

What Happened to the Electronic Saxophone?

Inspiration for an augmented saxophone

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H&A.Selmer Inc. Tenor saxophone **Varitone**

(MARK VI conversion s/n143xxx) &

Varitone OCTAMATIC AUDITORIUM SAXOPHONE AMPLIFIER

What started this project?

Gigging live saxophonist with poor amplification options.

Inspired by a historical flash in the pan.

Recent insight into tools/skills.

Thought about it lots.

Talked about it lots.

Bid on terrible saxophones on e-Bay.

Then someone actually believed I was onto something and gave me a working saxophone to destroy.

Scary – not talk any more!!!!

In 1967 I could have had one of these.....



Source <http://bassic-sax.ca/blog/?p=12037> accessed 22/10/2010
Reporting 'Complete Mark VI Varitone Set-up On eBay' in Aug 2009

What is The Varitone?

- Produced by renowned sax manufacturer Selmer
- Effects
 - Tremolo
 - basic EQ (“bright” and “dark”)
 - simultaneous sub-octaves
 - echo
- Unique ceramic microphone
 - mounted in the crook (away from tone-holes)
 - developed to withstand high sound pressure
 - and moisture levels
- Control box and dedicated amp

**SELMER'S ELECTRONIC
SAXOPHONE** will make
you the six busiest
musicians in town



Varitone

It makes every new sound you know seem old.



Buy the complete outfit.



Buy the attachment.

**THESE
CONTROLS
PUT A NEW
WORLD OF
SOUND
AT YOUR
FINGERTIPS**



The Music Show: A New World of Sound



NEW SHAPES IN BASSES, such as this violin-shaped model, got good buyer action according to W. J. (Bill) Given, field sales manager of the David Wexler Co.



AMPLIFIED WINDS were the talk of the Music Show. Six companies brought wind-amplification equipment of one sort or another to the show. This is the Buescher "400" sax bugged to perform with the Selmer Varitone which was shown for the first time at last year's Music Show.



NEW CONCEPT from Musicraft announced at the Music Show: a cordless amplifier guitar with built-in transmitter. Company sales manager Ron Anderson, second from right, describes unit in Chicago. Receiver will feed sound into amplifier, freeing musician to roam at will. Unit will retail at \$898.



COMBO ORGAN CRAZE continues. Everybody showed one at Chicago. This is Gibson's first model.



THE SHOW WAS BUGGED. Staid old LeBlanc brought pick-ups for all its reed instruments. The firm also showed equipment for special amplified effects. Woody Herman has been using LeBlanc's "Bug."



NEW APPLICATIONS of old instruments. This is the Tiger combo 'cordion introduced by Ernest Deffner Affiliates at the Music Show.



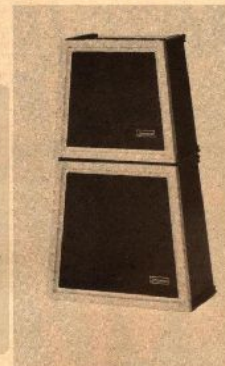
NEW ACCESSORIES, such as this echo/reverb unit from Premier (capable of handling four musicians), got excellent buyer attention. Most buyers saw great profit potential in the hundreds of new accessory items.



AMPLIFIED ANCIENTS, such as this harpsichord from Baldwin, are already influencing recorded pop music.



NO VIBRATIONS with these amps from Coral. They have no screws.



NEW SHAPES in speakers for musical instruments. This is one of several shapes of power module shown by the Jensen Mfg. division of the Muter Co. at Chicago.



NEW SHAPES IN GUITARS intrigued buyers at Chicago. This is a Sweet Wing model from Hallmark, one of the many small firms with big ideas.

Amplified Winds the New Sound at Show

By EARL PAIGE

Most musicians believe to be a new phenomenon in the burgeoning field of amplified sound, included LeBlanc's "Arbiter Bug," available in three models for \$49.50.

Like others, which do not require drilling a hole in the in-

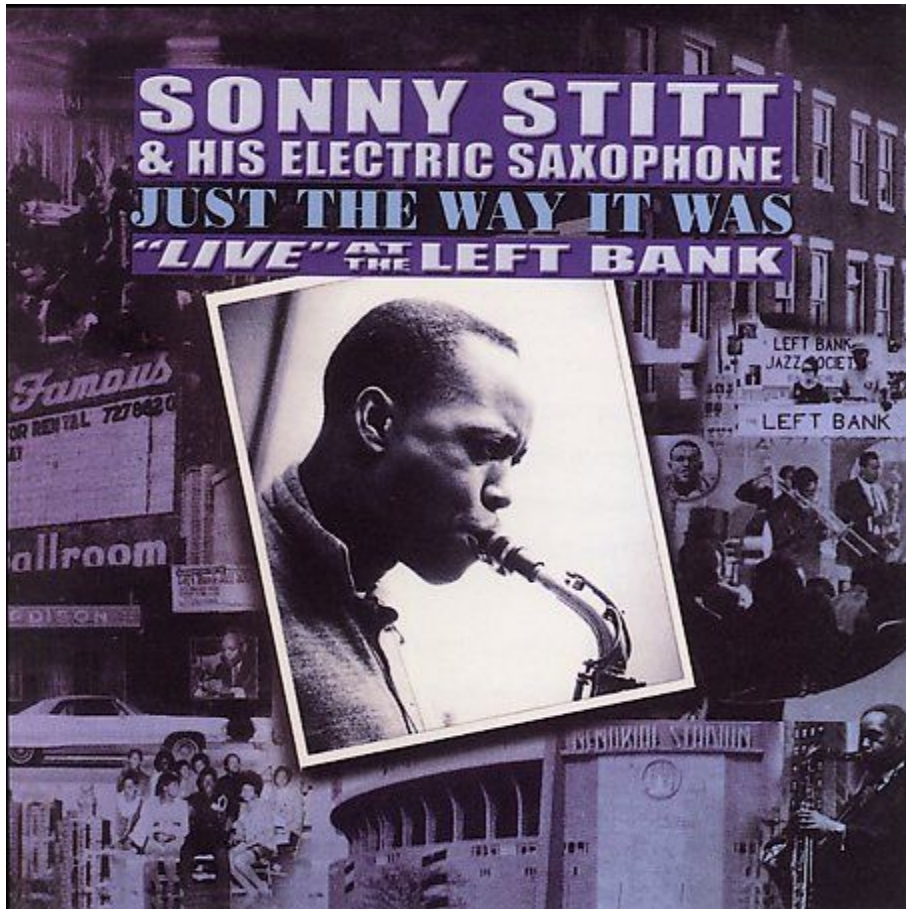
\$244. Actually billed as a computer, the unit attaches to clarinets, saxophones, cornets, trumpets, trombones, flutes and other traditional instruments. It can be paired with the firm's "500" amplifier priced at \$399. Chicago Musical Instrument

tonal colorings. Prices range from \$865 to \$1,245 while attachments to convert conventional Buescher saxes are available at \$530 and \$730.

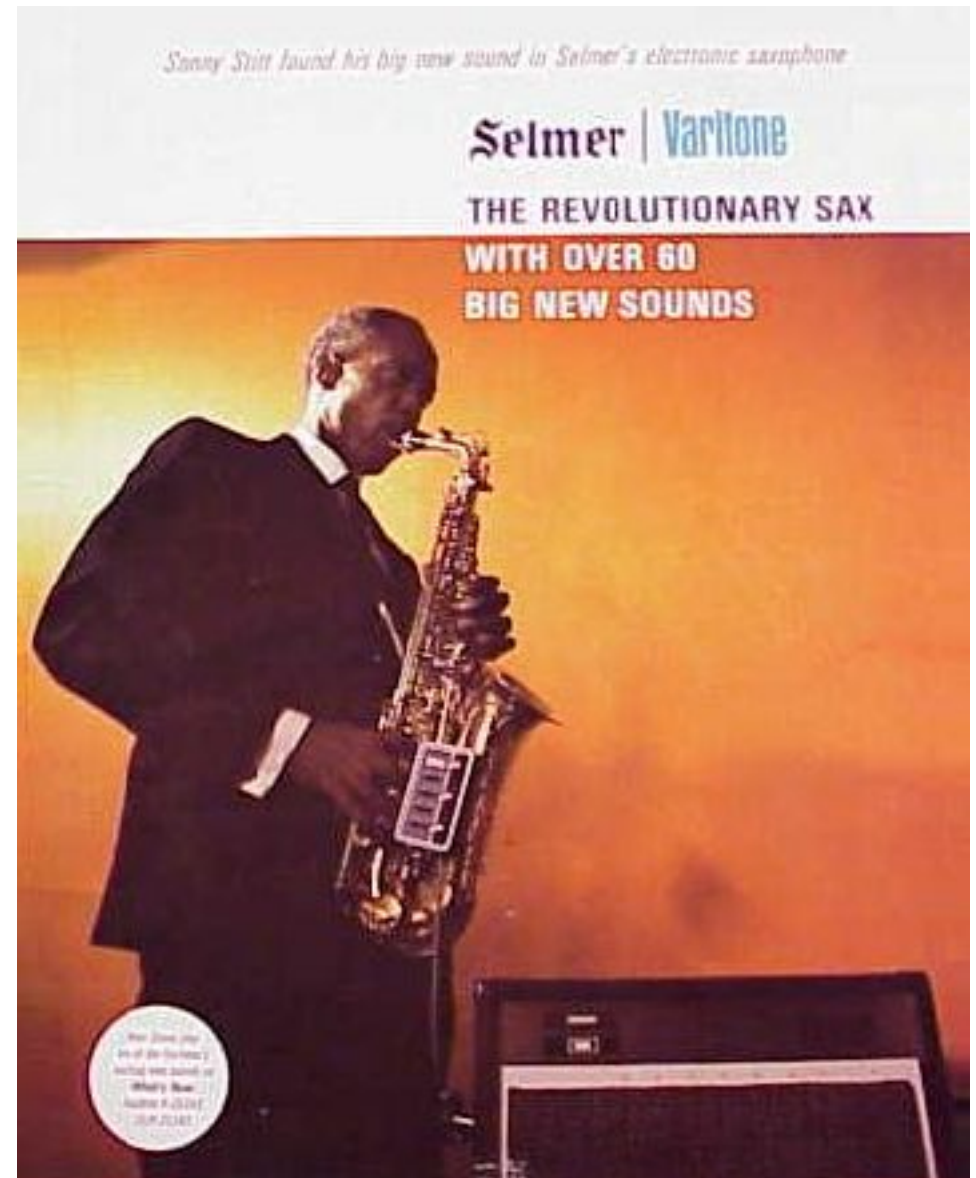
Taking a slightly different approach, Koss Electronics, Inc., was showing its horn-mounted

Celebrity Endorsement

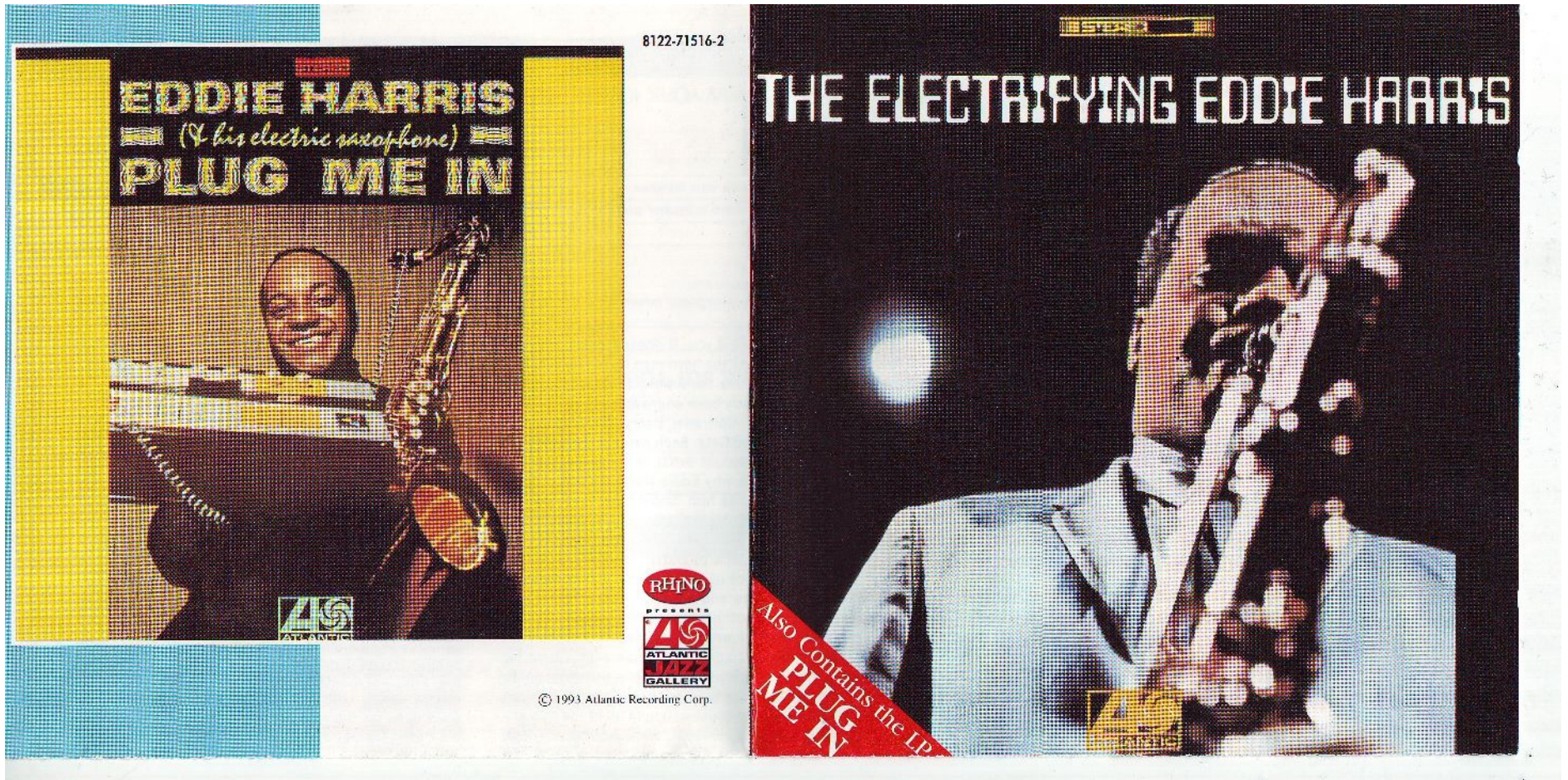
Sony Stitt



official Selmer sponsor but.....



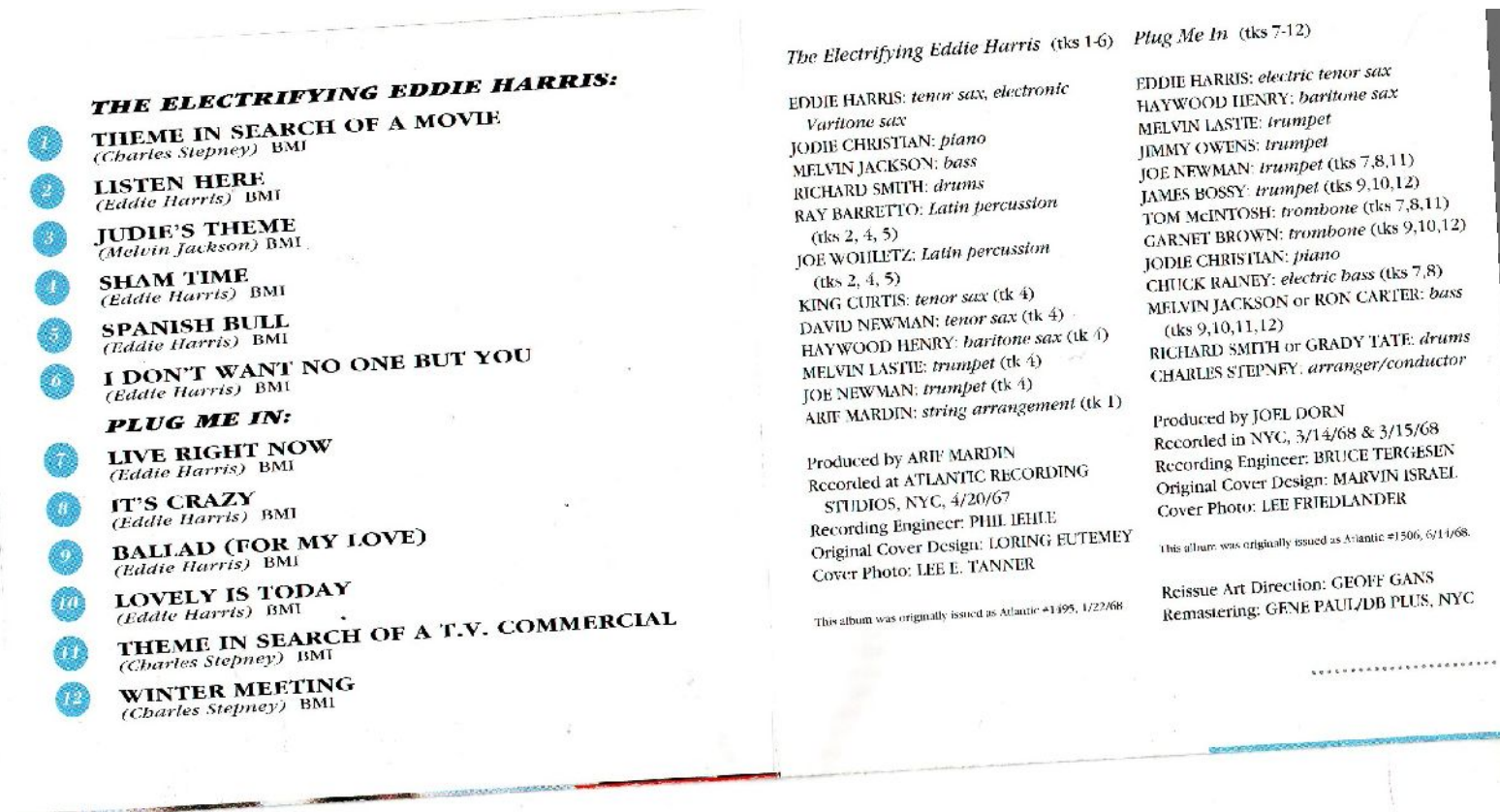
'Electrifying' Eddie Harris



Now we're talking!

Sample tracks

Clips i-tunes



Level of live control not previously exhibited by sax players

You Tube clip – from 3mins15s use of delays and sub octave

June 20th 1969 Montreux Jazz Festival <http://www.youtube.com/watch?v=5MLxgc4XBY>

So why did it fail?

Combination of factors

- Cost
- Lack of successful practitioners to take it beyond gimmick
- Incomplete understanding of what players want

So what does this mean for future electronic saxophones?

The Lyricon – 1970's



Analogue electronic wind synthesiser

Transducer contains a membrane and photocell to translate breath and attack into voltages

Linked to a synthesizer using additive synthesis methods



Yamaha WX5 (current model)



n.b. the WX5 comes with a reedless recorder type mouthpiece in addition to the saxophone type mouthpiece

AKAI EWI – current 4000 series



Mouthpiece: air-pressure level sensor & bite sensor

First hand experience – not immediately positive

The latest development - 2009 Eigenharp



Even playing of the original harp vs. the pico is very different from watching demos and online communities

BUT.....

- Consider the user experience
- What do players want?
 - Something that feels like a saxophone with electronic amplification?
 - Something that feels nothing like a saxophone?
- Why are players looking for a controller that has some connection to a woodwind instrument at all?

The Augmented Saxophone

Acoustic sound (direct mic) plus?

- Breath sounds?
- Mechanical sounds? e.g. Percussive pad closure
- Manipulated sounds?
 - Buffered and looped
 - Distortion, Effects
 - Layering, Polyphonic

The Augmented Saxophone

Does the player control everything?

Or are additional sounds and effects an extension of sensing of;

- Light in the cone
- Vibration
- Finger pressure on keys
- Something else?

The Augmented Saxophone

Utilise the existing mechanisms as controllers/sensors

- Palm keys
- Key tables
- Trill keys
- Leather closure pads

The Augmented Saxophone

Utilise the variables inherent in playing

- Pressure sensors
- Vibrations (piezo pickups)
- Percussive pad closure
- Light in the cone

Next steps

- Experiment with sensor reads (Arduino)
- May need help from experienced sax repairer
- (cutting pads open for FSRs, picking up rod movements etc)
- Link to a MaxMSP Interface
- translating sensor outputs into sound control/manipulation
- Make the board wireless

Possibilities

- Multiple MaxMSP interfaces for different interpretation of sensors
- Perform!
- Reduce latency with alternative software
- Supercollider? (currently no skills!)
- ?
- ?
- ?