PTT EXPRESS V1.1
USER GUIDE

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Revision History

Changes to the original guide are listed below:

Change	Date	Description
A01 Rev A	11/2013	Initial release
A02 Rev A	4/2015	Zebra rebranding

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ABOUT THIS GUIDE

Introduction

PTT Express voice client creates Push-To-Talk (PTT) communication capability between disparate enterprise devices. Leveraging existing Wireless Local Area Network (WLAN) infrastructure, this solution delivers simple PTT communication without the need of a voice communication server. The client also enables PTT communication with 2-way radios using the Radio Link Solution (RLS) pending release of TEAM 1.5.

This guide is intended for use by any associate, manager, network engineer or IT administrator who will use the client.

Related Documents

Refer to the following documents for associated information about the system.

Document Name	Purpose
PTT Express Installation and Configuration Guide	Provides an overview, general requirements, installation and configuration instructions for the PTT Express. Provides troubleshooting information.
Support information for your target devices	View the website at: http://www.zebra.com/support.

For the latest version of this guide and all guides, go to: http://www.zebra.com/support.

Chapter Descriptions

Topics covered in this guide are as follows:

- *Chapter 1, Using PTT Express Voice Client* — This chapter provides an overview of PTT Express and gives a general description of the PTT Express Voice Client.

- *Chapter 2, PTT Communication* — This chapter describes PTT communication and other useful information.

Notational Conventions

The following conventions are used in this document:

- *Italics* are used to highlight the following:
  - Chapters and sections in this and related documents
  - Dialog box, window and screen names
  - Drop-down list and list box names
  - Check box and radio button names
  - Icons on a screen.
- **Bold** text is used to highlight the following:
  - Key names on a keypad
  - Button names on a screen or window.
- bullets (•) indicate:
  - Action items
  - Lists of alternatives
  - Lists of required steps that are not necessarily sequential
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

✓ **NOTE** This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.

⚠ **CAUTION** This symbol indicates that if this information is ignored, the possibility of data or material damage may occur.

⚡ **WARNING!** **This symbol indicates that if this information is ignored the possibility that serious personal injury may occur.**

Service Information

If you have a problem with your equipment, contact Zebra Support for your region. Contact information is available at: http://www.zebra.com/support.

When contacting Global Customer Support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number.

Zebra responds to calls by E-mail or telephone within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

CHAPTER 1 USING PTT EXPRESS VOICE CLIENT

Introduction

The PTT Express voice client supports the following Push-To-Talk use cases:

- Group Broadcast - One to Many
- Private Response - One to One
- Group Broadcast with 2-Way Radios - One to Many (Requires RLS).

Using the Voice Client

The enterprise devices supported by the PTT Express solution provide the key features described below.

The PTT Express voice client is available on the following Zebra devices:

✓ **NOTE** The following list is subject to change as new devices are added to the PTT Express portfolio. Please refer to the available release notes to view a list of supported devices for each version of PTT Express.

Table 1-1 *Devices Supported by PTT Express*

Device	Platform	Operating System
MC2100	MPA 2.0	Windows CE 6.0
MC3190(128MB) MC3190(256MB)	MPA 2.0 MPA 2.0	Windows CE 6.0/WinCE 6.1 Windows CE 6.0 Windows Mobile 6.5.3 Classic
MC40	MPA 3.0	Android AOSP V2.3.4
MC55A0	MPA 2.0	Windows Mobile 6.5.3 Classic
MC67	MPA 3.0	Windows Embedded Handheld 6.5
MC75A0 (WLAN)	MPA 2.0	Windows Mobile 6.5.3 Professional

Table 1-1   *Devices Supported by PTT Express (Continued)*

Device	Platform	Operating System
MC75A6 (GSM)	MPA 2.0	Windows Mobile 6.5.3 Professional
MC75A8 (CDMA)	MPA 2.0	Windows Mobile 6.5.3 Professional
MC92	MPA 3.0	Windows Embedded Compact 7 Windows Embedded Handheld 6.5
MC9190-G	MPA 2.0	Windows CE 6.0 Windows Mobile 6.5.3 Classic
MC9590 (WLAN)	MPA 2.0	Windows Mobile 6.1 Windows Mobile 6.5
MC9596 (GSM)	MPA 2.0	Windows Mobile 6.1 Windows Mobile 6.5
MC9598 (CDMA)	MPA 2.0	Windows Mobile 6.1 Windows Mobile 6.5
MC959B	MPA 2.0	Windows CE 6.1
SB-1	Freescale	Windows CE 6.0
VC70	MPA 3.0	Windows Embedded Compact 7
WT41N0	MPA 3.0	Windows Embedded Compact 7

Group Broadcast Communication Buttons

There are two types of PTT communications buttons:

- **Group Broadcast:** Press and hold to start communicating with other voice client users or to make a Private Response.

- **Private Response:** Press and hold to respond to the originator of the last broadcast.

If cellular voice service is enabled on a mobile computer, the Private Response functionality must be re-programmed by the IT administrator from the green Talk button to another button on the mobile computer. See the *PTT Express Installation and Configuration Guide* for details on how to re-program this function to the space bar or enter/return key.

> **NOTE** While a PTT communication key is pressed the user will not be able to use other device keys to perform separate tasks. In general, pressing multiple keys simultaneously leads to inconsistent client behavior. Also, note that when PTT Express is installed on a EWP Smartphone the action button is no longer available.

1 - Group Broadcast Button

2 - Private Response Button

Figure 1-1 *Example Group/Private Call Button Location*

Table 1-2 *Group and Private Key Assignment/Mapping*

Device/Operating System	Recommended Group Key (Key Code)	Recommended Private Key (Key Code)
MC3190 (Windows CE6)	Green phone button (0x7D)	Red phone button (0x7E)
MC75XX (Windows Mobile 6)	Right side PTT button (0xC5)	Green phone button (0x7E)
MC55XX (Windows Mobile 6)	Right side PTT button (0xC5)	Green phone button (0x7E)
MC91XX (Windows Mobile 6)	Right side PTT button (0xC5)	Green phone button (0x72)
MC91XX (Windows CE6)	Green phone button (0x7D)	Red phone button (0x7E)
MC95XX (Windows Mobile 6)	Right side PTT button (0xC5)	Green phone button (0x72)
MC31XX (Windows Mobile Classic 6.1)	Right side PTT button (0xC5)	Green phone button (0x72)
SB1 (Windows CE6)	Microphone button (0x86)	Disabled
MC21XX (Windows CE6)	Left side top PTT button (0x7D)	Left side lower PTT button (0x7E)
MC40 (Android Gingerbread 2.4.3)	Left side top PTT button (L2)	Left side lower button (L1)

PTT Audible Indicators

The following tones provide helpful cues when using the voice client.

- **Talk Tone:** Double chirp. Plays when the Talk (or Private) button is depressed. This is a prompt for the user to start talking.

- **Access Tone:** Single beep. Plays when another user just finished a broadcast or response. The user is now able to initiate a Group Broadcast or Private Response.

- **Busy Tone:** Continuous tone. Plays when the Talk (or Private) button is depressed and another user is already communicating on the same talkgroup.

- **Network Tone:**
  - Three increasing beeps. Plays when PTT Express is acquiring the WLAN connection and ready for voice communication.
  - Three decreasing beeps. Plays when PTT Express has lost the WLAN connection and is not ready for voice communication.

Voice Client Configuration

PTT Express users can:

- Determine PTT Express version
- Enable/Disable voice client
- Select talk group

Determine PTT Express Version

To determine the current version of PTT Express in operation:

Windows Devices

1. Tap **Start** > **Programs** > **PTT Express Configuration**.

    The **PTT Express Configuration** window opens showing the default values of:

    - Voice Client Enable: selected
    - Current Talk Group: 1

2. To determine the PTT Express version on a mobile computer, select the **About** button at the bottom of the screen.

Figure 1-2   *Example Windows Device Version Screen*

Android Devices

1. Touch [image].

2. Touch [image] and scroll to the bottom of the screen.

Figure 1-3   *Example Android Device Version Screen*

Enable/Disable Voice Client

The Enable/Disable feature allows the user to enable or disable the PTT Express voice client communication.

Windows Devices

To enable/disable the voice client:

1.   Tap **Start** > **Programs** > **PTT Express Configuration**.

     The **PTT Express Configuration** window opens showing the default values of:

     • Voice Client Enabled: selected

     • Current Talk Group: 1

2.   To enable/disable the PTT Express voice client PTT communication, select or de-select the **Voice Client Enable** checkbox. This toggles the service between active and inactive service. *Figure 1-4* and *Figure 1-5* contain samples of the PTT Express Configuration window for Windows and Android devices as they appear when the client is enabled or disabled.

3.   Press **Save** to activate changes.

     An audible Network tone indicates the voice client status.

Figure 1-4   *Example Voice Client Enabled/Disabled Screen - Windows Device*

Android Devices

1.   Touch (⬚).

2.   Touch 🖼️.

3.   Touch the **OFF** button to turn on PTT Express. The button changes to the **ON** state.

Figure 1-5   *Example Voice Client Enabled/Disabled Screen - Android Device*

Talk Group Selection

One of 32 talk groups can be selected by PTT Express users. However, only one talk group may be enabled at a time on an individual device. The following steps describe how to toggle between desired talk groups:

Windows Devices

1. Tap **Start** > **Programs** > **PTT Express Configuration**.

    The **PTT Express Configuration** window opens showing the default values of:

    *   Voice Client Enable: selected

    *   Current Talk Group: 1

2. To select a different talk group, select the **Current Talk Group** field and scroll to see all fields.

    Talk groups 1 through 32 are displayed.

3. Select the desired talk group.

    The newly selected talk group is now enabled.

4. Press **Save** to activate changes.

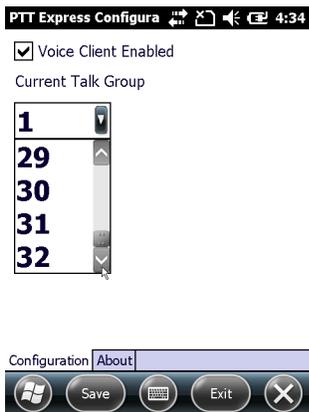   An audible service tone indicates the Voice Client status.

Figure 1-6   *Example Talk Group Selection - Windows Device*

Android Devices

1. Touch ⊞.

2. Touch 🔧.

3. Touch one of the 32 Talk Group buttons. A confirmation dialog appears.

4. Touch **OK** to return to the Home screen.

Figure 1-7   *Example Talk Group Selection*

CHAPTER 2 PTT COMMUNICATION

Introduction

PTT communication may be established as a Group Broadcast, Group Broadcast with 2–Way Radio, or Private Response.

> ✓ **NOTE** For additional information about enterprise devices, see the website at: http://www.zebra.com/support.

Group Broadcast (One to Many)/Group Broadcast with 2–Way Radio

To establish a Group Broadcast:

> ✓ **NOTE** This procedure also applies for communicating with 2-Way radios.

1. Press and hold the Group Broadcast button, and:

    - Listen for the talk tone to play.

    - If you hear the busy tone, release the Group Broadcast button and wait for a moment before you press and hold the Group Broadcast button and make another attempt.

    - If you do not hear a tone, make sure your client is enabled and on the network.

2. Start talking immediately after the talk tone plays.

3. Release the Group Broadcast button when you finish talking.

Response to a Group Broadcast

To respond to a Group Broadcast:

> **NOTE**   This procedure also applies for communicating with 2-Way radios.

1. Wait until you receive an access tone.

2. Press and hold the Group Broadcast button, and:
    *   Listen for the talk tone to play.
    *   If you hear the busy tone, release the Group Broadcast button and wait for a moment before you press and hold the Group Broadcast button and make another attempt.
    *   If you do not hear a tone, make sure your client is enabled and on the network.

3. Start talking immediately after the talk tone plays.

4. Release the Group Broadcast button when you finish talking.

Private Response (One to One)

> **NOTE**   The Private Response can only be initiated once a Group Broadcast has been established.
> The initial Private Response is made to the last talker on the Group Broadcast.
> The steps for making the first Private Response and all subsequent Private Responses are the same.
> Users cannot initiate Private Responses to 2-way radios.

To establish a Private Response:

1. Wait until you receive an access tone.

2. Press and hold the Private Response button, and:
    *   Listen for the talk tone to play.
    *   If you hear the busy tone, release the Private Response button and wait for a moment before you press and hold the Private Response button and make another attempt.
    *   If you do not hear a tone, make sure your client is enabled and on the network.

3. Start talking immediately after the talk tone plays.

4. Release the Private Response button when you finish talking.

Operating Information

Use the following information to operate the PTT Express Solution:

- The device volume control can be used to change the client volume.

- Only one user at a time can initiate a Group Broadcast on the same talkgroup. Others get the busy tone.

- Users can talk for up to 60 seconds (configurable) at a time when communicating on the network.

- Private response is possible for up to 10 seconds (configurable) after receiving PTT communication.

- The initiator of a Group Broadcast cannot initiate a private communication until a response (either group or private) is received.

- If you do not hear a talk or busy tone when initiating PTT communication, check the device network status indicator to make sure device is on the network. Then check the Start menu to make sure the client is enabled.

- Up to 63 users can communicate on a subnet.

- PTT Express communication has been designed to minimize end-to-end audio delay. However, audio delay may be up to two seconds or more depending on conditions of the network.

- While a PTT communication key is pressed the user is not able to use other device keys to perform separate tasks. In general pressing multiple keys simultaneously leads to inconsistent client behavior.

See *PTT Express Installation and Configuration Guide* or contact view the website at: http://www.zebra.com/support for additional PTT Express voice client details.

GLOSSARY

A

AP. Access Point or Access Port

E

EWP. Enterprise Wi-Fi Phone

G

G.729a. Codec used to Encode/Decode CVC walkie-talkie packets.

Group Broadcast. One to Many half duplex walkie-talkie PTT communication.

Group Broadcast Button. Button for initiating Group Broadcast (1:N).

GUI. Graphical User Interface.

Group to Private Communication. Group Broadcast and Private Response PTT Communication.

I

ID. Identifier

IP. Internet Protocol

M

MC. Mobile Computer

P

Private Response. One to One half duplex PTT Communication

PTT. Push-To-Talk. Half duplex voice communication.

PTT Express Voice Client. Voice client that enables Multiple Talk Group and Private Response PTT communication.

R

RAN. Radio Access Network

RLS. Radio Link Solution. Gateway that enables communication with 2-Way radios.

S

SD. Storage Device

U

URL. Uniform Resource Locator

V

VoIP. Voice over Internet Protocol

VoWLAN. Voice over Wireless Local Area Network

W

WLAN. Wireless Local Area Network

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