Operation Manual for RS232 Converter Board   V1.11

The function of kit DAC01 is to convert TTL level to RS232 signal and provides the interface for customers to configure the settings of modules through PC software tool. This manual demonstrates how to use DAC01 in setting mode and normal work mode for different modules.

1. In Setting Mode

The RF FSK modules provided by DORJI are mainly based on RFICs from Silicon labs, ADI and Semtech. DORJI provides two software tools for different RF modules. The Pin 1 (marked as 1 on the top of converter board) is corresponding to the Pin 1 (GND pin) of RF modules. The Switch on the board is for On/Off power and the LED is for power indication.

When configuring module, users should insert the module into RS232 converter board correctly and connect it to PC and then open software tool. After the tool finds the module and shows "Found device" in the status line at the bottom, users then can write/read modules through corresponding buttons. After successful operation, the message "Write succeed" or "Read succeed" will be showed in the status line.

Module Type	Software Tool
DRF1212D10, DRF4432D20	DRF Tool for 1212/4432 series
DRF7020D series, DRF7020M series	DRF Tool for ADF702X series

Table 1   Module Type Vs Software Tool

Note: 1. If the software tool is run before module is connected to PC, a alert window will show up and display "No serial port is found". Users only need to click the button to confirm, close and reopen the tool after module is connected correctly.

2. If the software tool can't find the module which is connected to PC properly, users can power on/off the module by the switch to initialize it and the module should be recognized by software tool soon.

2. In Normal Work Mode

The main function of RS232 converter board is to configure modules through PC so the kit is not tailor-made for testing communications between modules. Different modules have different level requirements on control pins in order to work in normal mode. The table

below shows the difference among modules.

SET-A/EN	SET-B/SET	Module Type
LO	LO/HI	DRF1212D10
LO	HI	DRF4432D20
HI	HI	DRF7020D series, DRF7020M series

Table 2   Level Controls in Normal Communication Mode

1)   For DRF1212 modules, the 3rd pin is SET-A and the 7th pin is SET-B. In normal communication mode, the SET-A must be low and SET-B can be low/high (Normal mode/Wake-up mode). The 3rd and 7th pin on RS232 converter board are in floating status so users can manually connect the two pins to ground in order to let modules work in normal status.

2)   For DRF4432 modules, the 3rd pin is Enable pin and in normal work mode it must be set to low. The 7th pin is Data/field strength indication pin. When it is sent to high, the module outputs normal data or else it outputs field strength value. For normal work mode, the 3rd pin on converter board needs to be connected to ground manually.

3)   As to DRF7020D/7020M series, the 3rd pin is Enable pin and in normal mode it must be set to high. The 7th pin is SET pin. It is set to low when modules need to be configured. These series of modules can work properly and no change on converter board is needed.

Power Supply

DRF1212 modules work at 2.1~3.6V but DRF4432 and DRF7020 series modules work at higher voltage so the Kits must be powered with different power supplies when testing different modules.

Power Supply	Module Types
<3.6V (3.3V recommended)	DRF1212D10
<5.5V (5V recommended)	DRF4432D20,DRF7020D13,DRF7020D20,DRF7020D27

Table 3: Power Supply Vs Module Types

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