TELEX Application Note

Vertex Standard
VXR-9000 Repeater to
223 Series Adapter Panels

VOIProven TELEX Radio Dispatch

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Vertex Standard VXR-9000 Repeater to 223 Series Adapter Panels

1.0 General

This application note is intended to assist technical staff with cable assembly, software configuration and hardware setup of different 223 series adapter panels (TRA-223, DSP-223 and IP-223) to the Vertex VXR-9000 series repeater.

2.0 Interconnect Cable Assembly

A cable assembly is required to connect the Vertex VXR-9000's DB 25-pin accessory connector to the various 223 Series adapter panels.

Use Table 1 to manufacture this cable assembly.

TABLE 1. Cable Assembly Pin Outs

TRA-223 DB-25 Pin‘	DSP-223 DB-25 Pin	IP-223 DB-25 Pin	VX DB-25	Signal
25	25	25	3	MIC +
24	24	24	6	RX +
14	14	14	12	PTT
7	7	7	1	GND
	8	8	19	D0
	21	21	18	D1
	9	9	17	D2
	22	22	16	D3
	10	10	15	D4

NOTE: The pins in the gray shaded cells are for Vertex frequency change.

NOTE: Shield wires need to be connected between both DB connector's shrouds.

3.0 223 Series Panels

3.1 TRA-223 Setup

Set the front panel dip-switch for the following settings:

TABLE 2. TRA-223 Dip Switch Settings

Switch	Setting	Signal
1	As appropriate	2–Wire = On 4-Wire = Off
2	As appropriate	4–Wire = On 2–Wire = Off
3	As appropriate	Full Duplex = On Half Duplex = Off
4	On	Squelch
5	Off	Radio Rx Level On = Speaker Off = High Impedance
6	On	Radio Tx Level On = Low level Off = High Level
7	On	Ground on PTT Relay Common
8	Off	Ground on Monitor Relay Common

REFERENCE: For more information, see the TRA-223 Technical Manual (P/N 803570). This document is available for download at www.telex.com/Downloads/.

3.2 DSP-223 Software Setup

The DSP-223 requires specific software and jumper settings.

To **configure the DSP-223 for channel change using digital outputs**, do the following:

1. Open the **DSP-223** application.
   The DSP-223 Configuration Application window appears.
2. In the Digital Output field for function tone 1, enter **1**.
3. In the Digital Output field for function tones 2–10, increment each **digital output value by 1**.

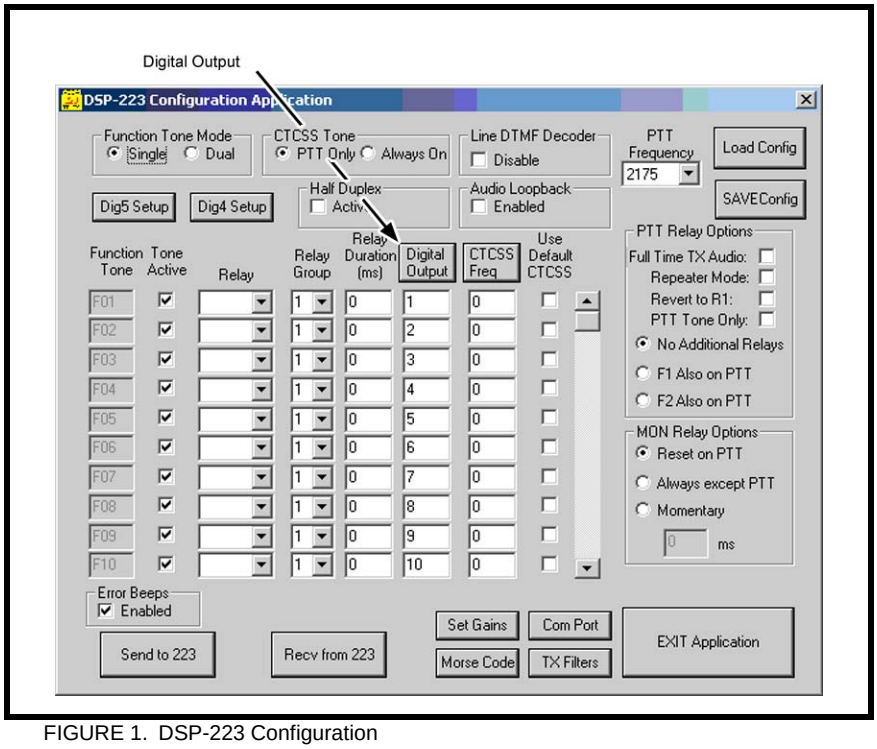

FIGURE 1. DSP-223 Configuration

3.2.1 DSP-223 Jumper Settings

To **set the DSP-223 jumpers**, do the following:

1. Set the following jumpers to the **A position:**
   - J14, J15, J22, J23, J24, J25, J27.
2. Set the following jumpers to the **B position**:
   - J12 and J13.
3. Solder close **JP2**.
4. Set **J16** to the center pin (hanging).

NOTE: J19, J20 and J21 are for selecting 2- or 4-wire operation.

REFERENCE: For more information, see the DSP-223 Technical Manual (P/N 803274).

3.3 IP-223 Setup

The IP-223 requires specific software and jumper settings.

3.3.1 IP-223 Software Settings

To **configure the IP-223 software settings,** do the following:

1. Open **TSM**.
2. In the Processed Devices pane, select the **IP-223** to configure.
3. Click the **Per Line Setup** tab.
   The Per Line Setup page appears.
4. Select the **Local** radio button for the channel to configure.
5. Click **Configure**.
   The Per Line Setup notebook appears. See Figure 2.
6. In the Digital Output drop down menu for Function Tone 1, select **1**.
7. In the Digital Output drop down menu for Function Tones 2–10, increment each **digital output field by a value of 1**.

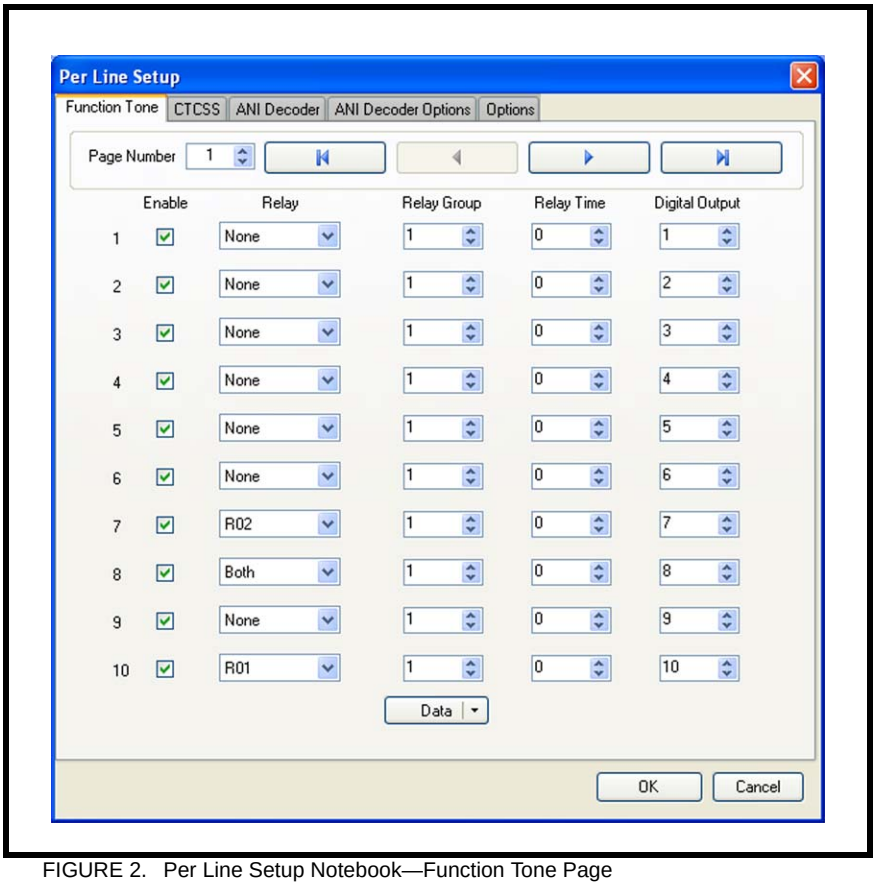

FIGURE 2. Per Line Setup Notebook—Function Tone Page

8. From the Per Line Setup notebook, click the **Options** tab.
   The Options page appears. See Figure 3.
9. Select the **RxAGC** check box.
10. Click **OK**.
11. From the menu bar, select **Edit|Record Configuration To Device**.
    The Record Configuration window appears.

12. From the Destination Device pane, select the **device** to record the configuration to.
13. Click **Record**.
    The configuration is permanently saved to the IP-223.

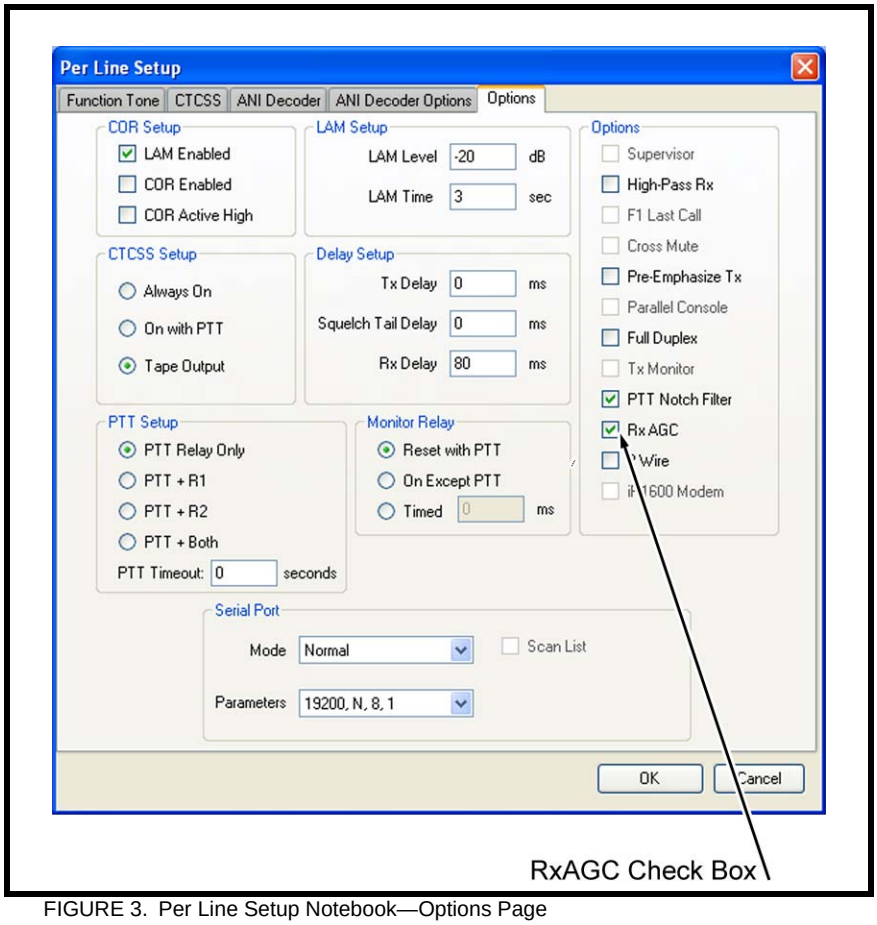

FIGURE 3. Per Line Setup Notebook—Options Page

3.3.2 IP-223 Jumper Settings

Use Table 3 to configure the IP-223 jumpers settings.

TABLE 3. IP-223 Jumper Settings

Line 1	Jumper Setting	Line 2
J33, J34	B = 4-Wire	J5, J6
J16, J21	A = Single Ended	J19, J20
J14	Hanging on center pin = 10K Ohm	J24‘
J3, J9, J11	A = Single Ended	J25, J28, J29
J13	B = High	J27
J17, J22	B = 600 Ohms	J10, J15
J8	Hanging on center pin = No pull-up voltage	J30

REFERENCE: For more information, see the IP-223 Technical Manual (P/N 803641)

4.0 Radio Configuration

4.1 Channel Change Configuration

To **configure the I/O for channel change**, do the following:

1. Open the **Vertex Standard software**.
2. Select **Common|Programmable I/O** from the menu bar.
   The Programmable I/O Parameters window appears. See Figure 4.
3. From the Programmable I/O drop down menu, select the **appropriate channel change parameter**.
4. Click **OK**
5. Save the **configuration**

NOTE: This configuration allows for control of 32 channels if supported by the console.

REFERENCE: For more information, see manufacturer's configuration instructions for details specific to your radio model.

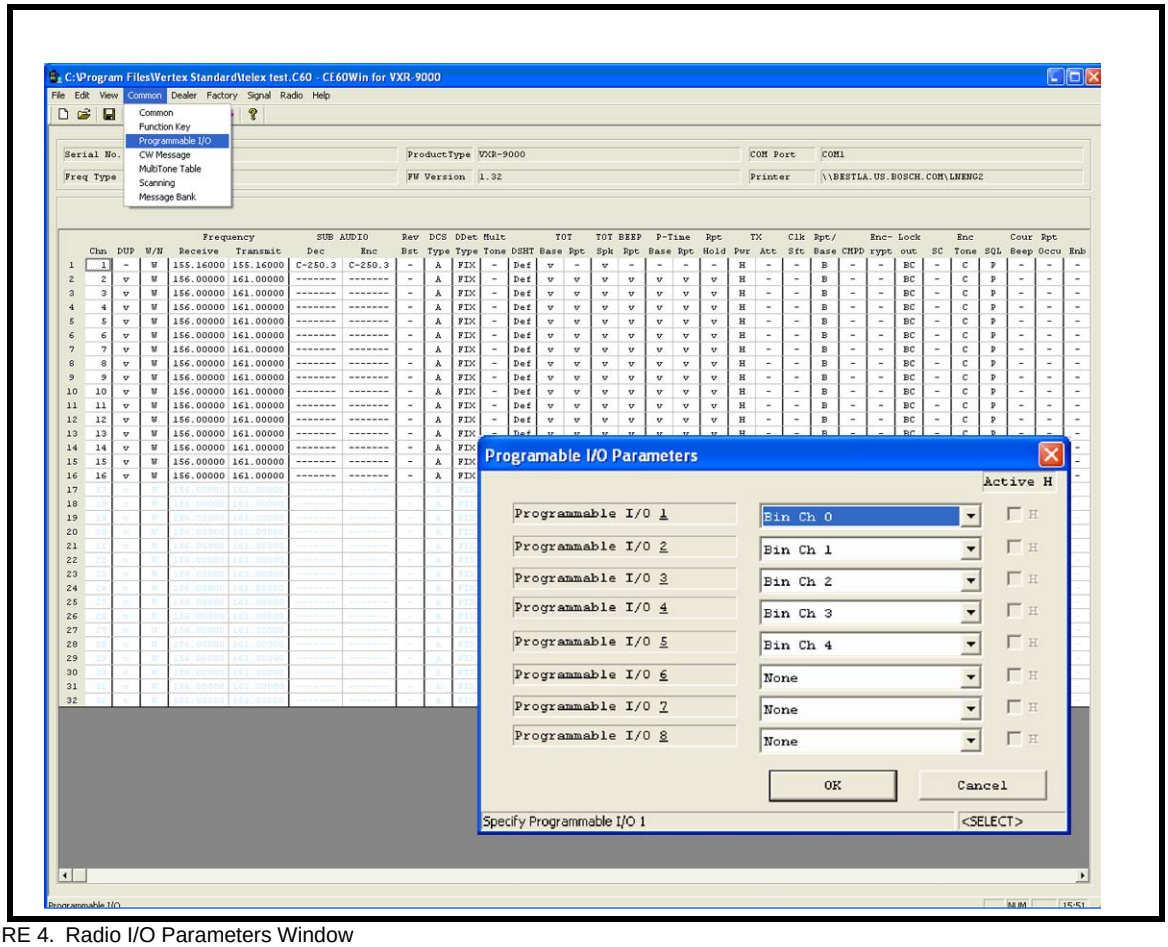

FIGURE 4. Radio I/O Parameters Window

Notes:

Revision History		
Document Title: Vertex Standard VXR-9000 Repeater to 223 Series Adapter Panels		
Document Number: AN-DISPATCH-031		
Revision	**Change Description**	**Date**
A	Update brand, format and new document number. (from rev A)	30-OCT-2009

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