

ZHC921 RF Switcher



1. Overview

The ZHC921 RF switcher is a special device designed to realize automatic switching of **radio/TV transmitters** equipped with dual exciters. It has **automatic switching mode and manual switching mode**.

In automatic switching mode, the switcher automatically detects and judges the working status of the main exciter (with or without radio frequency). When the main exciter fails without radio frequency output, it automatically switches to the standby exciter to work; in manual switching mode, only one key is required Complete the switch between the main and backup exciters. The working status in both automatic and manual modes has a power-off hold function.

Features:

- With automatic and manual switching modes
- With working status LED indication function
- Locking function of active and standby exciters
- With power failure to maintain the RF path and exciter switch status before the power failure
- With power-on delay to identify whether the main channel radio frequency is present or not
- Using high-speed MCU processor control, stable and reliable performance
- Provide remote control port
- 19-inch 1U standard chassis

2. Technical Details

2.1 Technical Specifications

Power supply	AC220V/1A/50Hz
Input and output impedance	50Ω
Input and output standing wave ratio	<1.10
Maximum switching exciter power	100W
No RF switching time	3 seconds

2.2 Physical Specifications

RF output connector	N type
Communication interface	RS232
Chassis standard	19 inches
Chassis size	1U (440mm×44mm×440mm)
Operating environment temperature	-5℃~+45℃
Relative humidity	<95%
Altitude	<4500m

3. System Structure

3.1 Structure and Composition

As shown in Figure 3-1, the ZHC radio frequency switcher is internally composed of a **coaxial switch, RF detection unit, intelligent control unit, and key display unit.**

Coaxial switch: Realize the radio frequency switching of the active and standby exciters.

RF detection unit: detects the radio frequency input of the main exciter, and sends the detection result to the control unit for processing.

Intelligent control unit: In the automatic mode, it judges the signal sent by the radio frequency detection unit and decides whether it is necessary to control the coaxial switch;

In manual mode, operate the coaxial switch according to key commands.

Button display unit: Button to select manual/auto working mode, and indicate the working status of the switcher through the indicator light.

3.2 Working principle diagram

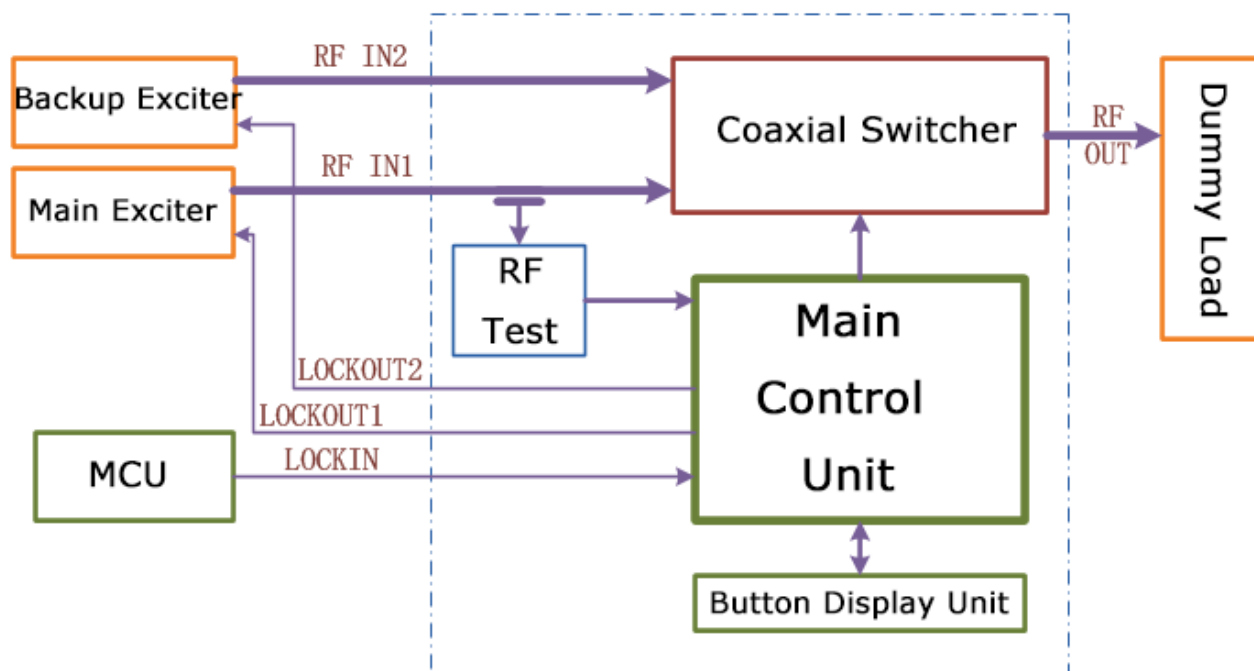


Figure 3-1 ZHC921 RF Switcher Block Diagram