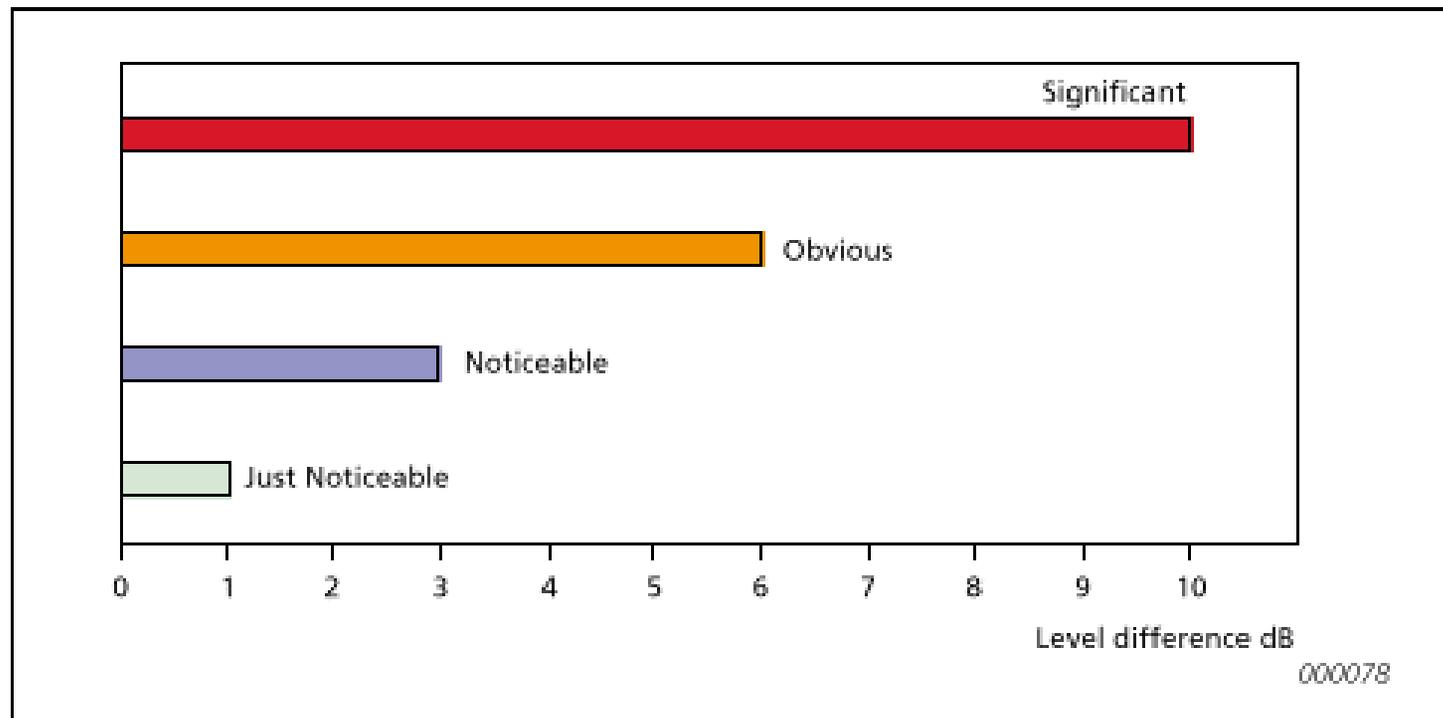


# Chapter 389, Noise



- ◆ **dB-** Sound is measured in decibels (dB).

- ◆ 10 dB increase in sound = doubling of sound pressure



# Sound pressure can be at different frequencies



- ◆ **A weighting** -A weighting is skewed towards higher frequencies.

## Decibel Levels of Common Noise Sources

### Sound Pressure Level (dBA)

140 -----  
130 -----  
120 -----  
110 -----  
100 -----  
90 -----  
80 -----  
70 -----  
60 -----  
50 -----  
40 -----  
30 -----  
20 -----

### Noise Source

Jet Engine (at 25 meters)  
Jet Aircraft (at 100 meters)  
Rock and Roll Concert  
Pneumatic Chipper  
Jointer/Planer  
Chainsaw  
Heavy Truck Traffic  
Business Office  
Conversational Speech  
Library  
Bedroom  
Secluded Woods  
Whisper

# State Rule

- ◆ A weighting
- ◆ Outside only
- ◆ Standards based upon land use

- ◆ **C weighting** - C weighting is nearly linear, representing the actual sound pressure.

# Proposed City Standard <sup>389.60</sup>

- ◆ C weighting
- ◆ Inside only
- ◆ Relative to background noise

# Inside receiver's building

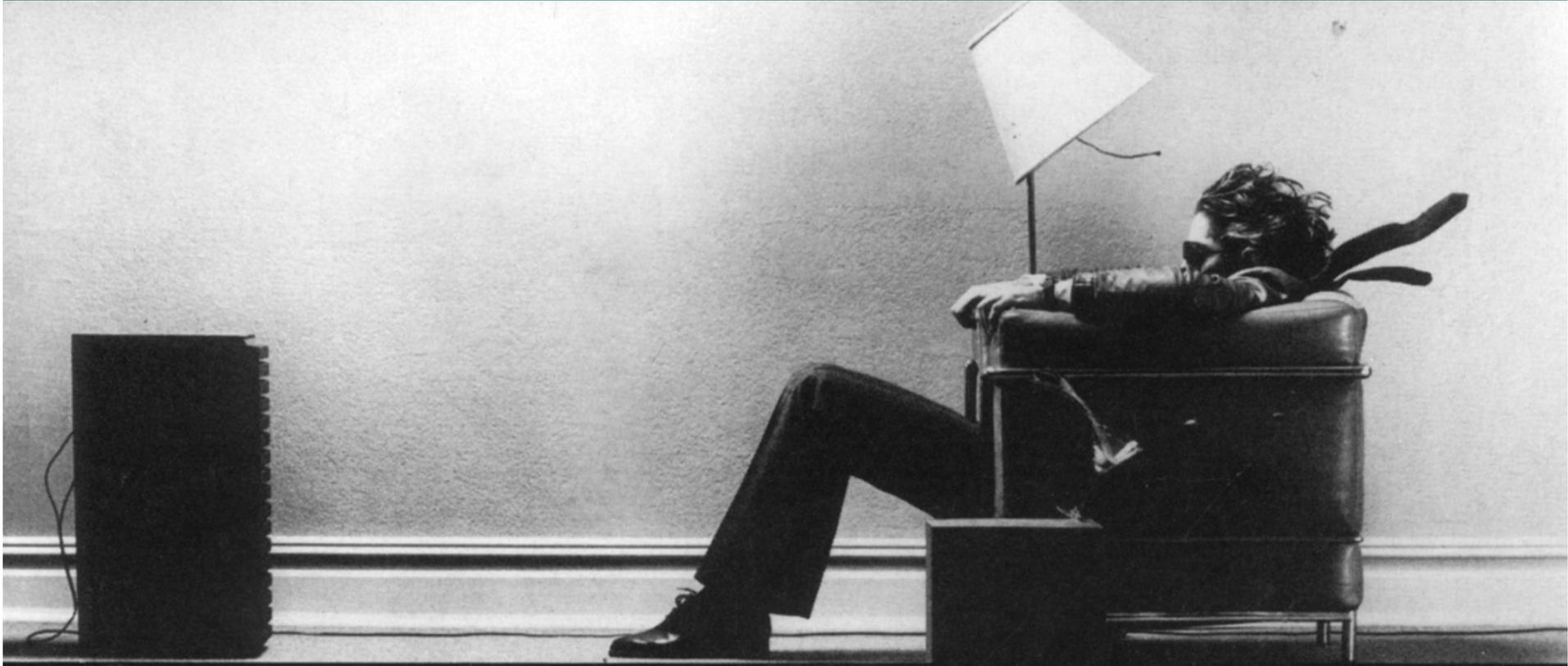
- ◆ Daytime – No more than 10 dB(C) above ambient
  - ◆ Nighttime – No more than 5 dB(C) above ambient
- \* All windows and doors closed

# Other proposed changes

- ◆ Exemption for games at Twins and Gopher stadiums (not concerts) 389.60 (c) (pg. 9)
- ◆ Exemption for church bells, carillons, etc. 389.60 (c) (pg. 10)
- ◆ Removal of nuisance ordinance language 389.65 (pg. 11)
- ◆ Removal of nuisance animals language 389.65 (a) (4) (pg. 15)
- ◆ Numerical standards for amplified sound 389.65 (a) (6) (pg. 16)

# Other proposed changes

- ◆ Exemption of snow plowing if  $\geq 1$  inch of snow  
389.65 (a) (9) (pg. 16)
- ◆ Removal of Construction-related noise for inclusion  
in separate chapter. 389.70 & 389.90 (pg. 17, 20)
- ◆ Expanding time for outdoor implements use 389.80 (pg.  
19)
- ◆ Modification of extended-hours outdoor amplified  
sound approval 389.105 (1) (pg. 22)
- ◆ Sound proofing for development in Industrial areas.  
389.210 (pg. 27)



# Construction Related Changes

- ◆ Amending – Chapter 47. Air Pollution
  - ◆ Abrasive blasting permit required (Moving to chapter 59)
- ◆ Amending – Chapter 48. Minneapolis Watershed Management Authority
  - ◆ Updating the definition of *Remediation*
  - ◆ On-site remediation related to temporary rock crushing (Moving to chapter 59)
  - ◆ Updating technical permit requirements

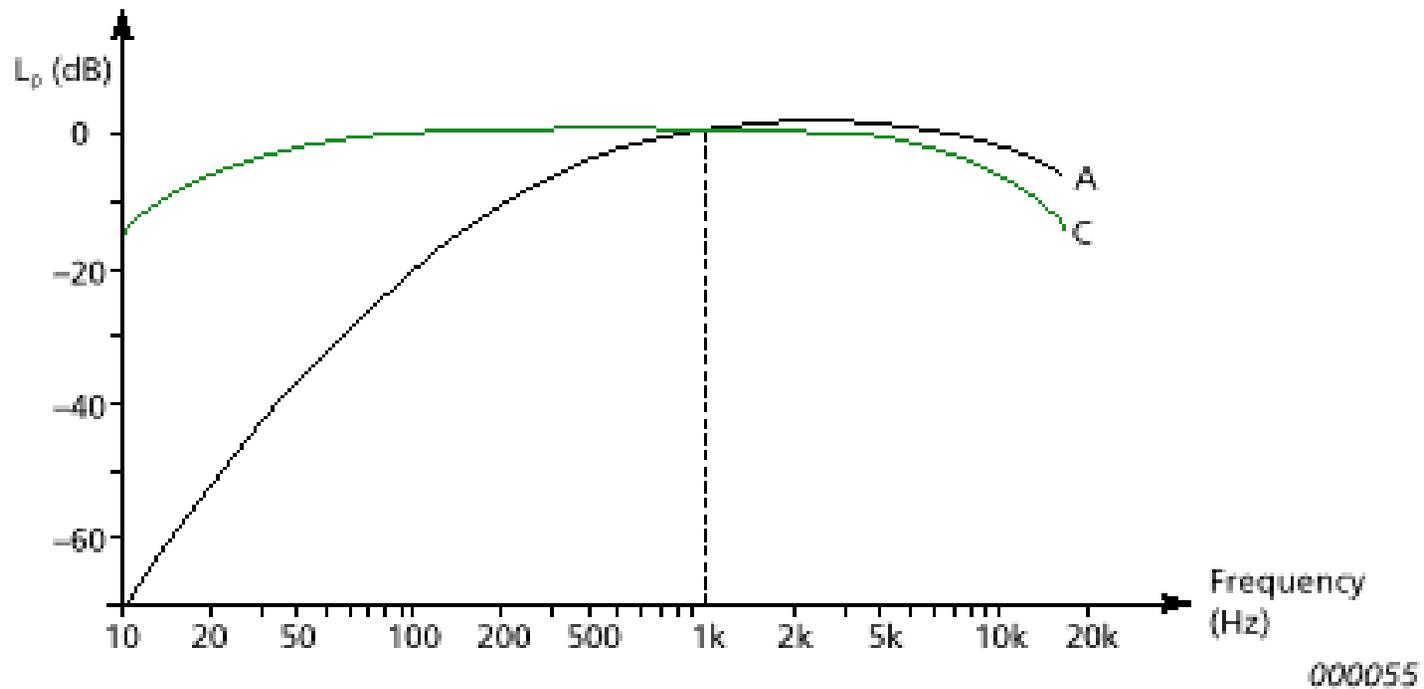
# Construction Related Changes

- ◆ Adopting proposed ordinance – Chapter 59 Construction Activities
  - ◆ Reorganizes all environmental construction activity permit requirements to one chapter
  - ◆ Layout is in three sections definitions, permits, and enforcement
  - ◆ Clarifies exemptions for emergency repairs and residential property



*Accompanying Slide*

# A weighting vs. C weighting



Accompanying Slide

# State Noise Standards

Noise Area Classification	Daytime		Nighttime	
	<u>L50</u>	<u>L10</u>	<u>L50</u>	<u>L10</u>
1 (Hotel, school, house, hospital)	60	65	50	55
2 (Bank, restaurant, store, parks)	65	70	65	70
3 (Manufacturing, right of way)	75	80	75	80



= loudest 50% of sample period



= loudest 10% of sample period

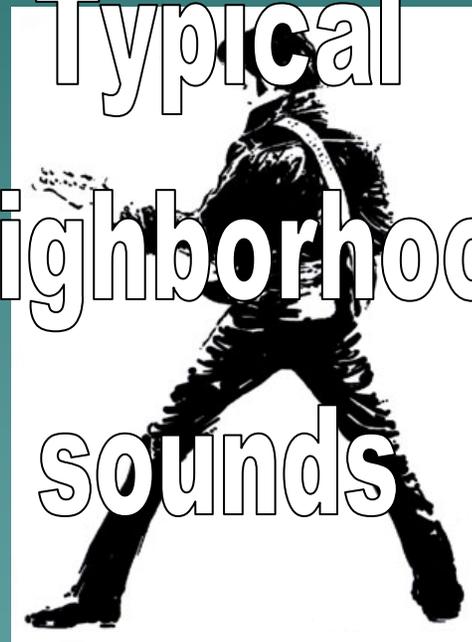
*Accompanying Slide*

# Indoor Ambient and Activity Readings

## Activity Reading

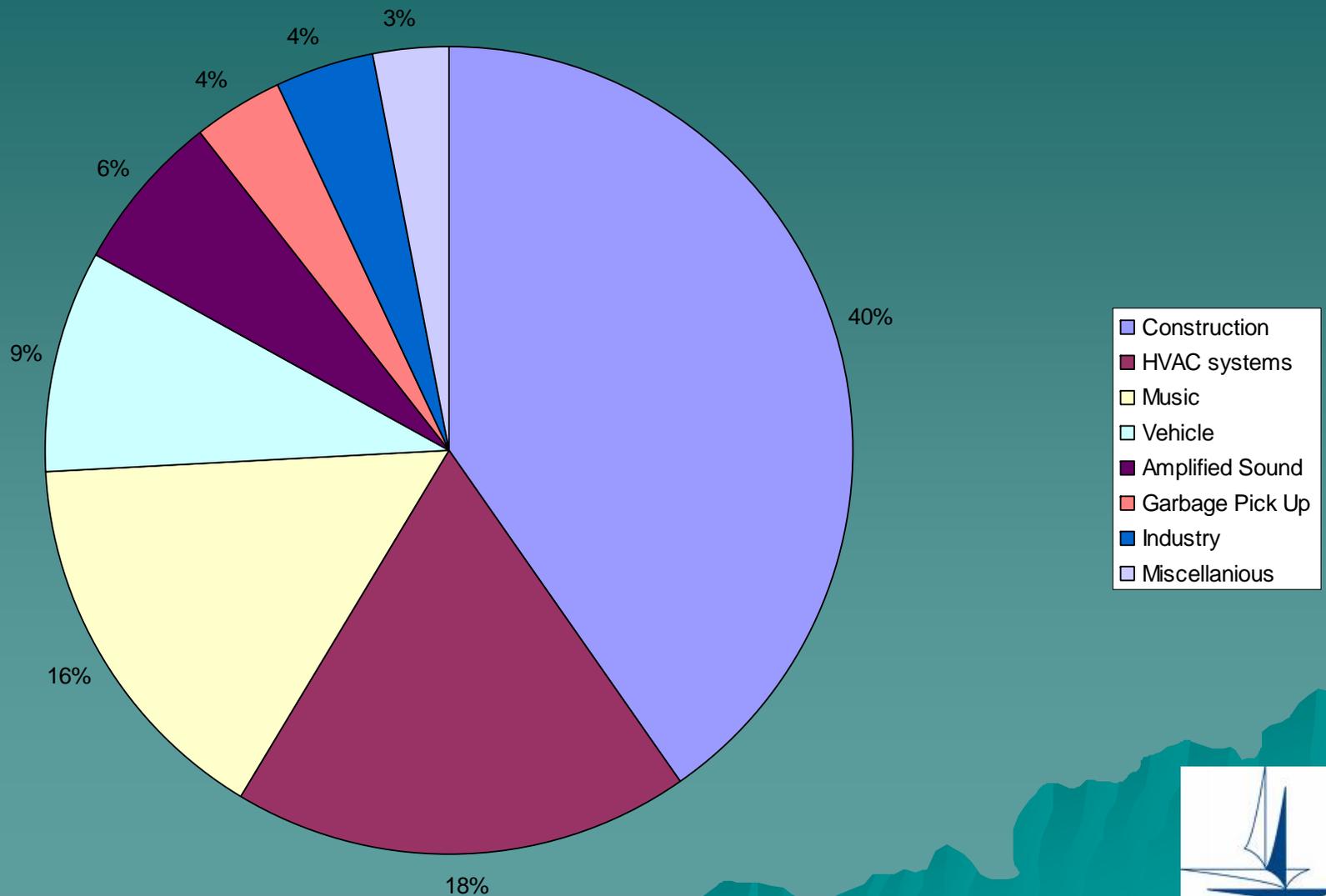


## Typical neighborhood sounds



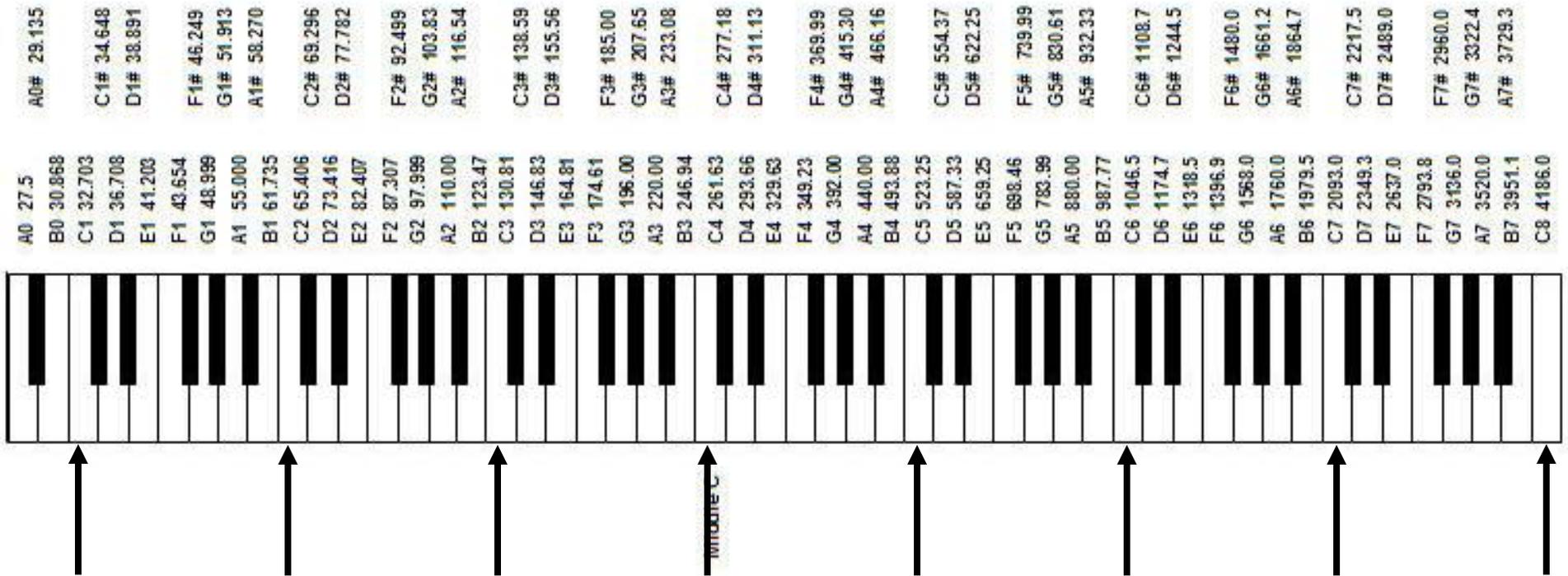
## 150 Minutes

# 2008 Noise Inspection Type



# Frequencies and Octaves

88 keys = 88 different frequencies



8 Octaves. Frequency doubles each Octave