

iDEN Radio Control on Legacy Tone Systems Using IP-223s



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1.0 General

This application note is intended to show how to configure and connect a Telex IP-223, N-I223 and an iDEN radio to a legacy tone control system and provide direct connect control to an operator.

The following features are supported using this method:

- **Last call -**
F1 can be configured to call the last unit to call in or the last outgoing call.
- **Up to 16 Preprogrammed Direct Connects -**
FTone button limit on most consoles is 16, only 15 available if the Last call function is active.
- **Manual Entry of Direct Connect Numbers -**
Possible if the console is equipped with DTMF keys A-D (direct connect # followed by the D key)
- **Group Calls -**
Possible if the console is equipped with DTMF keys A-D (direct connect group number followed by the C key) 5.
- **Alerts -**
Possible if the console is equipped with DTMF keys A-D (direct connect number followed by the A key)

NOTE: Phone functions are not supported.

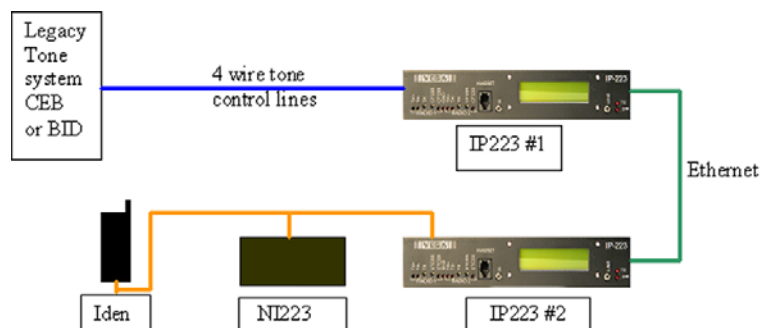


FIGURE 1. Legacy Tone System to iDEN

1.1 Tone Control of iDEN

Control tones (2175Hz/F-tone/2175hz PTT) are generated by the legacy system either at the console output or at the CEB/BIN output. These tones are inserted into the first IP-223 (IP-223 1 in the following example) via 4-wire tone control where this first IP-223 is running in Console mode. The first IP-223 decodes the tones and generates TX packets to the Ethernet port. The second IP-223 (IP-223 2 in the following example), running in iDEN mode, receives the TX packets via Ethernet and sends a Direct Connect command to the iDEN radio.

The iDEN radio connects to the system, provides a clear-to-talk tone which is sent back through the second IP-223's RX circuits, generates RX packets through the Ethernet port to the first IP223 and back to console operator's speaker via the RX input on the console system.

NOTE: Both Multicast and Unicast are supported; however, only Multicast setup is discussed here. For more information about Unicast Setup, contact technical support.

2.0 IP-223 1 Setup

IP-223 1 requires jumper and Multicast configuration for Console mode operation and line 1 settings.

2.1 IP-223 1 Jumper Settings

Set the jumpers of IP-223 1 to Console mode.

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

2.2 IP-223 1 Multicast Setup

To configure IP-223 1 for Multicast, do the following:

1. From the IP-223 web browser configuration window, click **Multicast Setup**.
The Multicast setup window appears.
2. Select the **Enable via Ethernet** for both Line Number 1 and Line Number 2.
3. From the Line Type drop down menu, select **Console Mode** for both line 1 and line 2.
4. Enter a name in the **Line Name** field for both line 1 and line 2.
5. In the **Rx Multicast** field enter the same Multicast Address for both line 1 and line 2. (For example 225.8.11.81).
6. In the **Tx Multicast** field enter the same Multicast Address used in the Rx Multicast field for both line 1 and line 2. (For example 225.8.11.81).
7. In **line 1's Rx Port** field, enter a unique port number. (For example, 1054).
8. In **line 1's Tx Port** field, enter a unique port number. (For example, 1254).
9. In **line 2's Rx Port** field, enter a unique port number. (For example, 1055).
10. In **line 2's Tx Port** field, enter a unique port number. (For example 1255).
11. Click **Submit**.
The changes are temporarily saved.
12. Click **Save to EEPROM**.
The EEPROM window appears.
13. Click **Save Parameters**.
The Changes are permanently saved to IP-223 1.

Line Number:	Enable via Ethernet:	Line Type:	Line Name:	Rx Mcast Address:	Rx Port:	Tx Mcast Address:	Tx Port:	Tx Group Port:	TTL:
1	<input checked="" type="checkbox"/>	Console Mode	Line 1	225.8.11.81	1054	225.8.11.81	1254	0	6
2	<input checked="" type="checkbox"/>	Console Mode	Line 2	225.8.11.81	1055	225.8.11.81	1255	0	6

FIGURE 2. Multicast Address Setup—IP-223 1

2.3 IP-223 1 Per Line Setup

To configure IP-223 1's Per Line Setup, do the following:

1. From the IP-223 1 web browser configuration window, click **Per Line Setup**.
The Per Line Setup window appears
2. Select the **Full Duplex** check box.
3. Select the **RxAGC** check box

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

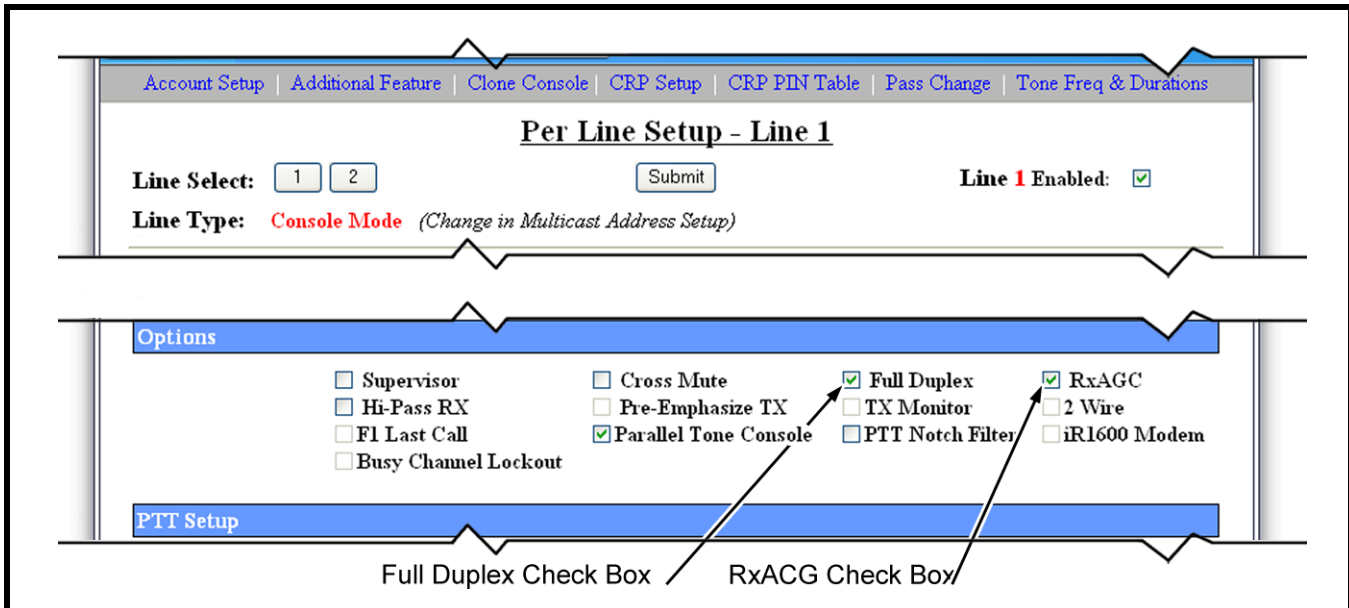


FIGURE 3. Per Line Setup—IP-223 1

3.0 IP-223 2 Configuration

IP-223 2 requires jumper and Multicast configuration for iDEN mode operation and line 1 settings.

3.1 IP-223 2 Jumper Settings

Set the jumpers of IP-223 2 to iDEN mode.

REFERENCE: For more information, see the NI-223 Technical Manual (P/N 804165).
This document is available for download at www.telex.com/Downloads/.

3.2 IP-223 2 Multicast Address Setup

To configure IP-223 2 for Multicast, do the following:

1. Follow **steps 1, 2,** and **steps 4 through 10**, in “IP-223 1 Multicast Setup” on page 5.
2. From the Line Type drop down menu select iDEN mode for both **line 1** and **line 2**.
3. Click **Submit**.
The changes are temporarily saved.
4. Click **Save to EEPROM**,
The Save to EEPROM window appears.
5. Click **Save Parameters**.

The screenshot shows a web interface titled "Multicast Address Setup". At the top, there is a navigation bar with links: Account Setup, Additional Feature, Clone Console, CRP Setup, CRP PIN Table, Pass Change, and Tone Freq & Durations. Below the navigation bar is a blue header for "Line Multicast Setup". The main content is a table with the following columns: Line Number, Enable via Ethernet, Line Type, Line Name, Rx Mcast Address, Rx Port, Tx Mcast Address, Tx Port, Tx Group Port, and TTL. Two lines are listed in the table.

Line Number	Enable via Ethernet	Line Type	Line Name	Rx Mcast Address	Rx Port	Tx Mcast Address	Tx Port	Tx Group Port	TTL
1	<input checked="" type="checkbox"/>	iDen Radio	Line 1	225.8.11.81	1054	225.8.11.81	1254	0	6
2	<input checked="" type="checkbox"/>	iDen Radio	Line 2	225.8.11.81	1055	225.8.11.81	1255	0	6

FIGURE 4. IP-223 1 Multicast Address Setup—IP-223 2 (iDEN Mode)

3.3 IP-223 Per Line Setup

To configure IP-223 2 Per Line Setup, do the following:

1. From the web browser configuration window, click **Per Line Setup**.
The Per Line Setup window appears.
2. In the **TX Delay** field, enter 50 (ms).
3. Click **Submit**.
The configuration is temporarily saved.
4. Click **Save to EEPROM**.
The Save to EEPROM window appears.
5. Click **Save Parameters**.
The configuration is permanently saved to the IP-223.

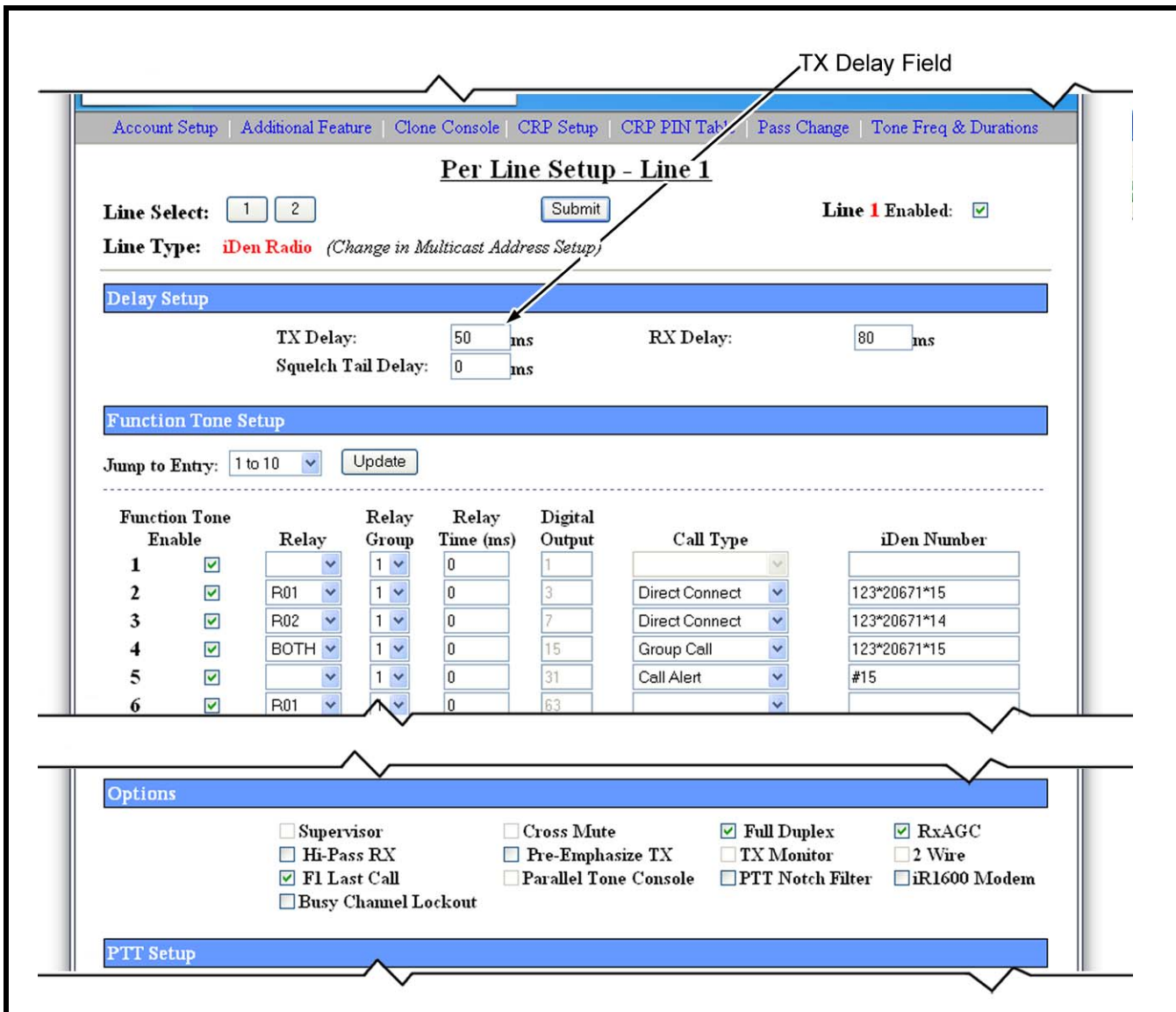


FIGURE 5. Per Line Setup—IP-223 2 (iDEN Mode)

Revision History		
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Suggestions or comments:

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