



IP Audio Without Compromise

Designed for the latest digital IP broadcast networks, Genie Distribution is the world's most powerful and feature-packed IP multipoint audio distribution codec, with multiple levels of power, audio and network redundancy.

Applications

Genie Distribution delivers superior quality DSP-based IP audio over LANs, WANs, the internet, satellite IP and the full range of wireless networks^[1]. It is specifically designed for 365/24/7 operation over mission critical audio paths throughout broadcast IP networks and is ideal for:

- Stereo IP audio distribution to up to 50 individual multi-unicast endpoints.
- Stereo Studio-to-Transmitter Links (STLs) to multiple endpoints.
- IP multicasting to unlimited endpoints over compatible IP networks.
- Distributing up to 6 channels of high quality audio between two codecs

Multiple Backup Options

Genie Distribution features dual Gigabit Ethernet ports (10/100/1000), dual redundant power supplies, audio silence detection and IP network backup solutions to ensure you're always on the air.

Automated network failure detection provides switching to a backup IP LAN connection. Automatic silence detection can failover to an alternative audio input using the optional input expansion card. The codec also supports file playback.

Unsurpassed Clarity

Genie Distribution is capable of 24bit 96kHz low latency linear PCM audio, delivering unsurpassed sonic clarity. The codec also features a full complement of professional algorithms including the low delay and cascade-resilient E-apt-X algorithm, as well as the popular LC-AAC, HE-AAC v1 and v2, MPEG Layer II, MP III, Tieline Music and MusicPLUS, G.722 and G.711 algorithms.

Asymmetric^[2] encoding and decoding lets you send high quality audio in one direction and save on data by sending low bandwidth program on the return channel.

SmartStream IP Technology

Tieline's renowned proprietary SmartStream IP technology provides advanced network management tools for dynamically responding to variable conditions, especially in situations when QoS is unavailable.

Some other manufacturers charge thousands of dollars for IP management software as if it's an optional extra. Tieline believes high performance and rock-solid reliability is an essential part of each and every broadcast and delivers its renowned SmartStream IP management software for free. SmartStream ensures:

- The highest audio fidelity
- Performance 'reliability' over inexpensive unmanaged IP audio links like the public internet, despite varying network conditions
- Interoperability with other manufacturers and IP protocols

SmartStream Compatibility

Genie Distribution supports both IPv4 and IPv6 (Dual Stack) protocols, so broadcasters can be assured that they have made a smart investment for the future. You can also connect over IP

with any SIP-enabled IP codec brand supporting the EBU N/ACIP tech 3326 standard.

WheatNet-IP Interoperability

Genie Distribution can distribute 4 channels of WheatNet-IP audio using a purpose built rear panel and the Tieline WheatNet-IP audio card (optional).

This optional Genie Distribution rear panel provides a LAN interface for connecting Genie directly to a WheatNet-IP network and distributing audio to another studio over external IP networks like the internet.



Genie with WheatNet-IP Option

Codec Management

Each device can be individually controlled using a Java-based web-browser Graphical User Interface launched from each codec. View and configure parameters such as algorithms, jitter buffers, forward error correction and more.

Genie Distribution is also designed to be managed using Tieline's standalone Codec Management System^[3] (CMS) product.

Purchase and install the CMS and use any computer to manage your entire network of IP codecs remotely using a Graphical User Interface on your computer.

Input/Output Specifications

Analog Audio Inputs	2 x Female XLR line inputs
Analog Audio Outputs	2 x Male XLR
AES3 In	1 x female XLR (Channel 1 in; shared with Ch1 analog input)
AES3 Out	1 x male XLR
Aux Input	1 x 6.35mm (1/4") Mic/Line level Jack on rear panel
Headphones Out/Aux Out	1 x 6.35mm (1/4") Jack on rear panel and 1 x 6.35mm (1/4") Jack on the front panel
Female DB-25	6 channel audio expansion connector, or optional Female DB-25 WheatNet IP card connector
Sync Input	BNC Wordclock input
Control Port In/Out	Four relay inputs and four opto-isolated outputs for machine control via a DB15 connector.
Audio Input Impedance	High Impedance > 5K ohm
Output Impedance	<50 ohm Balanced
Clipping Level	+22dBu (input and outputs)
A/D & D/A Converters	24 bit
Frequency Response	20Hz to 22kHz
Total Harmonic Distortion	<0.03% at +4dBu, unweighted
Signal To Noise Ratio	>90dB at +22dBu, unweighted

Sample Frequencies

IP Sample Frequencies	8kHz, 16kHz, 24kHz, 32kHz, 44.1kHz, 48kHz, 96kHz
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Algorithms

IP	Tieline Music, Tieline MusicPLUS, G.711, G.722, MPEG Layer 2, MP III
IP	AAC-LC, AAC-HE
IP	16/24 bit Enhanced apt-X
IP (uncompressed)	Linear PCM16/24 bit 32kHz, 44.1kHz, 48kHz, 96kHz sampling

Data and Control Interfaces

USB	USB 2.0 Host port on the front panel
LAN	2 x 10/100/1000 RJ45 connectors
WheatNet-IP LAN (optional)	1 x 10/100 RJ45 connector to distribute WheatNet-IP audio
Serial	RS232 up to 115kpbs with or without CTS/RTS flow control can be used as a proprietary data channel
Protocols	Tieline; SIP (EBC N/ACIP 3326 compliant); IPv4/IPv6 compatible
ISDN	Optional via module slot**
POTS	Optional via module slot**

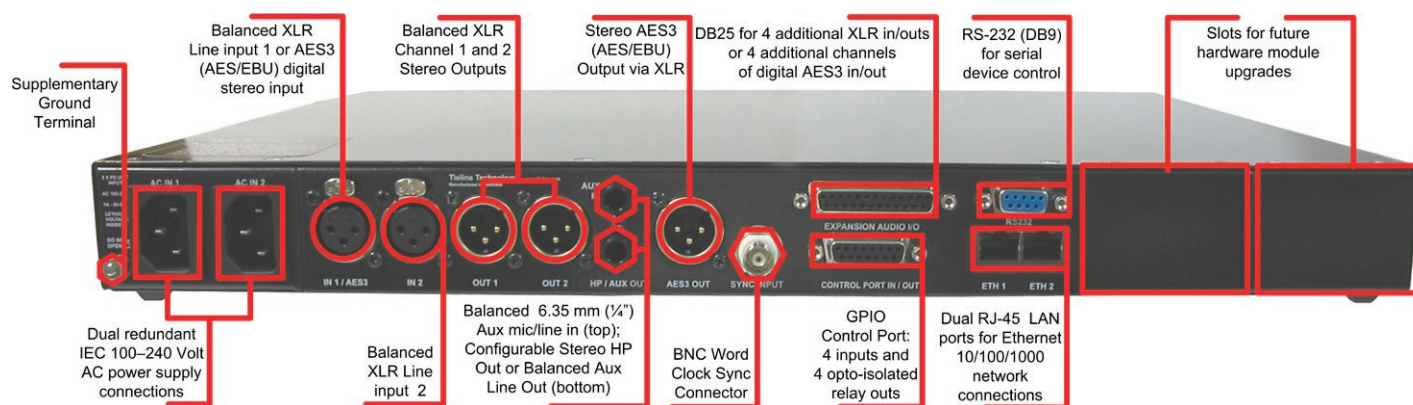
Front Panel Interfaces

Display	256 x 64 monochrome LCD
Keypad	21 button keypad
Navigation	5 button keypad

General

PC Configuration	User-configurable settings and matrix audio mixer** via browser-based Toolbox Graphical User Interface
Multilingual	Multilingual menus and configuration software
Remote Control	Compatible with Codec Management System software (optional purchase)
Size	1U x 19" Rackmount
Dimensions	18.98" x 1.73" x 13.5" [482mm (W) x 44mm (H) x 343mm (D) including rear connectors]
Weight	6lb 3.47oz/2.82Kg
Power Consumption	Dual 100-240V AC power inputs
Operating Temperature	0°C to 45°C (40°F to 113°F)
Humidity Operating Range	0 to 70% (at 35°C non-condensing)

** Available in later releases



Genie Distribution rear panel without WheatNet-IP Option

Extensive dealer network with global telephone support in 2 strategic locations around the world

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