THE BODY ELECTRIC Engineers Dream of Electric Implants

The dream of using electrotechnologies to control human physiology is an old one, as this ad from June 1967 attests. Written in the style of a research report only broadly related to the advertiser's Experiments In The Control Of Physiological Function business-a popular format in IEEE Spectrum's early years-this ad identifies the brain, heart, diaphragm, bladder, and limbs as fruitful areas for electrical stimulation. It also predicts increased experimentation By Radio-Frequency Transmission Across The and exploration of ways to technologically better our bodies. As this month's special issue of Spectrum shows, it wasn't wrong. -STEPHEN CASS

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resulting in greatly increased efficiency of energy transfer, and improved con-tral of cional waveforme poster for

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have been used successfully. of this nave been used successfully. of a small roday, the implantation of a small method is the implantation of the method is the implantation of the receiving coil and a detector feeding

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one per second to nundreds per second to super second to super of tissue. depending on the type of tissue. The pulse energy is of the order of micro-

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the major sites that are being electrically intuitied today. In the head is shown a portion of the central nervous system including the thalarane based complete including the thalarane based complete

a portion of the central nervous system including the thalamus, basal ganglion, and the humathalamus (atom the name

including the inalianties, basal ganglion, and the hypothalanus (atop the areas and medulla) where reside the areas for the transmission or control of each

and medulla) where reside the areas for the transmission or control of such for the transmission of control of such, fundamental functions as sensatic nuscular control, and homeostatic

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ments on animals have been rewarding have with humans have but experiments need for further in-shown the clear need for and control spectroations of electrode and control

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One can torecast increased experimen-tation and exploration with this type of

tation and exploration with this type of elaboration of the stimulus system; elaboration of method; and increased contrictions of sumulus system; elaboration of the method; and increased sophistication of

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Light, R. U. and Chaffee, E. L., effectiveal international states of the nervous science control, excitation of the nervous Remote control, effective of the nervous science, vol. 19, 1934, pp 299-300.
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Science, vol. 27, 1934, pp. 29-390. Science, vol. 27, 1934, pp. 29-390. Glenn, V. N. L., et al., econore stimulation of the New Fielderd J. Med. Vol. 261, 1959, pp. 948-951.

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