VOX EX MACHINA

Day-Con X 2016

REDSHiELD

On Vocals

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VOX EX MACHINA

Attacking Speaker Verification……a work in progress

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The Voder

Voice Operating

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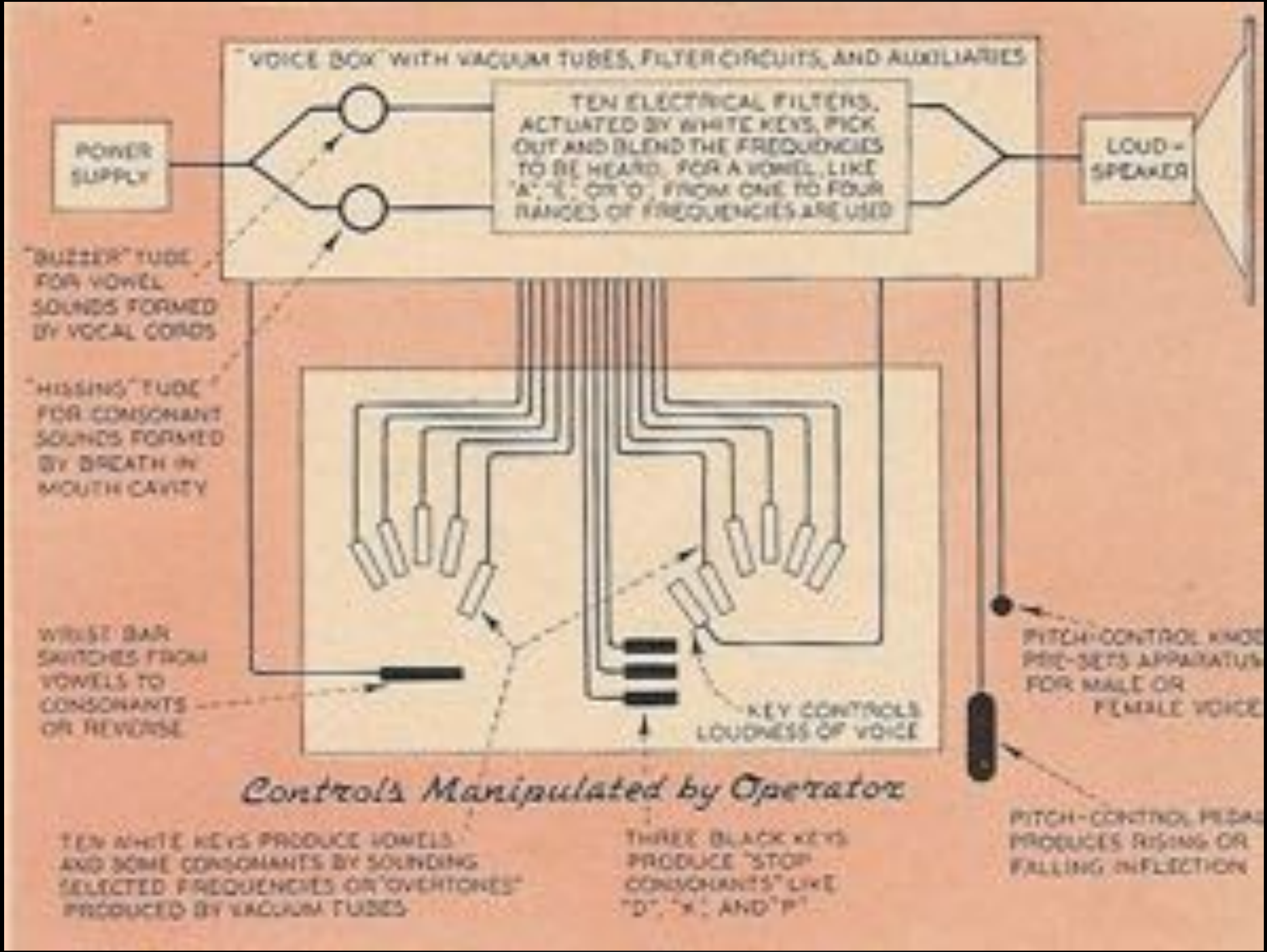
"VOICE BOX" WITH VACUUM TUBES, FILTER CIRCUITS, AND AUXILIARIES
POWER SUPPLY
TEN ELECTRICAL FILTERS, ACTUATED BY WHITE KEYS, PICK OUT AND BLEND THE FREQUENCIES TO BE HEARD. FOR A VOWEL LIKE "A", "E", OR "O", FROM ONE TO FOUR RANGES OF FREQUENCIES ARE USED
LOUD-SPEAKER
"BUZZER" TUBE FOR VOWEL SOUNDS FORMED BY VOCAL CORDS
"HISSING" TUBE FOR CONSONANT SOUNDS FORMED BY BREATH IN MOUTH CAVITY
WRIST BAR SWITCHES FROM VOWELS TO CONSONANTS OR REVERSE
KEY CONTROLS LOUDNESS OF VOICE
PITCH-CONTROL KNO
PRE-SETS APPARATU
FOR MALE OR
FEMALE VOICE
Controls Manipulated by Operator
TEN WHITE KEYS PRODUCE VOWELS AND SOME CONSONANTS BY SOUNDING SELECTED FREQUENCIES OR "OVERTONES" PRODUCED BY VACUUM TUBES
THREE BLACK KEYS PRODUCE "STOP CONSONANTS" LIKE "D", "K", AND "P"
PITCH-CONTROL PEDA
PRODUCES RISING OR FALLING INFLECTION

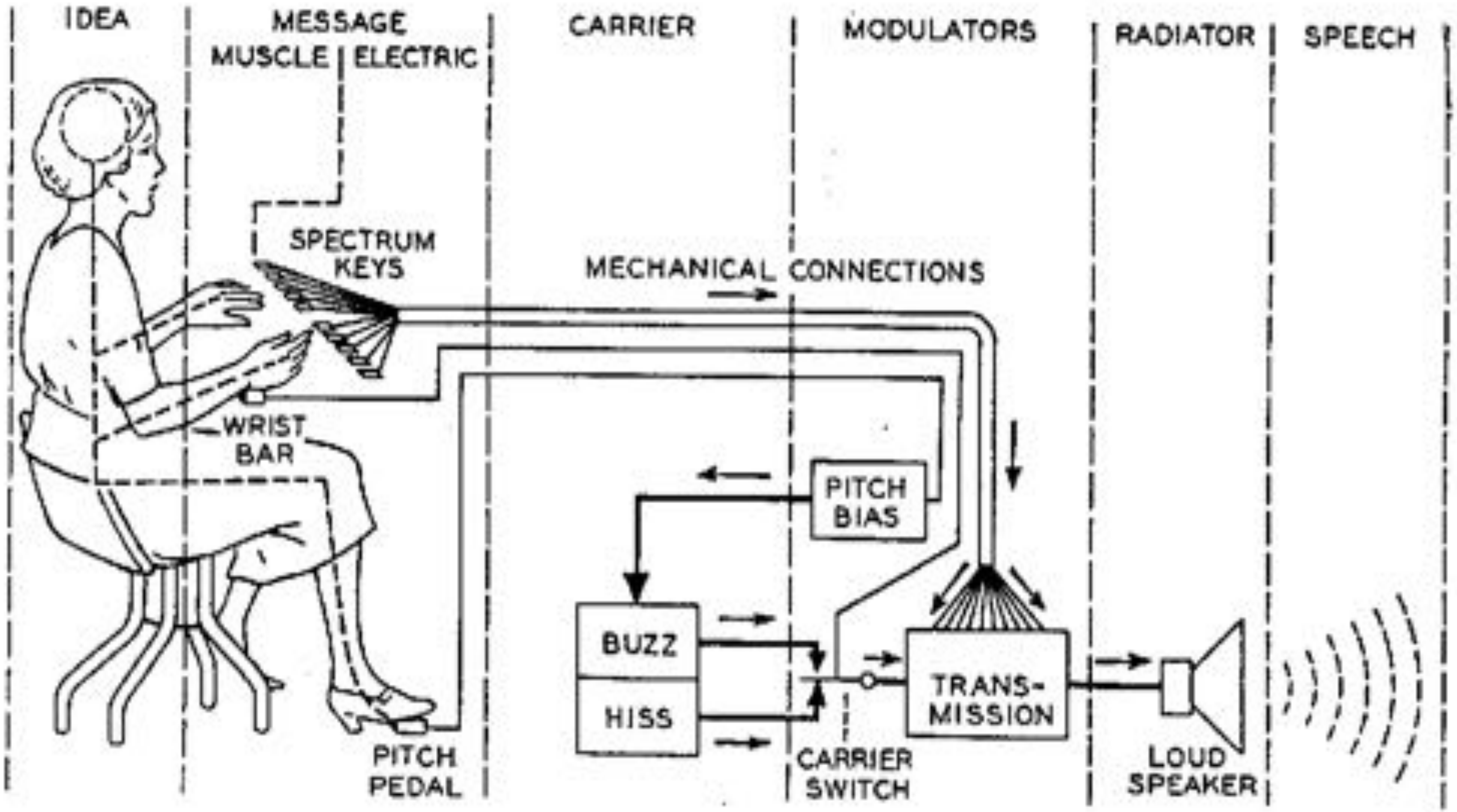

Fig. 8—Schematic circuit of the voder.

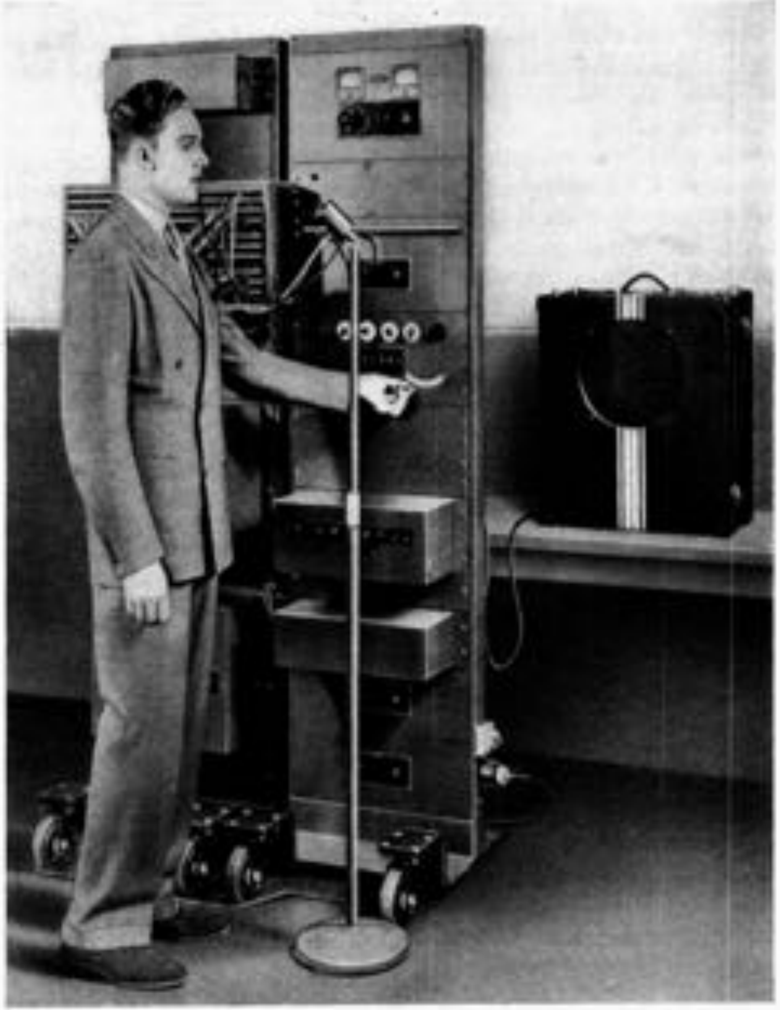

Fig. 4—The vocoder as demonstrated.

The Vocoder

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Vox Ex Hominum

Speaker Verification / Identification

Enrollment

Authentication

Confidence Level

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Feature Extraction

Mel-frequency Cepstrum

Hidden Markov Models

Vector Quantisation

Gaussian Mixture Models

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When Audio

Tools Attack

Toolkit

Supercollider

Max / Pure Data

Festvox

Mage

Attacking

Speaker

Cloud APIs

VoiceIT

VoiceVault

Nuance

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Tool Demo

Replay Attacks

Coming Soon

Tool Release:

Voice Changer

Brute Force

Fuzzing

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Biometrics

ID or Auth?

Change?

Measurement

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Thank You

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