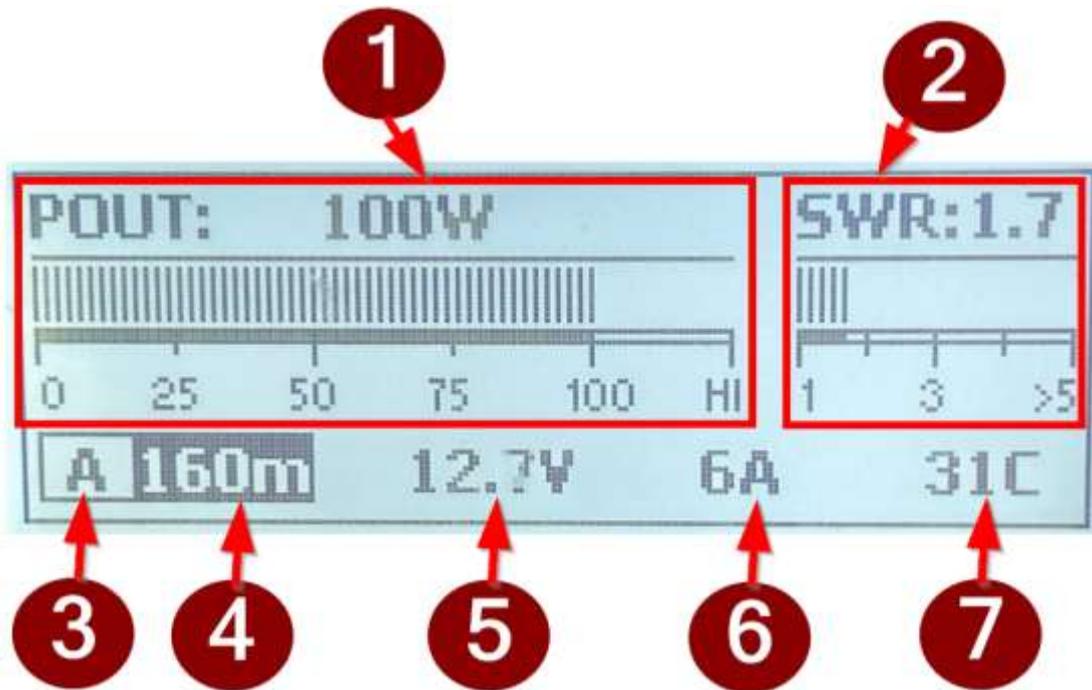
The Xiegu GPA100 incorporates a variety of intelligent protection functions to ensure, as far as possible, the safe operation of the equipment while in daily use. If the Xiegu GPA100 senses an abnormal state, it will immediately go into protection mode and switch RF to the bypass mode. Releasing the PTT button of your radio's microphone will disable protection mode with the GPA100 returning to the normal receive state.

When high SWR, high current, high voltage, over temperature and other errors are detected, the Xiegu GPA100's internal sensors will trigger the protection function based on pre-set thresholds. The threshold of each sensor is as follows:

- High SWR:  $\geq 3.0$
- High voltage:  $\geq 15V$  DC
- High current:  $\geq 25A$
- Over temperature:  $\geq 100^{\circ}C$

## 9 Screen display

Depending on the firmware version in use, the display of the main screen may differ slightly from the following graphics.



The display shows the current parameter settings:

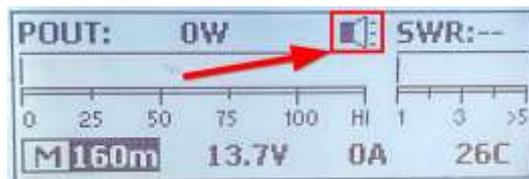
No	Parameter	Meaning
1	Output power	Displays the output power being delivered by the Xiegu GPA100 in Watts.
2	Output SWR	Displays the SWR value seen at the Xiegu GPA100 output socket.
3	Band selection mode	Displays whether the required band is selected automatically ('A') or manually ('M').
4	Selected band	This is where the currently selected band is shown.
5	Operating voltage	Displays the voltage of the DC supply to the Xiegu GPA100.
6	Operating current	Displays the current being drawn by the Xiegu GPA100.
7	Output stage temperature	Displays the current temperature (in °C) of the Power Amplifier stage.

## 9.1 Display value of output power

The current output power delivered to the antenna feeder cable attached to the Xiegu GPA100 is indicated on the display within the field 'Output power' (see section 9 'Screen display' for details). The bar meter will display dynamically according to the output signal power. This reading should normally not be more than '100W'. In idle state (RX) it should read '0W'.



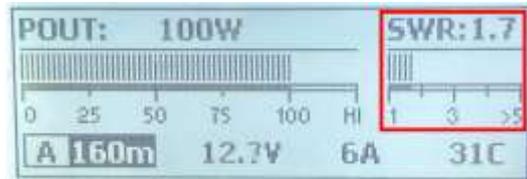
An additional speaker symbol  displayed at the right edge of the field 'Output power' indicates the activated audio alarm function. Details on those function are found in section 0 '



Audio alarm'.

## 9.2 Display value of output SWR

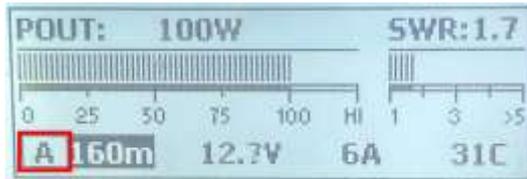
In transmit (TX) mode the current SWR value as seen at the output of the Xiegu GPA100 is indicated on the display within the field 'Output SWR' (see section 9 'Screen display' for details). The bar meter will display dynamically according to the standing wave value. Those should normally be less than 5. If the Xiegu GPA100 is in idle state (Receive) the output SWR will be displayed as "--".



The SWR indication shown by a transceiver connected to the Xiegu GPA100 is just the SWR between the radio and amplifier, not of the antenna hence on the radio, the output SWR will always be '1.0'.

## 9.3 Display band selection mode

The band selection mode ('Automatic / 'Manual) is displayed within the field 'Band selection mode'. Details on band selection mode are found in section 10.2 'Band selection'.



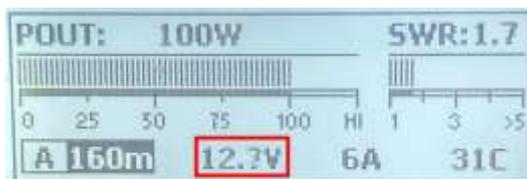
## 9.4 Display selected band

The wavelength of the selected working band is displayed within the field 'Selected band'. Details on band selection are found in section 10.2 'Band selection'.



## 9.5 Display value of operating voltage

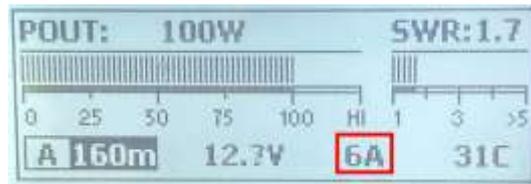
The supply voltage the Xiegu GPA100 is currently running on is indicated on the display within the field 'Operating voltage' (see section 9 'Screen display' for details).



**Notes:** The displayed voltage may vary  $\pm 0.3V$  from the actual value.

## 9.6 Display value of operating current

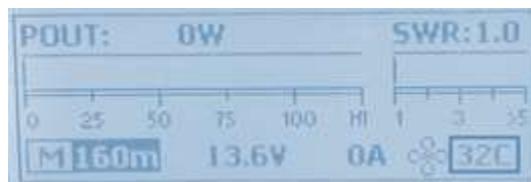
The current that the Xiegu GPA100 draws from the external power supply is indicated on the display within the field 'Operating current value' (see section 9 'Screen display' for details). In an idle (non-modulated) state or with in bypass-mode this will be about '1A'.



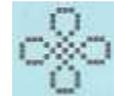
**Notes:** The displayed current may vary  $\pm 500\text{mA}$  from the actual value.

## 9.7 Display temperature of output stage

The temperature of the Xiegu GPA100 final output transistors is indicated on the display within the field 'Output stage temperature', displayed in °Celsius (see section 9 'Screen display' for details). In a constant idle state, it should be close to room temperature.



As soon as the two internal cooling fans become automatically activated, a small fan icon will appear to the left of the temperature value.



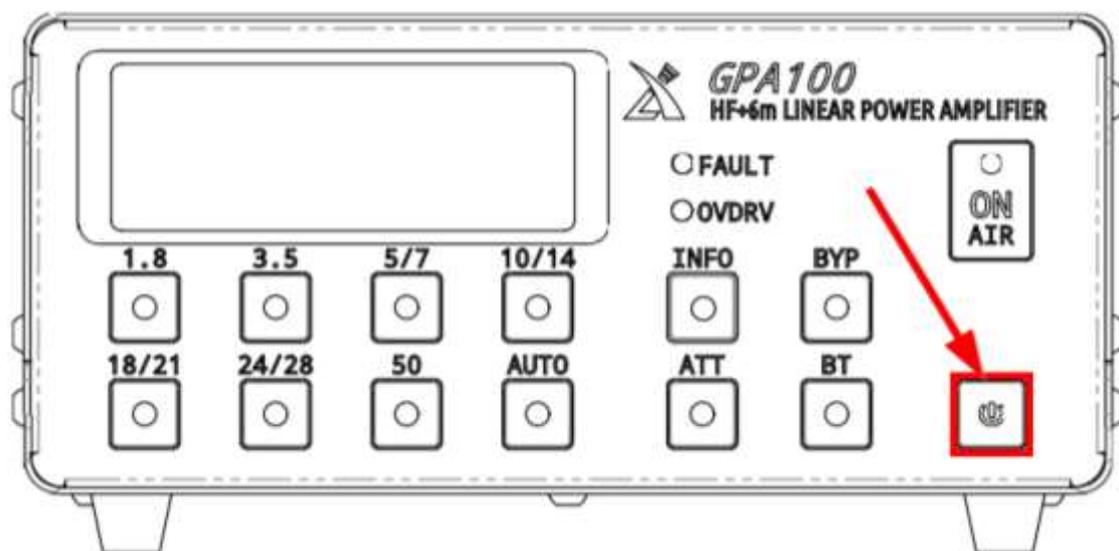
## 10 Basic operation

### 10.1 Powering the Xiegu GPA100 on/off

The start-up and shutdown operations of Xiegu GPA100 requires less than 3 seconds. Please read the following start-up and shutdown instructions carefully and pay attention to the operating process.

#### 10.1.1 Startup

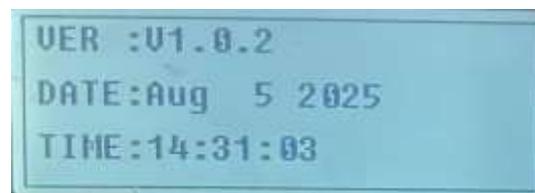
Briefly press the [⏻] button on the lower right of the front panel. On the large display you will see the Xiegu logo, followed by version details of the currently installed firmware before the standby-mode screen will be shown. There may also be clicks from one or more of the relays heard.



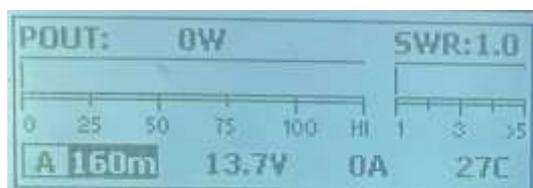
At first you will see the Xiegu-logo, ...



... followed by the version details of the current firmware ...



... before the default idle screen (not transmitting) will be shown.



## 10.1.2 Shutdown

Hold down the [⏻] button until the screen turns dark. Then release the [⏻] button.



**Notes:** Please perform the correct shutdown operation and do not forcibly power off by removing power to avoid damage to the internal circuitry.

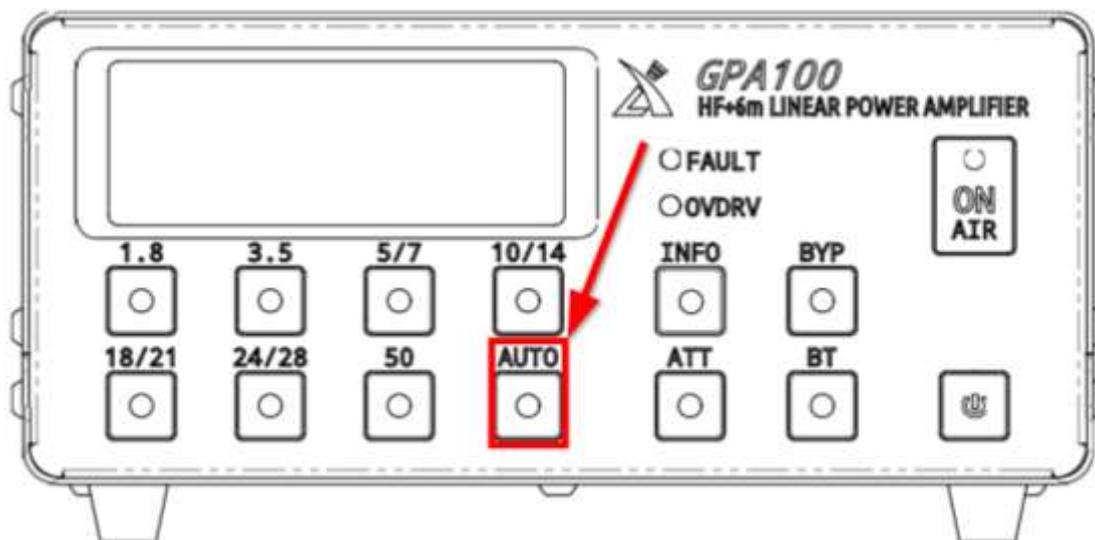
## 10.2 Band selection

Depending upon your IARU region and local country regulations some amateur HF bands are defined with different frequency limits and it is ALWAYS the responsibility of the radio amateur to ensure that he/she does not make an out-of-band transmission. Be careful that your signal's sideband isn't out of band when operating close to the edge of a band.

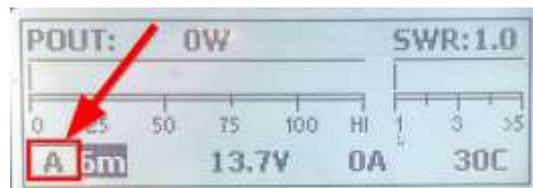
Follow the instructions below to select band selection mode and band.

### 10.2.1 Automatic band selection

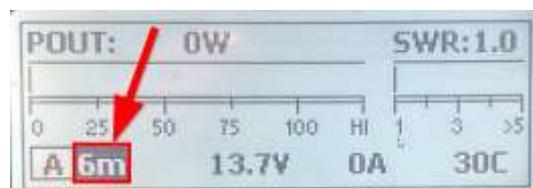
The working band can either be selected using the BAND signal (from the transceiver), via Bluetooth (only ICOM IC-705) or manually at the Xiegu GPA100.



To activate the automatic band selection based on the voltage of the 'BAND' signal coming from your radio, briefly press the [AUTO] button until the 'Band selection mode' is shown as 'A'utomatic.



The currently selected working band is also shown in the 'Working band' field.



**Notes:** Correct operation of the automatic band selection function depends on accurate band voltages being supplied by the radio to the 'BAND' input connector of the Xiegu GPA100. We recommend to power the radio and the Xiegu GPA100 from the same power supply. Additional clip-on ferrites may also be used to suppress any stray radiation that might influence the 'BAND' signal voltage.

### 10.2.1.1 Select source for auto band selection

Auto band selection can be established either by using the 'BAND' signal that gets generated by the radio (Xiegu radios support those) or by using a Bluetooth connection between the radio and the Xiegu GPA100 (the ICOM IC-705 supports this). The default channel is 'ACC' when starting up, and for Bluetooth the source for auto band selection needs to be manually switched to the 'Bluetooth' channel. For Bluetooth pairing refer to section 10.3 'Bluetooth'.

Long press the [AUTO] button to enter the menu to define the source for auto band selection.



On the lower half of the screen softkey functions are displayed. Those correspond to the four buttons that are located directly below the screen.

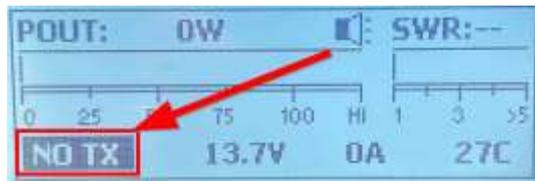
Softkey	Button marking
	1.8
	3.5

Softkey	Button marking
	5/7
	10/14

Use those buttons to navigate within the menu. Move the cursor up and down by clicking the corresponding button [1.8] for UP and [3.5] for DOWN. After the cursor points to the desired channel, click the [5/7] button for OK. The previously empty checkbox to the left of the channel description  will now be filled , and finally click on the [10/14] button to save your selection and EXIT to the main interface.

- 'ACC Channel' is the default setting and refers to the 'BAND' control input signal as described in section 8.4.2 'BAND control input'.
- 'Bluetooth Channel' is used for radios that support band selection via Bluetooth. Currently this is the ICOM IC-705 only.

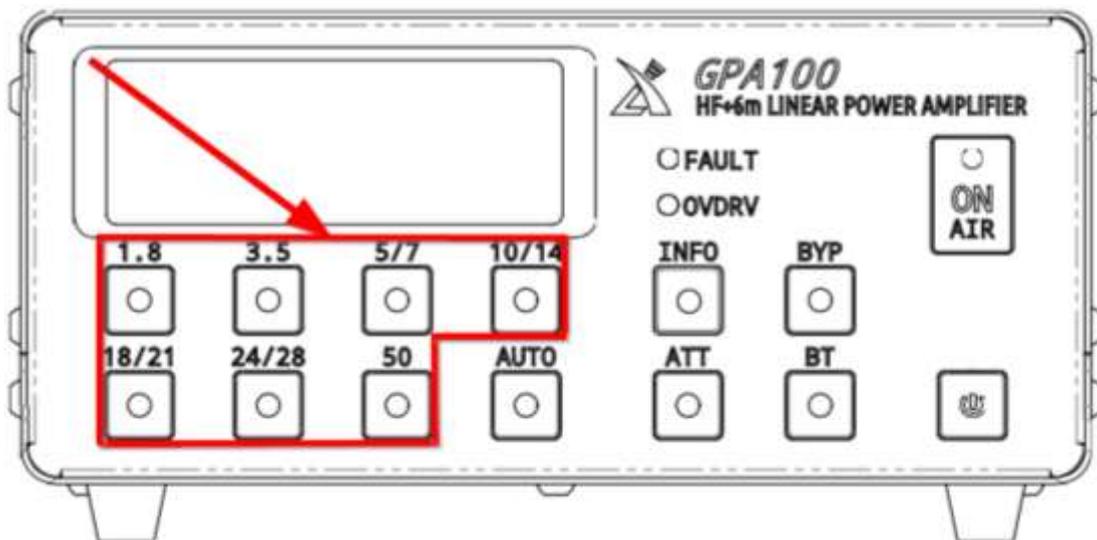
If the band selection is done via the Bluetooth channel, and a working band has been selected on the transceiver that is not supported by the Xiegu GPA100, **NO TX** is displayed in the 'Working band' field. If you transmit on such band, the Xiegu GPA100 will automatically enable bypass-mode whenever you hit the PTT key.



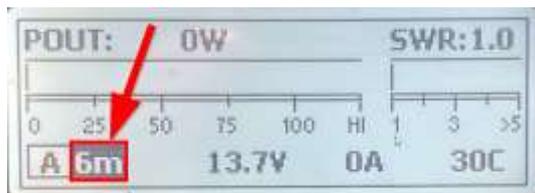
**Notes:** After using and turning off of the Xiegu GPA100, the amplifier will store the last operation and settings set before shutting down. There will be no need to select the channel again when you turn the GPA100 on again.

### 10.2.2 Manual band selection

To deactivate automatic band selecting mode and manually select a band, press any of the [Band] buttons briefly to select the corresponding band.



The printed text above the buttons corresponds to the frequency of the band, whereas the display states the band's wavelength in the 'Working band' field.



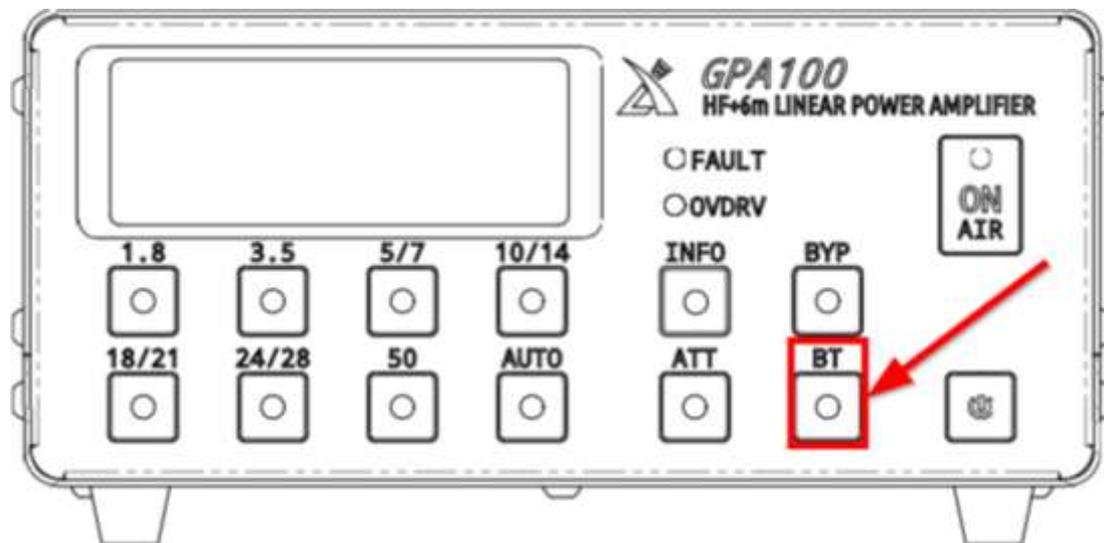
Button	Band
1.8	160m
10/14	30/20m
50	6m

Button	Band
3.5	75/80m
18/21	17/15m

Button	Band
5/7	60/40m
24/28	12/10m

## 10.3 Bluetooth

Press the [BT] button briefly to activate pairing mode of the Xiegu GPA100. The status-LED within the [BT] button will start flashing fast. As soon as a connection to the BT equipped radio has been established, the [BT] status-LED will stay permanently on.



Long press the [BT] button to display the Bluetooth name ('XG\_GPA100'), MAC address and connection state on the screen.

No BT Connection to radio	BT Connection to radio established
<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Bluetooth Information</p> <p>Name: XG_GPA100</p> <p>Addr: A9:9A:07:04:58:9D</p> <p>State: Disconnect</p> <p style="text-align: right;">EXIT</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Bluetooth Information</p> <p>Name: XG_GPA100</p> <p>Addr: A9:9A:07:04:58:9D</p> <p>State: Connected</p> <p style="text-align: right;">EXIT</p> </div>

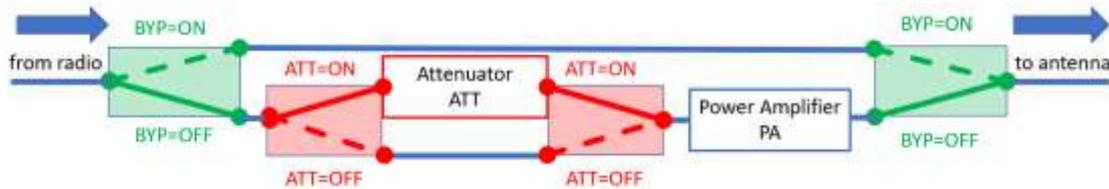
To exit the status display of the Bluetooth connection, press the [10/14] button below the softkey EXIT.

When used with BT equipped radios such as the ICOM IC-705, the Bluetooth connection can be used to switch bands. For details on how to establish a connection between the ICOM IC-705 and the Xiegu GPA100 please see section 15.2 'Control Xiegu GPA100 by IC-705 via Bluetooth'.

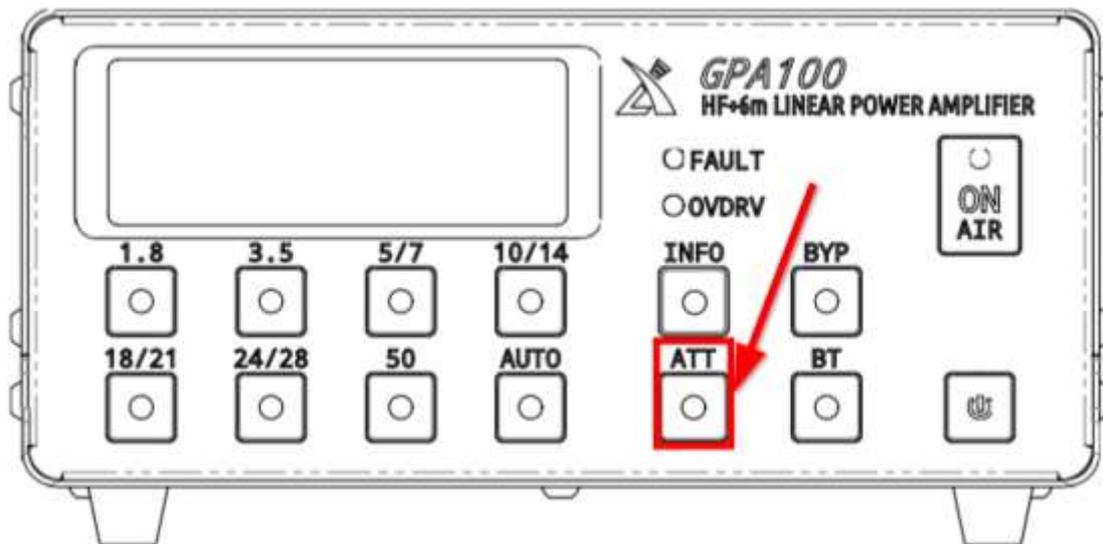
**Notes:** Current Xiegu radios do not support control via Bluetooth.

## 10.4 Attenuator

The attenuator is for use when the driving transceiver outputs more than the allowed input power level to the GPA100 and the output of the driving radio cannot be easily reduced. The Attenuator can not be used if the bypass-mode has been activated. Press the [ATT] button briefly to turn on the input power attenuator. The yellow status-LED within the [ATT] button will light. The HF input signal will now be reduced by 6 dB before being passed to the Power Amplifier of the Xiegu GPA100.



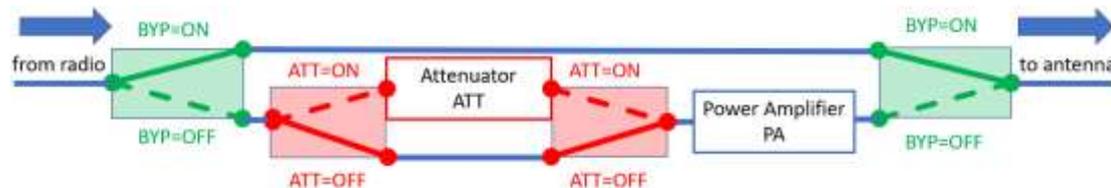
Short press the [ATT] button again, to deactivate the attenuator. The status-LED within the [ATT] button will turn off.



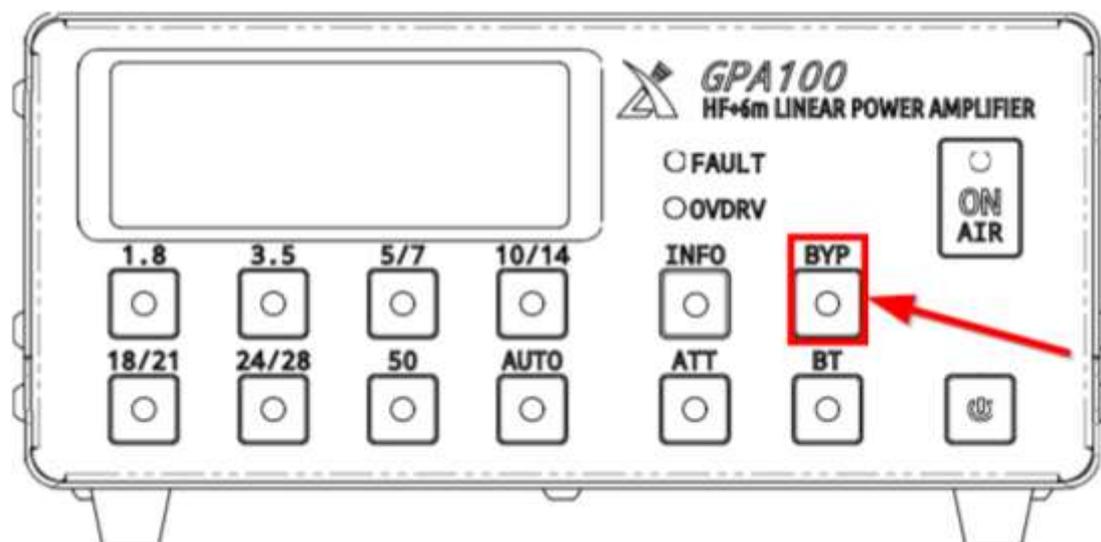
**Notes:** When the output power is less than expected during normal transmissions, check whether the status-LED of the [ATT] button is on, indicating that the attenuator is engaged) or whether bypass-mode has been activated.

## 10.5 Bypass mode

Press the [BYP] button briefly to remove the Power Amplifier and the built-in attenuator of the Xiegu GPA100 from the output HF signal route. The yellow status-LED within the [BYP] button will light up. The input signal will now be passed through to the output port without any attenuation or amplification by the Xiegu GPA100.



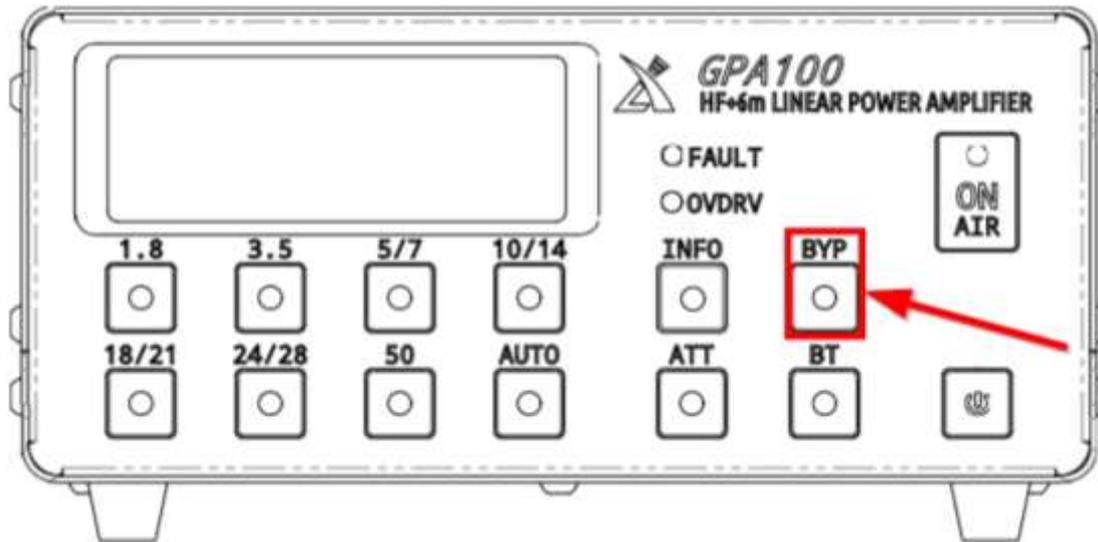
Short press the [BYP] button again, to insert the Power Amplifier back into the transmitted signal route. The yellow status-LED within the [BYP] button will turn off.



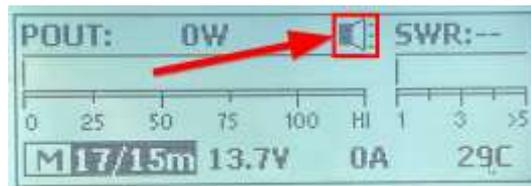
**Notes:** When the output power is lower than expected during normal operation, check whether the yellow status-LED of the [BYP] button is on or if attenuation has been activated.

## 10.6 Audio alarm

Long press the [BYP] button to toggle the audio alarm function. Whenever a fault condition occurs, an additional audio alarm will be heard via the built-in buzzer of the Xiegu GPA100.



If the audio alarm function has been activated, this will be indicated by an additional speaker symbol  displayed at the right edge of the field 'Output power',



**Notes:** The audio alarm gets activated automatically on each power on of the Xiegu GPA100.

## 10.7 Fault handling

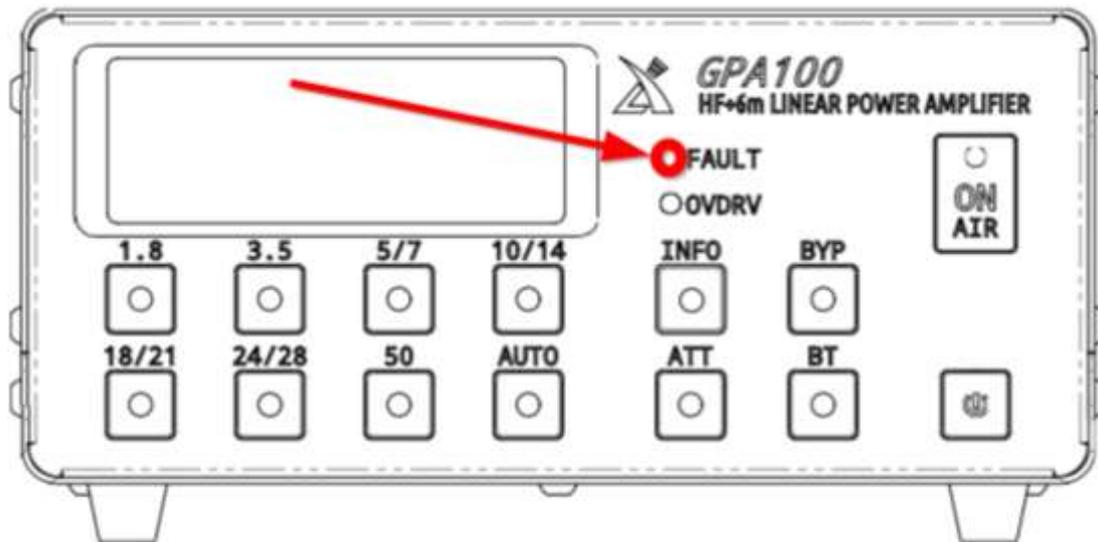
The Xiegu GPA100 has several protection triggers such as a high standing wave ratio, high current draw, high power output, over-temperature sensing and other functions. The internal sensors will trigger the protection action after hitting any threshold value.

The error threshold values of each sensor are as follows:

Sensor	Fault reason	Threshold	Trigger time
Temperature	High temp	$\geq 85^{\circ}\text{C}$	$\geq 5\text{min}$
Current	High current	$\geq 22\text{A}$	$\geq 30\text{s}$
Standing Wave	High SWR	$\geq 5$	$\geq 0.5\text{s}$
Total power draw	Over tpower	$\geq 270\text{W}$	$\geq 30\text{s}$
Efficiency	Low efficiency	$\leq 33\%$	$\geq 1\text{s}$

**Notes:** The low efficiency alarm threshold is related to the output power. The table shows the threshold value corresponding to 100W output.

At this time, the red FAULT status-LED on the right side of the panel will light up. Additionally the audio alarm (see section 10.6 'Audio alarm') will, the built-in buzzer will additionally sound an alarm tone.



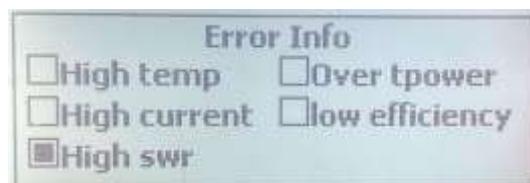
### 10.7.1 Info on fault

Press the [INFO] button briefly to enter the 'Error Info' screen and view the current error cause. All errors that happened are marked with a filled checkbox . All other checkboxes are not filled .



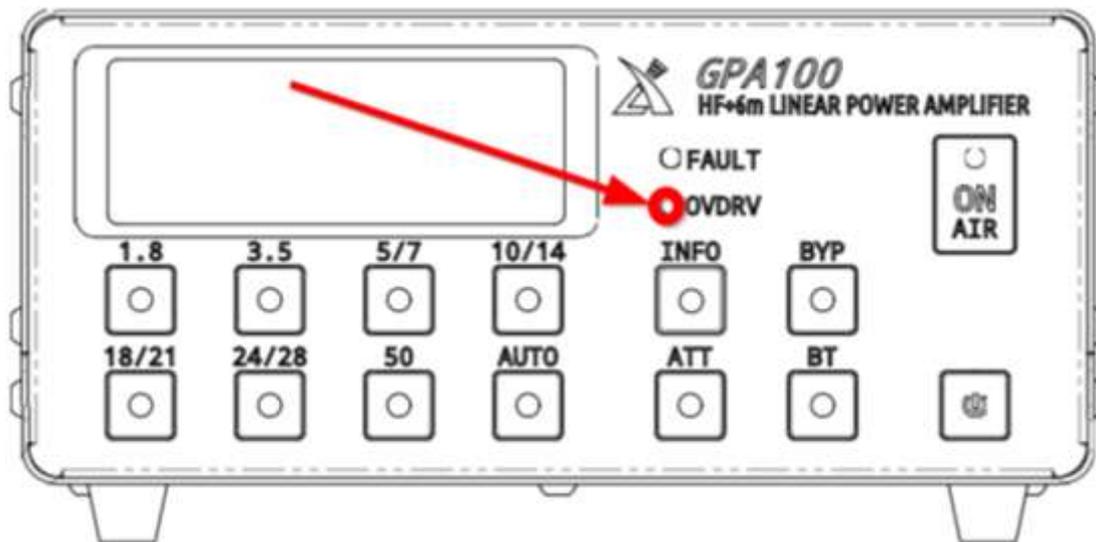
Again, briefly press the [INFO] button to return to the normal idle display.

Long press the INFO button to clear the alarm information and turn off the red FAULT status-LED.



## 10.8 Overdrive handling

When the transmission output power exceeds 125W for more than 30s, the [OVDRV] status-LED will light up. If this happens, the Xiegu GPA100 will activate the bypass-mode (see section 10.5 'Bypass mode').

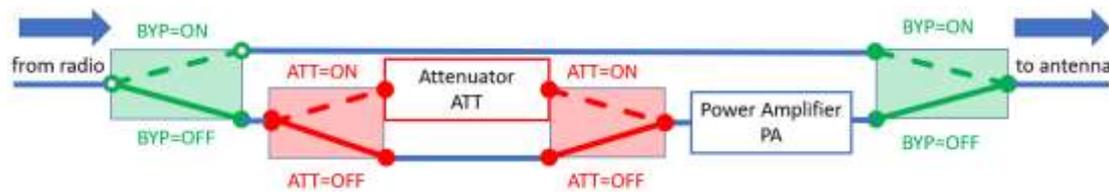


As soon as you stop transmitting the Xiegu GPA100 will automatically return to its normal working state. Release the PTT button of the transceiver, and the Xiegu GPA100 will return to the receiving state.

**Notes:** When the Xiegu GPA100 has an over current ( $\geq 30A$ ) or short circuit, the power cord fuse (25A) may blow, causing the device to shut down automatically or fail to start up. If the GPA100 cannot be powered on please check whether the fuse has blown.

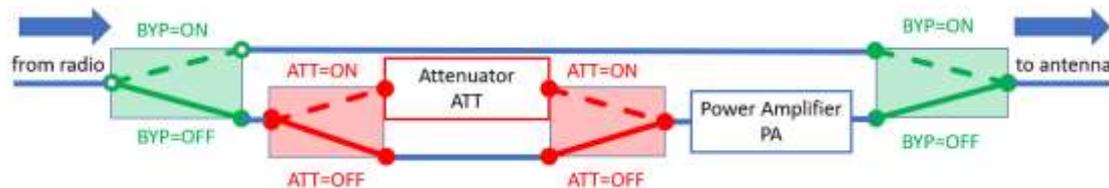
## 11 Most common operating scenarios

This section describes the most common scenarios for those that just want a lookup list without having to “deep-dive” into details. The Xiegu GPA100 mainly consists of two functional parts, the Attenuator (ATT) and the Power Amplifier (PA) with bypass-mode. Both parts can separately be activated or deactivated. However, even if you deactivate both parts, the device itself needs to be powered on. Otherwise, the ALC output signal (see section 8.3 ‘Electrical connection diagrams for the Xiegu GPA100’ for details) would be incorrect and could decrease the output power of the transceiver as the ALC signal is an input to the radio controlling its own Power Amplifier stage.



## 11.1 Only use the PA (Power Amplifier)

Be very careful when using the Power Amplifier of the Xiegu GPA100 as it requires the attached Antenna to match the frequency band that is being used. Selecting the proper operating band either manually or automatically does not match the connected antenna. There is no ATU in the GPA100. A non-resonant antenna will cause part of the Xiegu GPA100 output power to be reflected back into the Xiegu GPA100. Always make sure that the connected antenna matches the band in use. The output impedance of the Xiegu GPA100 Power Amplifier is 50Ω. An additional antenna tuner may be used to match your antenna to the 50Ω output impedance of the Xiegu GPA100.



### 1. Turn on the Xiegu GPA100

Briefly press the [⏻] button on the lower right of the front panel. On the large display you will see the Xiegu logo, followed by version details of the currently installed firmware before the standby screen is shown. Clicks from one or more relays may be heard.



### 2. Turn off the attenuator

If the status-LED of the [ATT] button is turned on, as long as you know your transceiver will not over-drive the GPA100 amplifier, briefly press the [ATT] button to deactivate the attenuator. The status-LED within the [ATT] button will turn off.



### 3. Turn off bypass-mode

If the status-LED of the [BYP] button is turned on, the GPA100 is out of circuit. Briefly press the [BYP] button to insert the Power Amplifier in the HF line. The status-LED within the [BYP] button will turn off.



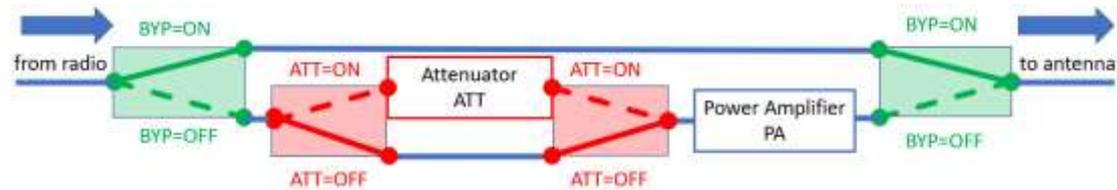
**This is the scenario used most of the time**

**Notes:** Be very careful when only using the Xiegu GPA100 without an additional ATU as it requires the attached antenna to match to the frequency in use.

**If the frequency you transmit on does not match that of the connected antenna, a part of the Xiegu GPA100 output power will be reflected back to the Xiegu GPA100. This may cause serious damage to the Xiegu GPA100's final amplifier stage components.**

## 11.2 Transparent pass through mode

Sometimes it might be required to use lower power direct from your transceiver and not use the Power Amplifier of the Xiegu GPA100 rather just have the input signal directly pass through to the antenna socket. In this scenario the Xiegu GPA100 operates in transparent pass-through or bypass-mode.



### 1. Turn on the Xiegu GPA100

Briefly press the [ ] button on the lower right of the front panel. On the large display you will see the Xiegu logo, followed by version details of the currently installed firmware before the standby screen is shown. Clicks from one or more of the relays may be heard. 

### 2. Turn on bypass-mode of the Xiegu GPA100

If the status-LED of the [BYP] button is turned off, briefly press the [BYP] button to remove the Power Amplifier from the HF signal route. The status-LED within the [BYP] button will turn on. 

Now the Xiegu GPA100 is in bypass (aka transparent)-mode. Regardless of the Attenuator setting, the HF signal will directly be routed from the 'TRX' RF input to the 'ANT' RF output.

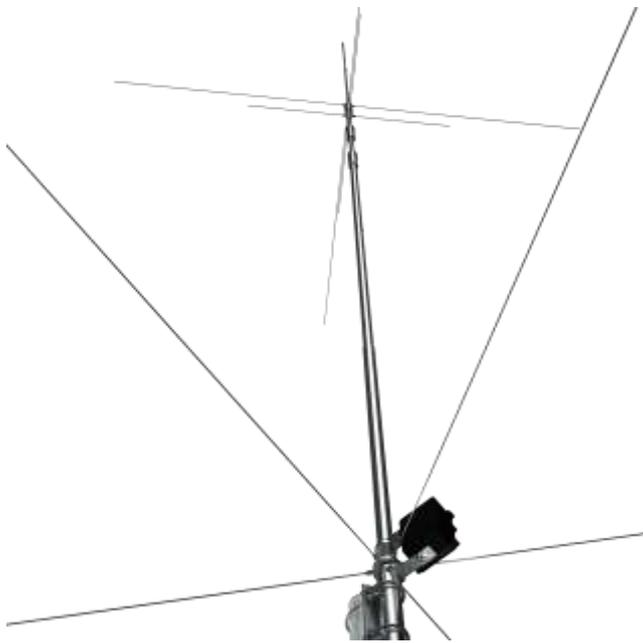
**This is the scenario often used when QRP-operation is required.**

## 12 Accessories for the Xiegu GPA100

Radioddity offers a wide range of accessories that add value, features and operational comfort to your Xiegu GPA100.

Part	Picture
<p><b>Radioddity PS30</b> (Only available in the US)</p> <ul style="list-style-type: none"> <li>• Data interface expansion module</li> <li>• Input Voltage: 110V AC</li> <li>• Fixed Output Voltage: 13.8V DC or adjustable Output Voltage: 8.0-15.0V DC</li> <li>• Maximum Current Output: 30A Peak, 20A Continuous</li> <li>• Display of Voltage &amp; Current</li> <li>• Anderson Powerpole® compatible connectors</li> <li>• Binding Posts</li> <li>• Protection: Short-Circuit &amp; Overload Protection</li> <li>• Noise Control: Adjustable Noise-Offset Knob</li> </ul>	 <p>The image shows a black rectangular power supply unit, the Radioddity PS30. It features a blue LCD display on the front panel showing '13.8' and '0.00'. To the right of the display are two rotary knobs labeled 'VOLTAGE ADJUST' and 'NOISE OFFSET'. Below the display are two red Anderson Powerpole connectors and a power switch. The front panel also has 'PS30SWW' and 'PRECISION POWER SUPPLY' printed on it.</p>
<p><b>Radioddity ATU-100</b> Automatic Antenna Tuner</p> <ul style="list-style-type: none"> <li>• 1.8-55 MHz Tuning range</li> <li>• 9.96" OLED Display</li> <li>• 5000mAh Rechargeable battery</li> <li>• Micro USB charging</li> <li>• Maximum Operating Power 100W</li> <li>• Minimum Power Required for Tuning 5W</li> </ul>	 <p>The image shows a black rectangular Automatic Antenna Tuner, the Radioddity ATU-100. It has a blue OLED display on the front panel showing 'PWR=0.0W', 'SWR=0.00', 'L=0.00uH', and 'C=0pF'. To the right of the display is a large green circular 'TUNE' button and a power switch. Below the display is a red 'charge' indicator and a Micro USB port. The top of the device is labeled 'ATU-100 EXT 1.8-55MHZ 100W'.</p>

Part	Picture
<p><b>Xiegu CE-19</b></p> <ul style="list-style-type: none"><li>• Data interface expansion module</li><li>• Audio Cables with bar ends on one side (3x)</li><li>• 3.5mm Stereo Plugs (3x)</li><li>• miniDIN8 Cable</li></ul>	 <p>The image shows a blue, octagonal expansion module for the Xiegu GPA100. It features several connection points: 'TO XPA125' at the top left, 'AF CON' at the top right, 'DATA CON' at the bottom right, and 'FROM X5105' at the bottom. There are also 'PTT CON' and 'BAND PTT' connections on the left side, and 'AF OUT', 'AF IN', and 'DATA OUT' connections on the right side. The Xiegu logo and 'CE-19' are printed on the module.</p>
<p><b>Xiegu DE-19</b></p> <ul style="list-style-type: none"><li>• Digital interface unit providing one USB cable to the PC with support for two-way audio and serial communications as well as providing control of an optional GPA100 amplifier.</li><li>• All cables for use with Xiegu G90 included</li></ul>	 <p>The image shows a black, rectangular digital interface unit. It has a USB port on the left side and several other ports on the right side, including 'CTV', 'PA', and 'ACC'. The unit is labeled 'DE19' and 'USB-RADIO INTERFACE'.</p>

Part	Picture
<p><b>Xiegu VG4</b> 40m/20m/15m/10m 4-band Vertical Antenna</p> <ul style="list-style-type: none"> <li>• For 4 frequency bands: 7/14/21/28MHz (40m/20m/15m/10m)</li> <li>• Axial length: about 7.8m (25.6ft)</li> <li>• Radial length: about 2.7m (8.8ft)</li> <li>• Maximum power handling: 1000W PEP (CW: 500W, RTTY: 300W)</li> <li>• Antenna impedance: 50Ω</li> <li>• VSWR: &lt; 1.5:1</li> <li>• Antenna bandwidth: 40m: 150kHz / 20m: 450kHz / 15m: 800kHz / 10m: 1000kHz</li> <li>• Rated wind speed: 35 m/s</li> <li>• Antenna interface type: SO-239 / SL16-K</li> <li>• Weight: about 7.0kg (15.4lb)</li> <li>• Package size: 13cm x 13cm x 120cm (0.4ft x 0.4ft x 3.9ft)</li> <li>• Erection height: the distance from the ground should be more than 3m (10ft)</li> </ul>	
<p><b>Radioddity HF-009</b> Portable Antenna</p> <ul style="list-style-type: none"> <li>• Comes with a matching transport bag</li> <li>• Frequency Range: 5-50MHz</li> <li>• SWR: 1-1.5</li> <li>• Impedance: 50 Ohm</li> <li>• Maximum Visible Length: 3.7m (12.1ft)</li> <li>• Maximum Power Rating: CW100W, SSB150W PEP</li> <li>• Ground Radial Length: About 5m (16.4ft) (3 wires)</li> <li>• Antenna Coax-Cable Length: 5m (16.4 ft)</li> <li>• Comes with adapter SO-239 to BNC-m</li> <li>• Total weight: 2kg (4.4 lbs)</li> <li>• Net weight: 1.0kg (2.2 lbs)</li> <li>• Size of carrying bag: 48.5 x 19.5 x 9.5cm (19.1" x 7.7" x 3.7")</li> </ul>	

Part	Picture
<p><b>Radioddity M916</b> 3 base Magnet Mount</p> <ul style="list-style-type: none"> <li>• Heavy duty rugged magnetic antenna mount</li> <li>• With 3 magnetic bases (each with a diameter of 11cm / 4.3') this magnetic mount is your ideal car roof mount for PL-259 verticals (such as the HF-008) for static mobile operation</li> <li>• SO-239 socket</li> <li>• 3,9m / 153' RG58-A/U cable with PL-259/SL16-K connector at its end</li> <li>• Comes with adapter SO-239 to BNC-m</li> </ul>	 <p>The image shows the Radioddity M916 3 base Magnet Mount. It consists of a black triangular metal plate with three circular magnetic bases attached to its corners. A coiled black cable with a PL-259/SL16-K connector is attached to the center of the plate. A small silver adapter connector is shown separately below the main assembly.</p>
<p><b>Radioddity HF-008</b> Portable Antenna</p> <ul style="list-style-type: none"> <li>• For 9 frequency bands: 6m, 10m, 11m, 12m, 15m, 17m, 20m, 40m, 80m</li> <li>• Maximum power (PEP): 200W (SSB)</li> <li>• VSWR: &lt; 1.5:1</li> <li>• Antenna impedance: 50Ω</li> <li>• Antenna interface type: PL-259/SL16-K</li> <li>• To be used in combination with Radioddity RA-M5 (single magnet) or M916 (triple magnet) Antenna Magnet Mount for use on a car roof.</li> </ul>	 <p>The image shows the Radioddity HF-008 Portable Antenna. It is a long, thin, silver-colored antenna with a black PL-259/SL16-K connector at the bottom. A shorter, similar antenna is shown next to it. To the right, there is a small silver adapter connector and a black cable with two PL-259/SL16-K connectors at its ends.</p>

Part	Picture
<p><b>Raddy Multi-function Backpack</b></p> <ul style="list-style-type: none"><li>• measures: 30 cm x 16 cm x 36 cm / 11,8' x 6,3' x 14,2'</li><li>• volume: 15 dm<sup>3</sup> / 0.53 ft<sup>3</sup></li><li>• weight: 800g / 1.8 pound</li><li>• perfectly matches to the Xiegu GPA100 + your Xiegu radio</li></ul>	
<p><b>Radioddity PB3 <sup>*)</sup></b></p> <ul style="list-style-type: none"><li>• Carrying Case</li></ul>	

\*) Pictures of the accessories listed sometimes show additional items to the product in operation. Additional items are only shown for a better understanding and are not included with the product.

## 13 Use of CE-19 or DE-19 with the GPA100

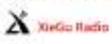
The newer Xiegu Radios such as the Xiegu X6100 and Xiegu X6200 only require the Xiegu L4001 TRRS to miniDIN6 cable. Almost all older Xiegu radios can be connected to the Xiegu GPA100 'ACC2' port using the miniDIN8 cable that comes with the Xiegu GAP100, except for the Xiegu X108G that requires a miniDIN6 cable to connect to the Xiegu GPA100 'ACC1' port.

If you plan to use digital modes such as FT8 you need the audio-signals that are provided on the miniDIN8 socket of the Xiegu radios and either a Xiegu CE-19 or DE-19 interface. With the Xiegu CE-19 or DE-19 you are still able to connect the Xiegu GPA100 using its 'ACC1' port as the Xiegu CE-19 or DE-19 interface splits the signals accordingly.

### 13.1 Use of the Xiegu CE-19 with the Xiegu GPA100

The CE-19 radio interface is shipped with the following parts.

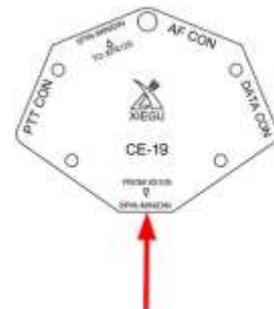
Part	Picture
CE-19 Expansion Module Suitable for GPA100, G1M, G90, G106, X5105	 <p>The image shows a blue, octagonal expansion module. It features several ports: 'TO XPA125' at the top, 'AF CON' at the top right, 'DATA CON' at the right, 'FROM X5105' at the bottom, and 'PTT CON' at the bottom left. There are also 'AF OUT', 'AF IN', 'BAND', and 'PTT' ports. The Xiegu logo and 'CE-19' are printed on the module.</p>
miniDIN8 cable for connecting the CE-19 to a Xiegu radio	 <p>A black cable with a miniDIN8 connector on one end and a TRRS connector on the other.</p>
3.5mm TRS-cable With open ends for custom creation of required audio cables to connect CE-19 to PC (3x)	 <p>A black cable with a green 3.5mm TRS connector on one end and two open wire ends on the other.</p>
3.5mm TRS Stereo plug for custom creation of required audio cables to connect CE-19 to PC (3x)	 <p>A small black 3.5mm TRS stereo plug.</p>

Part	Picture
<p>CE-19 Operation Manual</p> <p><i>Notes: The Xiegu Operation Manual is quite outdated as it still mentions an ALC-switch that no longer exists on the CE-19.</i></p>	<div style="text-align: center;"> <h3>Introduction</h3> <p>ES-C2195 Rev.1.0 Ver. 20240218</p> <p>The CE-19 data interface extension unit is suitable for extending the ACC port of X5105 or G90 to facilitate user access to PC or other data terminals, modems and so on. The expansion unit extends the MINI-DIN8 interface to the commonly used 3.5mm stereo socket and extends the MINI-DIN6 interface for the XPA125 interface independently, which is convenient for users to use. Details are as follows (Take X5105 as an example).</p> <p>1. The interface distribution on the board is shown in Figure 1:</p> </div>  <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p>21-22 PTT audio signal by a 3.5mm stereo socket, and X5105 completely isolated, can adapt to different versions of the X5105, can also be adapted to other brands of amplifiers like H9ART.</p> </div> <div style="text-align: center;"> <p>Figure 1 Switch</p> <p>Power Indicator LED: lighting after connected to the X5105. (power light on when the X5105 is transmitting)</p> </div> <div style="text-align: center;"> <h3>2. Interface description</h3> <p>Port definition:</p>  <p>Figure 2 Interface distribution</p> <p>PTT CON: PTT signal / BAND signal output port, the port PTT signal completely isolated with the host, providing linkage with the host "low" trigger.</p> <p>MPN/MINDIN: XPA125 dedicated interface</p> <p>AF CON: Audio input / output port. The audio output from this port is directly output after demodulation, no filter.</p> <p>DATA CON: Data output port. The audio output from this port passes through the active filter in the machine. The two terminals of this port are parallel, the output signal are the same.</p> <ul style="list-style-type: none"> <li>The definition of each extended port is the same as that of the corresponding port of the ACC port of the X5105 host. See the X5105 manual.</li> <li>The definition of terminal expansion port, please refer to the expansion card surface indication information.</li> <li>When used for amateur radio data communications, audio input / output connect the AF CON interface.</li> </ul> </div> <div style="text-align: center;">  </div>

The Xiegu CE-19 can be used to connect to the following Xiegu radios: G1M, G90, G106 and X5105. The Xiegu X6100 and X6200 do not require a CE-19 nor a Xiegu DE-19 as they have a built-in audio interface and virtual serial port for CAT-control.

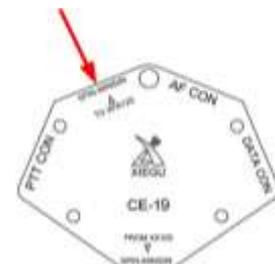
### 13.1.1 Connect Xiegu radio ACC port to CE-19

Using the miniDIN8 cable that came with the Xiegu CE-19 connect the ACC port on the back side of the Xiegu radio to the Xiegu CE-19 port labelled 'FROM X5105'.



### 13.1.2 Connect CE-19 to GPA100

To control the Xiegu GPA100 RF amplifier via the CE-19 use an extra miniDIN6-cable. One side of that cable needs to be plugged into the miniDIN6-socket, labelled 'TO XPA125' on the Xiegu CE-19. The other side needs to be plugged into the miniDIN6-socket labelled 'ACC1' on the back side of the Xiegu GPA100.



**Notes:** The miniDIN6-socket as found on the Xiegu CE-19 is used for connecting a Xiegu GPA100 or XPA-125B amplifier whereas the miniDIN8-socket is used for connecting a Xiegu radio. Be careful as to not mix up the two miniDIN-sockets as it would result in bent pins of the miniDIN plugs. Always check the pinout of the miniDIN plug before you insert it into its corresponding jack.

### 13.1.3 Connect CE-19 to audio-in and audio-out of PC

The CE-19 comes with three premade cables. On one side of those cables, there is a green 3.5mm TRS plug and the other side comes with coloured open ends.

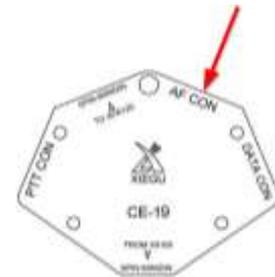
The pin assignment of those cables is as follows:

Pin	Colour
Tip	White
Ring	Red
Sleeve	black

Furthermore, you will also find three separate black 3.5mm TRS plugs.

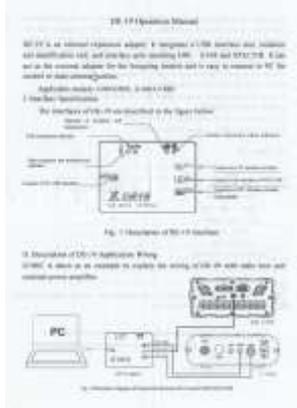
PCs do have a speaker output and a line or mic input. You will very likely need two of those supplied cables in order to make a proper wiring between your PC and the Xiegu CE-19.

To connect your PC to the Xiegu CE-19 interface using two of the green plug cables for the PC-side and one black plug for the Xiegu CE-19 side, you need to wire the cables as follows:



Cable	Colour	Green 3.5mm TRS plug	PC signal	Xiegu GPA100 ACC signal	Black 3.5mm TRS plug	Colour
PC speaker	black	Sleeve	GND	GND	Sleeve	Black
PC speaker	Red	Ring	Right audio out	AF IN	Tip	White
PC speaker	White	Tip	Left audio out	n.c.	n.c.	n.a.
PC line in / MIC	black	Sleeve	GND	GND	Sleeve	Black
PC line in / MIC	Red	Ring	Right audio in	AF OUT	Ring	Red
PC line in / MIC	White	Tip	Left Audio in	AF OUT	Ring	Red



Part	Picture
DE-19 Operation Manual	

The Xiegu DE-19 can be used to connect to the following radios: X108G, G1M, G106, G90 and X5105. The Xiegu X6100 and X6200 do not require a CE-19 nor a Xiegu DE-19 as they have a built-in audio interface and virtual serial port for CAT-control.

### 13.2.1 Connect Xiegu radio ACC port to DE-19

Use the miniDIN8-cable that came with the DE-19 to connect the Xiegu radio to the Xiegu DE-19 miniDIN8 socket labelled 'ACC'.



### 13.2.2 Connect Xiegu radio CAT-port to DE-19

Connect one side of the 3.5mm Stereo TRS cable that came with the Xiegu DE-19 to the radio's CAT control COMM port.

Connect the other side of the 3.5mm Stereo TRS cable to the port marked 'CIV' of the Xiegu DE-19.



To communicate between the Xiegu radio and the Xiegu DE-19 the ACC-connection as well as the CIV-connection need to be established. Do not power on the Xiegu radio unless both connections have been made. As soon as you now power on the Xiegu radio, the 'ON LINE' status indicator of the Xiegu DE-19 will light red.



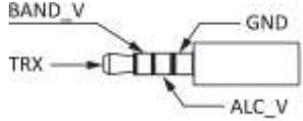
### 13.2.3 Connect DE-19 to Xiegu GPA100

Use the 3.5mm TRRS to miniDIN6 cable that came with the Xiegu DE-19 to establish a connection between the 'ACC' port of the Xiegu GPA100 and the port marked 'PA' of the Xiegu DE-19.



The 3.5mm TRRS to miniDIN6 cable that came with the Xiegu DE-19 has a 4-pin 3.5mm TRRS jack plug on the end that gets plugged into the Xiegu DE-19 and a miniDIN 6 pin connector plug on the end that plugs into the Xiegu GPA100. The assignment of the cable cores is as follows:

DE-19	Signal	Function	GPA100
Tip	TRX / PTT	Switch Transmit signal	2
Ring 1	BAND_V	Voltage to trigger correct amplifier band selection	3
Ring 2	ALC_V	ALC Voltage from amplifier for control of RF drive power from the transceiver	4
Sleeve	GND	Ground	6



**Notes:** The miniDIN8-socket found on the Xiegu DE-19 is used for connecting a Xiegu radio. Be careful as to not mix the two miniDIN-cables up with each other as it would result in bent pins of the miniDIN plugs.

### 13.2.4 Connect PC to DE-19

Use the USB-A to USB-C cable that came with the Xiegu DE-19 to establish a connection between the Xiegu DE-19 and your PC. The USB-A side needs to be plugged into a USB-A port of your PC. The USB-C side of the cable needs to be plugged into the port marked 'USB' of the Xiegu DE-19.



As soon as the USB-connection between the PC and the Xiegu DE-19 has been established, the USB status LED will light up red.



From the PC's point of view, the Xiegu DE-19 provides a virtual serial interface based on interface chip type CH340. If the CH340 driver is not installed automatically by the host OS, it needs to

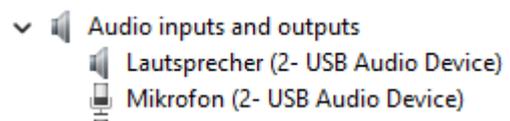
- > Portable Devices
- ✓ Ports (COM & LPT)
  - USB-SERIAL CH340 (COM5)
- > Print queues

be installed manually, or the host OS driver tool may be used to install it from the Internet ([https://www.wch-ic.com/downloads/CH341SER\\_EXE.html](https://www.wch-ic.com/downloads/CH341SER_EXE.html)).

Serial data transmission between the Xiegu radio and the DE-19 will be indicated by the two red status LEDs.



Besides those serial port, the DE-19 also provides both a USB audio input and audio output device for the PC.



Please choose this virtual sound card provided by the Xiegu DE-19 for sound input/output (these also form the digital signal in/out for digital data communications). Note that in PC programs different sound devices are required for input and output.

## 14 Connecting a Xiegu radio to the GPA100

Due to the various connectivity options provided by the Xiegu GPA100 almost all HF transceivers can be connected to it. Xiegu radios that just have a miniDIN6 ACC port can be connected with their miniDIN6 cable directly to the ACC1 port of the GPA100. Xiegu radios with a miniDIN8 ACC port can either be connected directly to the Xiegu GPA100 using the miniDIN8 cable that comes with the Xiegu GPA100 or via a CE-19 interface and an additional miniDIN6 cable. Xiegu radios connected to a DE-19 can be connected to the Xiegu GPA100 using the TRRS to miniDIN6 cable that comes with the Xiegu GPA100.

The following table lists the cable required to connect the Xiegu GPA100:

Radio	with interface	Required cable	Supplied with
G1M	-/-	miniDIN8	GPA100
G1M	CE-19	miniDIN6	To be ordered separately
G1M	DE-19	TRRS to miniDIN6	GPA100
G106	-/-	miniDIN8	GPA100
G106	CE-19	miniDIN6	To be ordered separately
G106	DE-19	TRRS to miniDIN6	GPA100
G90	-/-	miniDIN8	GPA100
G90	CE-19	miniDIN6	To be ordered separately
G90	DE-19	TRRS to miniDIN6	GPA100
X108G	-/-	miniDIN6	To be ordered separately
X5105	-/-	miniDIN8	GPA100
X5105	CE-19	miniDIN6	To be ordered separately
X5105	DE-19	TRRS to miniDIN6	GPA100
X6100	-/-	TRRS to miniDIN6	GPA100
X6200	-/-	TRRS to miniDIN6	GPA100
IC-705	-/-	TRS to miniDIN6	To be ordered separately

**Notes:** *The TRRS to miniDIN6 cable is often also referred to as Xiegu L4001. A miniDIN6 cable does not come with the Xiegu GPA100 but needs to be bought separately.*

The following sections show the wiring of the different scenarios.

## 14.1 Connecting a Xiegu G1M to the GPA100

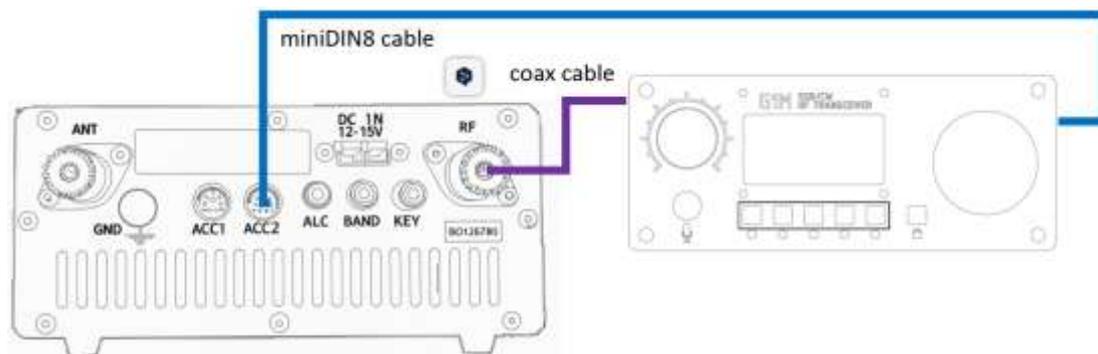
A Xiegu G1M can be connected directly to the Xiegu GPA100 or by using a Xiegu CE-19 or DE-19 interface.

After connection, the Xiegu G1M can automatically control the band switching of Xiegu GPA100. At the same time, ALC control will be established between the radio and the Xiegu GPA100. When the output power from the Xiegu G1M to the Xiegu GPA100 exceeds the limit, the output power of the Xiegu G1M will be automatically reduced to maintain a constant output power of Xiegu GPA100.

We recommend that you set the output power of Xiegu G1M to 2~5W.

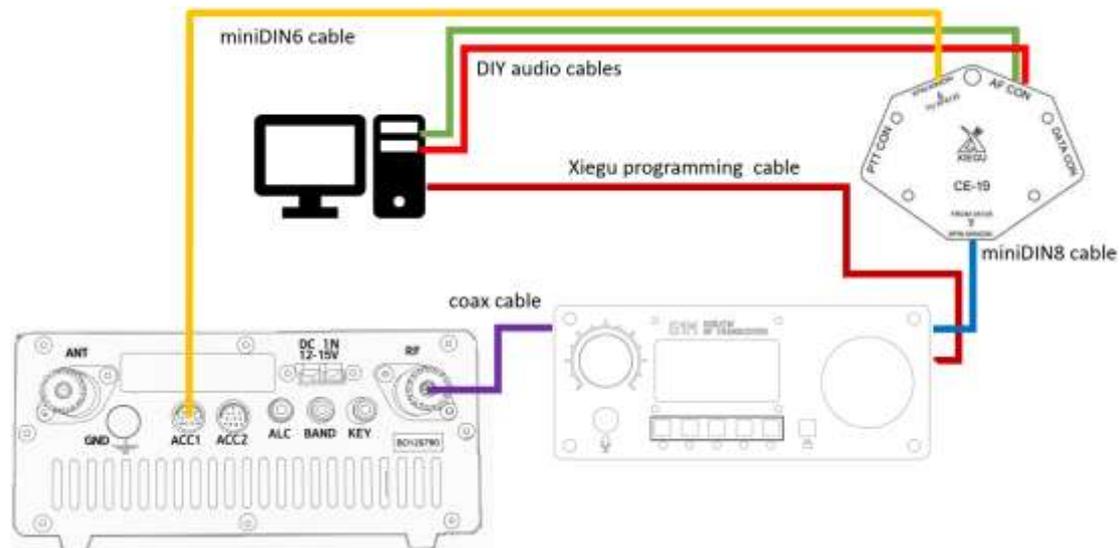
### 14.1.1 Connect G1M directly to GPA100

To establish a direct connection between the Xiegu G1M and the port labelled 'ACC2' of the Xiegu GPA100 you only need the miniDIN8 cable that came with the Xiegu G1M or the one that comes with the Xiegu GPA100.



### 14.1.2 Connect Xiegu G1M via CE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu G1M or the one that comes with the Xiegu GPA100 to connect the ACC port on right-hand side of the Xiegu G1M with the port labelled 'FROM X5105' of the Xiegu CE-19. Connect the Xiegu CE-19 port labelled 'TO XPA125' to the Xiegu GPA100 port labelled 'ACC1' via a miniDIN6 cable. A coax antenna cable connects the male BNC socket on the backside of the Xiegu G1M with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.

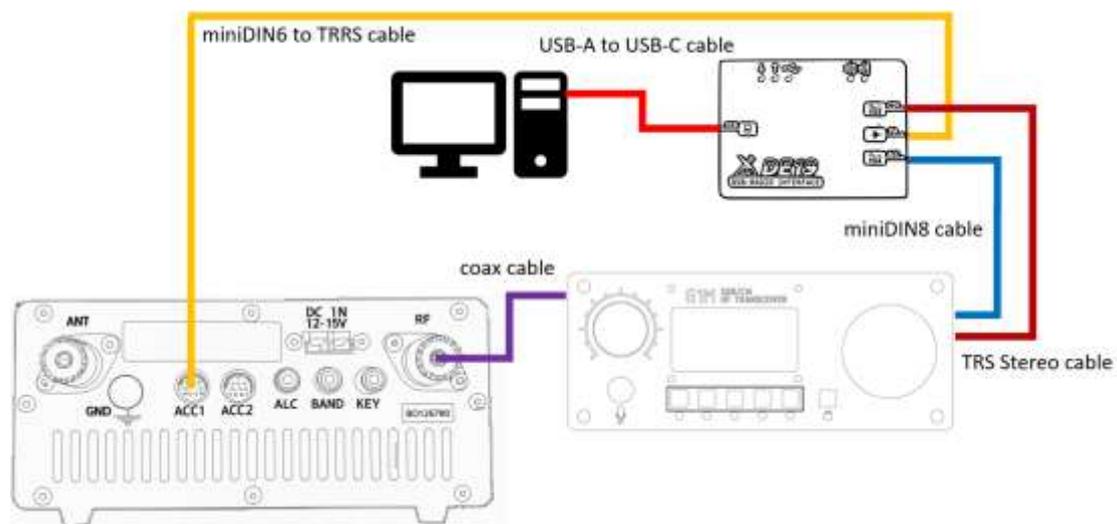


If you plan to use digital modes, you can create the required cables for audio-in and audio-out using the cables and plugs that came with the Xiegu CE-19 and connect those to the port labelled 'AF CON' of the Xiegu CE-19.

For CAT-control use the programming cable that came with your Xiegu G1M and connect it to the COM-port on the backside of the Xiegu G1M and to a USB-A port of your PC.

### 14.1.3 Connect Xiegu G1M via DE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu G1M or the one that comes with the Xiegu GPA100 to connect the ACC port on the back of the Xiegu G1M to the port labelled 'ACC' of a Xiegu DE-19. Connect the Xiegu DE-19 port labelled 'PA' to the Xiegu GPA100 port labelled 'ACC' via the TRRS to miniDIN6 cable that came with the DE-19 or the one that comes with the GPA100. A coax antenna cable connects the male BNC socket on the backside of the Xiegu G1M with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.



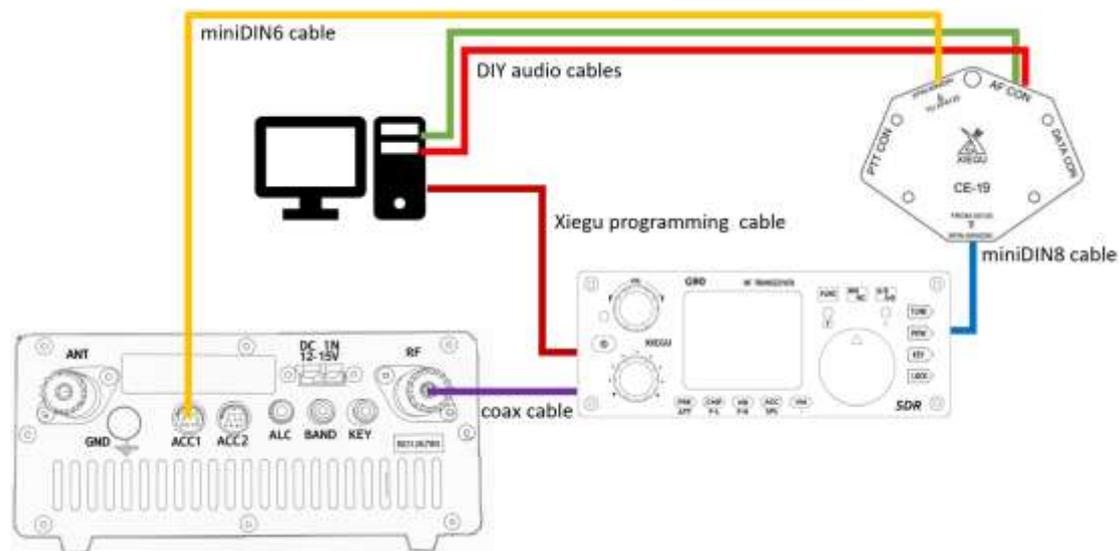
If you plan to use CAT-control, connect the port labelled 'CIV' of the Xiegu DE-19 to the port labelled 'COM' of the Xiegu G1M using the 3.5mm TRS Stereo cable that came with the Xiegu DE-19. Connect the USB-C-to-USB-A cable that came with the Xiegu DE-19 to a USB-A port of your PC.

CAT-control as well as audio-in and audio-out are all included within the Xiegu DE-19. Only the single USB-C to USB-A cable is required between the Xiegu DE-19 and your PC.



### 14.2.2 Connect Xiegu G90 via CE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu G1M or the one that comes with the Xiegu GPA100 to connect the ACC port on backside of the Xiegu G90 with the port labelled 'FROM X5105' of the Xiegu CE-19. Connect the Xiegu CE-19 port labelled 'TO XPA125' to the Xiegu GPA100 port labelled 'ACC' via a miniDIN6 cable. A coax antenna cable connects the SO-239 socket on the backside of the Xiegu G90 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.

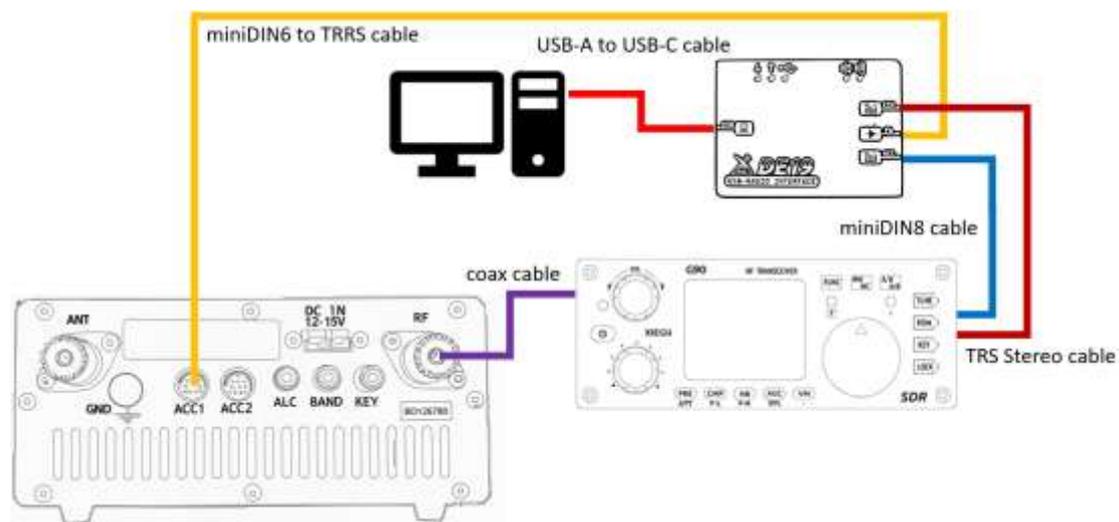


If you plan to use digital modes, you can create the required cables for audio-in and audio-out using the cables and plugs that came with the Xiegu CE-19 and connect those to the port labelled 'AF CON' of the Xiegu CE-19.

For CAT-control use the programming cable that came with your Xiegu G90 and connect it to the COM-port on the left-hand side of the G90 display-unit and to a USB-A port of your PC.

### 14.2.3 Connect Xiegu G90 via DE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu G90 or the one that comes with the Xiegu GPA100 to connect the ACC port on the back of the Xiegu G90 to the port labelled 'ACC' of a Xiegu DE-19. Connect the Xiegu DE-19 port labelled 'PA' to the Xiegu GPA100 port labelled 'ACC' via the TRRS to miniDIN6 cable that came with the DE-19 or the one that comes with the GPA100. A coax antenna cable connects the SO-239 socket on the backside of the Xiegu G90 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.



If you plan to use CAT control, connect the Xiegu DE-19 connector labelled 'CIV' to the COM port on the left-hand side of the G90 display unit using the 3.5mm TRS Stereo cable that came with the Xiegu DE-19. Connect the USB-C-to-USB-A cable that came with the Xiegu DE-19 to a USB-A port of your PC.

CAT-control as well as audio-in and audio-out are all included within the Xiegu DE-19. Only the single USB-C to USB-A cable is required between the Xiegu DE-19 and your PC.

## 14.3 Connecting a Xiegu G106 to the GPA100

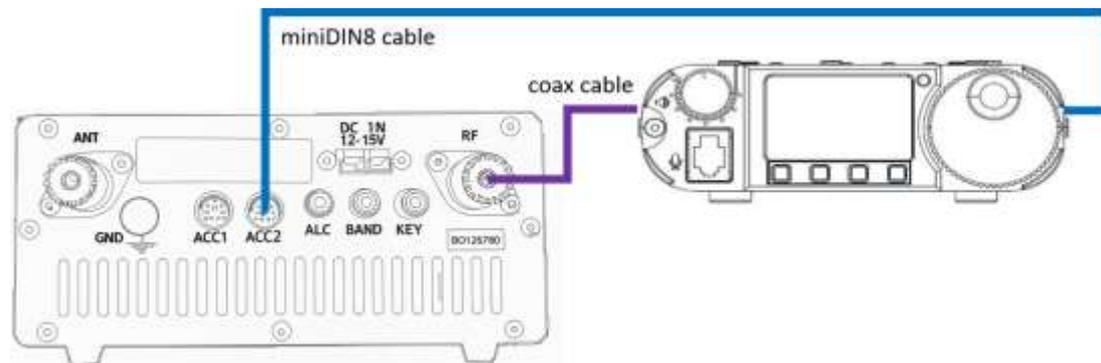
A Xiegu G106 can be connected directly to the Xiegu GPA100 or by using a Xiegu CE-19 or DE-19 interface.

After connection, the Xiegu G106 can automatically control the band switching of Xiegu GPA100. At the same time, ALC control will be established between the radio and the Xiegu GPA100. When the output power from the Xiegu G106 to the Xiegu GPA100 exceeds the limit, the output power of the Xiegu G106 will be automatically reduced to maintain a constant output power of Xiegu GPA100.

We recommend that you set the output power of Xiegu G106 to 2~5W.

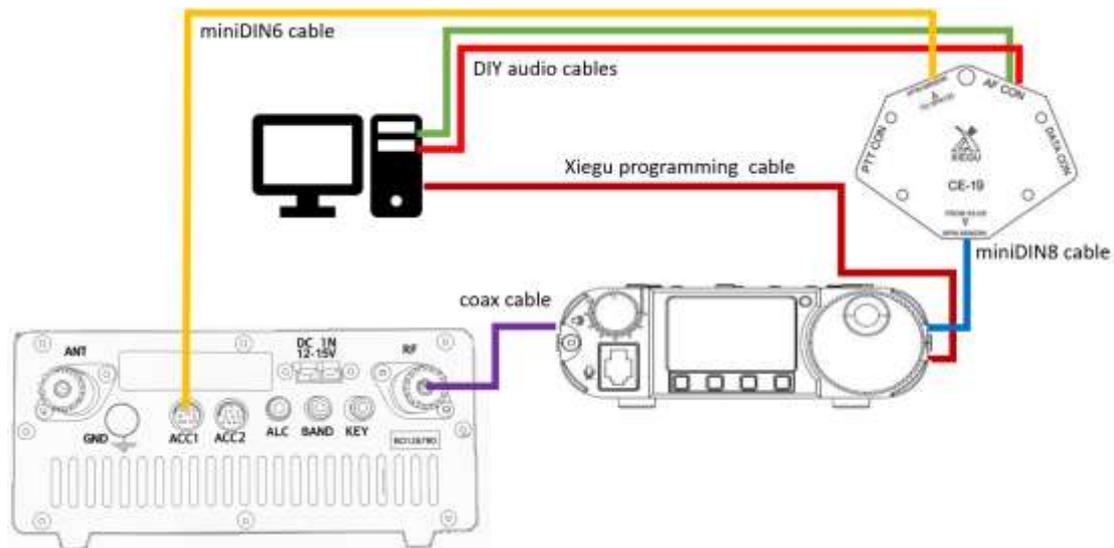
### 14.3.1 Connect G106 directly to GPA100

To establish a direct connection between the Xiegu G106 and the port labelled 'ACC2' of the Xiegu GPA100 you only need the miniDIN8 cable that came with the Xiegu G106 or the one that comes with the Xiegu GPA100.



### 14.3.2 Connect Xiegu G106 via CE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu G1M or the one that comes with the Xiegu GPA100 to connect the ACC port on right-hand side of the Xiegu G106 with the port labelled 'FROM X5105' of the Xiegu CE-19. Connect the Xiegu CE-19 port labelled 'TO XPA125' to the Xiegu GPA100 port labelled 'ACC' via a miniDIN6 cable. A coax antenna cable connects the male BNC socket on the backside of the Xiegu G106 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.

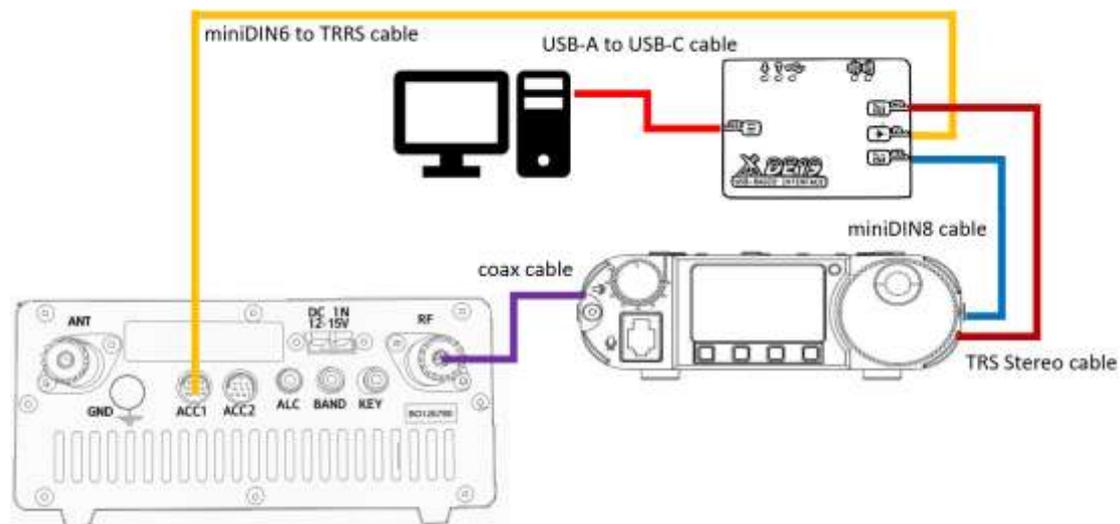


If you plan to use digital modes, you can create the required cables for audio-in and audio-out using the cables and plugs that came with the Xiegu CE-19 and connect those to the port labelled 'AF CON' of the Xiegu CE-19.

For CAT-control use the programming cable that came with your Xiegu G106 and connect it to the COM-port on the backside of the Xiegu G106 and to a USB-A port of your PC.

### 14.3.3 Connect Xiegu G106 via DE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu G1M or the one that comes with the Xiegu GPA100 to connect the ACC port on the back of the Xiegu G106 to the port labelled 'ACC' of a Xiegu DE-19. Connect the Xiegu DE-19 port labelled 'PA' to the Xiegu GPA100 port labelled 'ACC1' via the TRRS to miniDIN6 cable that came with the DE-19 or the one that comes with the GPA100e. A coax antenna cable connects the male BNC socket on the backside of the Xiegu G106 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.



If you plan to use CAT-control, connect the port labelled 'CIV' of the Xiegu DE-19 to the port labelled 'COM' of the Xiegu G106 using the 3.5mm TRS Stereo cable that came with the Xiegu DE-19. Connect the USB-C-to-USB-A cable that came with the Xiegu DE-19 to a USB-A port of your PC.

CAT-control as well as audio-in and audio-out are all included within the Xiegu DE-19. Only the single USB-C to USB-A cable is required between the Xiegu DE-19 and your PC.

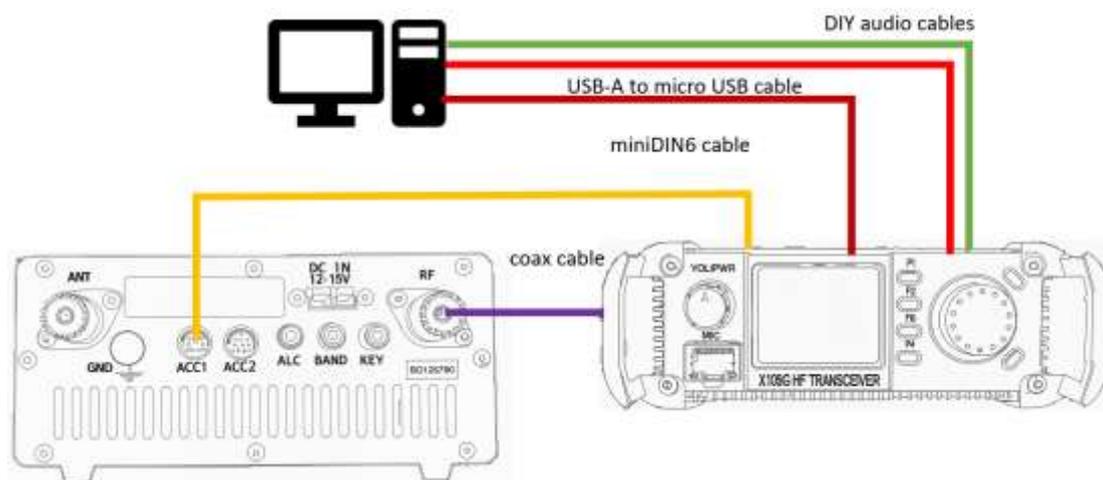
## 14.4 Connecting a Xiegu X108G to the GPA100

Connect the 6-pin ACC port on back side of the Xiegu X108G directly to the Xiegu GPA100 port labelled 'ACC1' via a miniDIN6 cable.

After connection, the Xiegu X108G can automatically control the band switching of Xiegu GPA100. At the same time, ALC control will be established between the Xiegu X108G and the Xiegu GPA100. When the output power from the Xiegu X108G to the Xiegu GPA100 exceeds the limit, the output power of the Xiegu X108G will be automatically reduced to maintain a constant output power of Xiegu GPA100.

We recommend that you set the output power of Xiegu X108G to 2~5W.

A coaxial antenna cable connects the SO-239 connector labelled 'ANT' on the back of the Xiegu X108G to the 'RF' connector on the Xiegu GPA100, while your antenna connects to the SO-239 connector labelled 'ANT' on the Xiegu GPA100.



If you plan to use digital modes, you can create the required cables for audio-in and audio-out using one audio cable that connects the PC port for line-in (connect both channels) to the SPK jack on the backside of the Xiegu X108G and using another audio cable to connect the PC port for line-out/speaker (but for those only use one of the two Stereo channels) to ACC port (pin 5) of the Xiegu X108G. That will require a custom made cable for connecting the Xiegu GPA100 with the Xiegu X108G.

For CAT-control use a USB-A to micro-USB cable and connect the USB-A side to your PC and the micro-USB side to the Xiegu X108G port labelled 'USB'.

## 14.5 Connecting a Xiegu X5105 to the GPA100

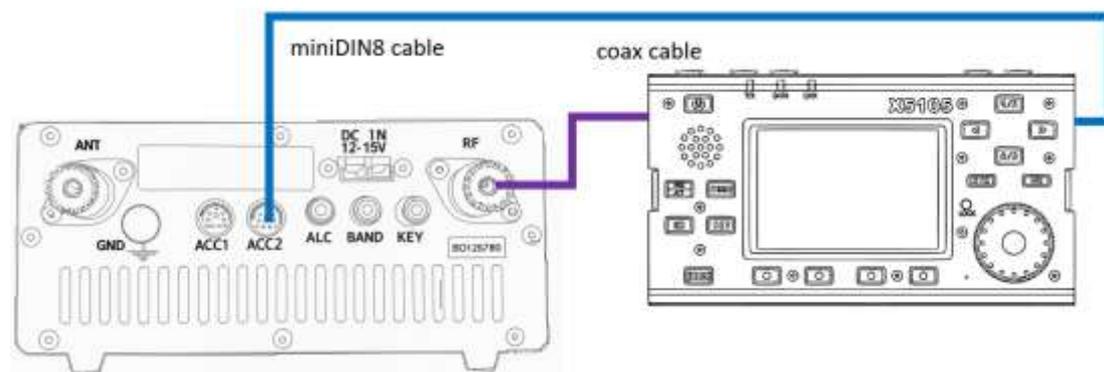
A Xiegu X5105 can be connected directly to the Xiegu GPA100 or by using a Xiegu CE-19 or DE-19 interface.

After connection, the Xiegu X5105 can automatically control the band switching of Xiegu GPA100. At the same time, ALC control will be established between the Xiegu X5105 and the Xiegu GPA100. When the output power from the Xiegu X5105 to the Xiegu GPA100 exceeds the limit, the output power of the Xiegu X5105 will be automatically reduced to maintain a constant output power of Xiegu GPA100.

We recommend that you set the output power of Xiegu X5105 to 2~5W.

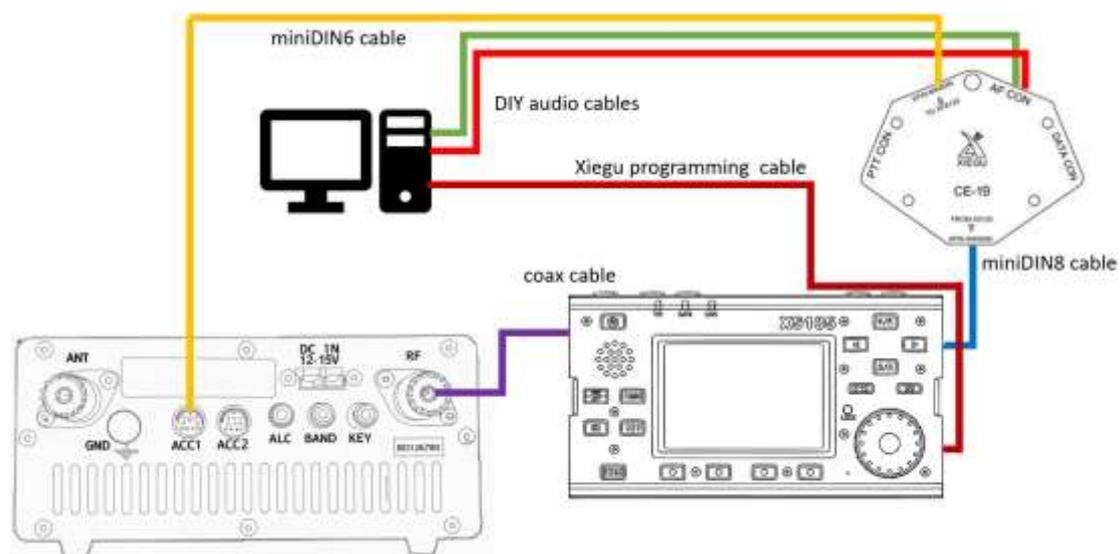
### 14.5.1 Connect X5105 directly to GPA100

To establish a direct connection between the Xiegu X5105 and the port labelled 'ACC2' of the Xiegu GPA100 you only need the miniDIN8 cable that came with the Xiegu X5105 or the one that comes with the Xiegu GPA100.



### 14.5.2 Connect X5105 via CE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu X5105 or the one that comes with the Xiegu GPA100 to connect the ACC port on the right-hand side of the Xiegu X5105 with the port labelled 'FROM X5105' of the Xiegu CE-19. Connect the Xiegu CE-19 port labelled 'TO XPA125' to the Xiegu GPA100 port labelled 'ACC1' via a miniDIN6 cable. A coax antenna cable connects the male BNC socket on the left-hand side of the Xiegu X5105 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.

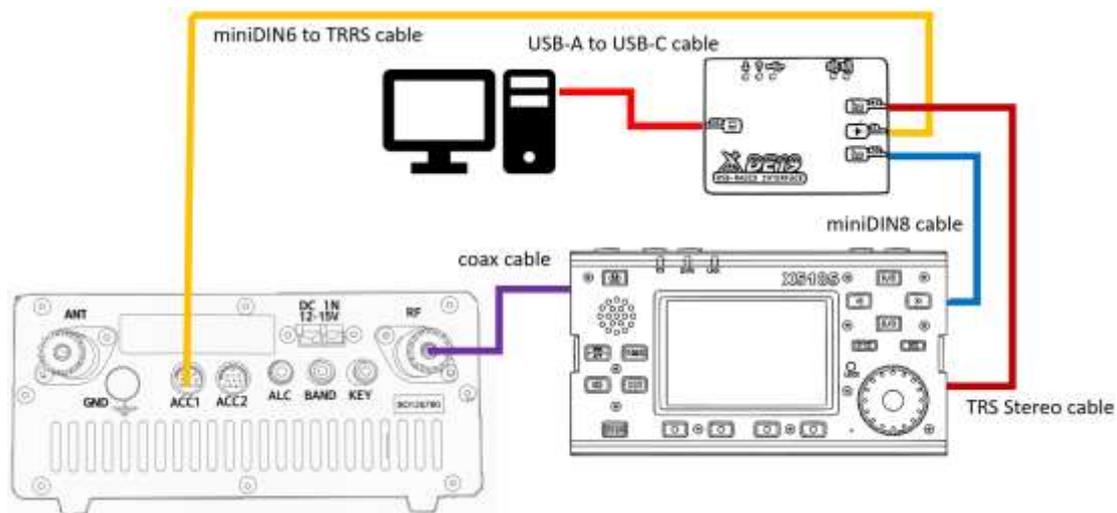


If you plan to use digital modes, you can create the required cables for audio-in and audio-out using the cables and plugs that came with the Xiegu CE-19 and connect those to the port labelled 'AF CON' of the Xiegu CE-19.

For CAT-control use the programming cable that came with your Xiegu X5105 and connect it to the COM-port on right-hand side of the Xiegu X5105 and to a USB-A port of your PC.

### 14.5.3 Connect X5105 via DE-19 to GPA100

Use the miniDIN8 cable that came with the Xiegu X5105 or the one that comes with the Xiegu GPA100 to connect the ACC port on right-hand side of the Xiegu X5105 with the port labelled 'ACC' of the Xiegu DE-19. Connect the Xiegu DE-19 port labelled 'PA' to the Xiegu GPA100 port labelled 'ACC1' via the TRRS to miniDIN6 cable that came with the DE-19 or the one that comes with the GPA100. A coax antenna cable connects the male BNC socket on the left-hand side of the Xiegu X5105 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.

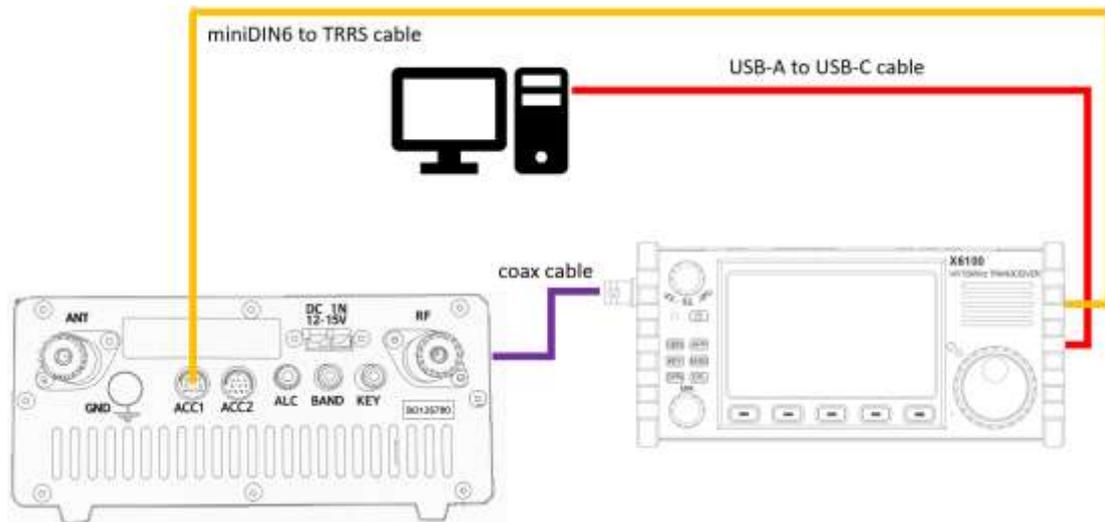


If you plan to use CAT-control, connect the port labelled 'CIV' of the Xiegu DE-19 to the port labelled 'COM' of the Xiegu X5105 using the 3.5mm TRS Stereo cable that came with the Xiegu DE-19. Connect the USB-C-to-USB-A cable that came with the Xiegu DE-19 to a USB-A port of your PC.

CAT-control as well as audio-in and audio-out are all included within the Xiegu DE-19. Only the single USB-C to USB-A cable is required between the Xiegu DE-19 and your PC.

## 14.6 Connecting a Xiegu X6100 to the GPA100

For connecting a Xiegu X6100 to the Xiegu GPA100 you only need the TRRS to miniDIN6 cable that came with the DE-19 or the one that comes with the GPA100 that connects with its 4 pin 3.5mm TRRS plug to the port labelled 'ACC' of the Xiegu X6100 and with its miniDIN6 side to the Xiegu GPA100 port labelled 'ACC1'. A coax antenna cable connects the male BNC socket on the left-hand side of the Xiegu X6100 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.



The Xiegu X6100 can automatically control the band switching of Xiegu GPA100. At the same time, ALC control will be established between the two machines. When the output power from Xiegu X6100 to Xiegu GPA100 exceeds the limit, the output power of the Xiegu X6100 will be automatically reduced to make the output power of the Xiegu GPA100 constant.

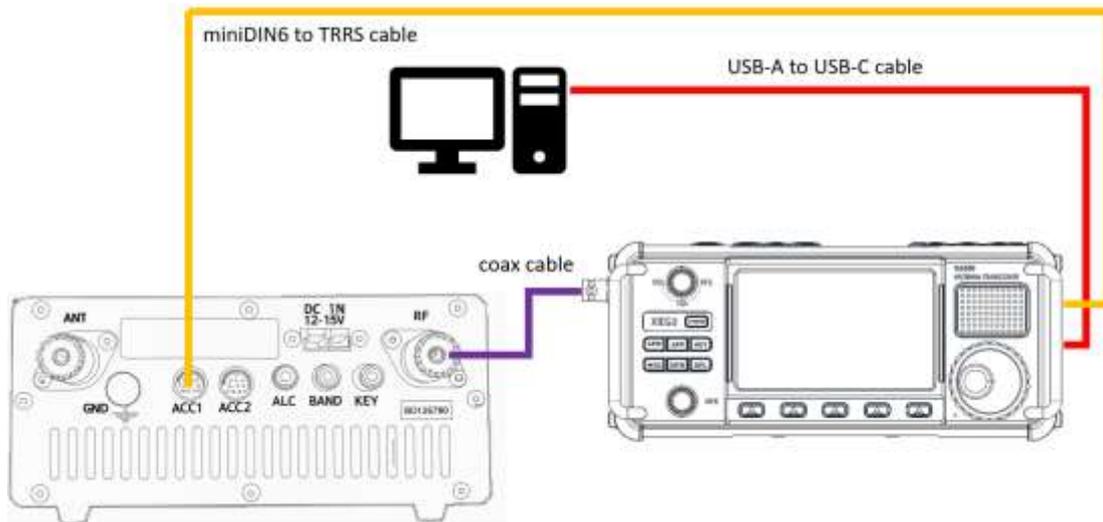
**Notes:** After the Xiegu GPA100 is connected to the X6100, please make sure that automatic band selection of the Xiegu GPA100 is activated ('A' is displayed in the lower left corner of the screen) and the channel selection for automatic band selection is set for 'ACC' (press and hold AUTO to enter channel selection). Otherwise, the working band may not match, resulting in abnormal phenomena such as no transmission power. See section 10.2.1.1 'Select source for auto band selection' for more details.

CAT-control as well as audio-in and audio-out are all included within the Xiegu X6100. Only the single USB-C to USB-A cable is required between the Xiegu X6100 port labeled 'DEV' and a USB-A port of the PC.

**Notes:** If the PC does not have any USB-A port but only USB-C ports, you may need an additional USB-C (plug) to USB-A (socket) OTG cable.

## 14.7 Connecting a Xiegu X6200 to the GPA100

For connecting a Xiegu X6200 to the Xiegu GPA100 you only need the TRRS to miniDIN6 cable that came with the DE-19 or the one that comes with the GPA100 that connects with its 4 pin 3.5mm TRRS plug to the port labelled 'ACC' of the Xiegu X6200 and with its miniDIN6 side to the Xiegu GPA100 port labelled 'ACC1'. A coax antenna cable connects the male BNC socket on the left-hand side of the Xiegu X6200 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.



The Xiegu X6200 can automatically control the band switching of Xiegu GPA100. At the same time, ALC control will be established between the two machines. When the output power from Xiegu X6200 to Xiegu GPA100 exceeds the limit, the output power of the Xiegu X6200 will be automatically reduced to make the output power of the Xiegu GPA100 constant.

**Notes:** After the Xiegu GPA100 is connected to the X6200, please make sure that automatic band selection of the Xiegu GPA100 is activated ('A' is displayed in the lower left corner of the screen) and the channel selection for automatic band selection is set for 'ACC' (press and hold AUTO to enter channel selection). Otherwise, the working band may not match, resulting in abnormal phenomena such as no transmission power. See section 10.2.1.1 'Select source for auto band selection' for more details.

CAT-control as well as audio-in and audio-out are all included within the Xiegu X6200. Only the single USB-C to USB-A cable is required between the Xiegu X6200 port labeled 'DEV' and a USB-A port of the PC.

**Notes:** If the PC does not have any USB-A port but only USB-C ports, you may need an additional USB-C (plug) to USB-A (socket) OTG cable.

## 15 Connecting an IC-705 to the GPA100

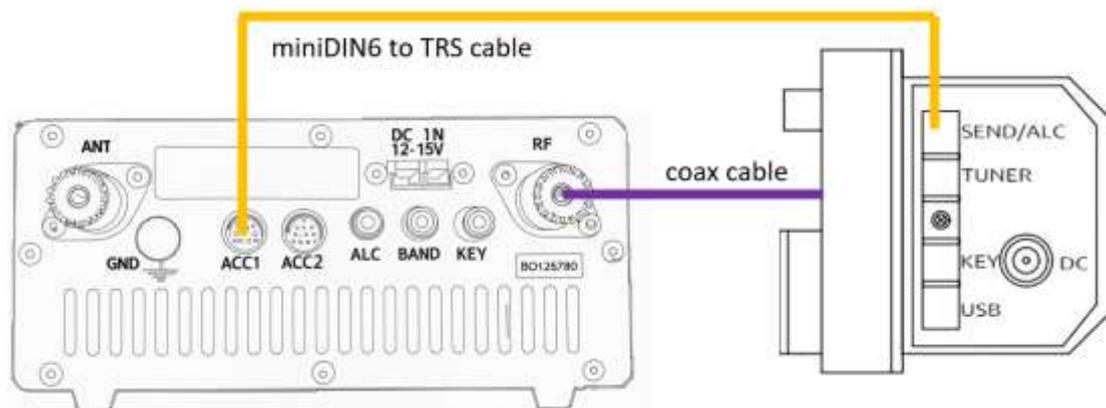
There are two options for connecting an ICOM IC-705 to the Xiegu GPA100. You can either control the Xiegu GPA100 by the IC-705 using a cable or using a Bluetooth connection between the two.

You need to manually select the working band at the Xiegu GPA100 if you control the Xiegu GPA100 by the IC-705 using a cable. If you control the Xiegu GPA100 via Bluetooth, PTT and bandswitching are supported. Besides that, the GPA100 will automatically be set to bypass-mode whenever the IC-705 transmits on 2m or 70cm. We recommend to use Bluetooth control when connecting a Xiegu GPA100 to the IC-705.

Both options require a coax antenna cable to connect the male BNC socket on the left-hand side of the IC-705 with the SO-239 socket of the Xiegu GPA100 labelled 'RF' whereas your antenna connects to the SO-239 socket of the Xiegu GPA100 labelled 'ANT'.

### 15.1 Control Xiegu GPA100 by IC-705 via cable

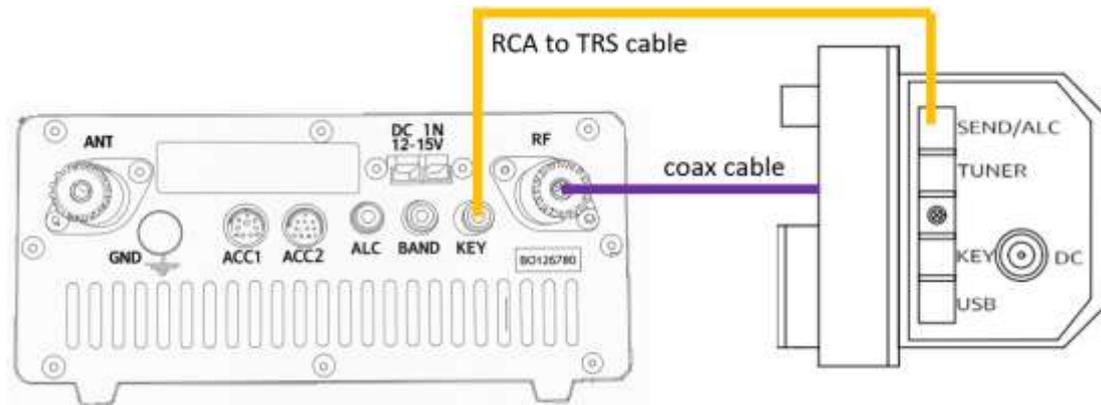
If you control the Xiegu GPA100 by the IC-705 via a cable as described below, the only signal between the two is PTT.



GPA100 ACC1 pin	GPA100 signal	IC-705 TRS pin	IC-705 signal
2	PTT-input	Tip	SEND I/O
6	GND	Sleeve	Ground

**Important note:** *Never connect the ALC-output of the Xiegu GPA100 to the ALC input of the IC-705. The Xiegu GPA100 outputs a positive ALC voltage of 0 ... 3.2V whereas the IC-705 requires a negative ALC input voltage of -4 ... 0V.*

Alternatively you can use the RCA input jack named 'KEY' at the Xiegu GPA100.



GPA100 KEY	GPA100 signal	IC-705 TRS pin	IC-705 signal
Pin	PTT-input	Tip	SEND I/O
Sleeve	GND	Sleeve	Ground

**Notes:** Make sure that the cable has a TRS plug on one side as a TS-plug would shorten the ALC-input of the IC-705 to GND.

## 15.2 Control Xiegu GPA100 by IC-705 via Bluetooth

If you control the Xiegu GPA100 by the IC-705 via Bluetooth, PTT and band switching are supported. Besides that, the GPA100 will automatically be set to bypass-mode whenever the IC-705 transmits on 2m or 70cm.

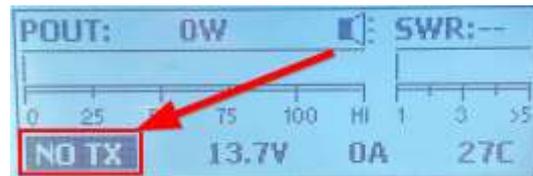
1. Press the [BT] button briefly to activate pairing mode of the Xiegu GPA100. The status-LED within the [BT] button will start flashing fast. 
2. Use the ICOM IC-705 to search for Bluetooth, find the Bluetooth device named 'XG\_GPA100' and connect your ICOM IC-705 to this device using Pairing Pin '0000'.
3. As soon as a connection to the ICOM IC-705 has been established, the Bluetooth status-LED of the Xiegu GPA100 will permanently be on.
4. Long press the [AUTO] button to enter the menu for defining the source for auto band selection.



5. Move the cursor  to 'Bluetooth Channel' using the corresponding buttons [1.8] for UP and [3.5] for DOWN.
6. Select 'Bluetooth Channel' by clicking the [5/7] button for 'OK'.

7. Click on the [10/14] button to save your selection and EXIT to the main interface.
8. Make sure that automatic band selection of the Xiegu GPA100 is activated ('A' is displayed in the lower left corner of the screen). Otherwise, the working band may not match, resulting in abnormal phenomena such as no transmission power. See section 10.2.1 'Automatic band selection' for more details.
9. After returning to the main interface, use the ICOM IC-705 to switch the band and observe whether the wavelength in the lower left corner of the GPA100 panel display is updated synchronously. If the connection is successful.

Whenever the IC-705 is operating on 2m or 70cm (both are not supported by the Xiegu GPA100), the Xiegu GPA100 will automatically be switched to bypass-mode. This is indicated by **NO TX** in the lower left corner of the Xiegu GPA100 display.



**Notes:** As soon as the Xiegu GPA100 has been turned off, you will again need to perform the pairing of the IC-705 to the Xiegu GPA100 when again using the Xiegu GPA100 with your IC-705 as the Bluetooth connection credentials can not be saved on the Xiegu GPA100. If you just turn off the IC-705 and turn it on later, the connection will automatically be re-established.

## 16 Connecting other radios to the GPA100

The Xiegu GPA100 can also be used with radios of brands other than Xiegu. However, a few points need to be observed. The electrical connection of the Xiegu GPA100 ALC, BAND and Key ports is shown in section 8.3 'Electrical connection diagrams for the Xiegu GPA100'. These voltages need to be compatible with the driving radio. The Xiegu CE-19 adapter interface can often be used for interfacing to non-Xiegu radios as well as to Xiegu radios.

### 16.1 Limitation of driving output power from connected radio

The output power of the radio driving the Xiegu GPA100 should not exceed 5W to protect the Xiegu GPA100 input circuits. If the driving radio cannot have its output power reduced to this level appropriate RF attenuators must be used an/or you may activate the built-in attenuator of the Xiegu GPA100 (see section 10.4 'Attenuator' for details) to decrease the input power level to the Xiegu GPA100.

### 16.2 BAND control input

BAND selection either needs to be set manual as explained in section 10.2.2 'Manual band selection' or the connected transceiver needs to provide the proper voltage level at the BAND control input jack for automatic band selection as described in section 10.2.1 'Automatic band selection'.

The following table lists the voltages and their corresponding band:

Band	Voltage	Band	Voltage	Band	Voltage
160m 1.8 MHz	230mV	30m 10 MHz	1150mV	12m 24 MHz	2070mV
80/75m 3,5 MHz	460mV	20m 14 MHz	1380mV	10m 28 MHz	2300mV
60m 5,0 MHz	690mV	17m 18 MHz	1610mV	6m 50 MHz	2530mV
40m 7,0 MHz	920mV	15m 21 MHz	1840mV		

### 16.3 PTT control input

To switch the Xiegu GPA100 from RX to TX, the PTT control input labelled 'KEY' on the Xiegu GPA100 needs to be connected to an input level below 0.7V, e.g., to GND. And input high level of more than 1.2V will set the Xiegu GPA100 to receive state (RX).

**Notes:** *The Xiegu GPA100 does not support RF auto-sensing.*

If the PTT output signal of the transceiver is not at Earth potential it needs to be converted (e.g., through a small relay) to a low level, and then can be connected to the GPA100 PTT control input port labelled 'KEY'.

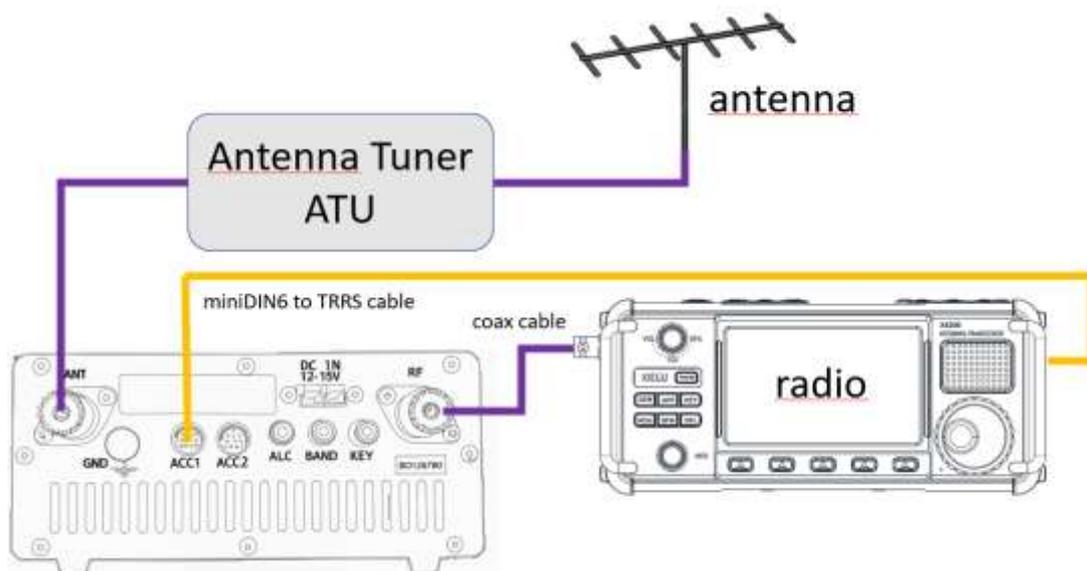
**Notes:** *If an external voltage of  $\geq 3.2V$  is applied to the PTT port of the GPA100, the internal processor will be permanently damaged!*

### 16.4 ALC control output

The ALC (**A**utomatic **L**evel **C**ontrol) output signal available at [ACC] pin 4 of the Xiegu GPA100 can be used to control the output power of the radio driving the Xiegu GPA100 this will prevent signal clipping through over-driving the Xiegu GPA100. The ALC signal ensures that the output power of the Xiegu GPA100 will be safely maintained at around 100 W.

### 16.5 Antenna tuner

The Xiegu GPA100 does not have an internal antenna tuner. The Xiegu GPA100 needs to be connected either to a matching antenna or an antenna tuner, such as the Radioddity ATU-100, needs to be inserted between the Xiegu GPA100 and the antenna.



## 17 Updating the Xiegu GPA100 firmware

Before you start to update the Xiegu GPA100 carefully read this complete section.

**Note:** *Never update your Xiegu GPA100 if it is not really necessary, or in other words:*

***Don't fix it if it's not broken!***

*This cannot be emphasized often enough. To update the Xiegu GPA100, only use the software found on our support page. Before carrying out an update, make sure that the release package is still available for download on our support page. All software updates for the Xiegu GPA100 are supplied with 'Release Notes'.*

***Please carefully read the 'Release Notes' and all documents contained in the firmware archive before applying the change!***

Updating the Xiegu GPA100 is done via Bluetooth: This requires a PC that supports serial communication via Bluetooth and a terminal program (such as Tera Term) that is also capable of doing XMODEM transfers at 115200 bps with 1k block size.

**Notes:** *The Xiegu GPA100 must be connected to a stable 13.8V power supply during the entire update process in order to update the firmware.*

### 17.1 Preparation for update process

To update the Xiegu GPA100 you need:

- Xiegu GPA100
- A personal computer that supports serial communication via Bluetooth
- A Terminal program, such as Tera Term, that communicates via the computer`s Bluetooth virtual serial port to the GPA100 and runs on the OS you are using on your PC.
- A stable 12-15V DC power supply

### 17.1.1 Get the firmware archive

All firmware updates for the Xiegu GPA100 and freely available manuals can be found in the support section of our official Radioddity website by following these steps: <https://www.radioddity.com/> → Support → Xiegu → GPA100



Download the latest firmware archive and unpack it to a folder of your choice. Carefully read the complete release notes that come with the update package. Normally we take the original Xiegu Release notes and check those against our own observations and add a corrected/enhanced version of the Xiegu Release Notes within a Radioddity document. Read that document as well.

### 17.1.2 Obtain Tera Term

For Intel/AMD based Windows there is a free terminal emulation program that also supports the required X-modem file transfer protocol available. It is called Tera Term. Other programs that provide a terminal emulation and 1k block size X-modem file transfer can also be used but we recommend to use Tera Term.

You find Tera Term at:

<https://github.com/TeraTermProject>

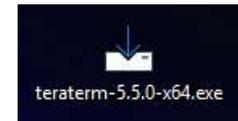
To download the current version visit:

<https://github.com/TeraTermProject/TeraTerm/releases>

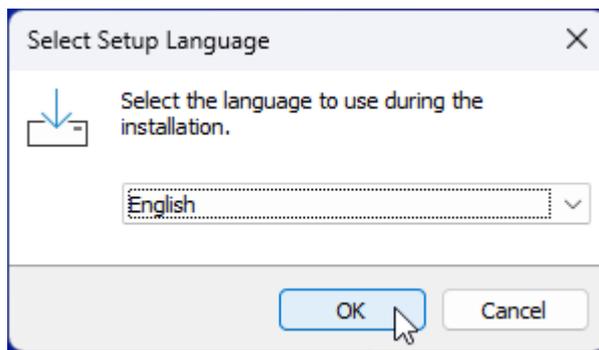
Right now, 'Tera Term Ver 5.5.0' is the most current one at the time of publishing this eBook.

### 17.1.3 Install Tera Term

If you right-click on an executable application, a selection box opens in which the option "Run as Administrator" is available.

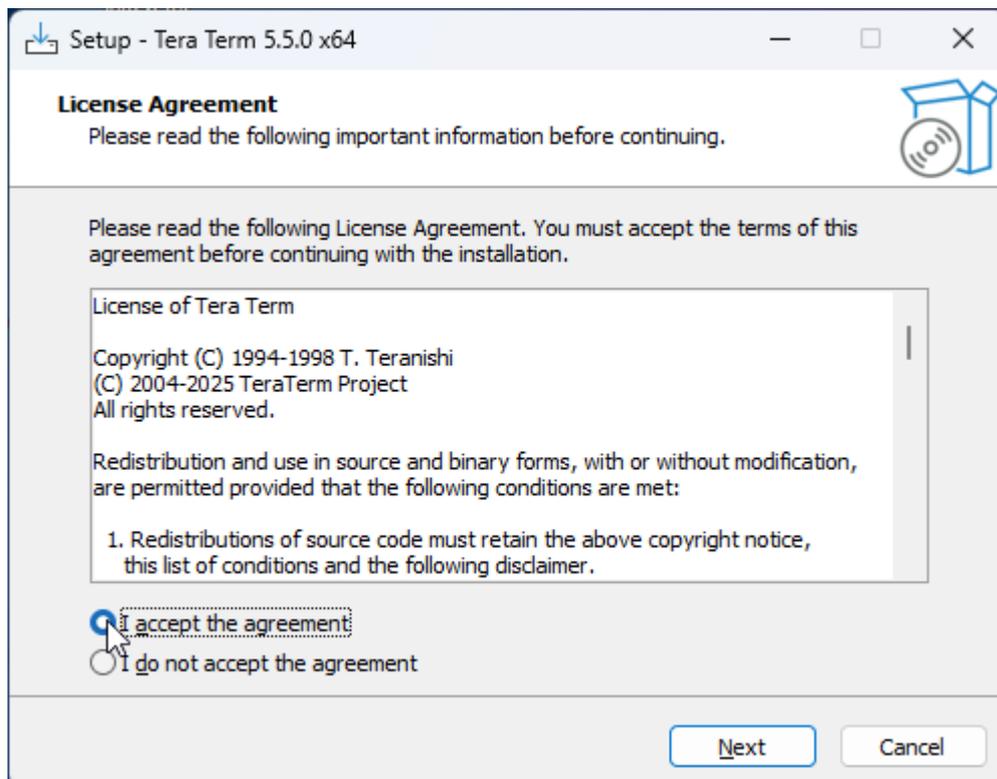


Selecting 'Run as Administrator' will ask for your permission to let the app make changes to your computer. If you are not the administrator, you will see a login screen for the administrator where that password will have to be entered.

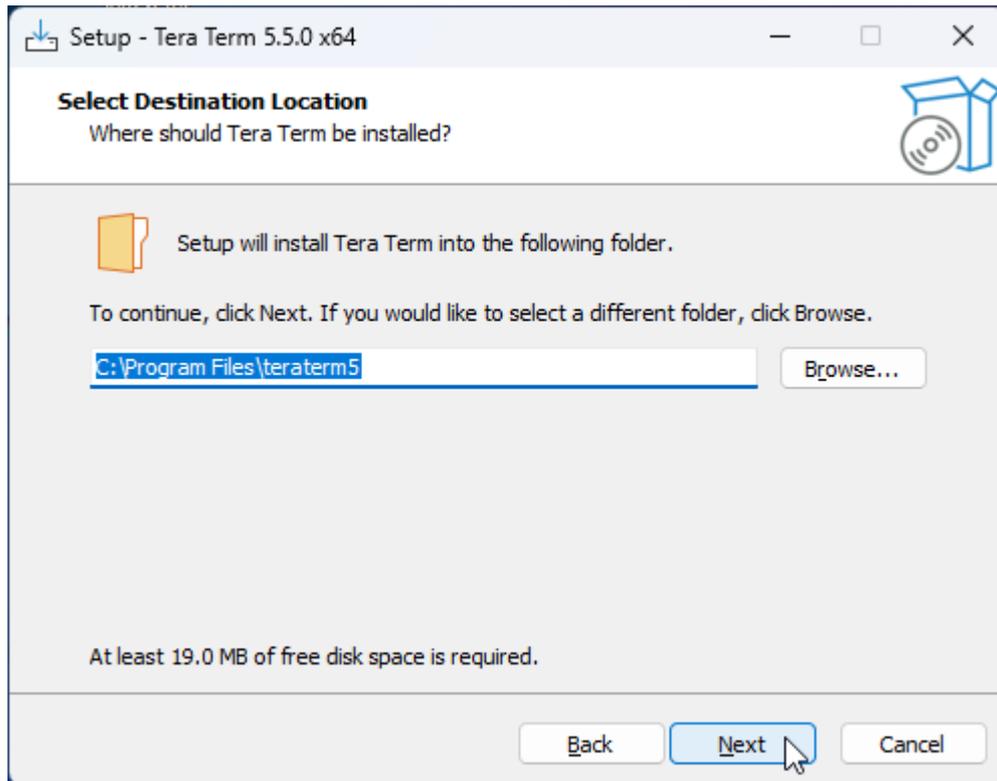


Chose the language you wish to be used during the installation process (we chose English in this example) and hit the 'OK' button.

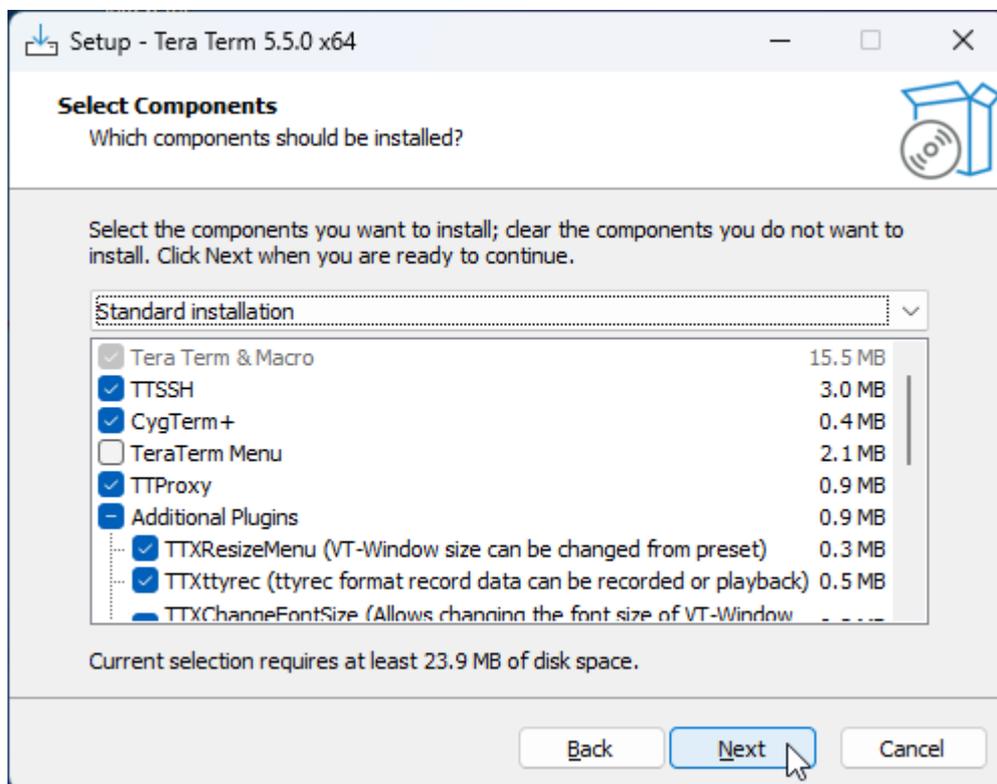
In order to be able to proceed, then select 'I accept the agreement' and click on the 'Next' button.



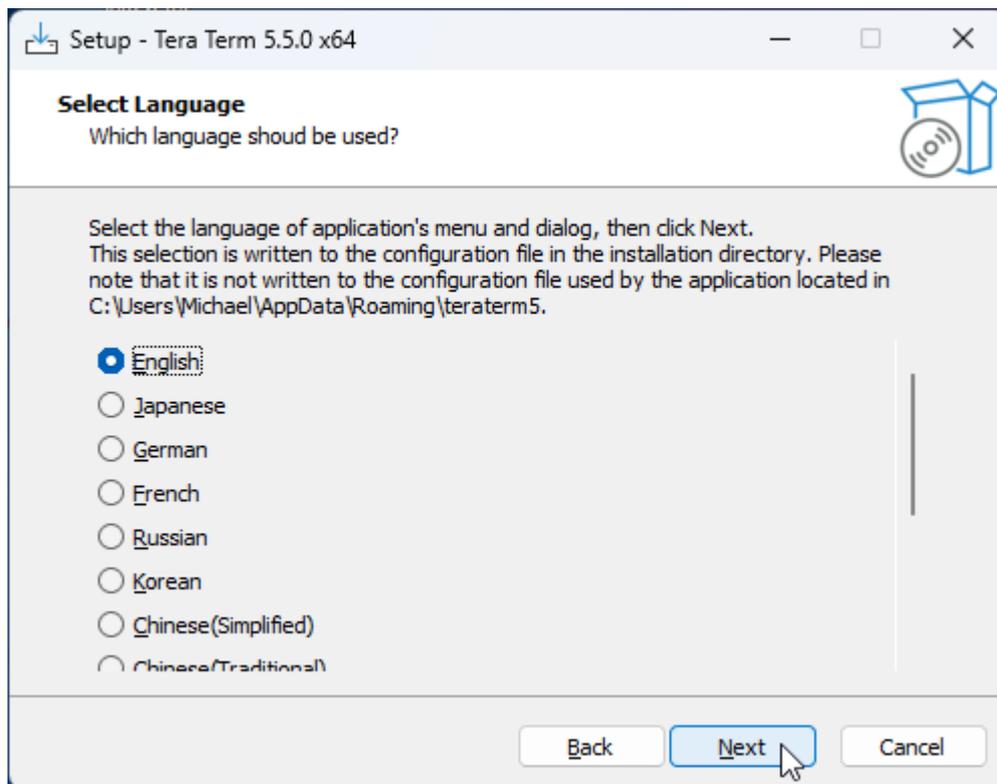
The next step allows to change the destination directory for installing Tera Term.



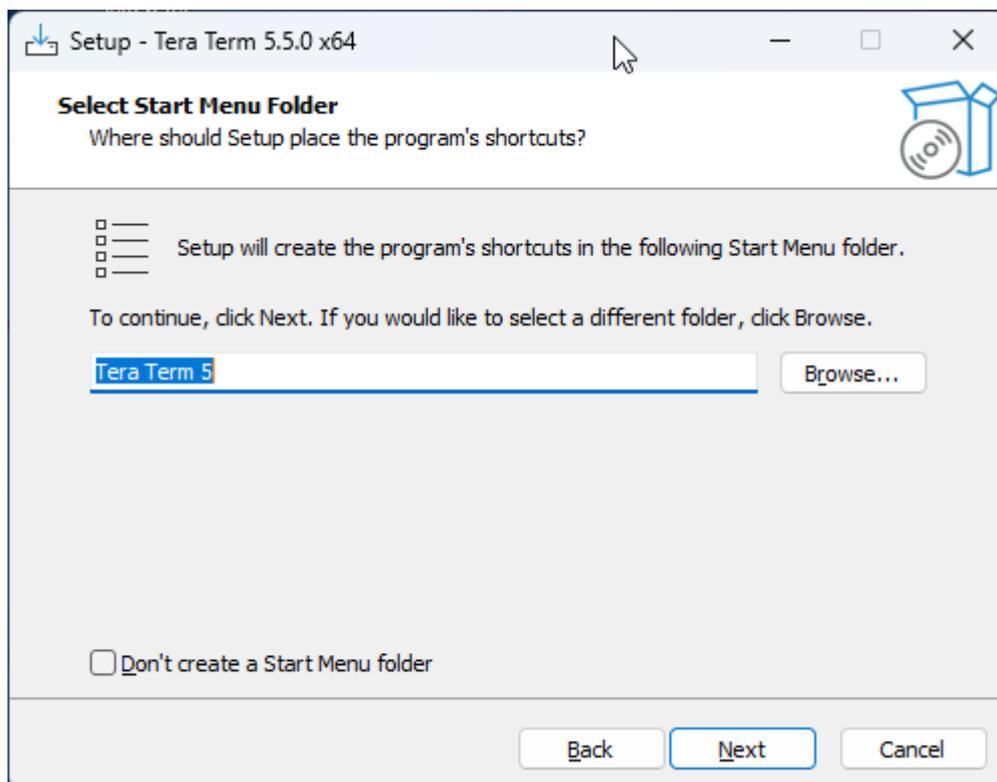
You can leave the settings on the next page as they are as you need only a very small portion of Tera Term's capabilities.



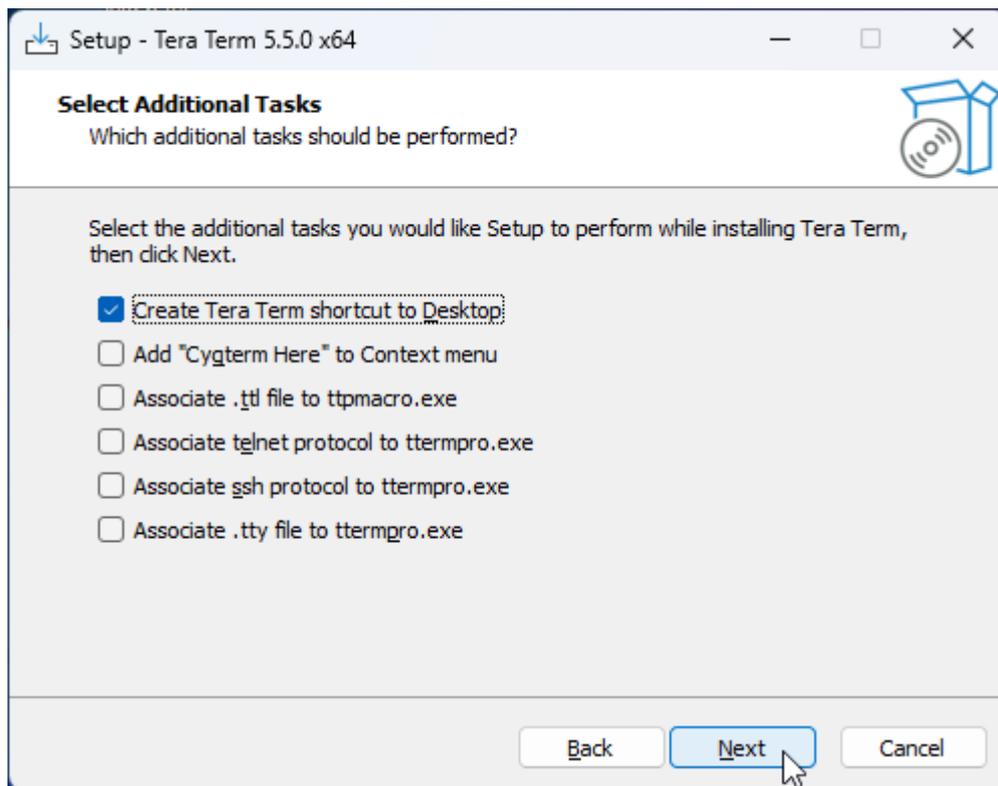
Next, you will be prompted to select the language of the Tera Term application's menu and dialogs. After you did make your selection, hit the 'Next' button to continue the installation process.



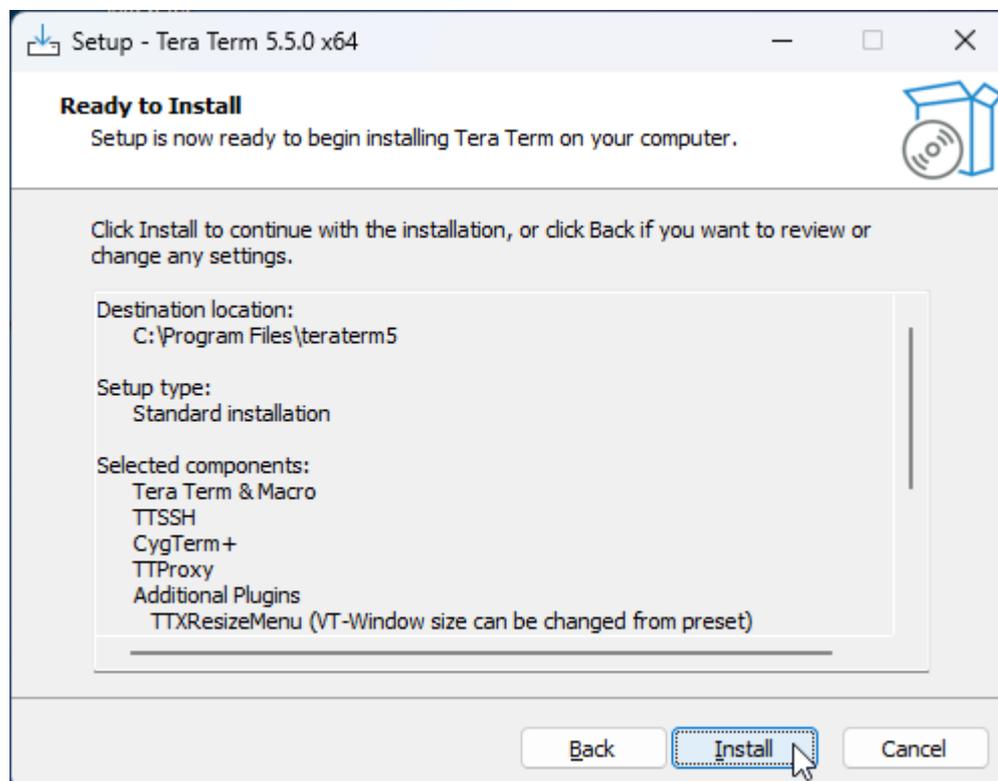
The next option defines the name of the 'Start Menu Folder' to be used for Tera Term.



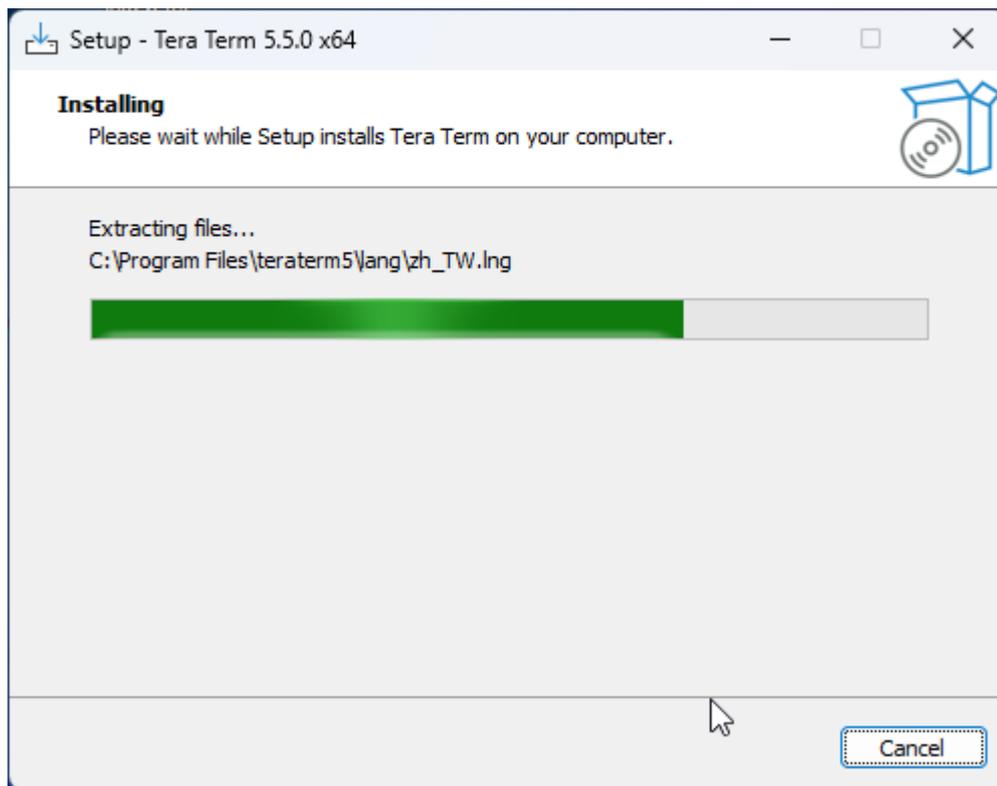
Once more you may activate additional tasks. However, the easiest is to just leave the prefilled selections untouched and just click on 'Next' to continue.



A summary of your selections will be displayed.



As soon as you confirm those by clicking on the 'Install' button, the actual installation will start.



After just a few seconds, the final installation screen will be shown and you may check the box 'Launch Tera Term' before clicking on 'Finish'.

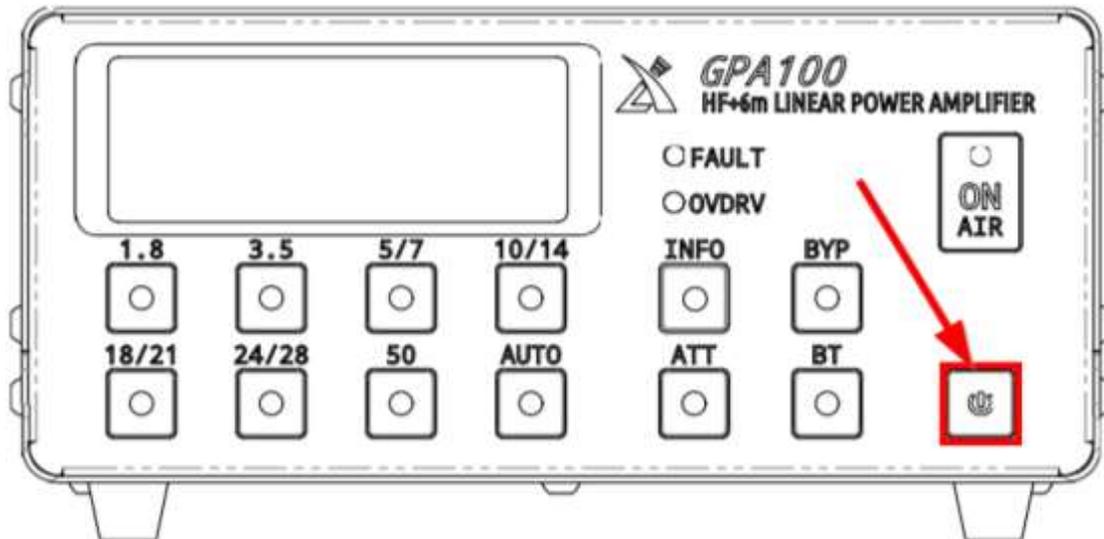


This completes the installation of Tera Term. Now you are ready to update the Xiegu GPA100.

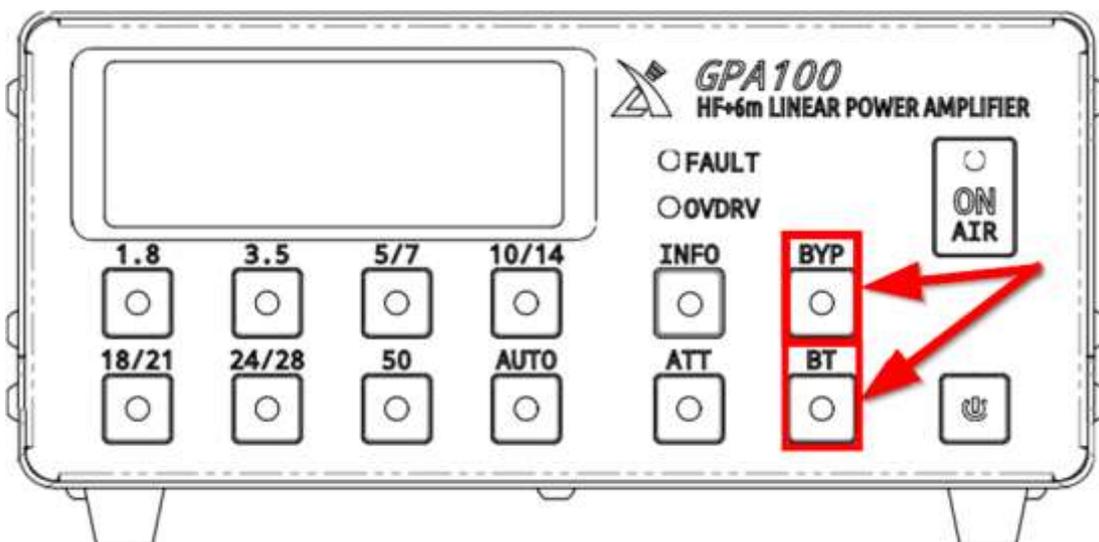
### 17.1.4 Enter firmware update mode

The GPA has a built-in bootloader. Those can be activated as indicated in the following steps. It is not possible for the user to delete the built-in bootloader. So, if your previous update failed, just start it again but make sure to stick to our instructions by the word.

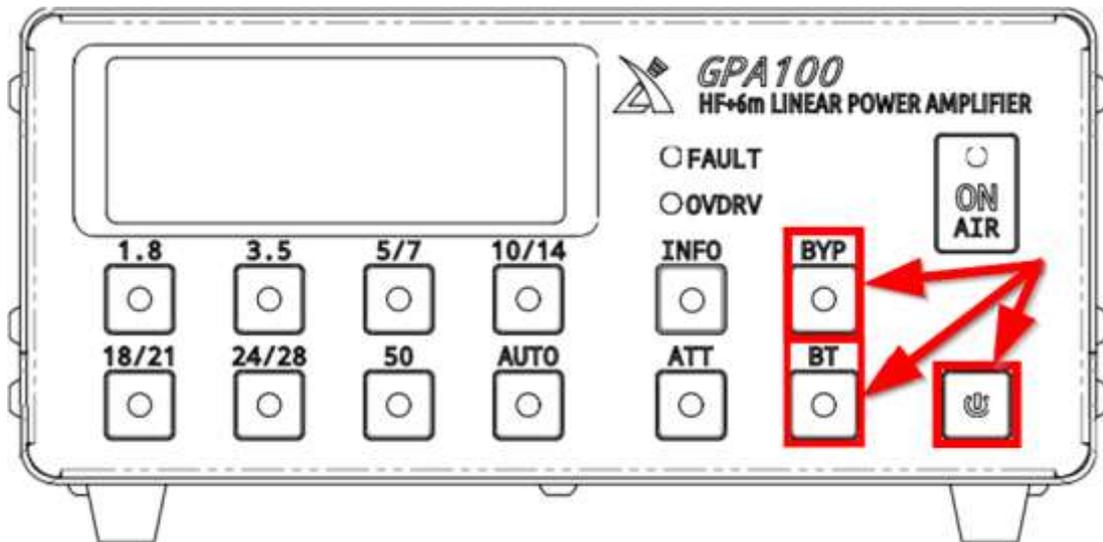
1. Power off the Xiegu GPA100



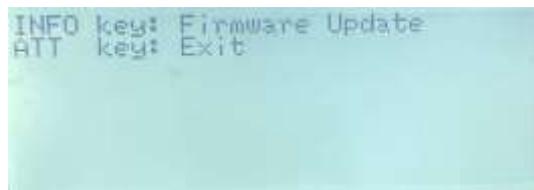
2. Disconnect the Xiegu GPA100 from its external power supply and wait a minute.
3. Reconnect the Xiegu GPA100 to its external power supply.
4. Press the [BYP] button and the [BT] button at the same time and keep them depressed.



5. Now additionally briefly press the [⏻] button on the lower right of the front panel to power on the Xiegu GPA100.



6. You will not see the normal start-up sequence as described in section 10.1.1 'Startup' but just the initial screen of the built-in bootloader.

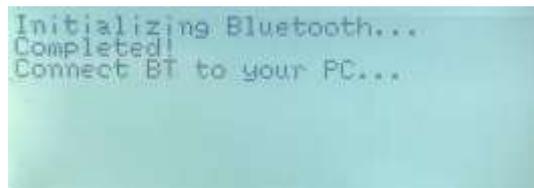


7. Press the [INFO] button to activate the built-in Bluetooth module in order to allow temporarily pairing of the Xiegu GPA100 with your PC, smartphone or tablet using Bluetooth.



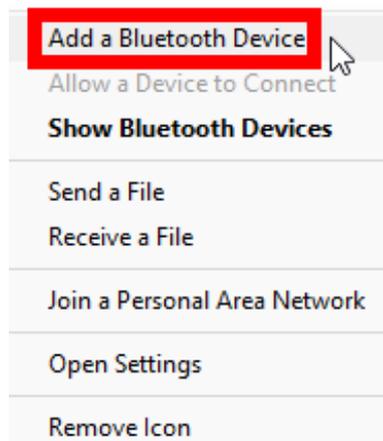
Alternatively press the [ATT] button to boot up normally and enter the default idle screen of the Xiegu GPA100 as long as you did not delete the existing firmware of the Xiegu GPA100 in a previous update attempt.

8. The built-in Bluetooth-module initializes and the yellow status-LED within the [BT] button will start flashing slowly. It will take a few seconds before you see the screen to the right.



9. Now click on the Bluetooth icon  in the Windows® status bar and select "Add a Bluetooth Device" to set the PC for BT discover mode to find the Xiegu GPA100.

Alternatively start 'Settings' on your PC and select "Bluetooth & devices" and select "Add device".



10. Click on “Show all devices”.



11. Select the discovered device 'XG\_GPA100' .

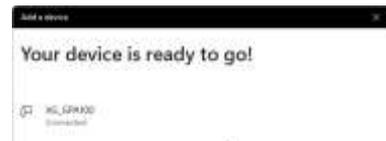


12. You will then be asked to enter the default pin of '0000'.

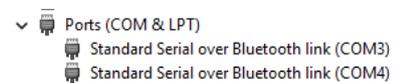


13. After you entered the default pin of '0000' click on . This will add the device to your system. The yellow status-LED within the [BT] button will continue flashing slowly.

14. Your PC is now linked to the IC-705 via Bluetooth.

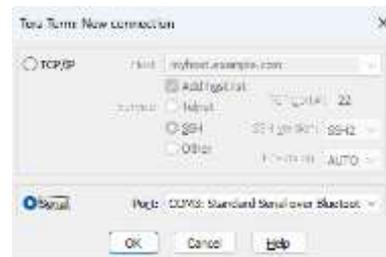


15. Windows device manager will list two additional virtual serial ports that are linked via Bluetooth.



16. Now it is time to start Tera Term or some other terminal program that is capable of doing terminal emulation and X-MODEM-transfer using 1k block size.

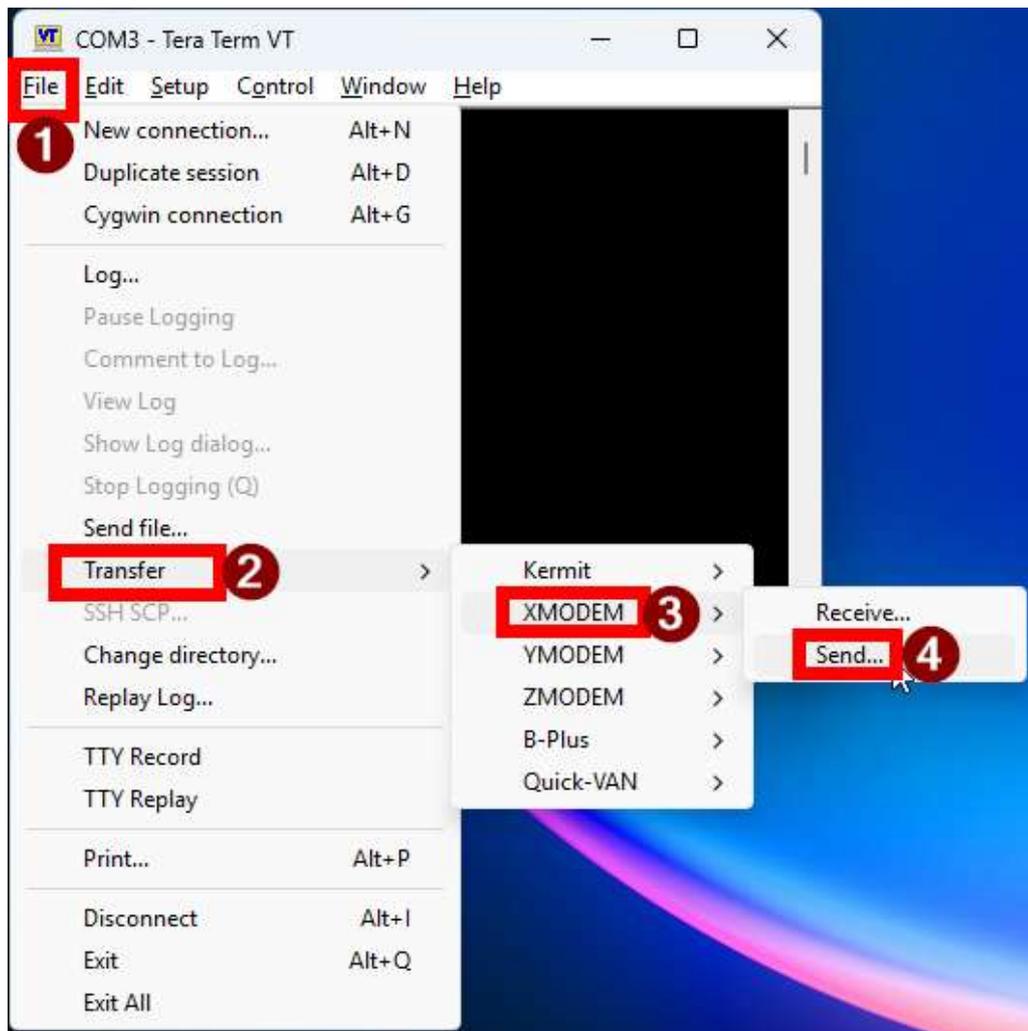
17. Set up Tera Term for establishing a serial connection and select one of the virtual COM-ports that got assigned to your Xiegu GPA100 Bluetooth connection.



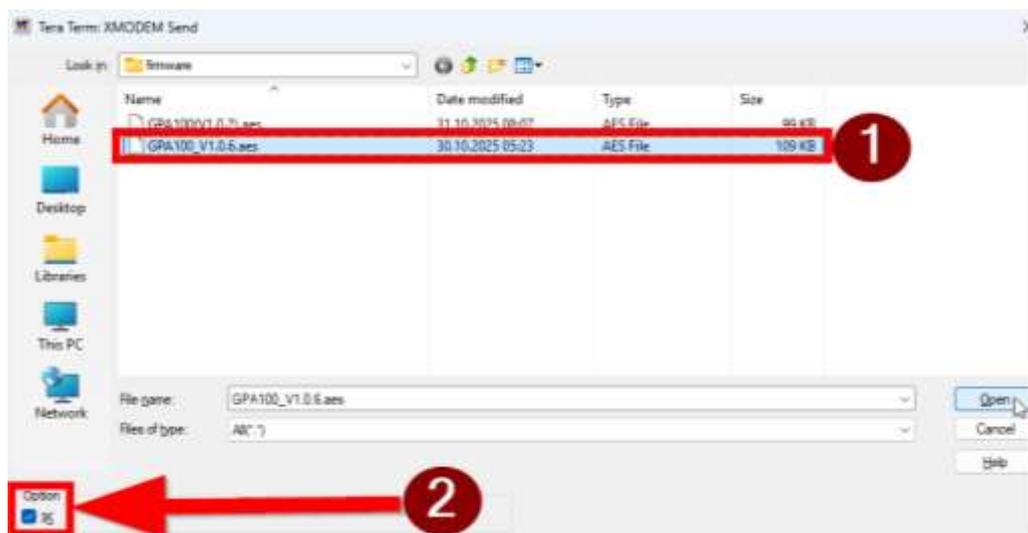
18. If, after a few seconds, you do not see a capital letter “C” output on the Tera Term screen, it is required to select the other virtual COM-port.





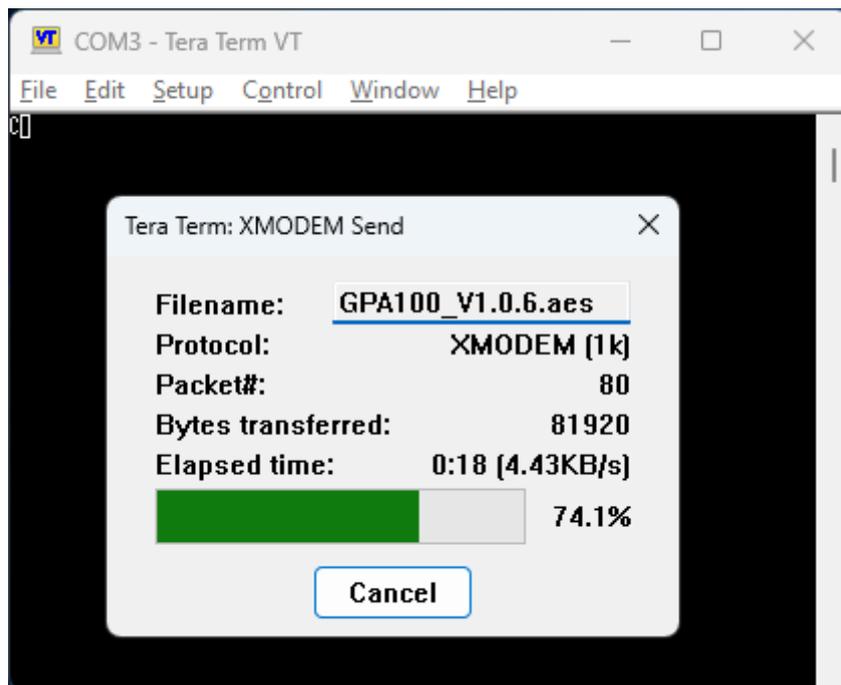


23. Navigate to the directory containing the new firmware file and select the file ending with '.aes' or '.xgf'. Do not forget to checkmark the 1k option box. This is very important.



**Notes:** If you forget to check the "1k" box, you will have to remove external power from the Xiegu GPA100 and reapply external power to the Xiegu GPA before you start the complete update procedure from the beginning.

24. The Tera Term progress bar will show the current status of the transfer.



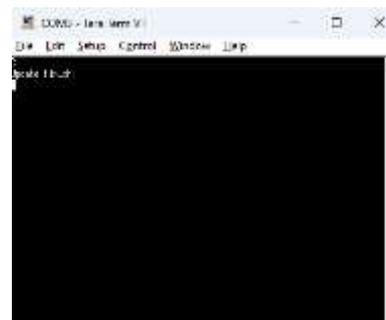
25. During the update the screen of the Xiegu GPA100 will also indicate that it is updating the firmware.

```
Initializing Bluetooth...  
Completed!  
Connect BT to your PC...  
Bluetooth is connected!  
Waiting to receive the FW...  
Updating...
```

26. As soon as the update has completed, the Xiegu GPA100 will show that the update did complete before rebooting.

```
Initializing Bluetooth...  
Completed!  
Connect BT to your PC...  
Bluetooth is connected!  
Waiting to receive the FW...  
Updating...  
Update Finish!
```

27. The Tera Term will also show that the Update finished.



**This completes the update process.**

**Notes:** *Never install any firmware not originating from Radiod~~ity~~ or Xiegu. Always check the availability of the update archive for the Xiegu GPA100 on the Radiod~~ity~~ support page before performing an update that may have been revoked in the meantime.*



## 18 Firmware release notes

The following tables list the details that have been changed with new versions of the Xiegu GPA100 firmware. Generally previous updates are included in the latest version.

**Notes:** *Never update your Xiegu GPA100 if it is not really necessary, or in other words: **Don't fix it if it's not broken!** This cannot be emphasized often enough. To update the Xiegu GPA100, only use the firmware that you can find on our support pages. Before carrying out an update, make sure that the release package is still available for download on our support page. All firmware updates for the Xiegu GPA100 are supplied with 'Release Notes'.*

**Please carefully read the 'Release Notes' and all documents contained in the firmware archives!**

### 18.1 Firmware V1.0.7 as of V1.0.7 as of November 6<sup>th</sup> 2025

Revision	Changes	Released
V1.0.7	• Initial firmware	2025-11-06

## 19 Technical data

Xiegu reserves the right to change the following technical data at any time and without notice.

### 19.1 Amplifier

<b>Frequency range</b>	1.8 MHz ... 54 MHz	
<b>Maximum output power</b>	<29.7MHz : 100W (±1dB)	
	50~54MHz : 80W (±1dB)	
<b>Antenna impedance</b>	50Ω	
<b>operating ambient temperature</b>	-10°C ... +50°C	
<b>Gain</b>	<29.7MHz : 14dB (±1dB)	
	50~54MHz : 12dB (±1dB)	
<b>Spurious suppression</b>	≥ 50dB	
<b>Power supply voltage</b>	12...15V DC, negative ground	
<b>Current consumption</b>	RX:	300mA max
	TX:	25A max

### 19.2 Product specifications

<b>Case size (L x W x H)</b>	245mm x 164mm x 72mm (not including control knobs, feet, connectors, etc.) 265mm x 164mm x 80mm (including control knobs, feet, connectors, etc.)
<b>Weight</b>	about 2.7kg (amplifier only)
<b>Total weight</b>	about 3,3kg (including packaging)

**Notes:** The above technical data are typical values and are subject to change without notice.

## 20 Certifications

The Xiegu GPA100 will be certified according to FCC Rule Part 92. It may also be sold in the European Community as it is compliant with European regulations. This is attested to by the following certificates.

### 20.1 FCC part 97 and 15C approval for Xiegu XPA125B

Below you will find a copy of the FCC Rule Part 97 approval for the Xiegu XPA125B.

**TCB**

**GRANT OF EQUIPMENT  
AUTHORIZATION**

**TCB**

**Certification**  
Issued Under the Authority of the  
Federal Communications Commission  
By:

KL-Certification GmbH  
Heinrich-Hertz-Allee 7  
St. Ingbert, 66386  
Germany

Date of Grant: 11/28/2025  
Application Dated: 11/28/2025

**Dongguan Weisheng Communication Technology Co.,  
Ltd**  
**Room 601, Building 1,**  
**No. 8 Qingfeng South Road, Tangxia Town**  
**Dongguan City, Guangdong Province,**  
**China**

**Attention: Haiyan Zhong , Manager**

**NOT TRANSFERABLE**

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

**FCC IDENTIFIER:** 2BGMW-GPA100  
**Name of Grantee:** Dongguan Weisheng Communication  
Technology Co., Ltd

**Equipment Class:** Amplifier  
**Notes:** 100W Solid-state linear power amplifier

<u>Grant Notes</u>	<u>FCC Rule Parts</u>	<u>Frequency Range (MHZ)</u>	<u>Output Watts</u>	<u>Frequency Tolerance</u>	<u>Emission Designator</u>
EF	97	1.8 - 29.7	100.0	Amp	F3E
EF	97	1.8 - 29.7	100.0	Amp	F1D
EF	97	1.8 - 29.7	100.0	Amp	A1A
EF	97	1.8 - 29.7	100.0	Amp	A3A
EF	97	1.8 - 29.7	100.0	Amp	A3E
EF	97	1.8 - 29.7	100.0	Amp	J3E
EF	97	1.8 - 29.7	100.0	Amp	J1D
EF	97	1.8 - 29.7	100.0	Amp	J3C
EF	97	1.8 - 29.7	100.0	Amp	J3F
EF	97	50.0 - 54.0	80.0	Amp	F3E
EF	97	50.0 - 54.0	80.0	Amp	F1D
EF	97	50.0 - 54.0	80.0	Amp	A1A
EF	97	50.0 - 54.0	80.0	Amp	A3A
EF	97	50.0 - 54.0	80.0	Amp	A3E
EF	97	50.0 - 54.0	80.0	Amp	J3E
EF	97	50.0 - 54.0	80.0	Amp	J1D
EF	97	50.0 - 54.0	80.0	Amp	J3C
EF	97	50.0 - 54.0	80.0	Amp	J3F

Power listed is rated conducted power. This device only operates in amateur frequency bands. The product must be installed such that its antenna(s) can provide a separation distance of at least 282 cm from all persons and must not transmit simultaneously with any other transmitter, except in accordance with FCC multi-transmitter product procedures or as described in this filing. Device also contains Bluetooth transmitters.

EF: This device may contain functions that are not operational in U.S Territories except as noted in the filing. This grant has extended frequencies as noted in the filing and Section 2.927(b) applies to this authorization.

Below you will find a copy of the FCC Rule Part 15C approval for the Xiegu XPA125B.

**TCB**

**GRANT OF EQUIPMENT  
AUTHORIZATION**

**TCE**

**Certification**

Issued Under the Authority of the  
Federal Communications Commission

By:

KL-Certification GmbH  
Heinrich-Hertz-Allee 7  
St. Ingbert, 66386  
Germany

Date of Grant: 11/28/202

Application Dated: 11/28/202

**Dongguan Weisheng Communication Technology Co.,  
Ltd**

**Room 601, Building 1,**

**No. 8 Qingfeng South Road, Tangxia Town**

**Dongguan City, Guangdong Province,  
China**

**Attention: Haiyan Zhong , Manager**

**NOT TRANSFERABLE**

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

**FCC IDENTIFIER:** 2BGMW-GPA100

**Name of Grantee:** Dongguan Weisheng Communication  
Technology Co., Ltd

**Equipment Class:** Part 15 Spread Spectrum Transmitter

**Notes:** 100W Solid-state linear power amplifier

<u>Grant Notes</u>	<u>FCC Rule Parts</u>	<u>Frequency Range (MHZ)</u>	<u>Output Watts</u>	<u>Frequency Tolerance</u>	<u>Emission Designator</u>
	<b>15C</b>	<b>2402.0 - 2480.0</b>	<b>0.00075</b>		

Power listed is maximum peak conducted output power. The product must be installed such that its antenna(s) can provide a separation distance of at least 282 cm from all persons and must not transmit simultaneously with any other transmitter, except in accordance with FCC multi-transmitter product procedures or as described in this filing. Device also contains part 97 power amplifier operates in amateur frequency bands transmitters.

## 20.2 CE certificate (R.E.D.) for Xiegu GPA100

Below you will find a copy of the CE certificate on Article 3.1(a), 3.1(b) and 3.2 of Radio Equipment Directive 2014/53/EU for the Xiegu GPA100.

# Attestation of Compliance



Attestation No.	: LCSB07245055E	
Approval Holder	: Dongguan Weisheng Communication Technology Co., Ltd.	
Address	: Room 601, Building 1, No. 8, Qingfeng South Road, Tangxia Town, Dongguan City, Guangdong Province	
Approval Holder	: Dongguan Weisheng Communication Technology Co., Ltd.	
Address	: Room 601, Building 1, No. 8, Qingfeng South Road, Tangxia Town, Dongguan City, Guangdong Province	
Brand Name	: N/A	
Product	: 100W Solid-state linear power amplifier	
Type/Model Name	: GPA100	
H/S Version	: HW: / SW: /	

Attestation of the technical design of the radio equipment according to the following essential requirements set out in article 3 of the RED 2014/53/EU:

Article 3.1a): Health and Safety	Conform
Article 3.1b): Electromagnetic Compatibility	Conform
Article 3.2: Effective Use of the Radio Spectrum	Conform

CE-marking

Marking Example (Class 1)


This attestation is issued in accordance with the Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

October 10, 2025

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Date of issue



Shenzhen Southern LCS Compliance Testing Co., Ltd.  
101-201, Building 39, Xialang Industrial Zone, Heshukou Community, Matian Street, Guangming District, Shenzhen, China  
Tel: (86)0755-26671520  
Http://www.lcs-cert.com



Fax: (86)0755-26671521  
Email: webmaster@lcs-cert.com

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## Annex



## Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-17 V3.3.1 (2024-09)	Shenzhen Southern LCS Compliance Testing Co., Ltd.	LCSB07245055EA
ETSI EN 300 328 V2.2.2 (2019-07)	Shenzhen Southern LCS Compliance Testing Co., Ltd.	LCSB07245055EB
EN 62479:2010 EN 50663:2017	Shenzhen Southern LCS Compliance Testing Co., Ltd.	LCSB07245055EC
EN 55032:2015/A1:2020 EN 55035:2017/A11:2020	Shenzhen Southern LCS Compliance Testing Co., Ltd.	LCSB07245055ED
EN IEC 62368-1:2020+A11:2020	Shenzhen STE Testing Laboratory Co.,Ltd.	STE072425103S

## General Remarks:

1. This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of an applicable new approach directives may be placed on the market and put into service.
2. Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.
3. The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure conformity of the manufactured radio equipment with the approved type described in the Attestation of Compliance and with the requirements of Directive 2014/53/EU that apply to it.
4. This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for this attestation.
5. The manufacturer shall draw up a written EU declaration of conformity for each radio equipment type and keep it at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market. The EU declaration of conformity shall identify the radio equipment type for which it has been drawn up. A copy of the EU declaration of conformity shall be made available to the relevant authorities upon request.



Shenzhen Southern LCS Compliance Testing Co., Ltd.  
101-201, Building 39, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District,  
Shenzhen, China.  
Tel: (86)0755-29671520 Fax: (86)0755-29671521  
Http://www.lcs-cert.com Email: webmaster@lcs-cert.com



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## 21 Common issues and their solution

Issue	Solution
The Xiegu GPA100 does not power on	Check the 25A inline fuse of the power cable.
The Xiegu GPA100 does not behave as it used to	Reinstall the Xiegu GPA100 firmware and everything should again work as expected.
The output power is less than it should be	Connect a wattmeter and a dummy load to the Xiegu GPA100. Setup the driving radio for either FM or AM mode (to have a continuous carrier) and measure the output power of the Xiegu GPA100 when pressing PTT on the radio's microphone. The measured value should be close to the expected output power. Check setting of attenuation and bypass.
How to put the Xiegu GPA100 to bypass mode?	Just push the [BYP] button to turn off the Power Amplifier feature. 
GPA100 not properly selecting the correct band although set for AUTO	Xiegu radios support the BAND selection signal. The voltage difference between two adjacent bands is just 230 mV (which is not much). Make sure that the driving radio and the Xiegu GPA100 have the very same ground connection and are both powered by the same power supply (most of the reported cases, this is the root cause for the described issue). Do not use any cables except those "official" ones that come with the CE-19/DE19/GPA100 or Xiegu radio. Keep all cables short. The longer a cable the more voltage loss it will have (resulting in a potential wrong band selection). An additional clip-on ferrite may help (as stray RF may have an impact on the BAND voltage wire). Not all radios of others brands support a BAND selection voltage signal. For those radios, use manual band selection and always make sure that the correct band has been selected on the Xiegu GPA100 before hitting the PTT button. If using a ICOM IC-705 radio, automatic BAND selection can be established using the Bluetooth-connection between the radio and the Xiegu GPA100.

Issue	Solution
I want to use my non-Xiegu radio with the Xiegu GPA100	For most commercially made radios there should not be any problem. If your radio does not support the Xiegu automatic band selection using the BAND-signal, make sure to enable manual band selection on the Xiegu GPA100. The output power of your radio should not exceed 5W. Normally a driving power level of 2W is sufficient to get the full output power from the Xiegu GPA100.
The firmware update failed and it is no longer possible to turn off the device	If the firmware update failed, the existing firmware of the device has very likely already been deleted. This causes the Xiegu GPA100 to no longer allow normal operation, except for the built-in bootloader that will allow you to update the device. To rectify this situation, just repeat the update process as described in section 17 'Updating the Xiegu GPA100 firmware'.
When I turn on the Xiegu GPA100 the screen is blank	You previously started to update the Power Amplifier but failed. However, the built-in bootloader that will still allow you to update the device. To rectify this situation, just repeat the update process as described in section 17 'Updating the Xiegu GPA100 firmware'.

## 22 Where to look for further information?

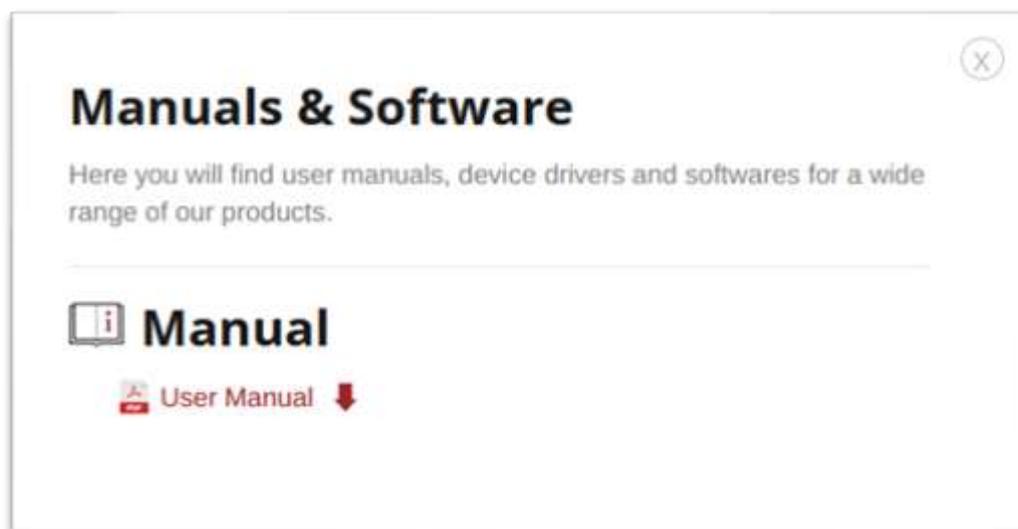
On the Internet you will find a variety of sources with information about the Xiegu GPA100. When watching videos make sure that the Xiegu GPA100 in the video is at the same firmware level as yours (features can change and bugs may be fixed between firmware revisions) and that it is connected to the same radio model with the same firmware revision as yours.

### 22.1 Radioddity support area

Please note that you can find all firmware, software and freely available manuals in the support section of our official Radioddity website by following these steps:

<https://www.radioddity.com/> → Support → Xiegu → Xiegu GPA100

For the Xiegu GPA100, the resulting support page looks something like this:



As soon as a new file is available (e.g., firmware updates, updated Xiegu manuals or other items), these files will be published in our support area.

**Notes:** *The 'Manual' section can be found below the 'Software' section on the support page. Use the scroll bar to navigate.*

**The eBook you are currently reading is not available for free but only for sale in our web shop.**

## 23 Recycling regulations

Electrical and electronic equipment shouldn't be disposed of along with household waste. It may contain hazardous substances which, if exposed, could cause a serious detrimental effect on the environment, wildlife, and human health. Please act accordingly and follow any local regulations that apply to your geographical area. Please observe the relevant regulations and laws of your place of residence.

### 23.1 EU - Recycling Waste of Electrical and Electronic Equipment

#### How to dispose of waste of electrical and electronic equipment

Electrical and electronic equipment (EEE) shouldn't be disposed of along with household waste. EEE may contain hazardous substances which, if exposed, could cause a serious detrimental effect on the environment, wildlife, and human health.

For more information on the Waste of Electrical and Electronic Equipment (WEEE) directive, including how to ensure the safe disposal of your electrical and electronic equipment, search for 'WEEE Directive' on the web.

Products that should not be disposed of along with household waste will be marked with this icon:



#### How do I dispose of my old electrical or electronic equipment?

If you'd like to dispose of electrical or electronic equipment for recycling you can also:

- Take it to an authorized recycling collection point run by your local authority.
- Take part in national recycling campaigns.

#### Tips for removing personal data from electrical and electronic devices

If you are an owner of a personal electronic device that is covered by the WEEE Directive such as a computer, mobile phone, or camera, you should erase all personal or confidential data before recycling it. You can do this by restoring the device to its factory settings, which is normally done in your device's settings menu.

You should also delete any personal or confidential data on any internal storage device such as a memory or SIM card.

- Back up any sensitive data such as photos, contacts and messages.
- If possible, restore the device to its factory settings.
- Sign out of any accounts you're signed into such as Cloud storage, social media, and messaging apps.

If your old piece of EEE is still functional and/or could be repaired for further use, please consider reusing as the first option, either by donating it to a charitable organization, or by giving it to someone else in need. By extending the lifetime of your old equipment, you are also contributing to the efficient use of resources and avoiding additional waste.

If your equipment has **Lithium cells and batteries installed in the equipment** (e.g., mobile phones, headphones) or is **packed with the equipment** (e.g., laptops, digital cameras), you should have special care, namely:

- The equipment in this case should be packed with strong outer packaging. If using cardboard boxes, they must be strongly constructed, preferably with seams that are stitched or stapled, not merely glued. Use boxes that are at their full strength and that have not been compromised by humidity. Seal your box with duct-tape (preferably reinforced) by applying three strips to both the top and bottom of the box, so that the middle seam and the two edge seams are sealed
- Packages must be marked with 'LITHIUM BATTERIES FOR RECYCLING'
- Appropriate measures shall be taken to minimize the damage of the equipment when filling and handling the packaging, e.g., use of rubber mats
- The packaging shall be constructed and closed so as to prevent any loss of contents during carriage
- Each package must be marked with one of the following labels depending on whether they are (1) lithium ION or (2) lithium METAL

(1)



(2)



## 23.2 Entsorgung von Elektro- und Elektronikgeräten

### Elektro- und Elektronikgeräte

#### Informationen für private Haushalte

Das Elektro- und Elektronikgerätegesetz (ElektroG) enthält eine Vielzahl von Anforderungen an den Umgang mit Elektro- und Elektronikgeräten. Die wichtigsten sind hier zusammengestellt.

#### Getrennte Erfassung von Altgeräten

Elektro- und Elektronikgeräte, die zu Abfall geworden sind, werden als Altgeräte bezeichnet. Besitzer von Altgeräten haben diese einer vom unsortierten Siedlungsabfall getrennten Erfassung zuzuführen. Altgeräte gehören insbesondere nicht in den Hausmüll, sondern in spezielle Sammel- und Rückgabesysteme.

#### Batterien und Akkus sowie Lampen

Besitzer von Altgeräten haben Altbatterien und Altakkumulatoren, die nicht vom Altgerät umschlossen sind, sowie Lampen, die zerstörungsfrei aus dem Altgerät entnommen werden können, im Regelfall vor der Abgabe an einer Erfassungsstelle vom Altgerät zu trennen. Dies gilt nicht, soweit Altgeräte einer Vorbereitung zur Wiederverwendung unter Beteiligung eines öffentlich-rechtlichen Entsorgungsträgers zugeführt werden.

#### Möglichkeiten der Rückgabe von Altgeräten

Besitzer von Altgeräten aus privaten Haushalten können diese bei den Sammelstellen der öffentlich-rechtlichen Entsorgungsträger oder bei den von Herstellern oder Vertreibern im Sinne des ElektroG eingerichteten Rücknahmestellen unentgeltlich abgeben.

Rücknahmepflichtig sind Geschäfte mit einer Verkaufsfläche von mindestens 400 m<sup>2</sup> für Elektro- und Elektronikgeräte sowie diejenigen Lebensmittelgeschäfte mit einer Gesamtverkaufsfläche von mindestens 800 m<sup>2</sup>, die mehrmals pro Jahr oder dauerhaft Elektro- und Elektronikgeräte anbieten und auf dem Markt bereitstellen. Dies gilt auch bei Vertrieb unter Verwendung von Fernkommunikationsmitteln, wenn die Lager- und Versandflächen für Elektro- und Elektronikgeräte mindestens 400 m<sup>2</sup> betragen oder die gesamten Lager- und Versandflächen mindestens 800 m<sup>2</sup> betragen. Vertreter haben die Rücknahme grundsätzlich durch geeignete Rückgabemöglichkeiten in zumutbarer Entfernung zum jeweiligen Endnutzer zu gewährleisten.

Die Möglichkeit der unentgeltlichen Rückgabe eines Altgerätes besteht bei rücknahmepflichtigen Vertreibern unter anderem dann, wenn ein neues gleichartiges Gerät, das im Wesentlichen die gleichen Funktionen erfüllt, an einen Endnutzer abgegeben wird. Wenn ein neues Gerät an einen privaten Haushalt ausgeliefert wird, kann das gleichartige Altgerät auch dort zur unentgeltlichen Abholung übergeben werden; dies gilt bei einem Vertrieb unter Verwendung von Fernkommunikationsmitteln für Geräte der Kategorien 1, 2 oder 4 gemäß § 2 Abs. 1 ElektroG, nämlich 'Wärmeüberträger', 'Bildschirmgeräte' oder 'Großgeräte' (letztere mit mindestens einer äußeren Abmessung über 50 Zentimeter). Zu einer entsprechenden Rückgabe-Absicht werden Endnutzer beim Abschluss eines Kaufvertrages befragt. Außerdem besteht die Möglichkeit der unentgeltlichen Rückgabe bei Sammelstellen der Vertreter unabhängig vom Kauf eines neuen Gerätes für solche Altgeräte, die in keiner äußeren Abmessung größer als 25 Zentimeter sind, und zwar beschränkt auf drei Altgeräte pro Geräteart.

### **Datenschutz-Hinweis**

Altgeräte enthalten häufig sensible personenbezogene Daten. Dies gilt insbesondere für Geräte der Informations- und Telekommunikationstechnik wie Computer und Smartphones. Bitte beachten Sie in Ihrem eigenen Interesse, dass für die Löschung der Daten auf den zu entsorgenden Altgeräten jeder Endnutzer selbst verantwortlich ist.

### **Bedeutung des Symbols 'durchgestrichene Mülltonne'**



Das auf Elektro- und Elektronikgeräten regelmäßig abgebildete Symbol einer durchgestrichenen Mülltonne weist darauf hin, dass das jeweilige Gerät am Ende seiner Lebensdauer getrennt vom unsortierten Siedlungsabfall zu erfassen ist.

We would like to thank all Radioddity customers for their constructive feedback. If you find an error in the firmware of the Xiegu GPA100 or in this documentation, or if you miss a function that you would have expected, or even if a detail has not been described to the needed extent, please feel free to write a message to [support@radioddity.com](mailto:support@radioddity.com). In general, firmware updates for your Xiegu GPA100 are free of charge. Updates of our eBooks are not free of charge.



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