Using a WX-250 Weather Receiver with an RC-210 Repeater Controller

Introduction

This document describes how to interface and program the RC-210 repeater controller for use with the Computer Automation Technology WX-250 Digital Weather Receiver. The WX-250 is a digital receiver and decoder that responds to Specific Area Message Encoded (SAME) alerts transmitted by the NOAA weather station located in your geographic area.
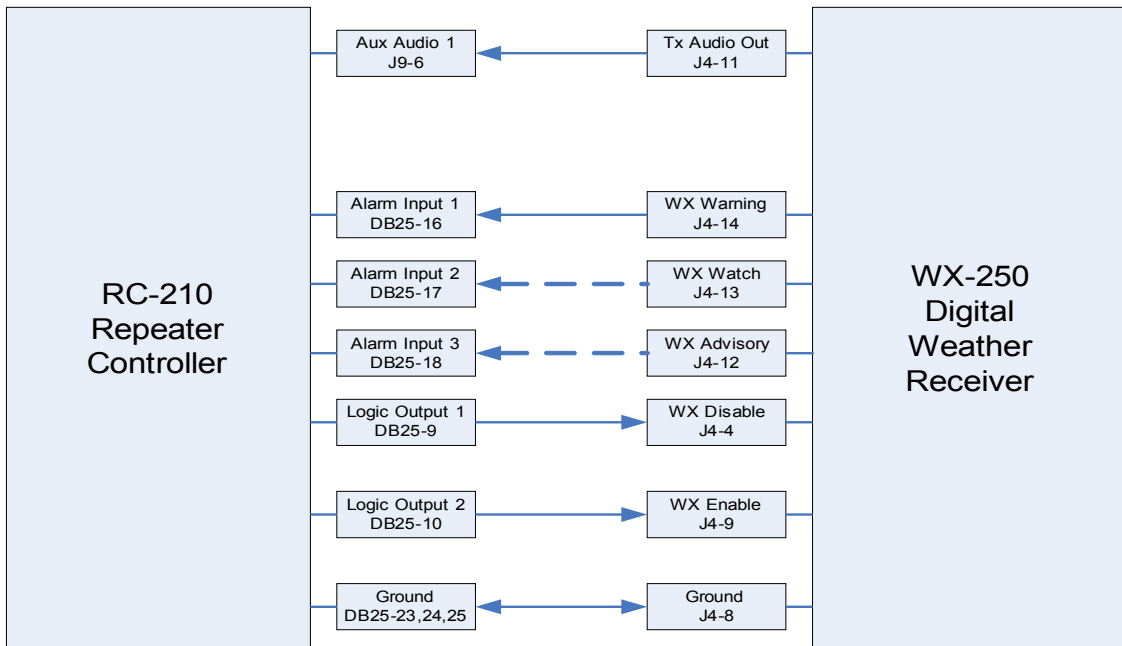
For details on how to program the WX-250 please refer to the manufacturer's documentation.

Basic Overview

By programming an Alarm Input to simulate COR activity from an Auxiliary Audio Input, we have a way of getting weather alert audio from the WX-250 Weather Decoder to the repeater on the RC-210.

In this example we will use Alarm Input 1, Auxiliary Audio 1 and the repeater on Port 1.

Wiring Diagram

Note that there are three separate alert outputs from the WX-250. These represent the three levels of SAME alerts: Advisory, Watch and Warning. I only used and programmed for one of them, i.e. the WX Warning output. You could also hook the other two to other Alarm Inputs as shown on the diagram, or alternately "wire-OR" the other two into a single Alarm Input using steering diodes. The details of this is, as they say, are "left as an exercise to the reader."

Programming

I used RCP to program my controller, so I have not included the equivalent DTMF commands here.

1. Program a message macro to play when an alert is activated by the weather receiver or when alerting is manually enabled via DTMF. I used message 30: "WEATHER ALERT ON"
2. Program a message macro to play when the alert is finished. I used message 31: "WEATHER ALERT OVER"
3. Program a message macro to play when alerting is deactivated manually via DTMF. I used message 29: "WEATHER ALERT OFF"
4. Program a macro that will be called to activate the weather alert. In our example we will use macro 2: "Speech out Port 1", "Auxiliary Audio 1 ON", "Play message macro 30". This translates as: 162 146 216.
5. Program a macro that will be called at the end of the weather alert. We will use macro 3: "Speech out Port 1", "Auxiliary Audio 1 OFF", "Play message macro 31". This translates as: 162 149 217
6. Program a macro and appropriate DTMF code to manually disable alerts from the weather radio: "UF1 OFF", "Play message macro 30". This translates as: 095 215
7. Program a macro and appropriate DTMF code to manually enable alerts from the weather radio: "UF1 ON", "Play message macro 29". This translates as: 102 216
8. Program a macro and appropriate DTMF code to manually listen to the weather radio: "UF2 ON", "Auxiliary Audio 1 ON". This translates as: 096 146
9. Program a macro and appropriate DTMF code to end manually listening to the weather radio: "UF2 OFF", "Auxiliary Audio 1 OFF" . This translates as: 103 149
10. Under the Logic Alarms tab, program Alarm 1 to call macro 2 on High to Low transition. Program Alarm 1 to call macro 3 on Low to High transition. Check the box to enable Alarm 1.