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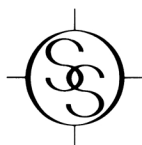
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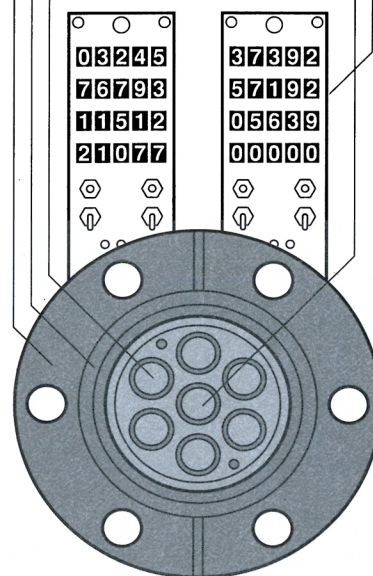
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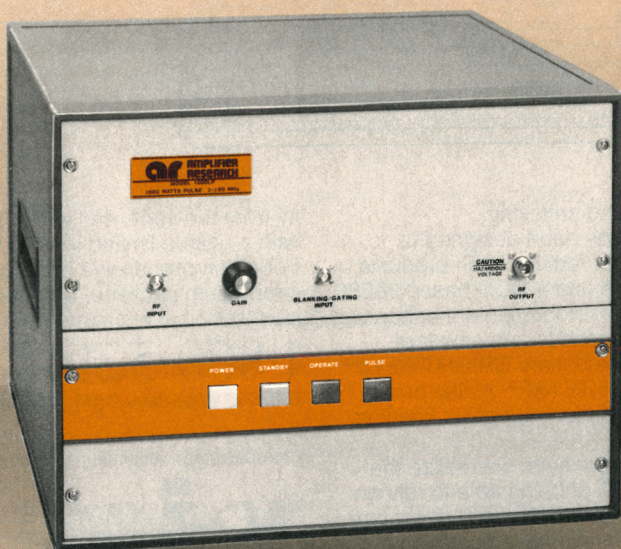
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Advances in Theoretical Physics. Proc. Symp., Copenhagen, Denmark, June 1988. A. H. Luther, ed. Pergamon, Elmsford, N. Y., 1990. 256 pp. \$49.50 *hc* ISBN 0-08-036940-5

Algebraic and Spectral Methods for Nonlinear Wave Equations. *Pitman Monographs and Survey in Pure and Applied Mathematics 49.* N. Asano, Y. Kato. Longman (Wiley), New York, 1990. 417 pp. \$190.00 *hc* ISBN 0-582-03720-4. *Monograph*

Analysis IV. *Encyclopaedia of Mathematical Sciences 27.* V. G. Maz'ya, S. M. Nikol'skii, eds. Springer-Verlag, New York, 1991. 233 pp. \$59.00 *hc* ISBN 0-387-51997-1. *Compilation*

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Texts and Popularizations

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