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Design of audio source switcher using for medium wave transmitter based on Microcontroller

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Abstract. Based on microcontroller, an audio source switcher (patent number: 201220738954.9) using for medium wave transmitter is proposed in this paper. According to the default priority and the operating status of current audio source, the proposed switcher can correctly distinguish the statuses of speech pause and transmission fault to realize the functionality of automatic switching among three single channels. Moreover, in order to improve the stability and practical value of the proposed switcher, the trap filter is also used in switcher to inhabit the high frequency interference of transmitting station. It is expected that this switcher has potential application in future

Keywords: Signal Source Switch, Microcontroller, Medium Wave Transmitter

1 Introduction

The audio sources of transmitter are always electrical signals of optical cables, satellite signals and FM signals in medium wave transmitting station. These three channels audio source provide three different ways for transmitting station to deliver audio programs to ensure the purpose of multiple backup. Three channels audio sources usually have different priority and the operating status of current audio source is indicated by indicator unit [1-3]. So far, the switch of signal sources is operated manually in many transmitting stations. In this paper, an audio source switcher (patent number: 201220738954.9) using for medium wave transmitter is proposed, which can be realized with microcontroller. The proposed switcher can automatically switch the audio source according to the default priority and the operating status of current audio source. The advantages of the proposed switcher are that it can not only correctly distinguish the statuses of speech pause and transmission fault, but also can effectively inhabit the high frequency interference of transmitting station. Therefore, the switcher exhibits high stability, and has practical value in the field of medium wave transmitter.

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