TELEX

RADIO DISPATCH PRODUCTS

iDEN Interface Installation Manual

up to and including version 1.00

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Claims

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Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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CHAPTER 1

Introduction

Overview

The IP-224 iDEN[1] Interface is a Telex Radio Dispatch option, designed to connect the IP-224 Ethernet Adapter Panel to an iDEN network.

This guide provides information to the user for a typical basic connection of a Radio Dispatch IP-224 and an iDEN radio using the iDEN Interface cable.

REFERENCE: For more information, see the IP-224 Technical Manual (P/N F.01U.218.562), the C-Soft Technical Manual (P/N F.01U.218.561) and the Radio Manufacturer's technical documentation.

Features

The IP-224 iDEN Interface option allows the console operator to make calls over the iDEN network using Telex's C-Soft radio dispatch console.

The following call types are supported:

- Direct Connect
- Group
- Alert
- Emergency Group

1. See "Copyright Notice" on page 2.

Hardware Requirements

The IP-224 iDEN Interface option is used with the following hardware:

- IP-224 Ethernet Adapter Panel
- iDEN Falcon Series Radio

Software Requirements

The IP-224 iDEN Interface option is used with the following software:

- C-Soft Software version 5.300 or later.
- IP-224 Firmware version 1.000 or later.

Computer System Requirements

The C-Soft software version drives the minimum computer system and network requirements.

REFERENCE: For more information, see the C-Soft Technical Manual (P/N F.01U.218.561).

iDEN Interface Options

The **iDEN (IP-224) Interface** option (P/N F.01U.165.549) ships the following items:

- One (1) cable to interface the IP-224 to the iDEN radio.
- One (1) label containing the option code.
- One (1) data sheet, software license letter.
- One (1) Radio Dispatch Product CD.

TIP: Affix the label to the IP-224 for quick reference.

iDEN Option Code

The **iDEN Option Code** is a unique 32-character code (e.g. 4FE4785A-78541C87-78510CBE-7415DECD), located on the option code label, must be entered on the IP-224 Access Additional Features configuration webpage and saved to the IP-224 unit before iDEN parameters can be entered.

NOTE: Option codes are proprietary to the IP-224 board and cannot be used with any other IP-224 board.

CHAPTER 2

Installation

Configuration Overview

Installation begins with basic parameter entry on the IP-224 configuration webpage, followed by hardware installation, and finally basic C-Soft setup.

To **begin the basic installation process**, do the following:

1. Access the **IP-224 web browser** configuration windows. See “IP-224 Web Browser Configuration Windows” on page 9.
2. Set up basic **IP-224 parameters**. See “IP-224 Basic Setup” on page 9.
3. Connect the **iDEN Interface** cable. See “Hardware Installation” on page 16.
4. System **startup**. See “System Startup” on page 18.

IP-224 Web Browser Configuration Windows

The **IP-224 Web Browser Configuration** windows are used to set up parameters specific to your installation. The IP-224 must be powered and connected to the Ethernet with access to a PC for basic IP-224 configuration.

REFERENCE: For more information, see the IP-224 Technical Manual (P/N F.01U.218.562).

IP-224 Basic Setup

The **IP-224** basic setup is accomplished by enabling the IP-224 iDEN Interface option, setting the operating mode, and entering basic per line parameters.

REFERENCE: For more information, see the IP-224 Technical Manual (P/N F.01U.218.562), available on the Radio Dispatch Product CD or for download at www.telexradiodispatch.com

NOTE:

- The iDEN Interface option code is entered using the IP-224 configuration webpages.
- The multicast and per line parameters can be entered in the IP-224 configuration webpages or with **TSM** (Telex System Manager) (P/N F.01U.196.144). This guide uses the configuration webpages to describe the setup.

ACCESS ADDITIONAL FEATURES Window

The **ACCESS ADDTIONAL FEATURES** window is used to enter the Option Code (or *Access Key*) to enable the appropriate iDEN parameters on the Per Line Setup window.

NOTE: Option codes are proprietary to the IP-224 board and cannot be used with any other IP-224 board.

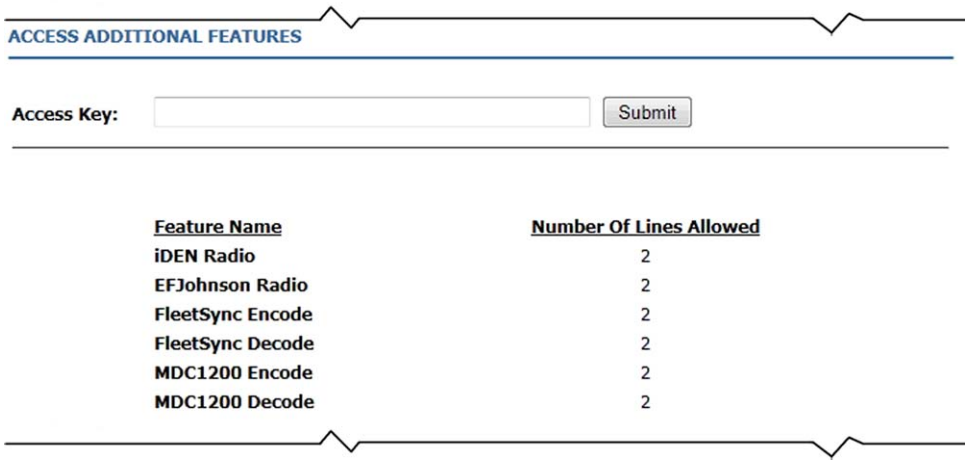

FIGURE 1. IP-224 ACCESS ADDITIONAL FEATURES Window

To **enable the iDEN Interface for IP-224 use**, do the following:

1. Open the **IP-224 Configuration webpage**.
2. Click **Additional Features**.
   The Access Additional Features window appears.
3. In the Access Key field, enter the **Access Key** (i.e. option code).

   NOTE:

   - This is the unique 32-character code that appears on the option code label.
   - If the wrong code is entered, the window shown in Figure 2 appears.
4. Click **Submit**.
   The changes are sent to the IP-224 in temporary storage.
5. From the navigation pane, click **Save Parameters**.
   The Save Parameters window appears.
6. Click **Save Parameters**.
   The entries are saved to permanent memory and the IP-224 is reset.

NOTE: If an error occurs, the message in Figure 2 appears.

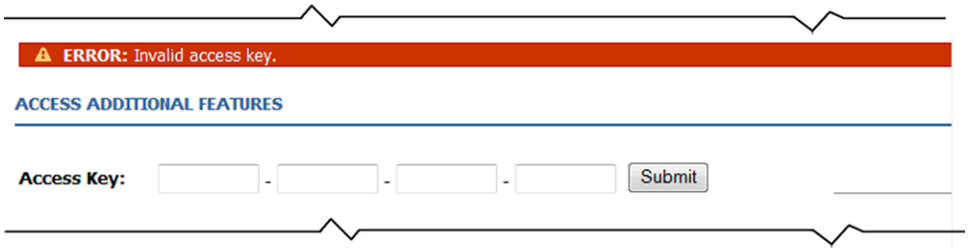

FIGURE 2. ACCESS ADDITIONAL FEATURES—ERROR: Invalid access key

LINE SETUP Window

The **LINE SETUP** window is used to set the line type's mode of operation.

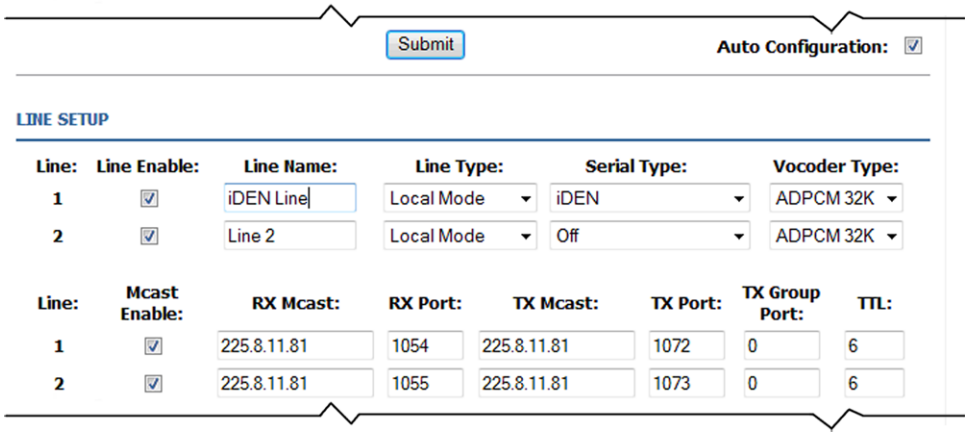

FIGURE 3. LINE SETUP Window

To **configure the line for iDEN**, do the following:

1. From the IP-224 configuration webpage, click **Multicast Address Setup**.
   The Multicast Address Setup window appears.
2. Click **Line Setup**.
   The Line Setup window appears.
3. Select the **Line Enable** check box for the line to configure.
4. From the Line Type drop down menu, select **Local Mode**.
   The line is set to Local Mode and iDEN is selectable from the Serial Type drop down menu.
5. From the Serial Type drop down menu, select **iDEN**.

   NOTE: If the Auto Configuration check box is selected, all audio settings and routing is automatically set up.
6. In the Line Name field enter a **user-recognizable name** for the line. (e.g. iDEN 1 and iDEN 2).

   NOTE: For Step 7, Step 8, Step 9, and Step 10, the C-Soft and the IP-224's RX and TX Multicast and RX and TX Port numbers must match
7. In the Rx Mcast field, enter the **Rx Multicast Address**.
8. In the RX Port field enter the **Rx Port** number.
9. In the Tx Mcast field enter the **Tx Multicast Address**.
10. In the Tx Port field, enter the **Tx Port** number.

To **permanently save the parameters**, do the following.

1. Click **Submit**.
   The changes are sent to the IP-224 in temporary storage.
2. From the navigation pane, click **Save Parameters**.
   The Save Parameters window appears.
3. Click **Save Parameters**.
   The entries are saved to permanent memory and the IP-224 is reset. The IP-224 is configured for all iDEN radio audio and control requirements.

LINE INFO Window

The **LINE INFO** window displays a summary of the current IP-224 configurations.

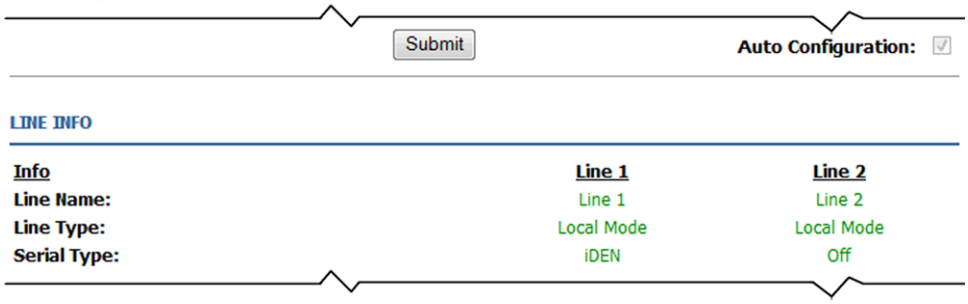

FIGURE 4. LINE INFO Section of the Hardware Setup Window

To **view the line configuration summary**, do the following:

1. From the left navigation, click **Hardware Setup**
   The Hardware Setup window appears.
2. Click **Line Info.**
   The Line Info window appears.

NOTE: If the Auto Configuration check box is selected, the information in the Audio/Analog Setup, Digital I/O Setup, and Serial Protocol Setup Sections are automatically populated.

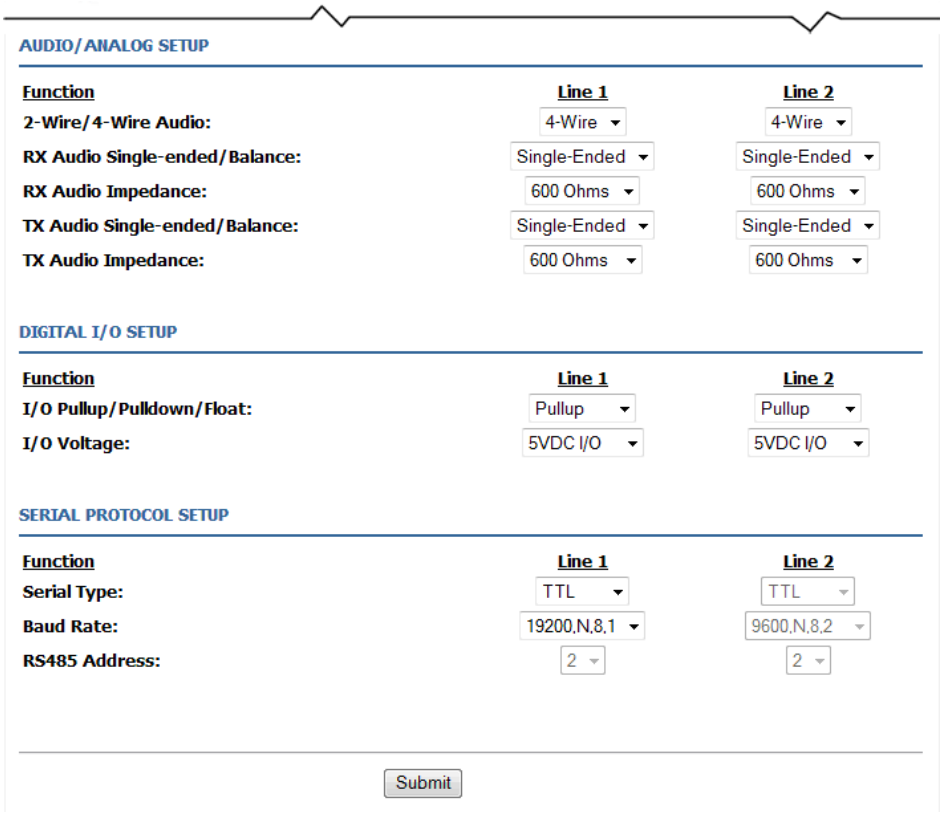

FIGURE 5. Hardware Setup Window

FUNCTION TONE SETUP Window

The **FUNCTION TONE SETUP** window is used to assign the call type and iDEN number to specific function tones for the line.

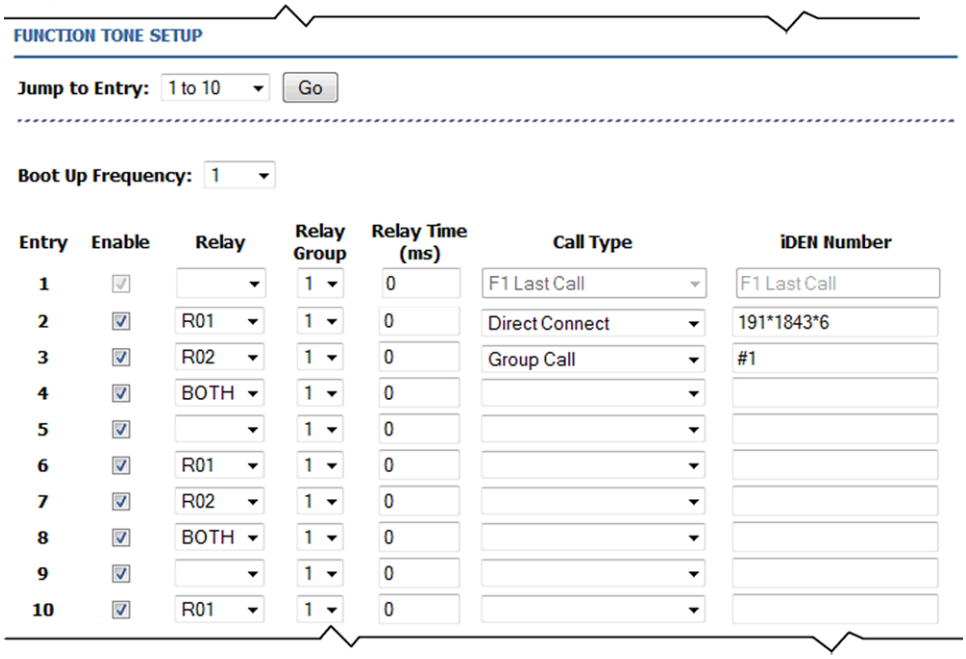

FIGURE 6. FUNCTION TONE SETUP Window

To **configure a function tone for the iDEN line**, do the following:

NOTE: If the F1 Last Call check box is selected from the Call Type drop down menu, the first function tone (F1) is reserved for Last Call function and is automatically grayed out.

1. From the IP-224 configuration webpage, click **Per Line Setup**.
   The Per Line Setup window appears.
2. Click **Function Tone Setup**.
   The Function Tone Setup window appears. The Function Tone Setup window is specific to iDEN configurations.
3. Select the **Enable** check box for the function tone to configure.
4. From the Relay drop down menu, select a **relay** for the function tone to use. (optional)
5. From the Relay Group drop down menu, select a **relay group**. (optional)
6. In the Relay Time field, enter a **time**, in ms, the relay is to remain activated. (optional)

   NOTE: The range for this field is *0* to *3200ms.*
7. From the Call Type drop down menu, select the **call type** for the function tone.

   NOTE: Available selections for this field are *Direct Connect, Group Call, Call Alert,* and *Emerg Group Call.*
8. In the iDEN Number field, enter the **iDEN number** for the function tone to connect to.

   NOTE: This field can contain up to *17 characters*.
9. Click **Submit**.
   The changes are sent to the IP-224 in temporary storage.

10. From the navigation pane, click **Save Parameters**.
    The Save Parameters window appears.
11. Click **Save Parameters**.
    The entries are saved to permanent memory and the IP-224 is reset.

To **configure more function tones**, do the following:

NOTE: *Up to 1000 function tones* can be configured.

1. From the Jump to Entry drop down menu select a **range** of function tones (list of 10) to configure.
2. Click **Go**.
   The list of selected function tones appears.
3. Add iDEN **call parameters** specific to your installation.
4. Click **Submit**.
   The changes are sent to the IP-224 in temporary storage.
5. From the navigation pane, click **Save Parameters**.
   The Save Parameters window appears.
6. Click **Save Parameters**.
   The entries are saved to permanent memory and the IP-224 is reset.

iDEN Call Operation

When C-Soft or a console changes to the associated frequency or function tone and transmits, the configured call type is sent to the iDEN radio and if available, a connection is made.

Hardware Installation

The IP-224 iDEN Interface cable, shown in Figure 7, is used to connect the IP-224 iDEN Interface to an IP-224 and an iDEN radio. Connectors are labeled.

CAUTION: All cables connected to the IP-224 must not exceed three (3) meters in length.

TIP: The option code label can be affixed to the IP-224 for reference.

Cable Connections

The IP-224 and iDEN radio are connected using the IP-224 iDEN Interface cable, see Figure 7 Each connector is labeled with the connection device.

1. DB-37, Labeled *To IP-224* — Connects to the programmed line connector on the rear panel of the IP-224.
2. iDEN Control, Labeled *TELEX* — Connects to the accessory connector on the bottom of the radio.
3. 2.55mm Phone Plug, Labeled *iDEN* — Connects to the external ear/microphone jack in the iDEN radio.

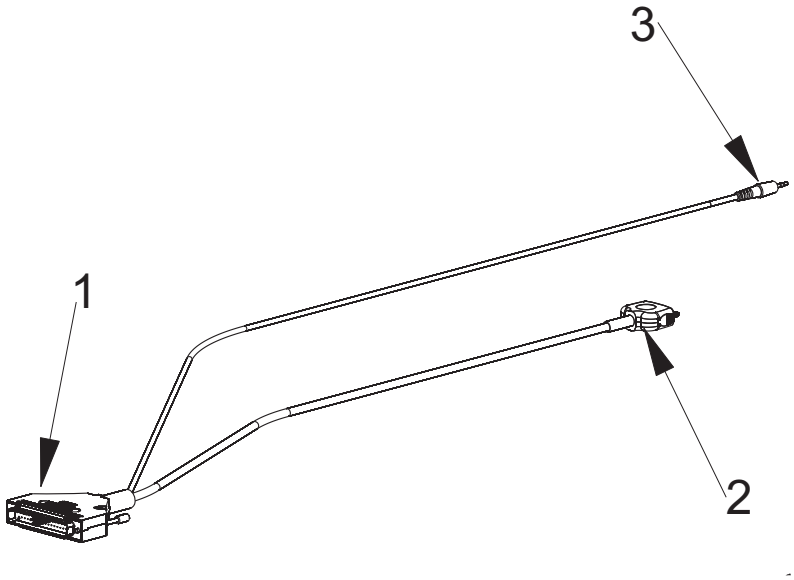

FIGURE 7. iDEN IP-224 DB-37 Cable

C-Soft Basic Setup

The **C-Soft Designer** application is used to set up console parameters specific to your installation. The IP-224 must be powered and connected to the Ethernet with access to a PC running C-Soft.

An example of basic C-Soft multicast parameters and console buttons, using two (2) lines is shown below.

REFERENCE: For more information, see the C-Soft Technical Manual (P/N F.01U.218.561).

Per Line Parameters Window

The **Per Line Parameters** window is used to configure a line's basic parameters for iDEN radio control. Basic configuration requirements for a Direct Connect call are discussed below.

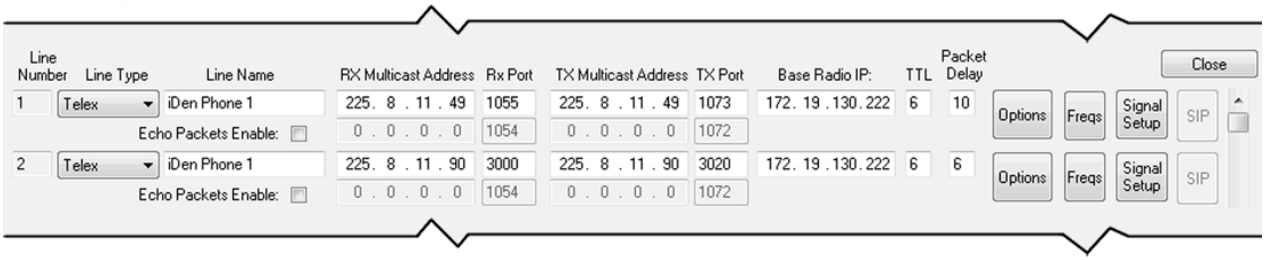

FIGURE 8. Per Line Parameters Window

To **configure an iDEN Direct Connect for the line**, do the following:

1. Open **C-Soft Designer**.
2. Select **Edit|Per Line Parameters** form the menu bar.
   The Per Line Parameters window appears.
3. From the Line Type drop down menu, select **Telex**.
4. In the Line Name field, enter a **user-recognizable name** for the line. (e.g. iDEN Phone 1)
5. Enter the **appropriate values** in the following fields:
   - RX Multicast Address (e.g. 225.8.11.49)
   - RX Port (e.g. 1055)
   - TX Multicast Address (e.g. 225.8.11.49)
   - TX Port (e.g. 1073)

   NOTE: The RX and TX Port numbers must be unique.
6. In the Base Radio IP field, enter the same **IP Address** used on the connected IP-224.
7. Click **Close**.
8. Select **File|Save** from the menu bar.
   The changes are saved to the file.

System Startup

Once the IP-224 and iDEN radio are properly connected and configured, the line name assigned on the Line Setup window appears on the IP-224 front display when powered up or when the unit is reset. This line name appears on the top row if the radio is connected to Line 1 or the bottom row if the radio is connected to Line 2.

To **reboot the system**, do the following:.

1. While in the IP-224 configuration window, click **Save Parameters**.
   The Save Parameters window appears.
2. Click **Reset IP-224**.
   The IP-224 resets and the initial startup screens appear momentarily. If properly configured, The line name appears in the display for the configured line.

FIGURE 9. Front Panel Display—Initial Startup Screens

If the line name does not appear, check the following:

- Cable connected as described.
- The IP-224 is enabled for iDEN radio control.

Notes

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