Vertex Standard
VX-4100/4200 Series Radio
To
223 Series Adapter Panels

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Radio Dispatch

Table of Contents

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VX-4100/4200 Series Radios
To
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1.0   General

This application note is intended to show how to assemble a cable and set up the hardware of different 223 series adapter panels (TRA-223, DSP-223, and IP-223) to the Vertex VX-4100/4200 series mobile radio.

2.0   Interconnect Cable Assembly

A cable assembly is required to connect to the HD DB-15 pin accessory connector of the Vertex VX-4100/4200 to the 223 series adapter panels.

Use Table 1 to manufacture this cable assembly.

NOTE: L-Com cable P/N CHD15MM-x can be purchased to make this cable assembly, wire colors have been provided. Visit www.L-Com.com for further information.

TABLE 1. Cable Assembly Settings

TRA-223 DB-25 Pin	DSP-223 DB-25 Pin	IP-223 DB-25 Pin	VX HD DB-15	Signal	L-Com Cable Wire Color
25	25	25	1	MIC+	ORG/BLK
24	24	24	2	RX+	BLU/WHT
14	14	14	6	PTT	GRN
7	7	7	3	GND	ORG
	8	8	9	D0	GRN/BLK
	21	21	10	D1	ORG/BLK
	9	9	11	D2	BLU/BLK
	22	22	12	D3	BLK/WHT

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

NOTE: Shield wires need to be connected between both DB connectors shrouds.

3.0 223 Series Panels

3.1 TRA-223 Setup

3.1.1 TRA-223 Dip Switch Settings

Use Table 2 to set the dip switches for the TRA-223.

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

3.2   DSP-223 Software Setup

Using Figure 2, configure the DSP-223 for channel change using the digital outputs.
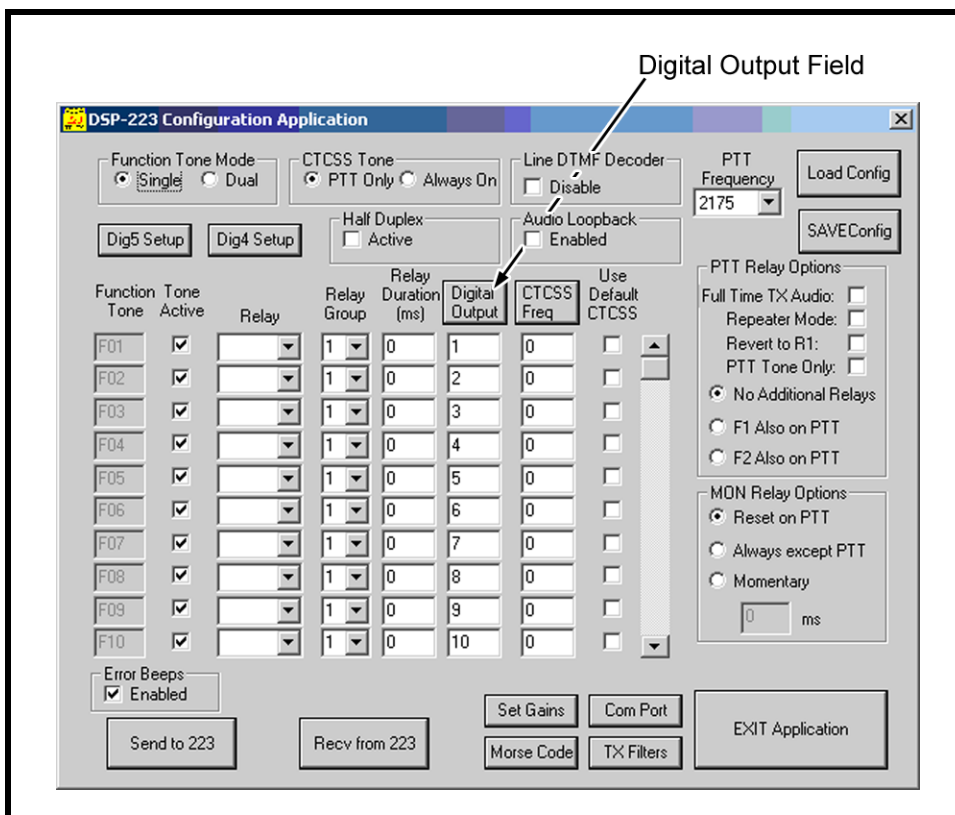

FIGURE 1. DSP-223 Configuration Application

3.2.1   DSP-223 Jumper Settings

To **set the DSP-223 Jumpers**, do the following

1. Set to the **A position**:
   - J14, J15, J22, J23, J24, J25, and J27.
2. Set to the **B position**:
   - J12 and J13.
3. Solder close **JP2.**
4. Set J16 to the **center pin** (hanging).
5. For selecting **2- or 4-wire operatio**n:
   - J19, J20, and J21.

REFERENCE: For more information, see the DSP-223 Technical Manual (P/N 803274) DSP to Console Line Connection section. This document is available for download at www.telex.com/Downloads/.

3.3   IP-223 Setup

Set up the desired IP-223 line's jumpers for Local radio control.

To **set up the IP-223**, do the following:

1.   Using Figure 2, configure the IP-223 for channel change using the **digital output** field.
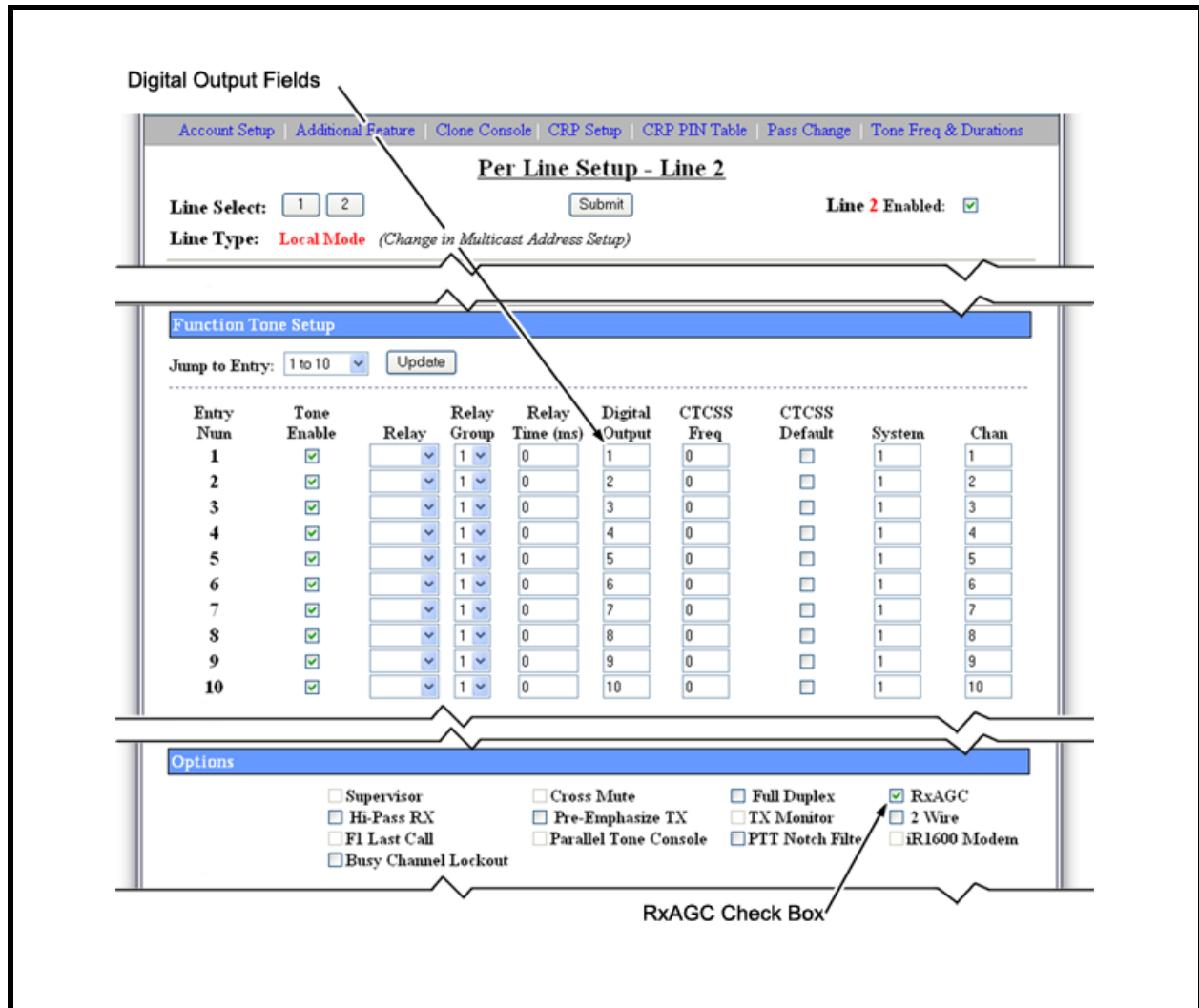2.   Select the **RX AGC** check box.

FIGURE 2. Per Line Setup Window

3.3.1   IP-223 Jumper Settings

Using Figure 3, set the IP-223 jumpers for the desired line.

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

4.0   Radio Configuration

Use the radio's configuration software.

To **configure the radio**, do the following:

1. On the Miscellaneous window, from the External PTT drop down menu, select **Enabled**.
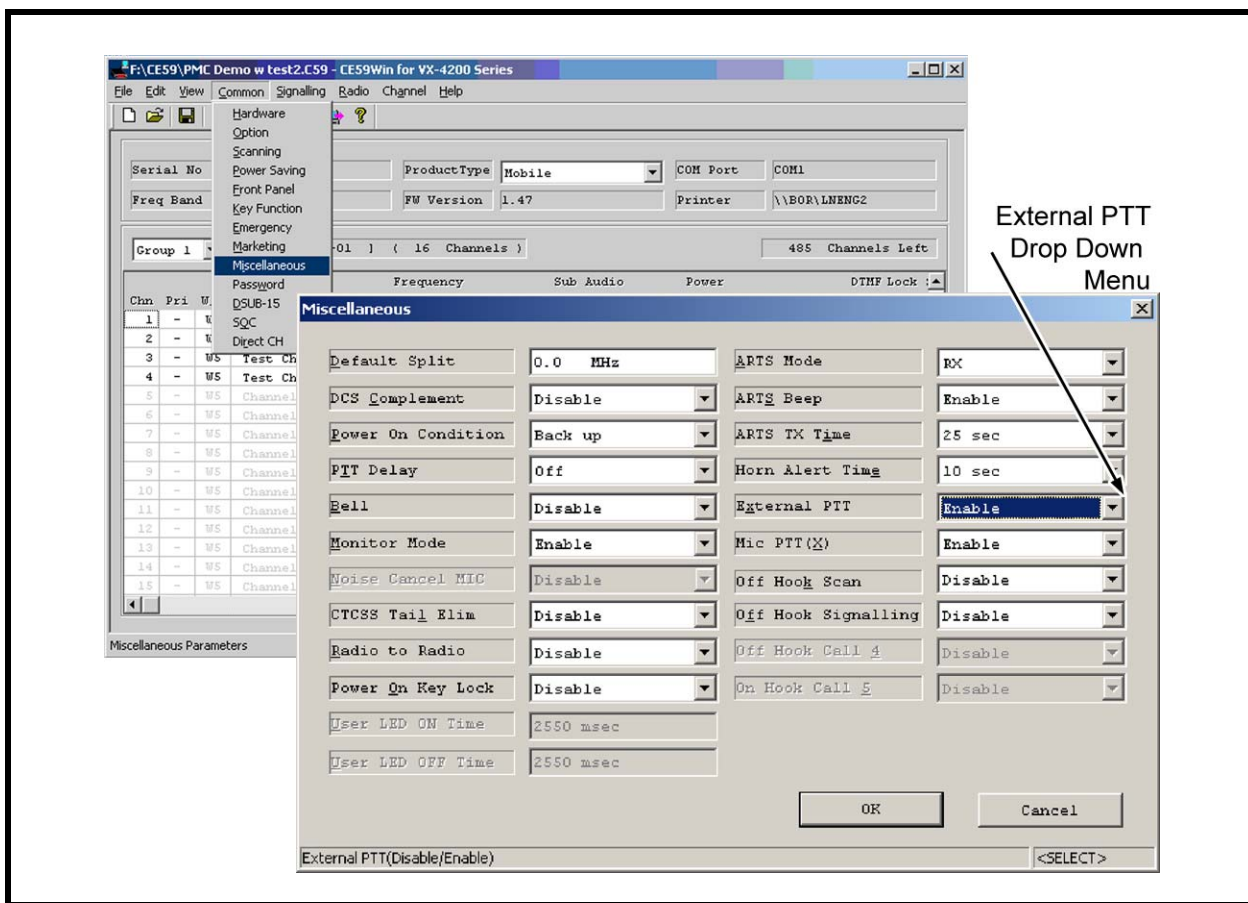

FIGURE 3. External PTT

2.   On the DSUB-15 window, configure the **ACC I/O Ports** for channel change.
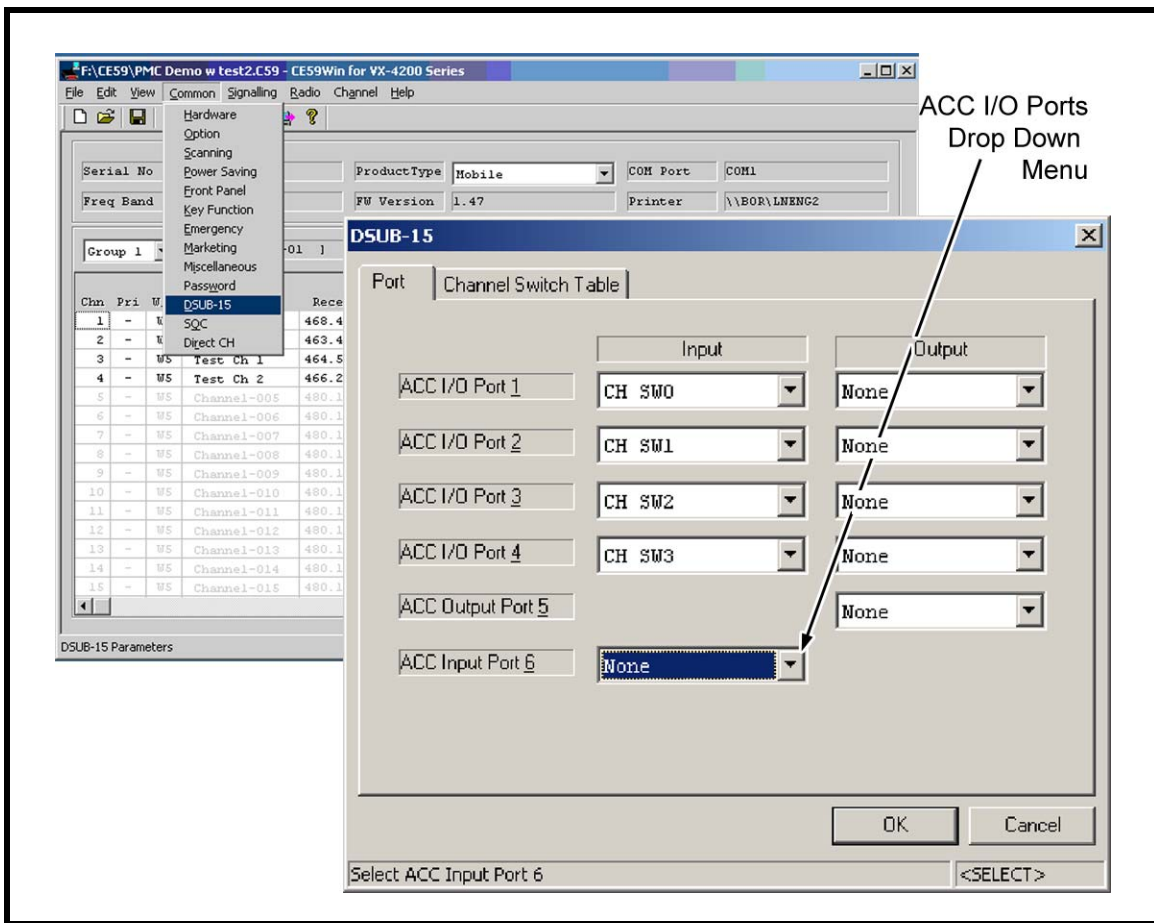

FIGURE 4. ACC I/O Ports Configuration

3. In the Channel Switch Table, set the **desired channel/frequency**. Up to 16 is allowed.
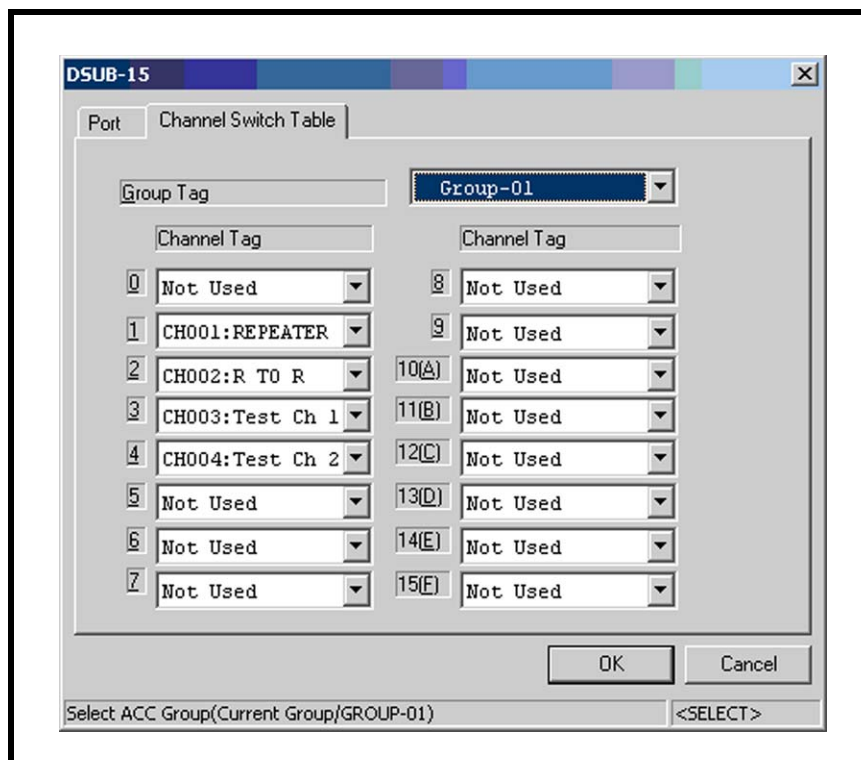

FIGURE 5. DSUB-15 Channel Switch Table

4. Save the **radio configuration**.

Revision History		
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Revision	**Change Description**	**Date**
A	Update brand, format and new document number.	01-OCT-2009

Suggestions or comments:

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