ISDN OPERATION

Purpose

This document is intended to provide users with the necessary tools to make successful ISDN calls on Tieline TLR300B Rack Codecs under a variety of ISDN line conditions

Important

Settings

Firstly, it is important to know what Wizard and Menu settings are available to configure ISDN

- An extract of the ISDN Wizard flow chart has been provided here
- The Menu settings are located at:
  Menu → Configuration → ISDN< Left Setup (or ISDN> Right Setup, depending on the slot the module has been inserted into) and contain the full set off options displayed in the adjacent illustration

Factory Default Settings

Are denoted on the codec and in the adjacent illustration by arrows either side of the setting I.e. **→P-Multi←**

- To restore Factory Default Settings: **Menu → Reset Functions → Set Sys Defaults → All Profiles → Yes**
- Wait 10 seconds
- Reboot the codec: **Menu → Reset Functions → Reboot System → Yes**

ISDN Line Types

The ISDN Line Types: 'P-Point' (Point to Point) & 'P-Multi' (Point to Multipoint) are designated by the network service provider and may vary between venues/locations

- Choosing the correct Line Type is discussed further below
- Another ISDN setting is 'On Demand'. This may be designated 'On' or 'Off' by the network service provider and is also discussed further below
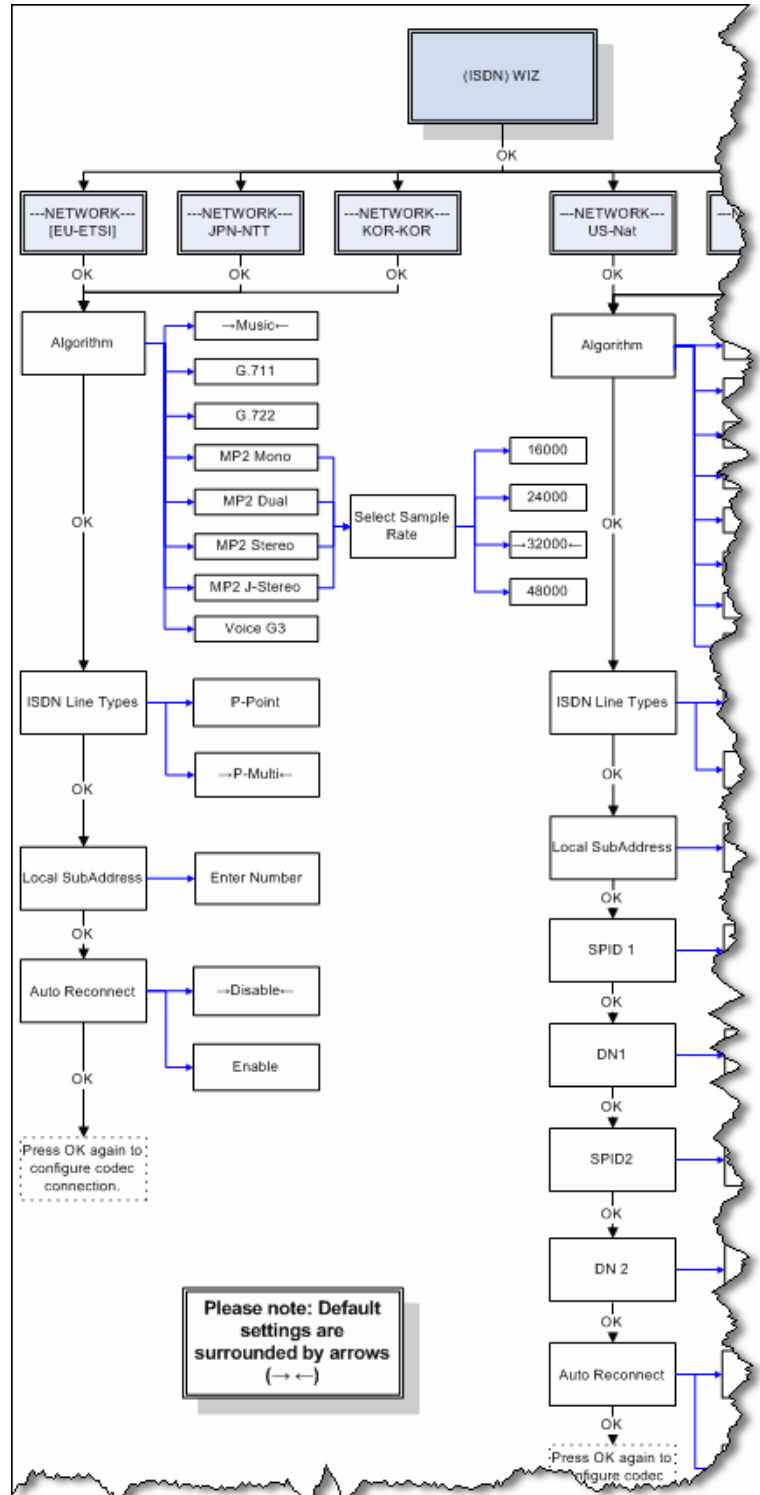
Session Data

When Tieline codecs establish communications the dialer sends its settings to the receiving codec over Session Data. The receiving codec inherits the following settings from the dialing codec:

- Profile
- Algorithm
- Sample Rate
- Bitrate

This does not occur when dialing to non Tieline products so 'Session Data' must be turned off to provide compatibility. To disable 'Session Data' navigate to:

- **Menu → Configuration → System Settings → Session Data → Disable**

Note: Remember to re-enable 'Session Data' when next dialing to another Tieline codec

Configuration

Profile

'ManDflt MonoPgm' (default) should be displayed at the top of the Main menu screen on the LCD display

- If not press Soft Button 2 'Profile' and using the Menu Selector scroll through the available options until 'ManDflt MonoPgm' is surrounded by square braces
- Press the 'Enter/Dial' keypad button to choose your selection then press Soft Button 2 'Yes' to confirm

Audio Input Levels

Line Level 15db is the default Input Gain for both channels. If you require an alternate Input Gain

- Press Soft Button 1 'Audio' then select: **Input Gains → All Inputs → select desired input level**

Configuring ISDN

ISDN can be set using the Wizard by pressing Soft Button 3 'Wiz' and then pressing Soft Button 4 'OK' to proceed

- Selection is made by scrolling with the Menu Selector and pressing Soft Button 4 'OK' to accept the setting and to progress to the next Menu option

   Typical ISDN settings are:
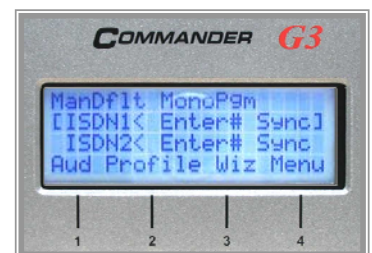
   - Network   →   EU-ETSI
   - Algorithm   →   G.722
   - ISDN Line Type →   P-Point or P-Multi as required
- Once all settings are chosen 'ISDN Configured!' will be displayed
- Pressing Soft Button 4 'OK' again will return to the Main menu

Testing the ISDN Line Type

With an ISDN line connected to the codec ISDN 'Sync' should be displayed This will appear regardless of whether you have the 'ISDN Line Type' set correctly

- To test whether you have the correct 'ISDN Line Type' selected simply dial your own number
   - Rotate the Menu Selector until 'ISDN1......' is surrounded by square braces I.e. **[ISDN1< Enter# Sync]**
   - Enter the number to be dialed using the numeric keypad
   - Press the 'Enter/Dial' button to dial the connection

This will perform a Loopback test by dialing out on the main ISDN number and receiving on the auxiliary ISDN number

If this results in a 'Disconnect: 1' message being displayed change the 'ISDN Line Type' to the *'other'* option I.e If 'P-Point' was selected change to 'P-Multi'

- Redialing your own number again will result in the following screen with a mix of the inputs received on the 'De 02' (Decoder 2) PPM

On Demand

If 'Sync' appears for approximately 60 seconds upon initial connection of the ISDN line and then disappears or if 'Sync' does not appear and you know you are connected to an active ISDN interface then it may have 'On Demand' enabled by the network service provider

To test, dial a codec on a known working ISDN line

- Rotate the Menu Selector until ISDN1 is surrounded by square braces I.e. **[ISDN1< Enter#   ]**
- Enter the number using the numeric keypad
- Press the 'Enter/Dial' button to dial the connection
- If 'Sync' now appears beside the second ISDN connection this indicates the service has now been activated

Operation
Tieline → Tieline

With all of the above pre-requisites met - dial the studio

    1/ Rotate the Menu Selector until 'ISDN1' is surrounded by square braces

    2/ Enter the number to be dialed using the numeric keypad

    3/ Press the 'Enter/Dial' button to dial the connection

    4/ During the framing process the algorithm will flash I.e. **G. 722** and remain solid once the framing process is complete

    5/ To bond two 'B' channels (connect at 128Kb) scroll until ISDN 2 is surrounded by square braces and proceed by following previous steps 2-4 above

    6/ When fully connected at 12Kb both ISDN 'B' channels will be connected with the algorithms stable (not flashing)

    7/ Pressing the 'Enter/Dial' button during a connection will exhibit connection details **Cnx Details** This provides:
- Call status
- Call duration
- Direction of call
- Assigned Encoders and Decoders
- Bitrate for that particular 'B' Channel
- Algorithm

8/ To disconnect the call:
- Press the 'Hang Up' button
- Select Soft Button 2 **Yes** to disconnect the call or
- Select Soft Button **3 ALL** to hang up both 'B' Channels

Tieline → AEQ/Telos

To dial from a Tieline codec to a non Tieline codec it is necessary to disable 'Session Data' as described in the 'Session Data' paragraph on page 1 and to use G.722 or MP Layer 2 algorithms for compatibility
The following settings must be manually set on both ends
- Profile: Mono/Stereo
- Algorithm
- Sample Rate
- Other settings as required by the non-Tieline codec

Note: For a full description of operation please refer to the specific Codec Reference Manual available for download from: http://www.tieline.com/support/manuals.html