

**ANTLR5000 GATE
CONFIGURATION**

SETUP PROCEDURE



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1 SETUP PROCEDURE

The gate configuration is made of two ANTLR5000 antennas, the corresponding tuning units ANTUN5000 and ATUSP5000, and the reader/encoder RIDEL5000, and the corresponding control and RF cables.

To install the system, the steps described in the following sections shall be carried out.

1.1 LOCATION

The antennas shall be installed in an open area. The best option will be to look for a place at least 1 meter away from any big metallic mass. The system will still work near the metal, but this could affect the performance.

The standard distance between the antennas should be between 0.5 and 1 m. The antennas will be one in front of the other, with the box for electronics in the back of the antennas.

The system will work in other configurations (antennas shifted, more distance, ...), but it will be necessary to test them. The EMC requirements could also be affected if the antennas are mounted in a different way.

The antennas will be fixed to the floor, according to the mechanical requirements.

1.2 RIDEL5000 AND TUNING UNITS

The RIDEL5000 and the tuning units ANTUN5000 and ATUSP500 will be fixed in their corresponding places.

If the ANTLR5000 antennas are being used, the electronic equipment will be placed inside the electronic box, in the metal plate supplied with the antenna.

The power supply shall be fixed somewhere outside the antenna.

WARNING.- The RIDEL5000 fixing screws will be max. 5mm long. Otherwise, they will touch the electronic board and may cause damage.

1.3 CONECTION

The following steps should be followed (see drawing in ANNEX 1).

Step 0 Make sure that the power supply IS NOT CONNECTED.

Step 1 Connect the small cables marked (1) in the drawing in ANNEX 1 between the tuning units and the antennas. The connection shall be made as described in the drawing (same polarity and same position).

Step 2 Connect the 4 coaxial cables marked (2) in the drawing in ANNEX 1. The standard length of this cables shall be 3m for optimal performance. The characteristic impedance of the cable shall be 50ohm (RG58 cable). Be carefull to connect the cables in the way described in the diagram.

Step 3 Connect the control cable (code 376.40003.0) between the delta connector of the slave tuning unit and the master (as in the diagram below).

Step 4 Connect the control cable (cod 376.4004.0) to the PC and the power supply.

Step 5 Turn on the power supply. Check that one of the leds in the RIDEL5000 is ON, and the other blinks twice.

1.4 SOFTWARE SETUP

The RIDEL DEMO SOFTWARE will be installed in the controlling PC for test and configuration. This software is supplied by Softrónica, as part of the RFID starter kit. mod. KRFID5000. See the corresponding manual for details on setup and installation. The software version will be 2.9 or higher.

2 TEST AND ADJUSTMENT PROCEDURE

The RIDEL DEMO SOFTWARE shall be used for test and adjustment. It will be started on the PC.

2.1 COMMUNICATION TEST

Select the **Configuration** Screen. Verify that the selected com port corresponds to the one connected to the RIDEL5000.

Select the **Reader Control** Window. Press the *Update* button. The manufacturer, version and serial number of the RIDEL5000 will appear on the *Version* text box. The version number shall be 2.1 or higher.

If there is an error in the communication, the error code will appear on the *Serial Comm Status*. In this case, check the connections, and try again. If the RIDEL5000 still does not work, follow the procedures in the Entering Master Mode section.

2.2 RIDEL5000 CONFIGURATION

Write the value 000 in the RF Output Level, and press ENTER, to make sure that the RIDEL5000 does not transmit for the moment.

Select the **Configuration** screen. Press the *Get EEPROM Values* button. The EEPROM contents will be displayed in the Current Value column (shadowed).

Make sure that in the parameter *Operating Mode* the value 48 (Tuning unit control mode) appears on the New Value column.

The Initial Output RF Power shall be 40 in the New Value column. This makes the reader start with 4 W output power.

The *Reflected Power Alarm* parameter should be 5 for this type of antenna.

Verify that the parameters corresponding to the RX tuning are non-zero. The parameter ATU Serial Capacitor RX1 will have a value of 62 (in the New Value column). In the ATU Serial Capacitor RX2, the value will be 62 too.

Once this values are verified, the *Set EEPROM Values* button will be pressed.

2.3 TRANSMISSION TUNING PROCESS

Select the **TX Control** screen. Press the *Update* button. The value in the *Output Power* text control shall be 0.00 W.

Turn off the RIDEL5000, wait some seconds and then turn it on again.

Press the *A.T.U.* button (the controls corresponding to the tuning process will appear on the lower part of the screen). Press the *Autotuning* button. The tuning process will start (the relays in the antenna tuner unit will be heard).

When the process is finished, press the *Update* button. The value in the *Output Power* text control will be around 4 W (the value selected in the configuration window for the Initial RF Power Output). The *Reflected Power* value should be below 0.3 W for an *Output Power* of 4 W.

All the values for the TX tuning are stored in the EEPROM, so, pressing the *Get EEPROM Values* in the **Configuration** screen, will bring the stored values to the Current Val column (ATU Serial Capacitor TX1, Paralell TX1, Serial TX1, Serial TX2). These values shall not be 0 or 255.

A high reflected power could be due to one of three reasons:

- A problem in the connection. Check all the cables position and state.
- A problem in the Tuning units or the antennas.
- A problem with the location of the antennas. Big metallic mass near them, ...
- The antennas are in the wrong position (the box cover should be in the external part of the gate for both antennas).

2.4 RECEPTION TEST

Select the **RX Control** window. Press the *Automatic Update* button. Check, that when there is no tag near the antenna, the red line in the AMPLITUDE window is between 0.5 and 2 Volts.

If the noise level is over this level, some minor adjustment of TUNING could improve the performance. See the Demo Software Manual for a description of those controls. The noise could be due to motors, inverters or other source of interference near the antennas.

A tag will be placed parallel to the antennas in the space between them. The AMPLITUDE will be higher than 1 Volt, and the EAS Value shall be near 100%.

2.5 READING TEST

In the **Control** Screen, press the *EAS* button. A red screen will appear when a tag is presented to the antenna. Check the reading in different positions near the antenna.

Press the *Read Unselected* and *Repeat Read* buttons. The screen will show the contents of the tag when it is in the field of the antennas.

3 MASTER MODE

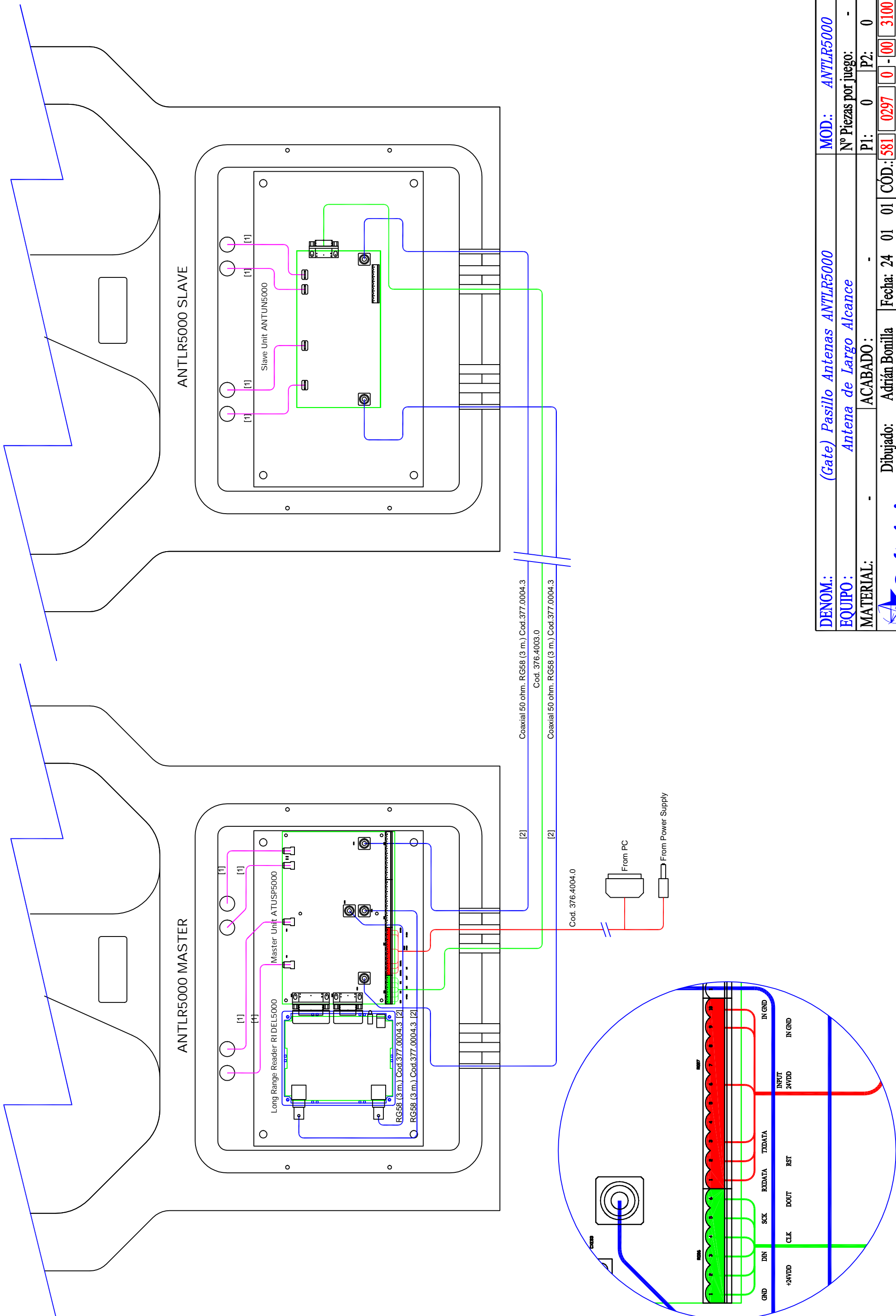
When a reader is in an unknown state (changed protocol, changed communication parameters, ...), it is not possible to establish the communication link. In order to start from a known state, it will be necessary to enter this mode. To do it, go to the **Configuration** screen, and press the *Enter Master Mode* button. The reader will go to the Philips protocol at 115200 baud.

4 CONTACT TECHNICAL SUPPORT

Before contacting your technical support, you will have to follow the procedure described in this document. Then the following data will be supplied:

- 1.- Communication status
- 2.- Firmware version and Serial Number
- 3.- Demo software version
- 4.- In the Configuration window, after pressing the «GET EEPROM VALUES» button, write down the parameters:
 - Operating Mode
 - Initial Output RF power
 - Modulation Index
 - Reflected Power Alarm
 - Receiver Input Filter Tuning
 - Receiver Gain
 - Receiver Slicer Threshold level
 - ATU Serial and Paralell Capacitors for TX and RX
- 5.- In the TX control window, after pressing the «UPDATE» button, the measured values for:
 - Output Power
 - Reflected Power
 - VSWR
 - Temperature
 - Impedance

ANNEX 1 CONNECTION DIAGRAMS



DENOM.:	(Gate) Pasillo Antenas ANTLR5000				MOD.:	ANTLR5000	
EQUIPO:	Antena de Largo Alcance				Nº Piezas por juego:	-	
MATERIAL:	-	ACABADO:	-	P1:	0	P2:	0
Dibujado:	Adrián Bomilla	Fecha:	24 01 01	CÓD.:	581	0297	0 - 00
Escala:	-	VCAD:	Acad2000	SYE.:	581	-	-

