



Restoration Tips:

Selecting the proper filter for your noise reduction job:

Though many look at noise reduction as a black art, you can at least start at the right place when you begin to experiment. For this list of noise reduction challenges and their corresponding tools, we have chosen Diamond Cut Audio Restoration Tools as our noise destruction tool of choice:

<u>Sound Restoration Type</u>	<u>Sound Defect</u>	<u>Filter Type</u>
Early Acoustic Cylinders & Acoustical Discs	"Pops"	Impulse Noise
	"Crackle"	Average or Median
	"Distortion"	Low Pass Filter
	"Hiss"	Dynamic Noise Filter or Continuous Noise
	"Rumble"	Highpass or Continuous Noise Filter
	"Thin"	Graphic Equalizer
	"Reverse Skip"	Cut
	"Forward Skip"	Copy and Paste Insert
LP's & 45 RPM Records	Skip / Miss-tracking	Speed Change Filter / Fractional Speed Mastering.
	"Ticks"	Impulse Noise
	"Pops"	Impulse Noise
	"Distortion"	Low Pass Filter
	"Rumble"	High Pass Filter
	"Shrill"	Graphic Equalizer
	"Reverse Skip"	Cut
	"Forward Skip"	Copy & Paste Insert
Magnetic Tape Recording	Noise between Cuts	Dynamics Processor – Expander / Gate
	"Hiss"	Dynamic Noise Filter or Continuous Noise Filter
AM Radio or Short Wave Radio	"Static"	Dynamic Noise Filter or Continuous Noise Filter
AM Broadcast	"Whistle"	Notch Filter (Europe - 9 KHz) (US - 10 KHz)
Live Recording	"Feedback"	Notch Filter
	"Hum"	Notch Filter
	"Mic 'P' Pop"	Highpass Filter
	"Dead"	Dynamic Noise Filter (enhancement mode)
	"Digital Sound"	Virtual Valve Amplifier / Tube Warmth
Telephone Conversation	"Intelligibility"	Bandpass Filter
	"Noisy"	Continuous Noise Filter
	"Muffled or Garbled"	Median Filter (large sample size)

	Variation in loudness between parties (near party/ far party gain compensation)	Dynamics processor / Compressor
Surveillance Recording	Cancellation of Radio / or TV using a reference track	File Conversions (Left – Right)
Optical Movie Sountrack	"Pops"	Impulse Noise
	"Crackle"	Median
	"Thuds"	Highpass Filter
	"Hollow"	Graphic Equalizer
Any Sound Source	Mike "P" Pop	Highpass Filter selectively applied
	Clipping Distortion	Lowpass Filter selectively applied
	De-Ess (excessive sibilance of the pronunciation of the letter "S.")	Lowpass Filter selectively applied or Dynamic Processor/ De-esser
	Pitch incorrect	Change Speed Filter
	Line Frequency "Buzz"	Harmonic Reject Filter
	Too much dynamic range	Dynamic Processor
	Top Octave missing	Virtual Valve Amplifier / Harmonic Exciter
	Recording lacks "warmth"	Virtual Valve Amplifier
	Too much Reverb	Continuous noise filter
	Weak Vocal	Gain Change selectively applied

Tracer Technologies specializes in Audio Restoration and Sound Products. Their Diamond Cut products are world leaders in Record and Tape Restoration as well as Audio Forensics.

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