TELEX Application Note

IP-223 to Kenwood NEXEDGE Mobile Radio

VOIProven TELEX Radio Dispatch

Table of Contents

1.0 General 3

2.0 Setup 3

2.1 NX-700/800 Model Cable Assembly 3

2.2 IP-223 Jumper Settings 4

2.3 IP-223 Configuration 4

2.4 Per Line Function Tone Configuration 7

2.5 Per Line CTCSS Configuration 8

2.6 NX-700/800 Radio Configuration 9

IP-223 to Kenwood NEXEDGE Mobile Radio

1.0 General

This application note is intended to assist technical staff with Kenwood*[1] NX-700/800 and IP-223 Remote Adapter cable assembly, software configuration and hardware setup.

NOTE: These Kenwood features are available in IP-223 firmware version 4.2 or later.

REFERENCE: For more information, see the IP-223 Technical Manual (P/N 803641). This document is available for download at www.telexradiodispatch.com/.

2.0 Setup

2.1 NX-700/800 Model Cable Assembly

NOTE:

- The IP-223/Kenwood TK-X150/X180 Radio Cable Assembly can be either built locally or purchased separately (P/N 301956000) from Telex.
- If two (2) serial controlled devices are to be attached to one (1) IP-223, the DB-9 Cable Splitter Assembly, (P/N 301953000), available from Telex, should be used.

1.See “Copyright Notice” on page 11.

The tables below show the cable assembly pin outs for NX-700/800 model radios.

TABLE 1. IP-223 to NX-700/800—DB-25 Cable Assembly

Signal	IP-223 DB-25	NX-700/800 Radio DB-25
Ground	7	7
PTT Common	2	7
PTT	14	12 (Programmable Aux Input)
COR	20	20 (Programmable Aux Output)
RX+	24	17
TX+	25	6

TABLE 2. IP-223 to NX-700/800—DB-25 Cable Assembly

IP-223 Serial Signal	IP-223 DB-9		NX-700/800 Radio DB-25
	Line 1	Line 2	
TXD	2	8	2
RXD	3	7	3

2.2 IP-223 Jumper 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	A = 600	J24
J3, J9, J11	A = Single Ended	J25, J28, J29
J13	B = High	J27
J17, J22	B = 600 Ohms	J10, J15
J8	A = +5Vdc	J30
J35	A = RS232 Serial Data	J26

2.3 IP-223 Configuration

Setup the desired IP-223 line for Kenwood radio control.

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

1. Open **Telex System Manager**.
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.

6. Select the **Serial Port** tab
7. From the Mode drop down menu, select **Kenwood NEXEDGE.**
   The line is configured for Kenwood NEXEDGE.

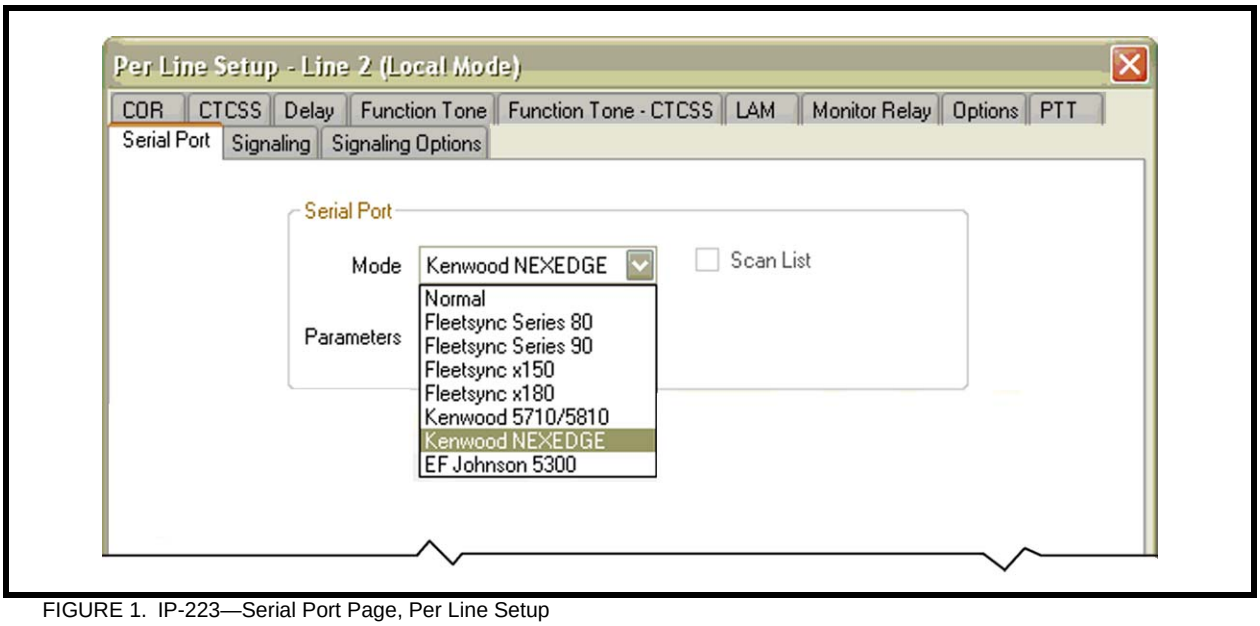

FIGURE 1. IP-223—Serial Port Page, Per Line Setup

To **configure COR on the IP-223**, do the following:

1. From the Per Line Setup notebook, select the **COR** tab.
2. Select the **COR Enabled** check box.
   The line is configured for COR.

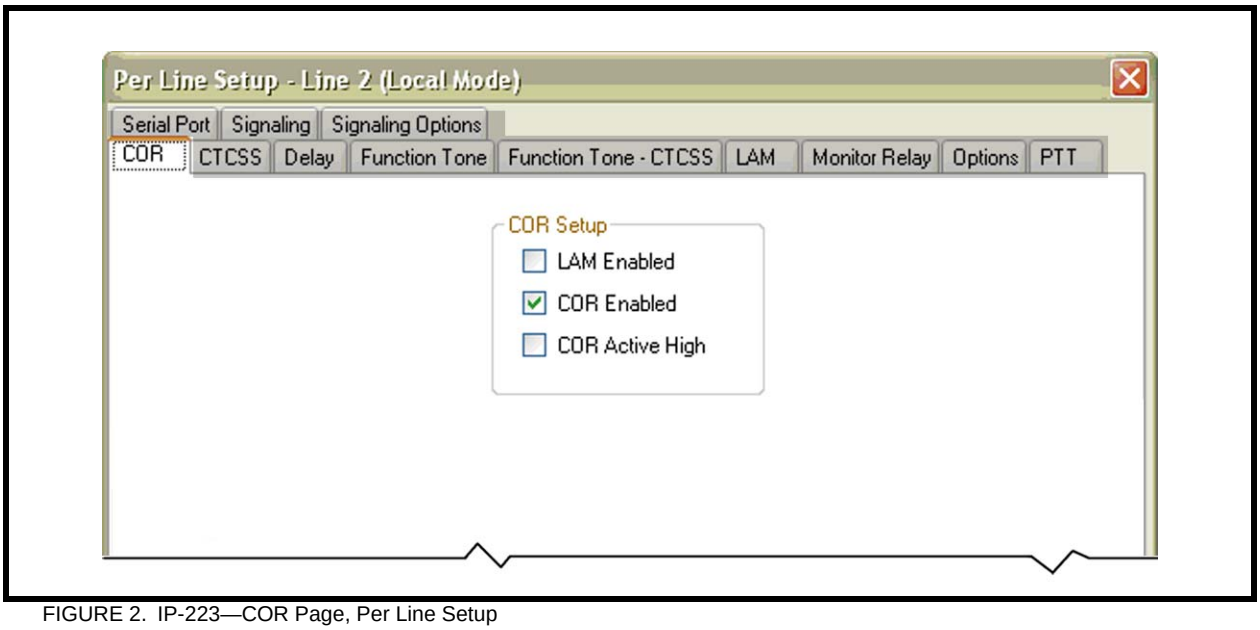

FIGURE 2. IP-223—COR Page, Per Line Setup

2.4 Per Line Function Tone Configuration

The **Function Tone** page is used to enable the function tones.

1. From TSM, click the **Function Tone** tab.
   The Function Tone page appears.
2. Select the **Enable** check box for all channels to be accessed by the IP-223.

NOTE: By selecting all 10 function tone Enable check boxes, 100 function tones are available for configuration.

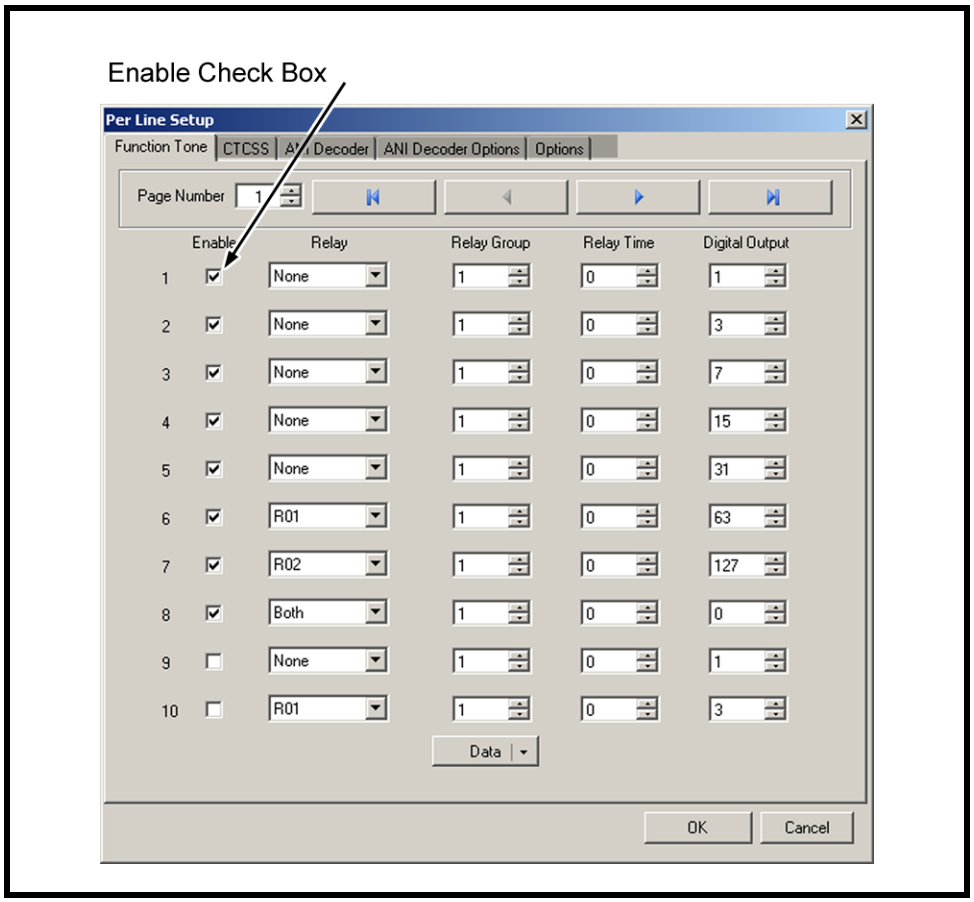

FIGURE 3. Per Line Setup—Function Tone Page

2.5 Per Line CTCSS Configuration

The **CTCSS** (Continuous Tone-Coded Squelch System) page is used to configure the function tone's radio system and to activate channels. The default system and channel values are automatically filled in the System and Channel fields.

The example shown in Figure 4 indicates function tones 1–8 are allowed access to system 1 and each function tone 1–8 is allowed access to its corresponding channel.

NOTE: By selecting all 10 function tone Enable check boxes, 100 F-tones are available for configuration.

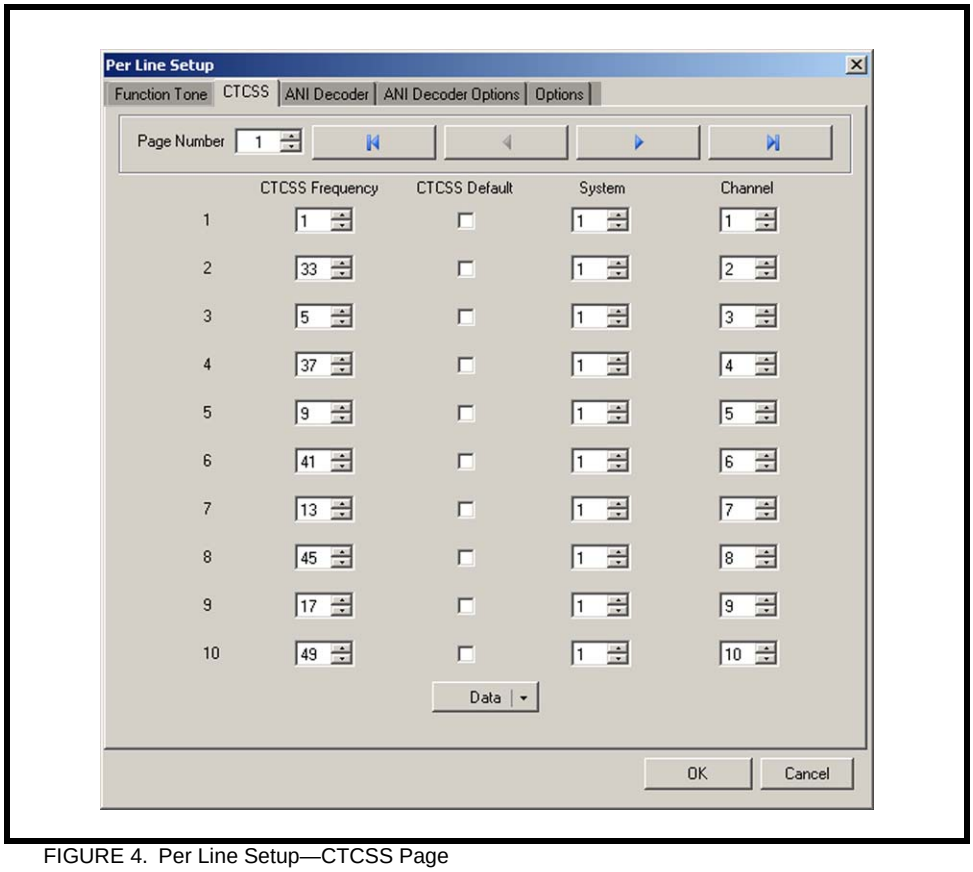

FIGURE 4. Per Line Setup—CTCSS Page

2.6 NX-700/800 Radio Configuration

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

To **configure the radio's PTT**, do the following:

1. Open the **NEXEDGE** application.
2. Navigate to the **Extended Function** notebook.
3. Select the **AUX** tab.
   The AUX page appears.
4. Set pin12's I/O field to **Input**.
5. Set pin 12's Function field to **External PTT**.
6. Set pin 20's I/O field to **Output**.
7. Set pin 20's Function field to **COR**.

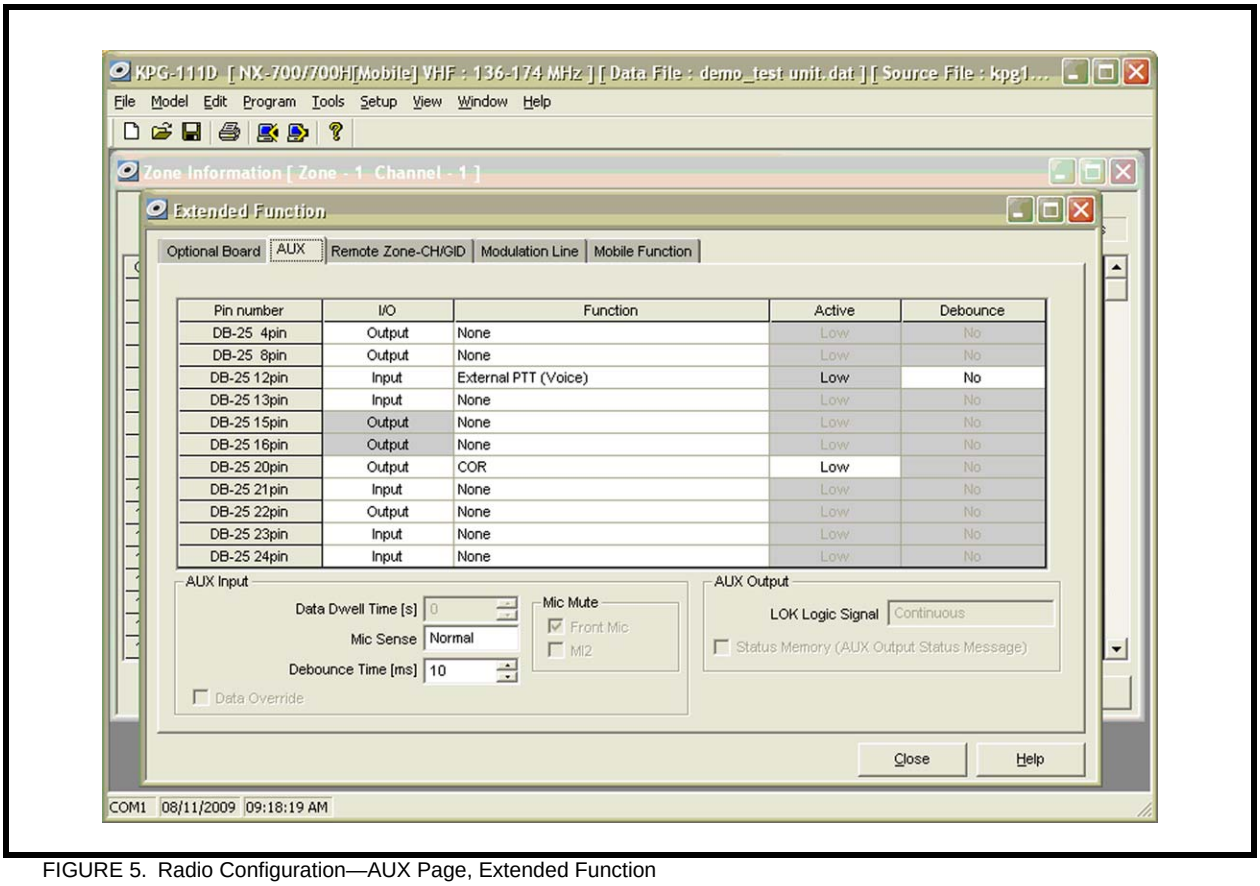

FIGURE 5. Radio Configuration—AUX Page, Extended Function

To **configure the Optional Features**, do the following:

1. Navigate to the **Optional Feature** notebook.
2. Click the **Common Page 3** tab.
   Common Page 3 appears.
3. Set the function field for COM port 1 to **Data**.
4. Set the PC Interface Protocol field to **Version 2**.

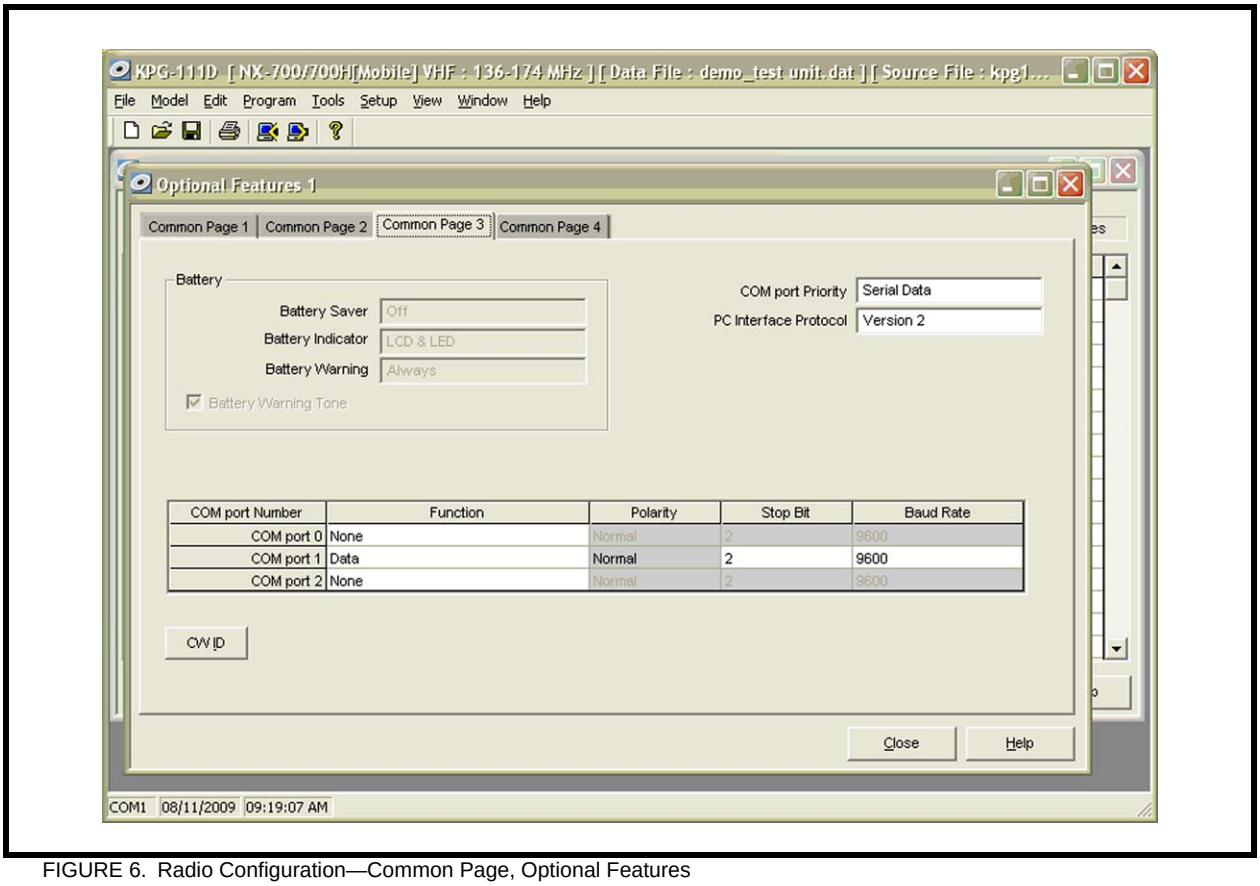

FIGURE 6. Radio Configuration—Common Page, Optional Features

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For warranty and service information, refer to www.telex.com/warranty.

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Revision History		
Document Title: IP-223 to Kenwood NEXEDGE Mobile Radio		
Document Number: AN-DISPATCH-044		
Revision	**Change Description**	**Date**
A	Update brand, format and new document number.	01-FEB-2010
B	Update Telex website url. Correct table 3: row 7 column 2; row 4, column 3 and add row 8.	11-FEB-2011