

# Built Tough

All the features of a remote truck in a single box...

The i-Mix is a robust, reliable and flexible multi-faceted audio codec that can be used as a mixer, a full-duplex commentary control unit, and a audio codec. It also features an onboard IP codec and POTS codec, a PA output and a telephone coupler for managing live talkback callers.

Ideal for sports broadcasts, talk shows, music and other live events, the Tieline i-Mix codec combines 6 essential live outside broadcast products into a single light-weight box, replacing tens of thousands of dollars of broadcast equipment.

A module expansion slot accepts your choice of Tieline hardware plugin modules, delivering the ability to send high quality, low-delay live audio over a wide range of wired IP, wireless 3G/4G networks, POTS/PSTN analog telephone lines, ISDN, X.21, GSM and B-GAN satellite networks.

# **FLEXIBLE INPUTS/OUTPUTS**

Software configurable front panel communications buttons for real-time IFB mix-minus communications and talkback, plus 4 additional programmable 'softkeys' and 'hotkeys'.

# **6 NETWORK INTERFACES**

Your choice of Wireless 3G/4G (cellular broadband), Wired IP (on board), POTS (on board), ISDN, GSM, Satellite and X.21. Buy only what you need.

All Tieline codecs are EBU N/ACIP Tech 3326 compatible over IP with other codec manufacturers using these standards. Tieline is committed to developing new IP and wireless applications that take advantage of emerging network infrastructures around the globe.

**EBU N/ACIP COMPATIBLE OVER IP...** 



# BUILT TOUGH TO PERFORM RELIABLY EVERY SINGLE DAY IN DEMANDING REMOTE BROADCAST ENVIRONMENTS...

Thousands of Tieline customers around the world use the i-Mix G3 portable IP audio codec to deliver rock-solid remote broadcasts every single day! The i-Mix G3 lets you choose only the plug-in modules you need to maximize affordability, while also providing reliable autoreconnect and automatic failover to connections that suit your broadcast requirements.

# **HIGH QUALITY ALGORITHMS**

Industry Standard and loss-tolerant low bitrate algorithm options including MPEG Layer II, Tieline Music & MusicPLUS, Tieline Voice, G.711 & G.722 - Uncompressed Audio.

## TAKE LIVE CALLERS

An onboard phone coupler for managing live callers in the field.

# **COMMAND & CONTROL OPTIONS**

- On-board relay and RS-232 control system for local and remote control of equipment at either end of your codec link
- Control your remote talent's audio input levels from the studio.
- LAN, USB and serial interfaces for PC remote control.



#### **AUDIO SPECIFICATIONS**

| Audio Inputs                  | 5 x Female XLR and 1 x RCA Aux                                 |
|-------------------------------|--|
| Audio Outputs                 | 2 x Male XLR and 1 x RCA Aux                                   |
| Headphones                    | 4 x 6.35mm (1/4") Jacks  |
| A/D &D/A Converters           | 24 bit sigma-delta   |
| IP & 3G IP Sample Frequencies | 16kHz, 32kHz   |
| Linear PCM Sampling           | 16kHz, 24kHz, 32kHz, 48kHz with 12, 16, 20, 24 bits per sample |
| POTS Sample Frequencies       | 16kHz, 32kHz   |
| ISDN Sample Frequencies       | 16kHz, 24kHz, 32kHz, 48kHz                                     |
| X.21/V.35 Sample Frequencies  | 16kHz, 24kHz, 32kHz, 48kHz                                     |
| GSM Sample Frequencies        | 16kHz, 32kHz   |
| Input Impedence               | 5 Kohm balanced  |
| Output Impedanced             | < 50 ohm Balanced  |
| Clipping Level                | +18 dBu (inputs and outputs)                                   |
| Frequency Response            | 20Hz-24kHz PCM; 20Hz-22kHz over IP/ISDN; 20Hz-15kHz POTS/GSM   |
| Total Harmonic Distortion     | <0.01% at 4dBu   |
| Signal To Noise Ratio         | Better than 84dB at +4dBm                                      |
|                               |  |

#### CODING & COMPRESSION ALGORITHMS

| IP             | Tieline Music & MusicPLUS; Voice G3; Linear PCM; G.711, G.722, MPEG Layer 2 |
|----------------|---|
| Wireless IP/3G | Tieline Music; Tieline MusicPLUS; Voice G3, G.711,G.722, MPEG Layer 2       |
| POTS           | Tieline Music; Voice G3;  |
| ISDN           | Tieline Music, Tieline MusicPLUS, MPEG Layer 2, G.711, G.722                |
| X.21/V.35      | Tieline Music, Tieline MusicPLUS, Linear PCM, MPEG Layer 2, G.711, G.722    |
| GSM            | Tieline Music, Voice G3   |

### **DATA AND CONTROL INTERFACES**

| LAN                | 10/100 base-T, RJ45 connector for IP audio and LAN connections |
|--------------------|--|
| Serial RS232 (DB9) | RS232 up to 115Kbps, with or without CTS/RTS flow control      |
|                    | Data interface port can be used as a proprietary data channel  |

#### PANEL CONTROLS

| Keypad               | 20 Key  |
|----------------------|---|
| Display              | 4 x 20 line LCD                                   |
| Level Indicators     | 2 x 10 level LEDs with configurable source        |
| Channel On/Off       | Volume controlled and matrix router configurable  |
| Cue/intercom         | Matrix router configurable                        |
| Headphone Monitoring | Volume controlled for each channel                |
| Send Return Mix      | Switch between audio send/return or a mix of both |
| Programmable Hotkeys | 4 software configurable Hotkey buttons            |

#### **GPIO RELAY CONTROLS**

| Inputs          | 2 x inputs: Contact Closure to ground with internal 5V feed at 5mA |
|-----------------|--|
|                 | 0.15" pitch male phoenix connectors. (12V power connector has two  |
|                 | relay inputs for power sensing, one independent and 1 duplicated   |
|                 | with phoenix connector   |
| Outputs         | 2 x outputs: floating solid state switching 48V 100mA              |
| Relay Expansion | Expandable to 8 in and 8 out using optional CAN8+8 product         |

### GENERAL

| Operating Temperature | 0°C to 45°C (32°F to 113°F)                                  |
|-----------------------|--|
| Power                 | 12V DC, 1A (without plugin modules) 4 PIN male XLR connector |
| Dimensions            | 385 x 210 x 215 mm or 3 x 15.2 x 8.5 inches                  |
| Weight                | 2kg or 4.4lbs  |

#### MODULE INTERFACES

| 3G             | GSM/UMTS/HSDPA and EV-DO wireless modules available                    |
|----------------|--|
| 4G             | 3rd party accessories required   |
| ISDN           | RJ45 Basic Rate S/T; up to 2B channels per module                      |
| POTS/PSTN      | POTS Modern module with RJ11 connector                                 |
| GSM            | HSCSD 14.4 to 28.8Kbps and CSD 9.6Kbps (requires SIM card)             |
| X.21/V.35      | Male DB15; up to 384Kbps compressed, 2Mbps uncompressed                |
| Satellite ISDN | External Satellite phone can be connected to an ISDN module or IP port |



# AUDIO OVER IP-THE INTERNET REVOLUTION ...

Attach the i-Mix G3 to a LAN network port or directly into an ADSL router and deliver up to 22kHz mono and stereo audio over DSL, cable, LAN, WAN and wireless 802.11x broadband networks. Uncompressed (Linear PCM) 24-bit high quality stereo for studio-to-studio managed IP links is also available.

# 3G/4G WIRELESS FREEDOM...

Choose a dedicated 3G wireless UMTS/ HSDPA/HSUPA or EVDO Rev 0/Rev1 module to broadcast up to 22kHz live wireless stereo audio from any location with wireless broadband access. Connect over 4G using 3rd party accessories.

# **DIGITAL ISDN**

Plug in an ISDN module for mono or stereo 64/128Kbps ISDN connections.

# **ROCK-SOLID 15KHZ POTS**

Use the onboard POTS modem to deliver up to 15kHz mono bidirectional audio over a telephone line

- Add a POTS module and use two phone lines to send program audio to two sites
- Use 1 channel for program and the other for off-air IFB communications or data
- Bond two POTS connections for phaselocked 15kHz stereo

# X.21/V.35\*

Plug in the optional X.21 module for mono 64/128 Kbps links, or stereo 64/128/256/384/2000Kbps connections over X.21 networks.

\* Leased line mode only

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