



Connecting Tieline Codecs to Comrex over POTS

Rev.1.0
November, 2010



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Table of Contents

Part I POTS/PSTN Interoperability	3
1 Connect to Comrex Matrix POTS	3
2 Connect to Comrex Access Rack over POTS	5
3 Connect to Comrex Access Portable	6

1 POTS/PSTN Interoperability

Tieline codecs are compatible over POTS/PSTN with *Comrex Matrix, Access, Vector and Blue codecs.

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1.1 Connect to Comrex Matrix POTS

Comrex Matrix rack mount codecs can connect over POTS and ISDN. Over POTS you need to:

- a. Connect a single POTS line to each codec.
- b. Select the "Music" algorithm in the Comrex codec.
- c. Select the "Other" algorithm in the Tieline codec.



Important Note: The "Other" algorithm in Tieline codecs is specifically used with Comrex® Vector, Matrix® and BlueBox® codecs. Bitrates of 26,400bps and 9,600bps are not supported with this algorithm. If you try to connect at these bit rates an error message will be displayed on the codec LCD next to the connection you are using. In addition, the Line Quality at the remote Comrex® codec will not be displayed on the Tieline codec LCD screen.

Programming the Matrix to Make a POTS Call

1. Connect a POTS line to the Matrix codec and power up the unit.
2. Press "Enter" view the main menu.
3. Press "4" to enter the "Config" menu.
4. Press "2" to select an algorithm.
5. Press "2" to select "Music".
6. Press "3" to select "Max Rate" and program the maximum bit rate.



Important Note: As a rule of thumb we recommend a bit rate of 21.6Kbps, although 24Kbps is possible depending on line quality. If you connect at 24Kbps and find the quality of the connection is poor, you will need to disconnect and reset the maximum bit rate in both codecs to 21.6Kbps or lower.

7. Press "3" to select "21.6".
8. Press "4" to select "More" if you wish to program auto answering, dialing (Tone/Pulse), modem monitoring, input and output levels.
9. Press the "Cancel" button several times until you return to the main connection screen.
10. Check your settings are displayed correctly. The codec is now programmed to connect.



Comrex Matrix Screen after Programming

Programming the Tieline Codec to Connect to the Matrix over POTS

1. Scroll using the black rotary **MENU SELECTOR** to the POTS connection on the LCD screen that you will be using to dial the connection.
2. Press **SOFTKEY 2 [Profile] > [ManDflt MonoPgm] > [Really Load – Select YES]**
3. Press **SOFTKEY 3 [Wiz] > [OK]** and use the wizard to select **[Setup POTS] > [Algorithm "Other"] > [Max Bitrate "21600"] > [Auto Renegotiate "Disable"] > [Monitor Dialtone "Enable"] > [Dialling Method "Tone"] > [Auto Reconnect "Disable"]**
4. Select **[Menu] > [Configuration] > [System Settings] > [Session Data] > [Disable]**



Important Note: Please ensure you program both codecs with the same settings to provide the best chance of connecting first time.

Dialing from the Tieline Codec

1. Rotate the black rotary **MENU SELECTOR** until the square brackets surround **[POTS1>Enter #]**.
2. Use the numeric keypad to enter the phone number and press the "Enter/Dial" button.
3. The Tieline codec connection should display **[POTS 1> 21.6]** when connected. The local line quality "L" is also displayed.

Making a Call Using the Comrex Matrix

1. Use the "Cancel" button to return to the main LCD connection screen.
2. Press "Enter", then press "1" ("Dial") and "1" again to use the numeric keypad and enter the number you wish to dial.
3. Press "Enter" to make the call.



Comrex Matrix Screen after it has Dialed and Connected

1.2 Connect to Comrex Access Rack over POTS

To connect to a Comrex Access 1RU rack mount codec you need to:

- a. Connect a single POTS line to each codec.
- b. Select the "Other" algorithm in the Tieline codec.
- c. Dial the Comrex Access codec from the Tieline codec.



Important Note: The "Other" algorithm in Tieline codecs is specifically used with Comrex® Vector, Matrix® and BlueBox® codecs. Bitrates of 26,400bps and 9,600bps are not supported with this algorithm. If you try to connect at these bit rates an error message will be displayed on the codec LCD next to the connection you are using. In addition, the Line Quality at the remote Comrex® codec will not be displayed on the Tieline codec LCD screen.

Programming the Tieline Codec to Connect to the Access Rack Mount Codec in Mono

1. Scroll using the black rotary **MENU SELECTOR** to the POTS connection on the LCD screen that you will be using to dial the connection.
2. Press **SOFTKEY 2 [Profile] > [ManDflt MonoPgm] > [Really Load – Select YES]**
3. Press **SOFTKEY 3 [Wiz] > [OK]** and use the wizard to select **[Setup POTS] > [Algorithm "Other"] > [Max Bitrate "21600"] > [Auto Renegotiate "Disable"] > [Monitor Dialtone "Enable"] > [Dialling Method "Tone"] > [Auto Reconnect "Disable"]**
4. Select **[Menu] > [Configuration] > [System Settings] > [Session Data] > [Disable]**



Important Note: As a rule of thumb we recommend a bit rate of 21.6Kbps, although 24Kbps is possible depending on line quality. If you connect at 24Kbps and find the quality of the connection is poor, you will need to disconnect and reset the maximum bit rate in both codecs to 21.6Kbps or lower.

Dialing from the Tieline Codec

1. Rotate the black rotary **MENU SELECTOR** until the square brackets surround **[POTS1>Enter #]**.

2. Use the numeric keypad to enter the phone number and press the "Enter/Dial" button.
3. The Tieline codec connection should display **[POTS 1> 21.6]** when connected. The local line quality "L" is also displayed.
4. The Access codec displays incoming audio on the two "Receive" PPM meters on the codec front panel. Consult Comrex user documentation to adjust Access codec audio levels if required.

1.3 Connect to Comrex Access Portable

To connect to a Comrex Access Portable codec you need to:

- a. Connect a single POTS line to each codec.
- b. Select the "Other" algorithm in the Tieline codec.



Important Note: The "Other" algorithm in Tieline codecs is specifically used with Comrex® Vector, Matrix® and BlueBox® codecs. Bitrates of 26,400bps and 9,600bps are not supported with this algorithm. If you try to connect at these bit rates an error message will be displayed on the codec LCD next to the connection you are using. In addition, the Line Quality at the remote Comrex® codec will not be displayed on the Tieline codec LCD screen.

Programming the Tieline Codec to Connect to the Access Portable Codec in Mono

1. Scroll using the black rotary **MENU SELECTOR** to the POTS connection on the LCD screen that you will be using to dial the connection.
2. Press **SOFTKEY 2 [Profile] > [ManDflt MonoPgm] > [Really Load – Select YES]**
3. Press **SOFTKEY 3 [Wiz] > [OK]** and use the wizard to select **[Setup POTS] > [Algorithm "Other"] > [Max Bitrate "21600"] > [Auto Renegotiate "Disable"] > [Monitor Dialtone "Enable"] > [Dialling Method "Tone"] > [Auto Reconnect "Disable"]**
4. Select **[Menu] > [Configuration] > [System Settings] > [Session Data] > [Disable]**



Important Note: As a rule of thumb we recommend a bit rate of 21.6Kbps, although 24Kbps is possible depending on line quality. If you connect at 24Kbps and find the quality of the connection is poor, you will need to disconnect and reset the maximum bit rate in both codecs to 21.6Kbps or lower.

Dialing from the Tieline Codec

1. Rotate the black rotary **MENU SELECTOR** until the square brackets surround **[POTS1>Enter #]**.
2. Use the numeric keypad to enter the phone number and press the **ENTER/DIAL** button.
3. The Tieline codec connection should display **[POTS 1> 21.6]** when connected.

The local line quality "L" is also displayed.

4. The Access portable codec displays incoming and outgoing audio on the LCD screen PPM meters.

Dialing from the Access Portable Codec

1. To create a new "Remote" connection use the stylus to tap **Remotes**, then tap **Add New Remote**.
2. Enter the **Name** of the connection and the phone number, then tap to select the **POTS** profile from the drop-down list box, next tap the **OK** button.
3. Tap on the Remote connection you have just added and tap the **Connect** button on the screen to dial the Tieline codec.
4. Tap the **Disconnect** button to hangup the connection.



Important Note: Once connected, audio levels may need to be adjusted at either end because there is approximately 10dB difference between the output levels of each codec.