# VoiceFixer

## TFGAN Vocoder - Training - Frequency Domain losses



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## Function:

 $^{F}+\lambda_{1}L^{D}$ 



## Frequency

## Domain

## Losses:



$$L^F = \lambda_2 L^{mel} + \sum_k L_k^f$$



 $L_k^f(\hat{s}, s) = \lambda_3 L_k^{sc}(\hat{s}, s) + \lambda_4 L_k^{mag}(\hat{s}, s)$ 

### Table.4 STFT parameter for each k

k	1	2	3	4	5	6	7
win-length	4096	2048	1024	512	256	128	64
hop-length	2048	1024	512	256	128	64	32
fft-size	8192	4096	2048	1024	512	256	128

## Frequency

## Training

## Domain

## losses

## Vocoder

### spectral

ме

## Capture

### domain

### cale

### convergence

### information:

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## magnitude

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### scale:

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 $L^{mel}(\hat{s}, s) = \| |\hat{S}|_{mel} - |S|_{mel} \|_{2}$ 

 $\| |\hat{S}| - |S| \|_{E}$ 

 $\| |\hat{S}| \|$ 

 $L^{sc}(\hat{s},s) =$ 

 $L^{mag}(\hat{s}, s) = \| log(|\hat{S}|) - log(|S|) \|_{1},$ 

Frequency

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 $+\lambda_1 L^D$ 

$$L^F = \lambda_2 L^{mel} + \sum_k L_k^f$$

 $L_k^f(\hat{s}, s) = \lambda_3 L_k^{sc}(\hat{s}, s) + \lambda_4 L_k^{mag}(\hat{s}, s)$ 

#### Table.4

### parameter



### Function:

### Domain

### Losses:

### Frequency

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