

# THEATER QUALITY TEN CHANNEL HIGH DEFINITION AUDIO CODEC WITH DIGITAL MICROPHONE INTERFACE

## STAC927x Red River

### DESCRIPTION

The STAC927x “Red River” is a family of Theater Quality 10-channel audio CODECs that enable systems with 7.1 audio playing simultaneously with VoIP or another stereo audio stream. IDT’s proprietary  $\Sigma\Delta$  technology provides high fidelity with an estimated DAC SNR up to 105dB. Up to four digital microphones are supported enabling high quality voice input for increased usability of voice applications.

### FEATURES

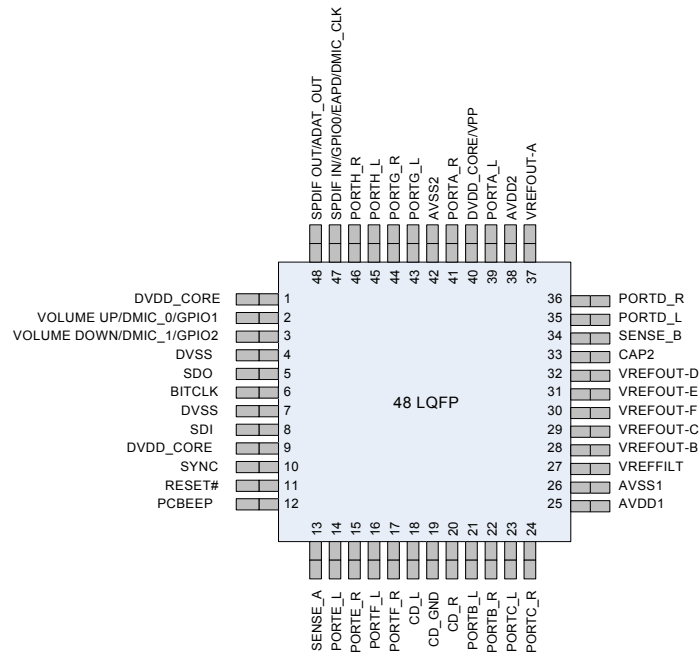
- **High performance HD Audio CODEC provides Theater Quality Audio**
- **High Fidelity  $\Sigma\Delta$  technology**
  - ◆ 105dB DAC SNR (See Table)
  - ◆ 90dB ADC SNR
- **Five stereo DACs and three stereo ADCs**
  - ◆ Supports 7.1 Audio with simultaneous Real Time Communication (RTC) channel such as VoIP or separate stereo audio stream
- **24-bit resolution with up to 192 kHz sample rates**
- **Digital Microphone Interface**
  - ◆ Direct interface up to four Digital Microphones
- **Analog Stereo Microphone**
  - ◆ Microphone Boost 0, 10, 20, 30, 40dB
  - ◆ Six adjustable Vref outputs for microphone bias
- **Integrated Headphone Amps (3)**
- **SPDIF In and Out**
- **ADAT<sup>®</sup> Optical “Lightpipe” Output (See Table)**
- **Volume Up/Down Control**
- **Jack Insertion Detect and Impedance Sensing Supports Jack Retasking and Universal Jacks<sup>™</sup>**
- **Digital PC Beep to all outputs**

- **+3.3 V to +5 V analog power supply options (See Table)**
- **Environmental 48-pin LQFP package**

### SOFTWARE SUPPORT

- **Kernel Processing Interface (SKPI)**
  - ◆ Enables plug-ins that can operate globally on all audio streams of the system
- **12 band parametric equalizer SKPI plug-in**
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  - ◆ Enables improved voice articulation
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- **Dolby PC Entertainment Experience Logo Program**
  - ◆ Dolby Master Studio<sup>™</sup> (See Table)
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48-PIN LQFP



PART NUMBER TABLE

Part Order Number	Voltage	SNR	DigMic	ADAT	Dolby
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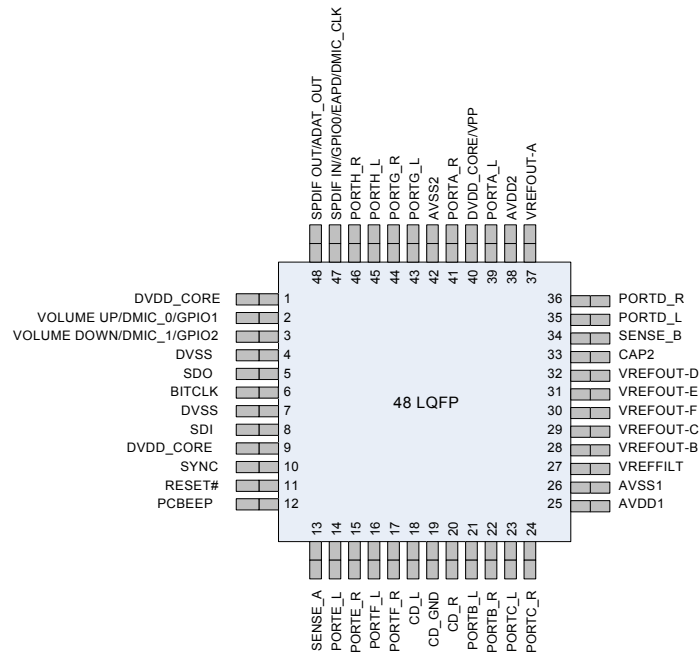
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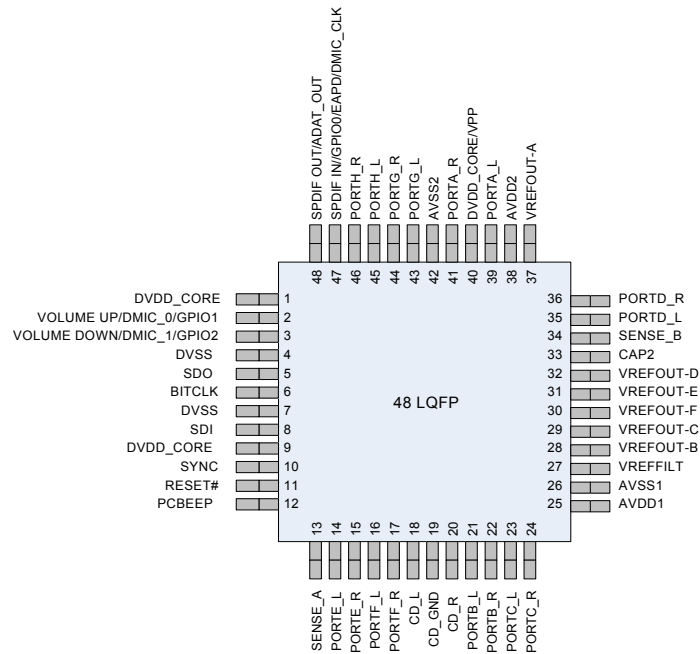
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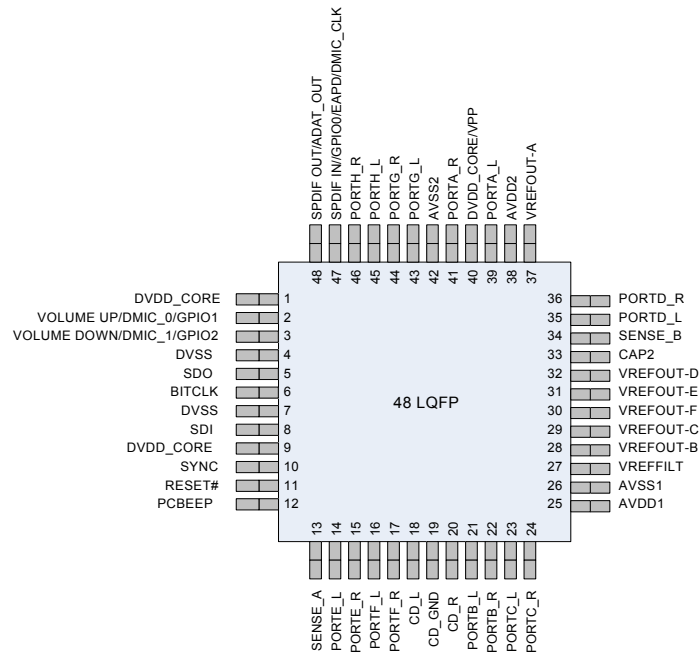
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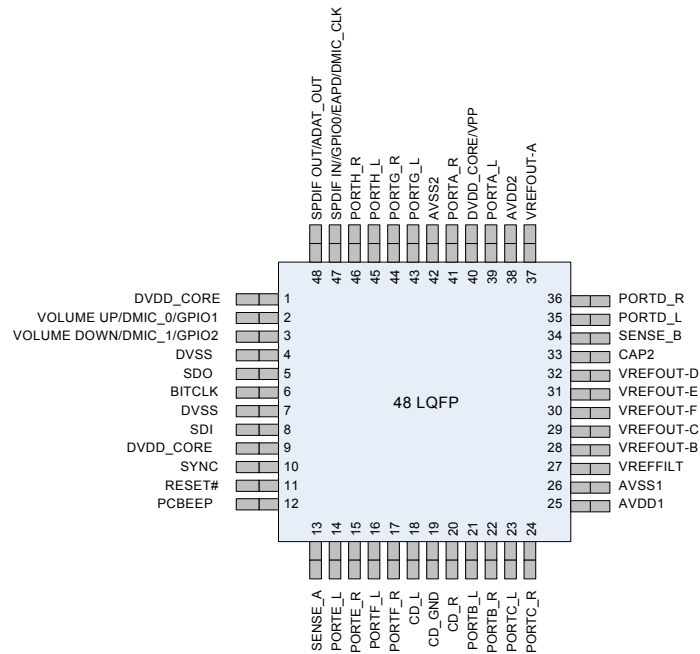
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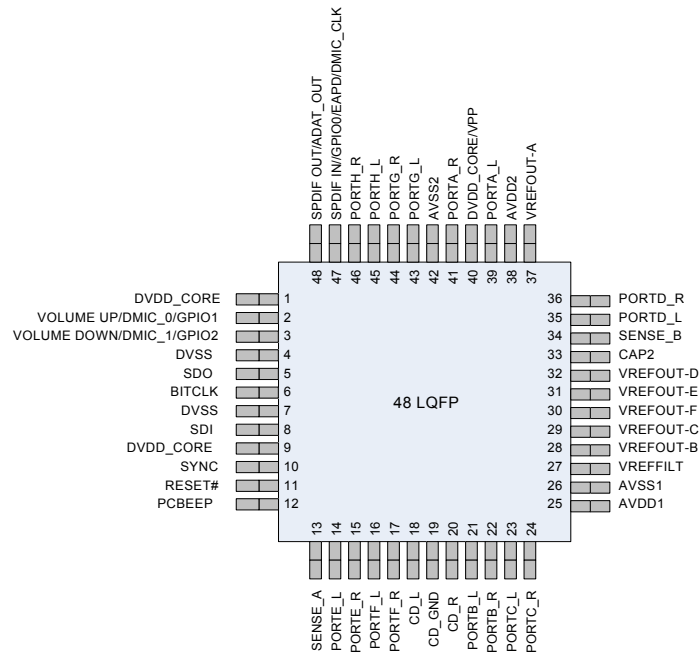
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48-PIN LQFP



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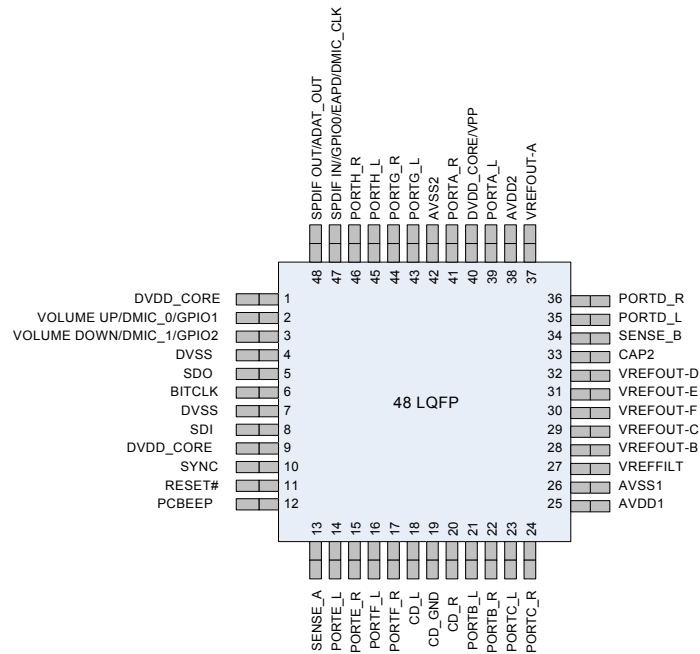
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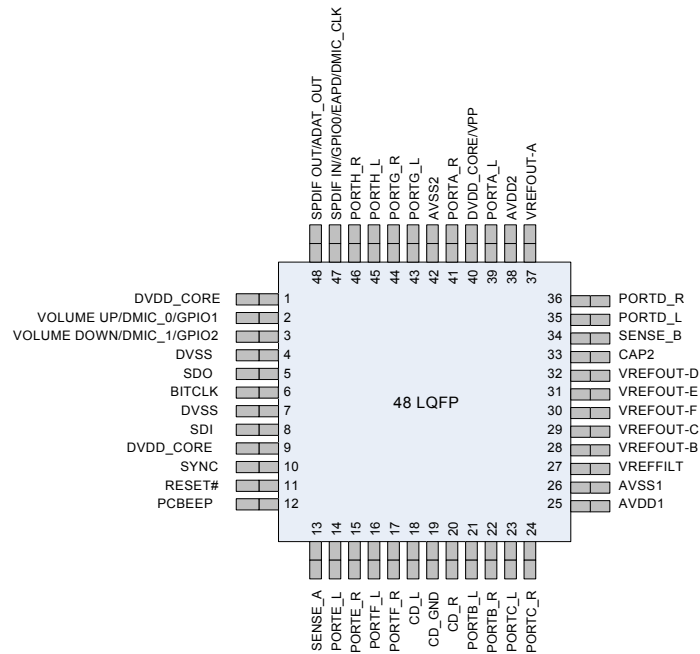
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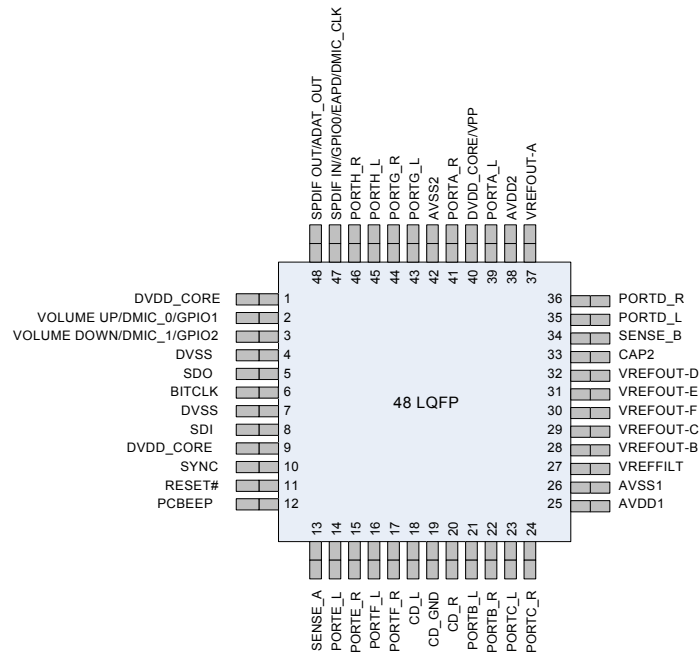
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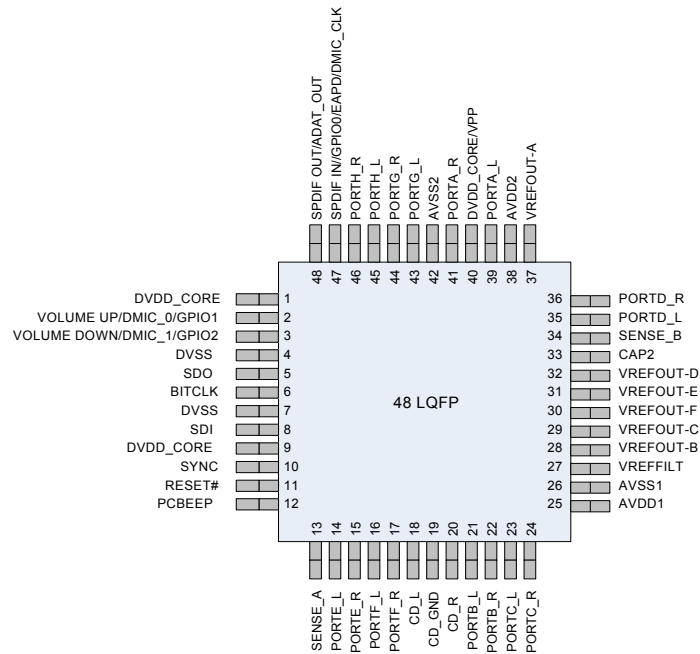
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STAC9273X5TAEyyX	5V	95dB	Yes (Muxed)	Yes	No
STAC9273D5TAEyyX	5V	95dB	Yes (Muxed)	Yes	Home Theater / Sound Room
STAC9272X5TAEyyX	5V	95dB	Yes (Muxed)	No	No
STAC9272D5TAEyyX	5V	95dB	Yes (Muxed)	No	Home Theater / Sound Room
STAC9272X3TAEyyX	3V	95dB	Yes (Muxed)	No	No
STAC9272D3TAEyyX	3V	95dB	Yes (Muxed)	No	Home Theater / Sound Room
STAC9271X5TAEyyX	5V	95dB	No	No	No
STAC9271D5TAEyyX	5V	95dB	No	No	Home Theater / Sound Room

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**STAC927X RED RIVER**

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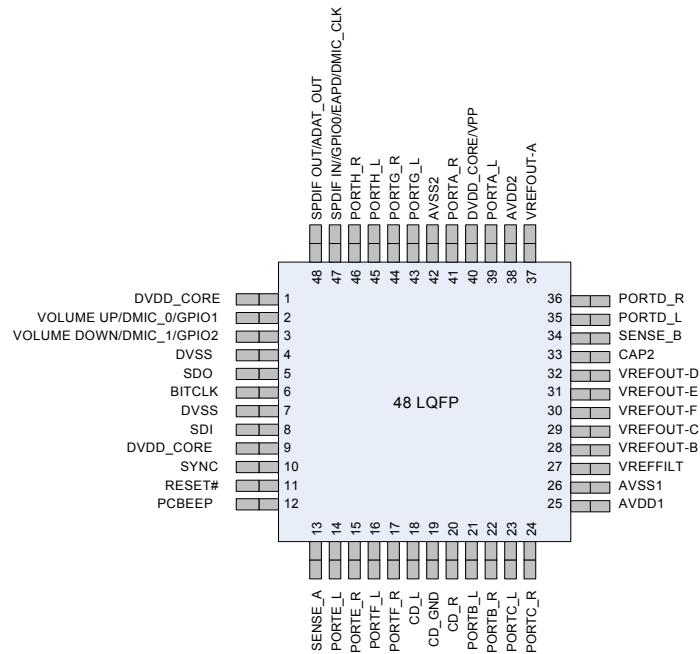
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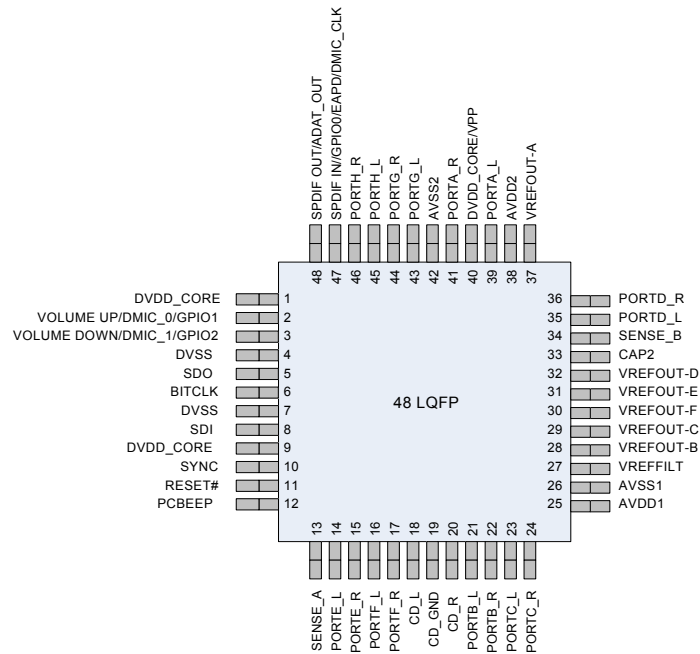
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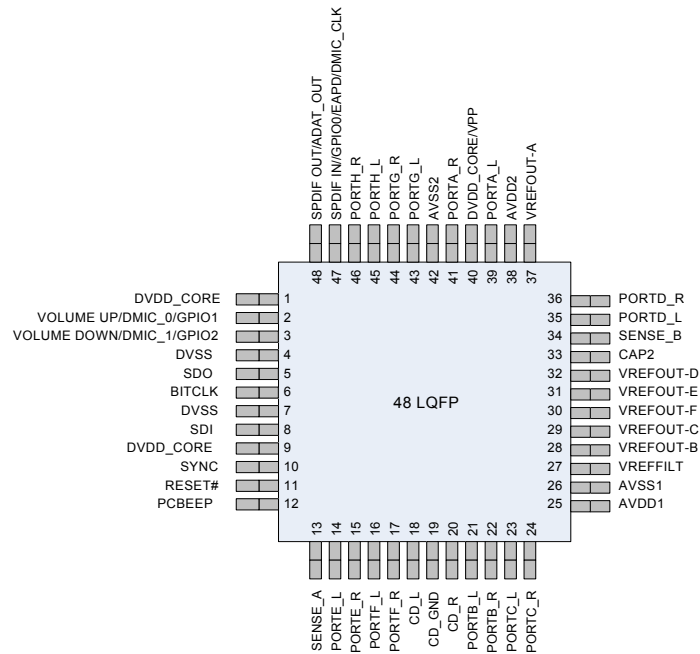
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48-PIN LQFP



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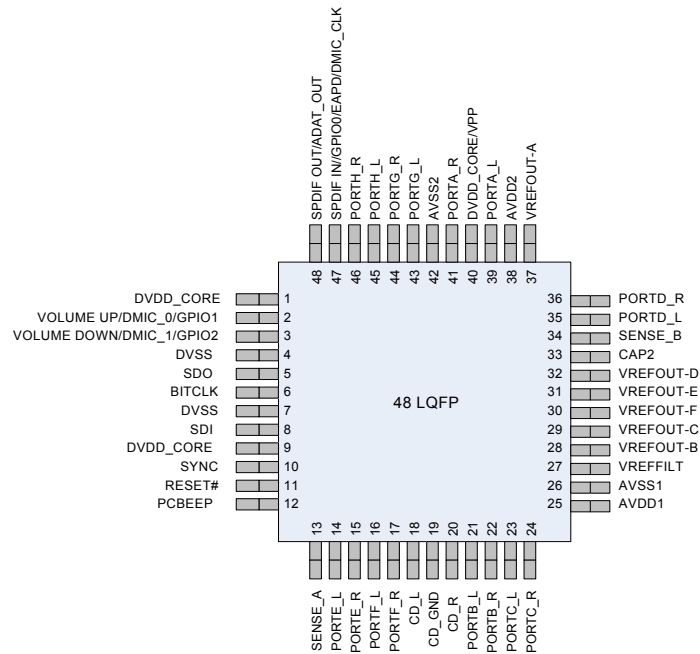
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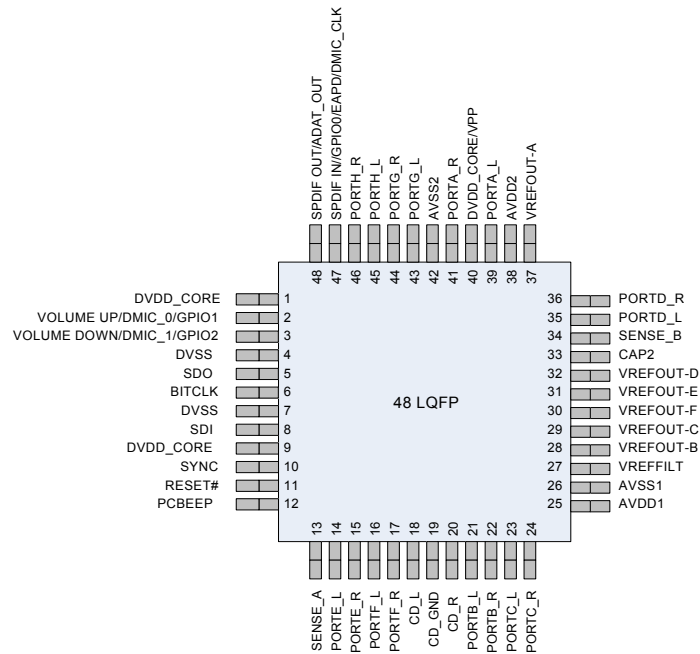
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48-PIN LQFP



PART NUMBER TABLE

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STAC9273X5TAEyyX	5V	95dB	Yes (Muxed)	Yes	No
STAC9273D5TAEyyX	5V	95dB	Yes (Muxed)	Yes	Home Theater / Sound Room
STAC9272X5TAEyyX	5V	95dB	Yes (Muxed)	No	No
STAC9272D5TAEyyX	5V	95dB	Yes (Muxed)	No	Home Theater / Sound Room
STAC9272X3TAEyyX	3V	95dB	Yes (Muxed)	No	No
STAC9272D3TAEyyX	3V	95dB	Yes (Muxed)	No	Home Theater / Sound Room
STAC9271X5TAEyyX	5V	95dB	No	No	No
STAC9271D5TAEyyX	5V	95dB	No	No	Home Theater / Sound Room

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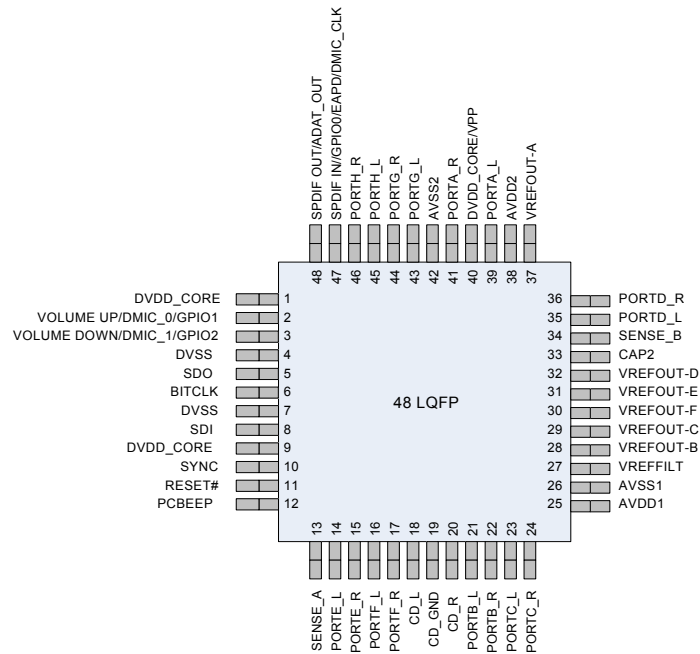
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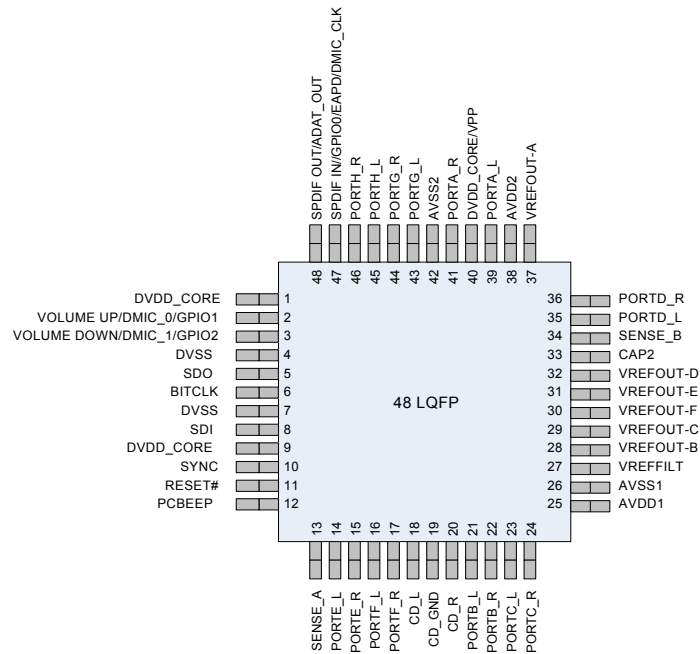
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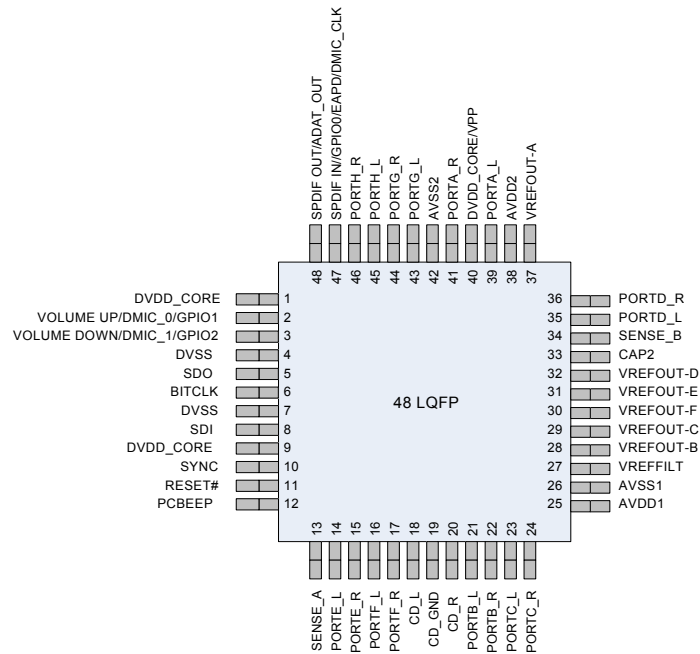
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48-PIN LQFP



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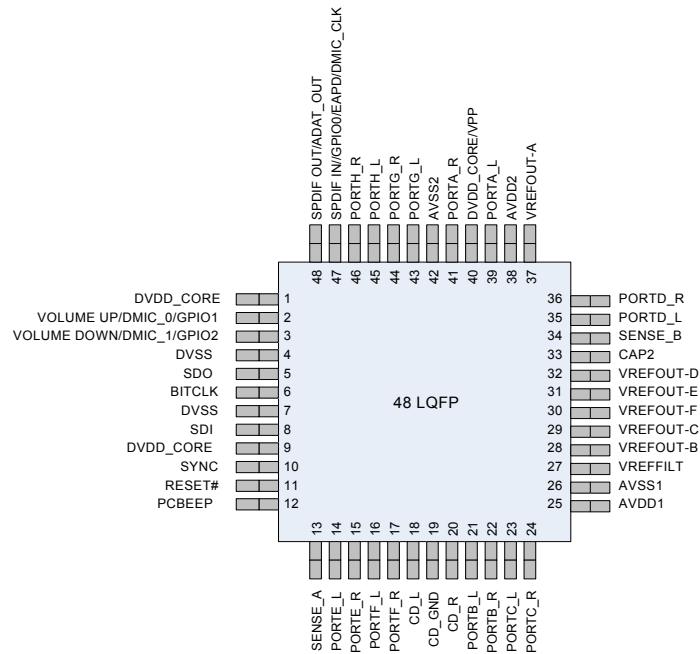
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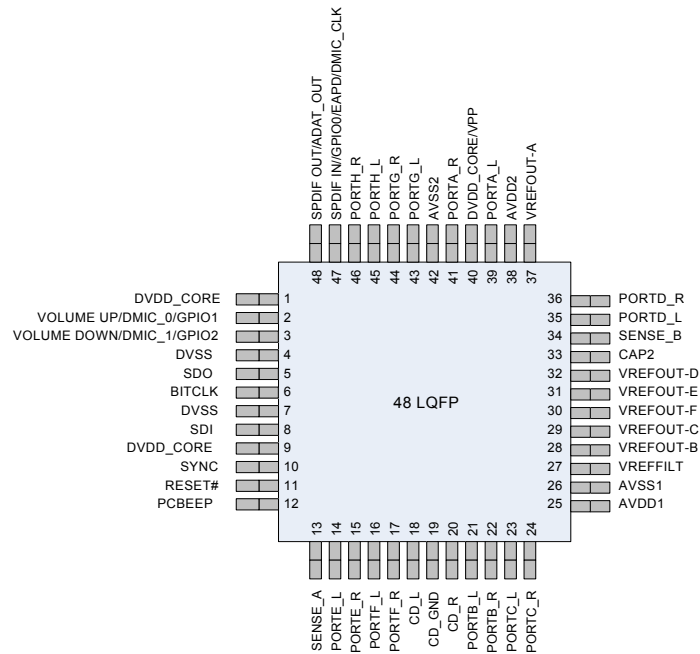
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48-PIN LQFP



PART NUMBER TABLE

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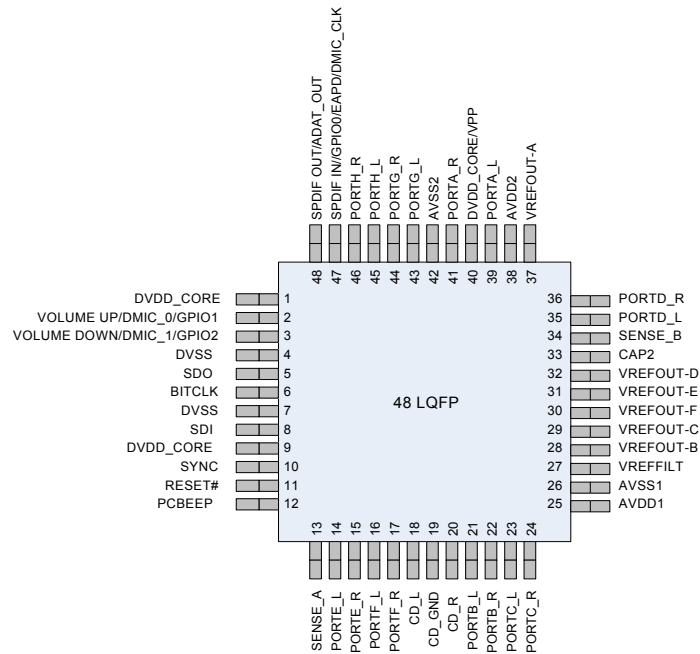
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48-PIN LQFP



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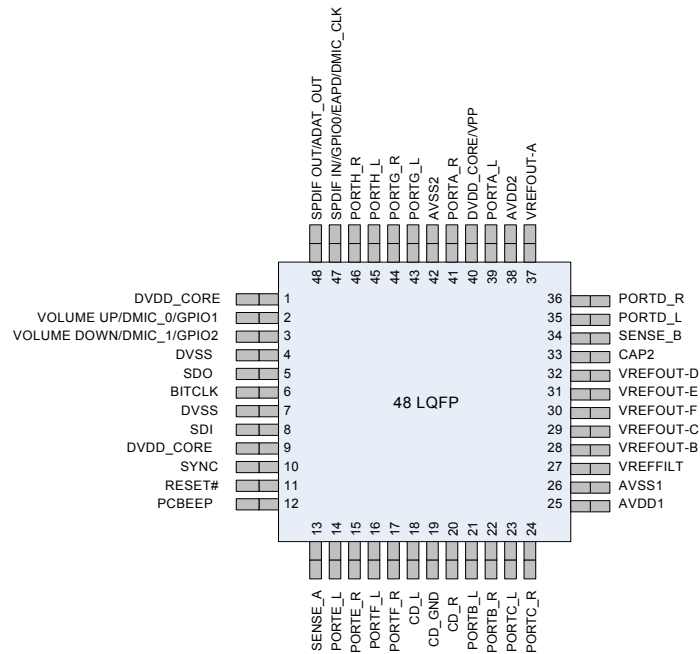
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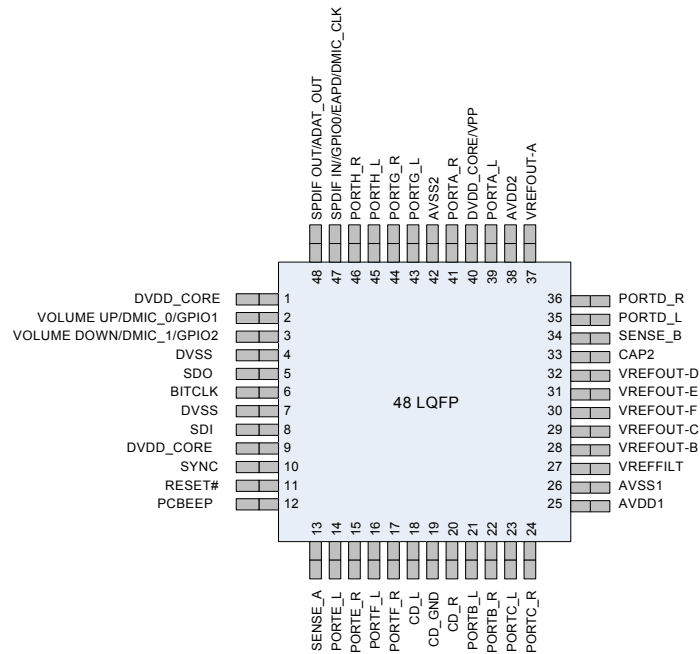
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48-PIN LQFP



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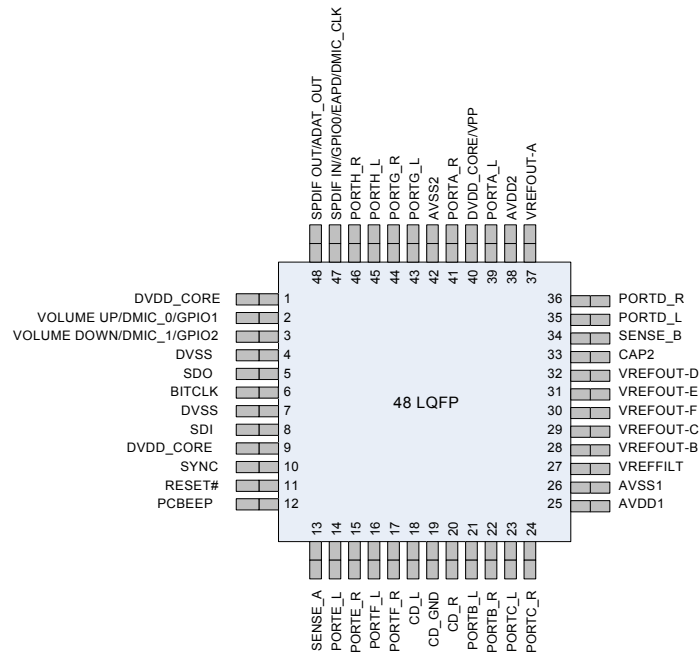
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The STAC927x “Red River” is a family of Theater Quality 10-channel audio CODECs that enable systems with 7.1 audio playing simultaneously with VoIP or another stereo audio stream. IDT’s proprietary  $\Sigma\Delta$  technology provides high fidelity with an estimated DAC SNR up to 105dB. Up to four digital microphones are supported enabling high quality voice input for increased usability of voice applications.

### FEATURES

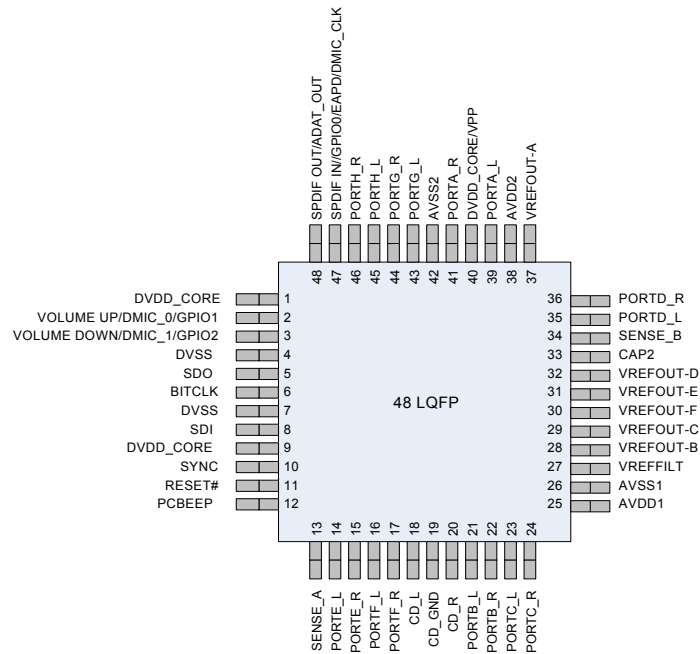
- **High performance HD Audio CODEC provides Theater Quality Audio**
- **High Fidelity  $\Sigma\Delta$  technology**
  - ◆ 105dB DAC SNR (See Table)
  - ◆ 90dB ADC SNR
- **Five stereo DACs and three stereo ADCs**
  - ◆ Supports 7.1 Audio with simultaneous Real Time Communication (RTC) channel such as VoIP or separate stereo audio stream
- **24-bit resolution with up to 192 kHz sample rates**
- **Digital Microphone Interface**
  - ◆ Direct interface up to four Digital Microphones
- **Analog Stereo Microphone**
  - ◆ Microphone Boost 0, 10, 20, 30, 40dB
  - ◆ Six adjustable Vref outputs for microphone bias
- **Integrated Headphone Amps (3)**
- **SPDIF In and Out**
- **ADAT<sup>®</sup> Optical “Lightpipe” Output (See Table)**
- **Volume Up/Down Control**
- **Jack Insertion Detect and Impedance Sensing Supports Jack Retasking and Universal Jacks<sup>™</sup>**
- **Digital PC Beep to all outputs**

- **+3.3 V to +5 V analog power supply options (See Table)**
- **Environmental 48-pin LQFP package**

### SOFTWARE SUPPORT

- **Kernel Processing Interface (SKPI)**
  - ◆ Enables plug-ins that can operate globally on all audio streams of the system
- **12 band parametric equalizer SKPI plug-in**
  - ◆ Constant, system-level effects tuned to optimize a particular platform can be combined with user-mode “presets” tailored for specific acoustical environments and applications
  - ◆ System-level effects automatically disabled when external audio connections made
- **Dynamics Processing SKPI plug-in**
  - ◆ Enables improved voice articulation
  - ◆ Compressor/limiter allows higher average noise level without resonances
- **Dolby PC Entertainment Experience Logo Program**
  - ◆ Dolby Master Studio<sup>™</sup> (See Table)
  - ◆ Dolby Home Theater<sup>™</sup> (See Table)
  - ◆ Dolby Sound Room<sup>™</sup> (See Table)
- **Dolby Technologies**
  - ◆ Dolby Headphone<sup>™</sup>, Dolby Virtual Speaker<sup>™</sup>
  - ◆ Dolby ProLogic II<sup>™</sup>, Dolby ProLogic IIx<sup>™</sup>
  - ◆ Dolby Digital Live<sup>™</sup>
- **Intel Audio Studio<sup>™</sup> from Sonic Focus**
- **Maxx Player<sup>™</sup> from Waves**
- **Microphone Beam Forming, Acoustic Echo Cancellation, & Noise Suppression from Knowles<sup>™</sup>**
- **WOW<sup>™</sup> and Tru Surround<sup>™</sup> from SRS**

48-PIN LQFP



PART NUMBER TABLE

Part Order Number	Voltage	SNR	DigMic	ADAT	Dolby
STAC9274X5TAEyyX	5V	105dB	Yes (Muxed)	Yes	No
STAC9274D5TAEyyX	5V	105dB	Yes (Muxed)	Yes	Master Studio
STAC9273X5TAEyyX	5V	95dB	Yes (Muxed)	Yes	No
STAC9273D5TAEyyX	5V	95dB	Yes (Muxed)	Yes	Home Theater / Sound Room
STAC9272X5TAEyyX	5V	95dB	Yes (Muxed)	No	No
STAC9272D5TAEyyX	5V	95dB	Yes (Muxed)	No	Home Theater / Sound Room
STAC9272X3TAEyyX	3V	95dB	Yes (Muxed)	No	No
STAC9272D3TAEyyX	3V	95dB	Yes (Muxed)	No	Home Theater / Sound Room
STAC9271X5TAEyyX	5V	95dB	No	No	No
STAC9271D5TAEyyX	5V	95dB	No	No	Home Theater / Sound Room

NOTE: When ordering these parts the “yy” will be replaced with the CODEC revision. Add an “R” to the end of any of these part numbers for delivery on Tape and Reel. The minimum order quantity for Tape and Reel is 2,000 units for both package options.

**STAC927X RED RIVER**

**THEATER QUALITY TEN CHANNEL HIGH DEFINITION AUDIO CODEC WITH DIGITAL MICROPHONE INTERFACE PC AUDIO CODECS**

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