

**Relm
RM Series Radios to
223 Series Adapter Panels**



Table of Contents

1.0 General	3
2.0 Interconnect Cable Assembly	3
3.0 223 Series Panels	4
3.1 TRA-223 Setup	4
3.1.1 TRA-223 Dip Switch Settings	4
3.2 DSP-223 Setup	4
3.2.1 DSP-223 Jumper Settings	5
3.3 IP-223 Setup	5
3.3.1 IP-223 Jumper Settings	6
4.0 Radio Setup	6
4.1 Radio Setup	6

Relm RM Series Radios to 223 Series Adapter Panels

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 a Relm RM series mobile radio.

2.0 Interconnect Cable Assembly

A cable assembly is required to connect the HD DB-15 connector of the RM to the various 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 are provided (www.L-com.com).

TABLE 1. Interconnect Cable Assembly

TRA-223 DB-25 Pin	DSP-223 DB-25 Pin	IP-223 DB-25 Pin	RM HD-DB-15	Signal	L-Com Cable Wire Color
25	25	25	10	MIC +	ORN/BLK
24	24	24	15	RX +	BLU/WHT
14	14	14	14	PTT	GRN
7	7	7	7 & 2	GND	ORN
10	10	20	20	COR	BLU/BLK

3.0 223 Series Panels

3.1 TRA-223 Setup

Use Table 2 to set the TRA-223 Dip Switches

3.1.1 TRA-223 Dip Switch 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	Off	Radio Tx Level On = Low Level Off = High Level
7	Off	Ground on PTT Relay Common
8	Off	Ground on Monitor Relay Common

3.2 DSP-223 Setup

To set up the DSP-223, do the following:

1. Open the **DIG 4 Input COR Setup window**.
2. Select the **Enable Dig4 as COR Input** check box.

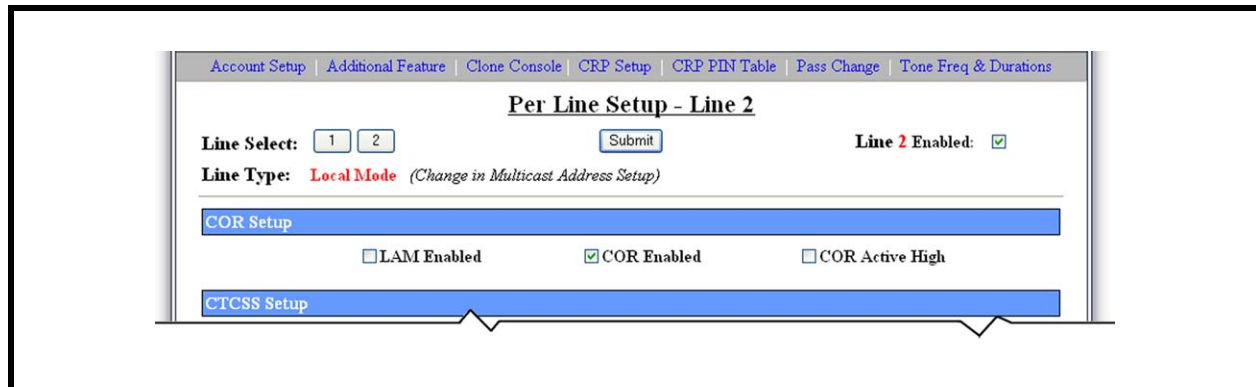


FIGURE 1. Per Line Setup Window

3.2.1 DSP-223 Jumper Settings

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

1. Set the following jumpers to **position A**:
 - J14, J15, J22, J23, J24, J25, J27.
2. Set the following jumpers to the **B position**:
 - J12, J13, J16.
3. For selecting **2- or 4-wire operation**:
 - 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

Configure the desired IP-223 line’s jumpers for Local radio control.

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

1. Configure the **General Gain Setup window** for -28dB TX.

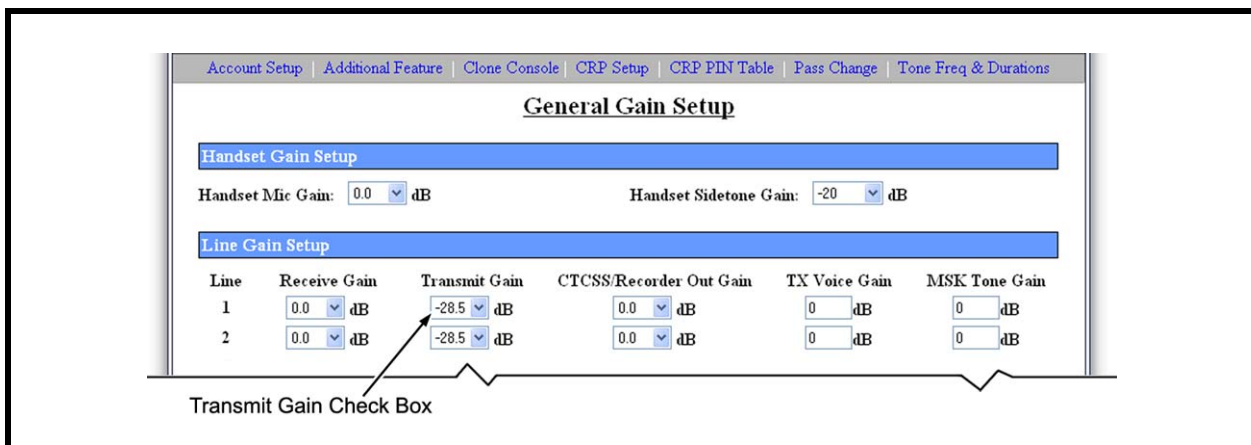


FIGURE 2. General Gain Setup Window

2. Configure the **Per Line Setup Window** as follows:

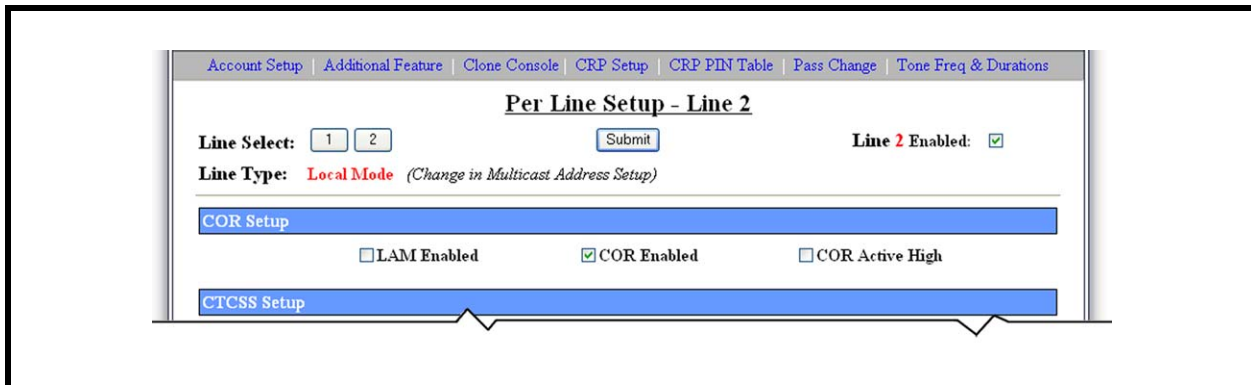


FIGURE 3. Per Line Setup – COR Enabled

3.3.1 IP-223 Jumper Settings

Use Table 3 to set the jumpers for Line 1 or Line 2.

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	A = 5 Vdc pull-up	J30

4.0 Radio Setup

You must use the radio-specific software to configure the radio.

4.1 Radio Setup

To **set up the radio**, do the following:

1. Open the **radio-specific configuration software**.
2. Select **Global B**.

3. Using Figure 4, configure the **page** for operation.

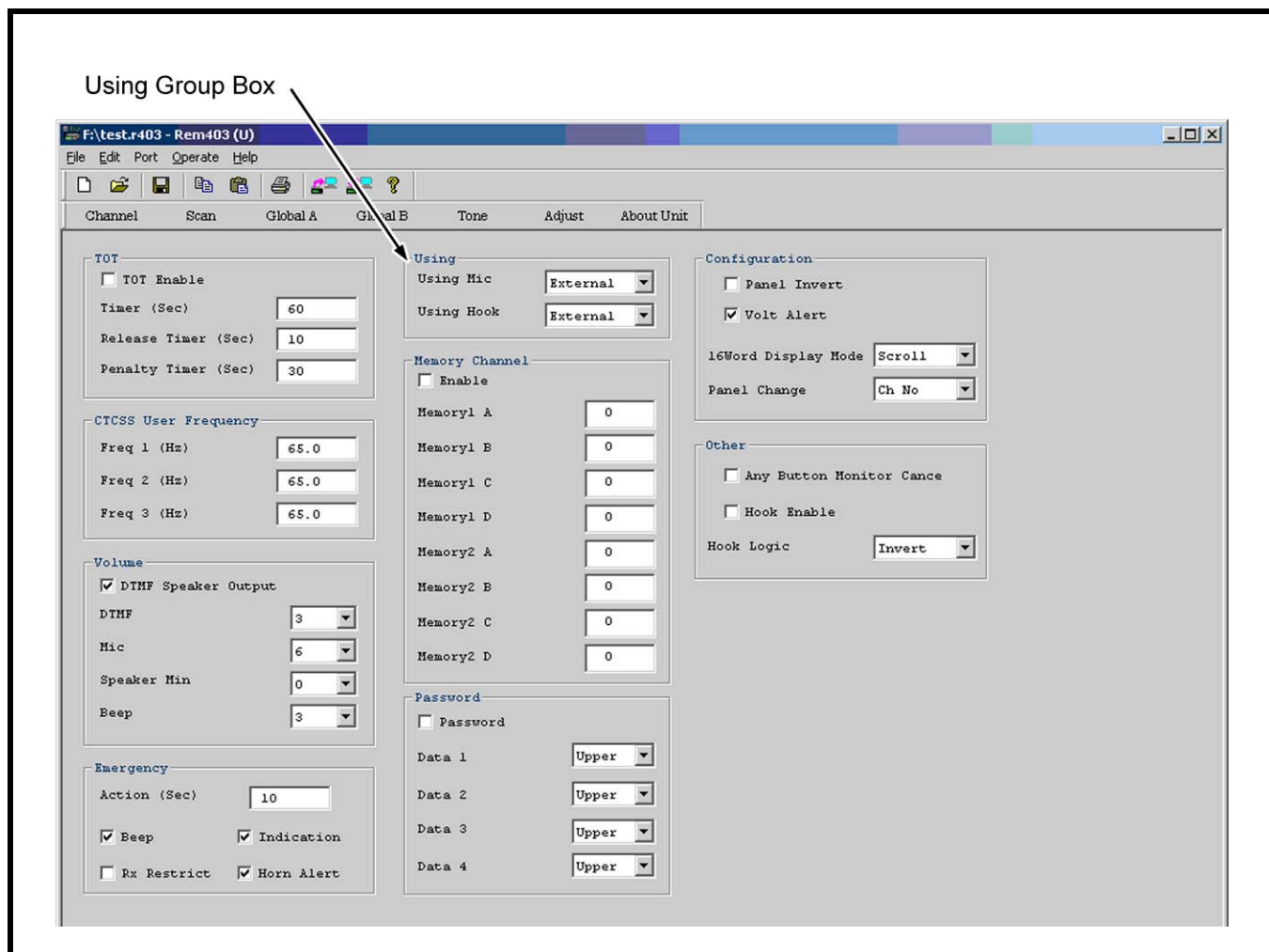


FIGURE 4. Configure the Radio

4. In the Adjust field enter **relmsetcal**.

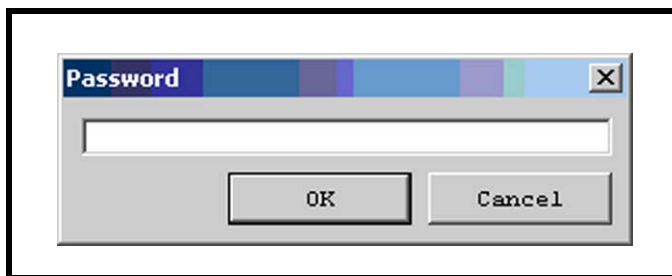


FIGURE 5. Password Window

5. In the Hardware section, configure the **External Microphone Input**.

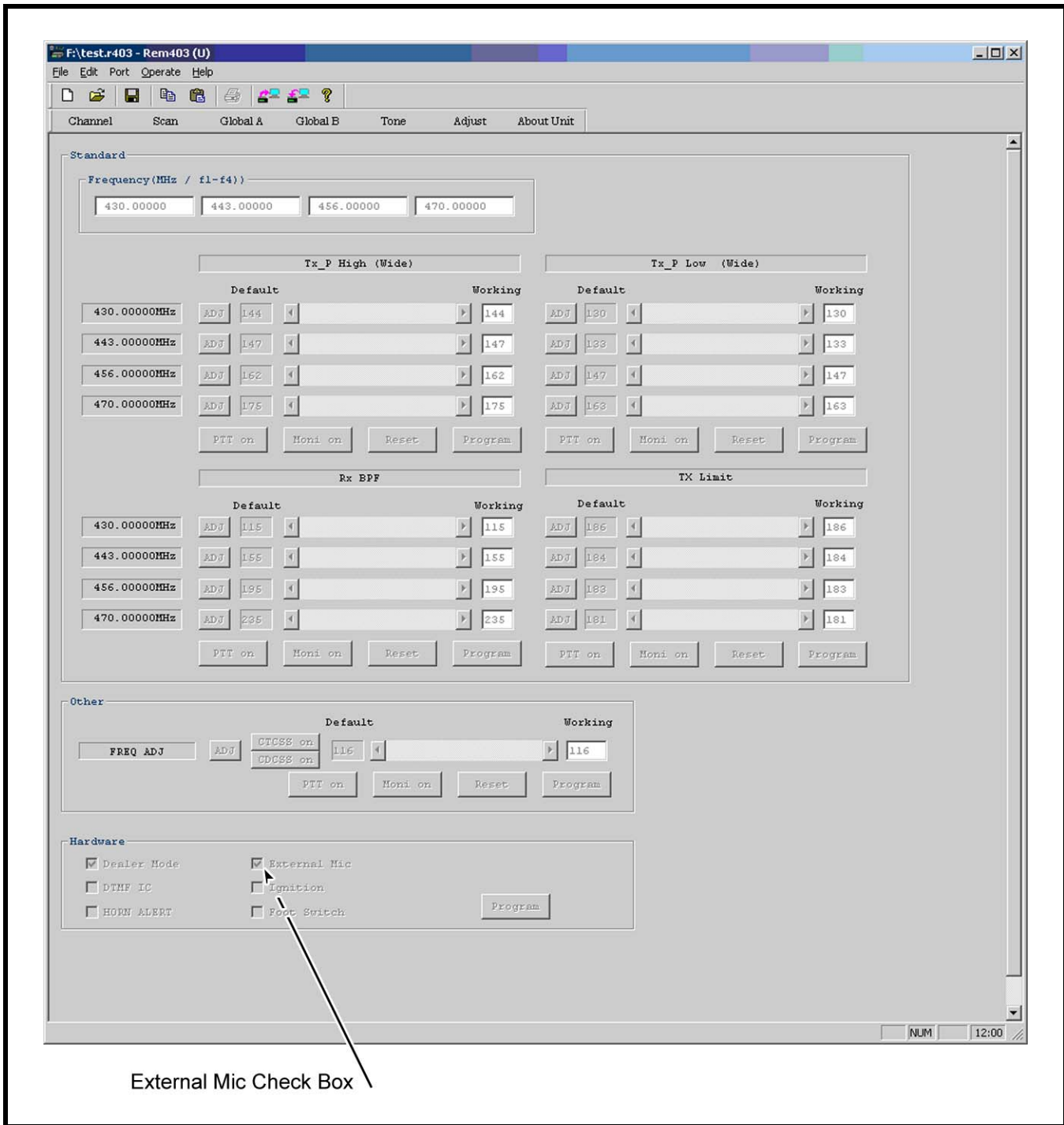


FIGURE 6.

6. Press **Program**.
7. Reload **all settings** to the radio using the write to radio function.

NOTES:

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A	Update brand, format and new document number.	01-OCT-2009

Suggestions or comments:

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