David A Mccormick

List of Publications by Year
in descending order

147 papers	39,826 citations	4345 89 h-index	11282 141 g-index
158 all docs	158 docs citations	158 times ranked	21204 citing authors

#	Article	IF	Citations
1	Visual thalamocortical mechanisms of waking state-dependent activity and alpha oscillations. Neuron, 2022, 110, 120-138.e4.	3.8	43
2	Vagus nerve stimulation induces widespread cortical and behavioral activation. Current Biology, 2021, 31, 2088-2098.e3.	1.8	64
3	Movement and Performance Explain Widespread Cortical Activity in a Visual Detection Task. Cerebral Cortex, 2020, 30, 421-437.	1.6	127
4	Neuromodulation of Brain State and Behavior. Annual Review of Neuroscience, 2020, 43, 391-415.	5.0	151
5	Pupil-linked phasic arousal predicts a reduction of choice bias across species and decision domains. ELife, 2020, 9, .	2.8	61
6	Distinct Waking States for Strong Evoked Responses in Primary Visual Cortex and Optimal Visual Detection Performance. Journal of Neuroscience, 2019, 39, 10044-10059.	1.7	46
7	Mechanisms of decreased cholinergic arousal in focal seizures: In vivo whole-cell recordings from the pedunculopontine tegmental nucleus. Experimental Neurology, 2019, 314, 74-81.	2.0	17
8	The temporal organization of mouse ultrasonic vocalizations. PLoS ONE, 2018, 13, e0199929.	1.1	61
9	Distinct Functional Groups Emerge from the Intrinsic Properties of Molecularly Identified Entorhinal Interneurons and Principal Cells. Cerebral Cortex, 2017, 27, bhw143.	1.6	24
10	Reduced high-frequency motor neuron firing, EMG fractionation, and gait variability in awake walking ALS mice. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7600-E7609.	3.3	22
11	Pupil fluctuations track rapid changes in adrenergic and cholinergic activity in cortex. Nature Communications, 2016, 7, 13289.	5.8	618
12	Knockout of Foxp2 disrupts vocal development in mice. Scientific Reports, 2016, 6, 23305.	1.6	65
13	Simulating Cortical Feedback Modulation as Changes in Excitation and Inhibition in a Cortical Circuit Model. ENeuro, 2016, 3, ENEURO.0208-16.2016.	0.9	11
14	Synaptic Mechanisms of Tight Spike Synchrony at Gamma Frequency in Cerebral Cortex. Journal of Neuroscience, 2015, 35, 10236-10251.	1.7	82
15	Cortical Membrane Potential Signature of Optimal States for Sensory Signal Detection. Neuron, 2015, 87, 179-192.	3.8	621
16	Waking State: Rapid Variations Modulate Neural and Behavioral Responses. Neuron, 2015, 87, 1143-1161.	3.8	648
17	Competing Neural Ensembles in Motor Cortex Gate Goal-Directed Motor Output. Neuron, 2015, 88, 565-577.	3.8	80
18	Cortical Interneuron Subtypes Vary in Their Axonal Action Potential Properties. Journal of Neuroscience, 2015, 35, 15555-15567.	1.7	43

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19	Brain state dependent activity in the cortex and thalamus. Current Opinion in Neurobiology, 2015, 31, 133-140.	2.0	168
20	Membrane Potential and Action Potential. , 2014, , 351-376.		10
21	Selective degeneration of a physiological subtype of spinal motor neuron in mice with SOD1-linked ALS. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16883-16888.	3.3	56
22	Editorial overview: Neuromodulation: Tuning the properties of neurons, networks and behavior. Current Opinion in Neurobiology, 2014, 29, iv-vii.	2.0	18
23	Neural control of brain state. Current Opinion in Neurobiology, 2014, 29, 178-186.	2.0	142
24	Motor Cortex Feedback Influences Sensory Processing by Modulating Network State. Neuron, 2013, 79, 567-578.	3.8	238
25	Chronic Cellular Imaging of Entire Cortical Columns in Awake Mice Using Microprisms. Neuron, 2013, 80, 900-913.	3.8	195
26	Membrane Potential and Action Potential. , 2013, , 93-116.		4
27	Warm Body Temperature Facilitates Energy Efficient Cortical Action Potentials. PLoS Computational Biology, 2012, 8, e1002456.	1.5	91
28	Selective Functional Interactions between Excitatory and Inhibitory Cortical Neurons and Differential Contribution to Persistent Activity of the Slow Oscillation. Journal of Neuroscience, 2012, 32, 12165-12179.	1.7	72
29	The spatioâ€temporal characteristics of action potential initiation in layer 5 pyramidal neurons: a voltage imaging study. Journal of Physiology, 2011, 589, 4167-4187.	1.3	111
30	Active Action Potential Propagation But Not Initiation in Thalamic Interneuron Dendrites. Journal of Neuroscience, 2011, 31, 18289-18302.	1.7	34
31	Somatic Membrane Potential and Kv1 Channels Control Spike Repolarization in Cortical Axon Collaterals and Presynaptic Boutons. Journal of Neuroscience, 2011, 31, 15490-15498.	1.7	87
32	Action Potentials Initiate in the Axon Initial Segment and Propagate through Axon Collaterals Reliably in Cerebellar Purkinje Neurons. Journal of Neuroscience, 2010, 30, 6891-6902.	1.7	128
33	Circuit-based Localization of Ferret Prefrontal Cortex. Cerebral Cortex, 2010, 20, 1020-1036.	1.6	28
34	P/Q and N Channels Control Baseline and Spike-Triggered Calcium Levels in Neocortical Axons and Synaptic Boutons. Journal of Neuroscience, 2010, 30, 11858-11869.	1.7	70
35	Synaptic and Network Mechanisms of Sparse and Reliable Visual Cortical Activity during Nonclassical Receptive Field Stimulation. Neuron, 2010, 65, 107-121.	3.8	250
36	Endogenous Electric Fields May Guide Neocortical Network Activity. Neuron, 2010, 67, 129-143.	3.8	755

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37	Neocortical Networks Entrain Neuronal Circuits in Cerebellar Cortex. Journal of Neuroscience, 2009, 29, 10309-10320.	1.7	108
38	Rapid Neocortical Dynamics: Cellular and Network Mechanisms. Neuron, 2009, 62, 171-189.	3.8	391
39	Cortical Action Potential Backpropagation Explains Spike Threshold Variability and Rapid-Onset Kinetics. Journal of Neuroscience, 2008, 28, 7260-7272.	1.7	166
40	State Changes Rapidly Modulate Cortical Neuronal Responsiveness. Journal of Neuroscience, 2007, 27, 9607-9622.	1.7	189
41	Enhancement of Visual Responsiveness by Spontaneous Local Network Activity In Vivo. Journal of Neurophysiology, 2007, 97, 4186-4202.	0.9	124
42	Selective control of cortical axonal spikes by a slowly inactivating K+ current. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11453-11458.	3.3	197
43	Properties of Action-Potential Initiation in Neocortical Pyramidal Cells: Evidence From Whole Cell Axon Recordings. Journal of Neurophysiology, 2007, 97, 746-760.	0.9	198
44	Thalamic synchrony and dynamic regulation of global forebrain oscillations. Trends in Neurosciences, 2007, 30, 350-356.	4.2	353
45	Î±2A-Adrenoceptors Strengthen Working Memory Networks by Inhibiting cAMP-HCN Channel Signaling in Prefrontal Cortex. Cell, 2007, 129, 397-410.	13.5	628
46	Hodgkin and Huxley model â€" still standing?. Nature, 2007, 445, E1-E2.	13.7	115
47	Modulation of intracortical synaptic potentials by presynaptic somatic membrane potential. Nature, 2006, 441, 761-765.	13.7	367
48	Neocortical Network Activity In Vivo Is Generated through a Dynamic Balance of Excitation and Inhibition. Journal of Neuroscience, 2006, 26, 4535-4545.	1.7	878
49	Neuronal Networks: Flip-Flops in theBrain. Current Biology, 2005, 15, R294-R296.	1.8	37
50	Slow Adaptation in Fast-Spiking Neurons of Visual Cortex. Journal of Neurophysiology, 2005, 93, 1111-1118.	0.9	50
51	Excitatory Effects of Thyrotropin-Releasing Hormone in the Thalamus. Journal of Neuroscience, 2005, 25, 1664-1673.	1.7	50
52	Inhibitory Postsynaptic Potentials Carry Synchronized Frequency Information in Active Cortical Networks. Neuron, 2005, 47, 423-435.	3.8	609
53	Histamine modulates thalamocortical activity by activating a chloride conductance in ferret perigeniculate neurons. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 6716-6721.	3.3	32
54	Membrane Potential and Action Potential. , 2004, , 115-140.		2

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55	Turning on and off recurrent balanced cortical activity. Nature, 2003, 423, 288-293.	13.7	924
56	Comparative physiological and serotoninergic properties of pulvinar neurons in the monkey, cat and ferret. Thalamus & Related Systems, 2003, 2, 239-252.	0.5	0
57	Cellular and Network Mechanisms of Slow Oscillatory Activity (<1 Hz) and Wave Propagations in a Cortical Network Model. Journal of Neurophysiology, 2003, 89, 2707-2725.	0.9	486
58	Persistent Cortical Activity: Mechanisms of Generation and Effects on Neuronal Excitability. Cerebral Cortex, 2003, 13, 1219-1231.	1.6	179
59	Electrophysiological Classes of Cat Primary Visual Cortical Neurons In Vivo as Revealed by Quantitative Analyses. Journal of Neurophysiology, 2003, 89, 1541-1566.	0.9	361
60	Comparative physiological and serotoninergic properties of pulvinar neurons in the monkey, cat and ferret. Thalamus & Related Systems, 2003, 2, 239.	0.5	5
61	Barrages of Synaptic Activity Control the Gain and Sensitivity of Cortical Neurons. Journal of Neuroscience, 2003, 23, 10388-10401.	1.7	273
62	Adaptation and Temporal Decorrelation by Single Neurons in the Primary Visual Cortex. Journal of Neurophysiology, 2003, 89, 3279-3293.	0.9	113
63	Balanced Recurrent Excitation and Inhibition in Local Cortical Networks. , 2003, , 113-124.		6
64	Cortical and subcortical generators of normal and abnormal rhythmicity. International Review of Neurobiology, 2002, 49, 99-114.	0.9	69
65	Neuromodulatory Role of Serotonin in the Ferret Thalamus. Journal of Neurophysiology, 2002, 87, 2124-2136.	0.9	114
66	Inhibitory Interactions Between Ferret Thalamic Reticular Neurons. Journal of Neurophysiology, 2002, 87, 2571-2576.	0.9	54
67	On The Cellular and Network Bases of Epileptic Seizures. Annual Review of Physiology, 2001, 63, 815-846.	5.6	939
68	Synaptojanin 1 Contributes to Maintaining the Stability of GABAergic Transmission in Primary Cultures of Cortical Neurons. Journal of Neuroscience, 2001, 21, 9101-9111.	1.7	48
69	Brain calculus: neural integration and persistent activity. Nature Neuroscience, 2001, 4, 113-114.	7.1	88
70	Cellular and network mechanisms of rhythmic recurrent activity in neocortex. Nature Neuroscience, 2000, 3, 1027-1034.	7.1	1,356
71	Corticothalamic Inputs Control the Pattern of Activity Generated in Thalamocortical Networks. Journal of Neuroscience, 2000, 20, 5153-5162.	1.7	277
72	Ionic Mechanisms Underlying Repetitive High-Frequency Burst Firing in Supragranular Cortical Neurons. Journal of Neuroscience, 2000, 20, 4829-4843.	1.7	199

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73	Membrane Mechanisms Underlying Contrast Adaptation in Cat Area 17<i>In Vivo</i>. Journal of Neuroscience, 2000, 20, 4267-4285.	1.7	270
74	Cellular Mechanisms of Long-Lasting Adaptation in Visual Cortical Neurons<i>In Vitro</i>. Journal of Neuroscience, 2000, 20, 4286-4299.	1.7	289
75	Modulation of a pacemaker current through Ca2+-induced stimulation of cAMP production. Nature Neuroscience, 1999, 2, 634-641.	7.1	119
76	Ca2+-Mediated Up-Regulation of Ih in the Thalamus: How Cell-Intrinsic Ionic Currents May Shape Network Activity. Annals of the New York Academy of Sciences, 1999, 868, 765-769.	1.8	19
77	Are thalamocortical rhythms the rosetta stone of a subset of neurological disorders?. Nature Medicine, 1999, 5, 1349-1351.	15.2	51
78	DEVELOPMENTAL NEUROSCIENCE:Spontaneous Activity: Signal or Noise?. Science, 1999, 285, 541-543.	6.0	55
79	Dynamic properties of corticothalamic excitatory postsynaptic potentials and thalamic reticular inhibitory postsynaptic potentials in thalamocortical neurons of the guinea-pig dorsal lateral geniculate nucleus. Neuroscience, 1999, 91, 7-20.	1.1	102
80	Essential Role of Phosphoinositide Metabolism in Synaptic Vesicle Recycling. Cell, 1999, 99, 179-188.	13.5	760
81	Chapter 17 Thalamic and thalamocortical mechanisms underlying 3 Hz spike-and-wave discharges. Progress in Brain Research, 1999, 121, 289-307.	0.9	48
82	H-Current. Neuron, 1998, 21, 9-12.	3.8	381
83	Periodicity of Thalamic Synchronized Oscillations: the Role of Ca2+-Mediated Upregulation of Ih. Neuron, 1998, 20, 553-563.	3.8	189
84	The Functional Influence of Burst and Tonic Firing Mode on Synaptic Interactions in the Thalamus. Journal of Neuroscience, 1998, 18, 9500-9516.	1.7	138
85	Functional and Ionic Properties of a Slow Afterhyperpolarization in Ferret Perigeniculate Neurons In Vitro. Journal of Neurophysiology, 1998, 80, 1222-1235.	0.9	85
86	Periodicity of Thalamic Spindle Waves Is Abolished by ZD7288,a Blocker of <i>I</i> _h. Journal of Neurophysiology, 1998, 79, 3284-3289.	0.9	89
87	Influence of low and high frequency inputs on spike timing in visual cortical neurons. Cerebral Cortex, 1997, 7, 487-501.	1.6	224
88	Physiological properties of inhibitory interneurons in cat striate cortex. Cerebral Cortex, 1997, 7, 534-545.	1.6	155
89	Functional Dynamics of GABAergic Inhibition in the Thalamus. Science, 1997, 278, 130-134.	6.0	301
90	SLEEP AND AROUSAL: Thalamocortical Mechanisms. Annual Review of Neuroscience, 1997, 20, 185-215.	5.0	1,192

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91	Modulation of spindle oscillations by acetylcholine, cholecystokinin and 1S,3R-ACPD in the ferret lateral geniculate and perigeniculate nuclei in vitro. Neuroscience, 1997, 77, 335-350.	1.1	43
92	Synchronized Oscillations in the Inferior Olive Are Controlled by the Hyperpolarization-Activated Cation Current I h. Journal of Neurophysiology, 1997, 77, 3145-3156.	0.9	175
93	Inhibitory Interactions between Perigeniculate GABAergic Neurons. Journal of Neuroscience, 1997, 17, 8894-8908.	1.7	100
94	Functional Properties of Perigeniculate Inhibition of Dorsal Lateral Geniculate Nucleus Thalamocortical Neurons<i>In Vitro</i>. Journal of Neuroscience, 1997, 17, 8880-8893.	1.7	79
95	What Stops Synchronized Thalamocortical Oscillations?. Neuron, 1996, 17, 297-308.	3.8	219
96	Abolition of Spindle Oscillations by Serotonin and Norepinephrine in the Ferret Lateral Geniculate and Perigeniculate Nuclei In Vitro. Neuron, 1996, 17, 309-321.	3.8	87
97	Chattering Cells: Superficial Pyramidal Neurons Contributing to the Generation of Synchronous Oscillations in the Visual Cortex. Science, 1996, 274, 109-113.	6.0	828
98	Ionic mechanisms underlying synchronized oscillations and propagating waves in a model of ferret thalamic slices. Journal of Neurophysiology, 1996, 76, 2049-2070.	0.9	375
99	Are the Interlaminar Zones of the Ferret Dorsal Lateral Geniculate Nucleus Actually Part of the Perigeniculate Nucleus?. Journal of Neuroscience, 1996, 16, 5923-5941.	1.7	39
100	The cerebellar symphony. Nature, 1995, 374, 412-413.	13.7	12
101	Electrophysiological and pharmacological properties of interneurons in the cat dorsal lateral geniculate nucleus. Neuroscience, 1995, 68, 1105-1125.	1.1	151
102	Enhanced activation of NMDA receptor responses at the immature retinogeniculate synapse. Journal of Neuroscience, 1994, 14, 2098-2105.	1.7	104
103	Sensory gating mechanisms of the thalamus. Current Opinion in Neurobiology, 1994, 4, 550-556.	2.0	302
104	Chapter 36: Actions of acetylcholine in the cerebral cortex and thalamus and implications for function. Progress in Brain Research, 1993, 98, 303-308.	0.9	75
105	Neurotransmitter Control of Neocortical Neuronal Activity and Excitability. Cerebral Cortex, 1993, 3, 387-398.	1.6	285
106	Thalamocortical oscillations in the sleeping and aroused brain. Science, 1993, 262, 679-685.	6.0	3,328
107	A model for 8â€“10 Hz spindling in interconnected thalamic relay and reticularis neurons. Biophysical Journal, 1993, 65, 2473-2477.	0.2	140
108	Cellular mechanisms of a synchronized oscillation in the thalamus. Science, 1993, 261, 361-364.	6.0	773

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109	Mechanisms of oscillatory activity in guineaâ€pig nucleus reticularis thalami in vitro: a mammalian pacemaker.. Journal of Physiology, 1993, 468, 669-691.	1.3	286
110	Neurotransmitter Actions in the Thalamus and Cerebral Cortex. Journal of Clinical Neurophysiology, 1992, 9, 212-223.	0.9	147
111	Corticothalamic activation modulates thalamic firing through glutamate "metabotropic" receptors.. Proceedings of the National Academy of Sciences of the United States of America, 1992, 89, 2774-2778.	3.3	487
112	Neurotransmitter actions in the thalamus and cerebral cortex and their role in neuromodulation of thalamocortical activity. Progress in Neurobiology, 1992, 39, 337-388.	2.8	1,103
113	A model of the electrophysiological properties of thalamocortical relay neurons. Journal of Neurophysiology, 1992, 68, 1384-1400.	0.9	553
114	Simulation of the currents involved in rhythmic oscillations in thalamic relay neurons. Journal of Neurophysiology, 1992, 68, 1373-1383.	0.9	420
115	Determination of State-Dependent Processing in Thalamus by Single Neuron Properties and Neuromodulators. , 1992, , 259-290.		8
116	Serotonin and noradrenaline excite GABAergic neurones of the guineaâ€pig and cat nucleus reticularis thalami.. Journal of Physiology, 1991, 442, 235-255.	1.3	222
117	Noradrenergic and serotonergic modulation of a hyperpolarizationâ€activated cation current in thalamic relay neurones.. Journal of Physiology, 1990, 431, 319-342.	1.3	353
118	Properties of a hyperpolarizationâ€activated cation current and its role in rhythmic oscillation in thalamic relay neurones.. Journal of Physiology, 1990, 431, 291-318.	1.3	998
119	Mucin depletion in inflammatory bowel disease.. Journal of Clinical Pathology, 1990, 43, 143-146.	1.0	103
120	Functional implications of burst firing and single spike activity in lateral geniculate relay neurons. Neuroscience, 1990, 39, 103-113.	1.1	344
121	Refinements in the in-vitro slice technique and human neuropharmacology. Trends in Pharmacological Sciences, 1990, 11, 53-56.	4.0	8
122	Noradrenaline and serotonin selectively modulate thalamic burst firing by enhancing a hyperpolarization-activated cation current. Nature, 1989, 340, 715-718.	13.7	422
123	Cholinergic and noradrenergic modulation of thalamocortical processing. Trends in Neurosciences, 1989, 12, 215-221.	4.2	434
124	Convergence and divergence of neurotransmitter action in human cerebral cortex.. Proceedings of the National Academy of Sciences of the United States of America, 1989, 86, 8098-8102.	3.3	297
125	Acetylcholine inhibits identified interneurons in the cat lateral geniculate nucleus. Nature, 1988, 334, 246-248.	13.7	275
126	Sarcoidosis and the pancreas. Irish Journal of Medical Science, 1988, 157, 181-183.	0.8	12

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127	Postsynaptic Actions of Acetylcholine in the Mammalian Brain in Vitro. , 1988, , 287-302.		2
128	Postâ€natal development of electrophysiological properties of rat cerebral cortical pyramidal neurones.. Journal of Physiology, 1987, 393, 743-762.	1.3	273
129	Actions of acetylcholine in the guineaâ€pig and cat medial and lateral geniculate nuclei, in vitro.. Journal of Physiology, 1987, 392, 147-165.	1.3	302
130	Mechanisms of action of acetylcholine in the guineaâ€pig cerebral cortex in vitro.. Journal of Physiology, 1986, 375, 169-194.	1.3	443
131	Acetylcholine induces burst firing in thalamic reticular neurones by activating a potassium conductance. Nature, 1986, 319, 402-405.	13.7	366
132	Two types of muscarinic response to acetylcholine in mammalian cortical neurons.. Proceedings of the National Academy of Sciences of the United States of America, 1985, 82, 6344-6348.	3.3	279
133	Comparative electrophysiology of pyramidal and sparsely spiny stellate neurons of the neocortex. Journal of Neurophysiology, 1985, 54, 782-806.	0.9	1,759
134	Lesions of the inferior olivary complex cause extinction of the classically conditioned eyeblink response. Brain Research, 1985, 359, 120-130.	1.1	355
135	A nonrecoverable learning deficit. Physiological Psychology, 1984, 12, 103-110.	0.8	50
136	Effect of bilateral lesions of the dentate and interpositus cerebellar nuclei on conditioning of heart-rate and nictitating membrane/eyelid responses in the rabbit. Brain Research, 1984, 305, 323-330.	1.1	137
137	Effects of lesions of cerebellar nuclei on conditioned behavioral and hippocampal neuronal responses. Brain Research, 1984, 291, 125-136.	1.1	376
138	Cerebellum: essential involvement in the classically conditioned eyelid response. Science, 1984, 223, 296-299.	6.0	965
139	Neuronal responses of the rabbit brainstem during performance of the classically conditioned nictitating membrane (NM)/eyelid response. Brain Research, 1983, 271, 73-88.	1.1	79
140	Initial localization of the memory trace for a basic form of learning.. Proceedings of the National Academy of Sciences of the United States of America, 1982, 79, 2731-2735.	3.3	330
141	Superior cerebellar peduncle lesions selectively abolish the ipsilateral classically conditioned nictitating membrane/eyelid response of the rabbit. Brain Research, 1982, 244, 347-350.	1.1	141
142	Ipsilateral cerebellar lesions prevent learning of the classically conditioned nictitating membrane/eyelid response. Brain Research, 1982, 242, 190-193.	1.1	158
143	Locus coeruleus lesions and resistance to extinction of a classically conditioned response: Involvement of the neocortex and hippocampus. Brain Research, 1982, 245, 239-249.	1.1	63
144	Concomitant classical conditioning of the rabbit nictitating membrane and eyelid responses: Correlations and implications. Physiology and Behavior, 1982, 28, 769-775.	1.0	115

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145	The engram found? Role of the cerebellum in classical conditioning of nictitating membrane and eyelid responses. Bulletin of the Psychonomic Society, 1981, 18, 103-105.	0.2	255
146	Effects of ipsilateral rostral pontine reticular lesions on retention of classically conditioned nictitating membrane and eyelid responses. Physiological Psychology, 1981, 9, 335-339.	0.8	73
147	Low cost oscilloscope histogram generator with memory. Physiology and Behavior, 1981, 27, 1121-1125.	1.0	0