Interactive Brainwave Visual Analyzer System : IBVA4

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Abstract

EEG Bio & Psychic Feedback System : Bluetooth interface brain wave amplifier and IBVA4 application with Quartz Composer IBVA4 plugin and MAX IBVA4 external for brain wave interactive experience.

Raw wave, Bar graph, OpenGL 3D waterfall left, right and coherence graph display window. Brain Core MIDI translation for Direct MIDI sound play and/or connect to music composing application, Synthesizer and other MIDI interface system.

IBVA4 Bluetooth interface System

IBVA4 system is small size portable EEG system. We are start to ship IBVA system since 1991. New Bluetooth interface IBVA4 works with any

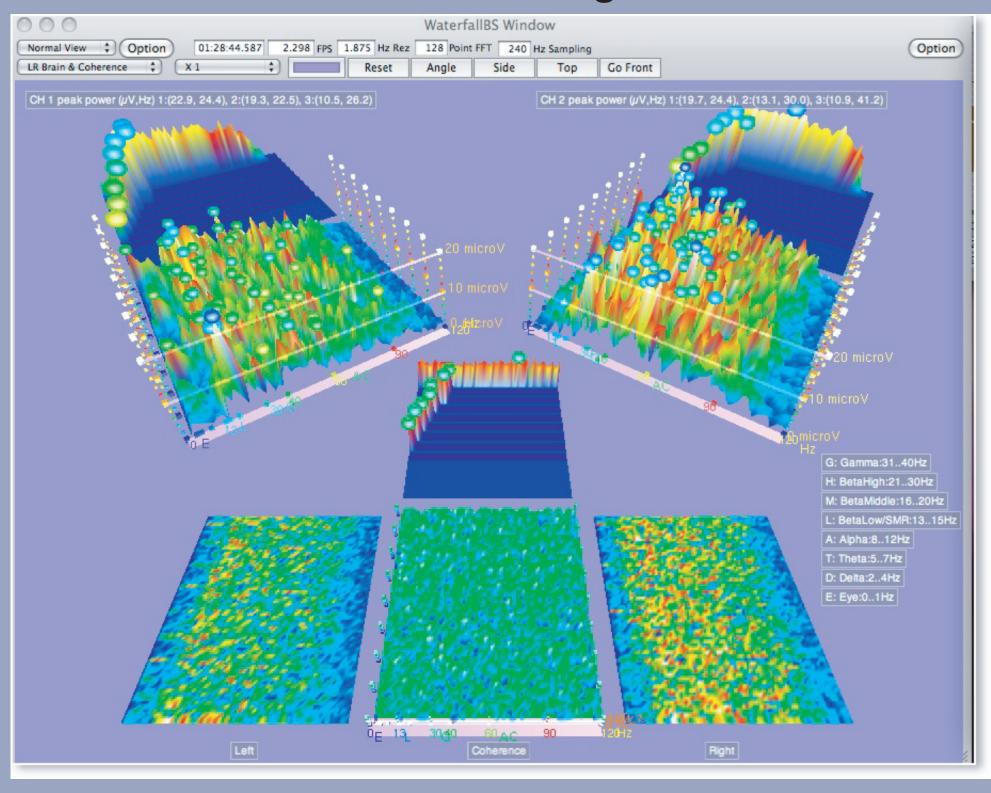
Mac OSX10.5.X.



Low noise DC coupling amplifier, variable sampling, digital filter and high common AC noise reduction circuit provide wide range brain wave interactive research and experience.

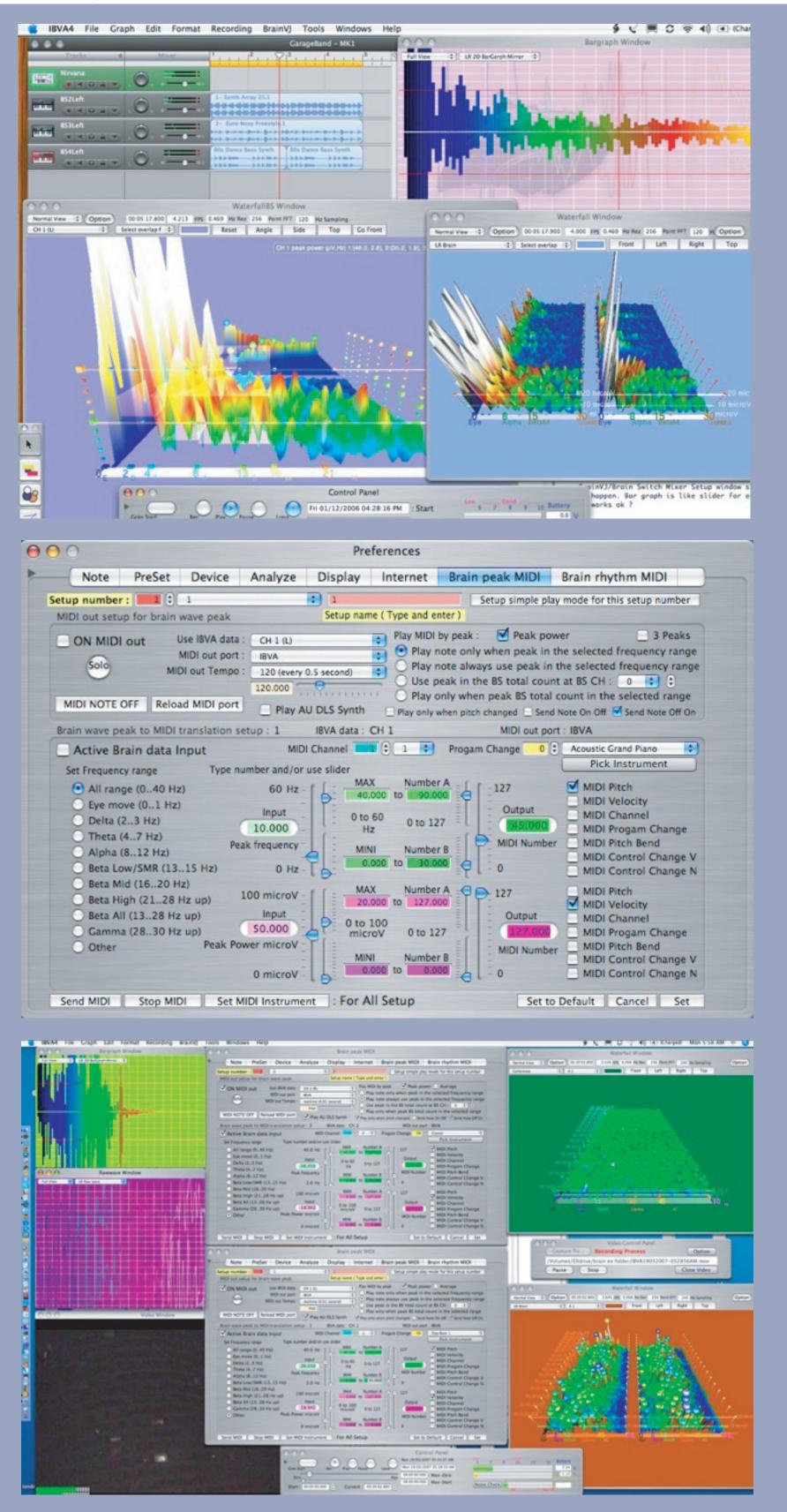
Classic brain wave category and frequency range is Delta (1..3 Hz), Theta (4..7Hz), Alpha (8..12Hz), Beta (13...30Hz), Gamma (31..40Hz). However with IBVA4 system can see over 900 Hz brain wave. Actually **100 Hz brain wave power can see normal** condition. IBVA4's Electrode position is forehead which is most development part of human brain, to show personality.

Sample image shows right brain wave power over **100 Hz. New begging of brain wave research. Right brain wave** Left brain wave



Center display is Coherence. 3D bar graph is brain switch count.

Play MIDI sound and Brain DJ

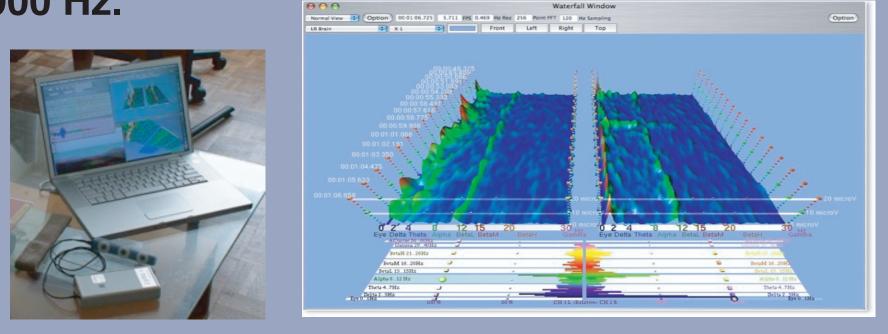


Easy to connect MAX, GarageBand, other applications and external entity via Core MIDI virtual MIDI port:

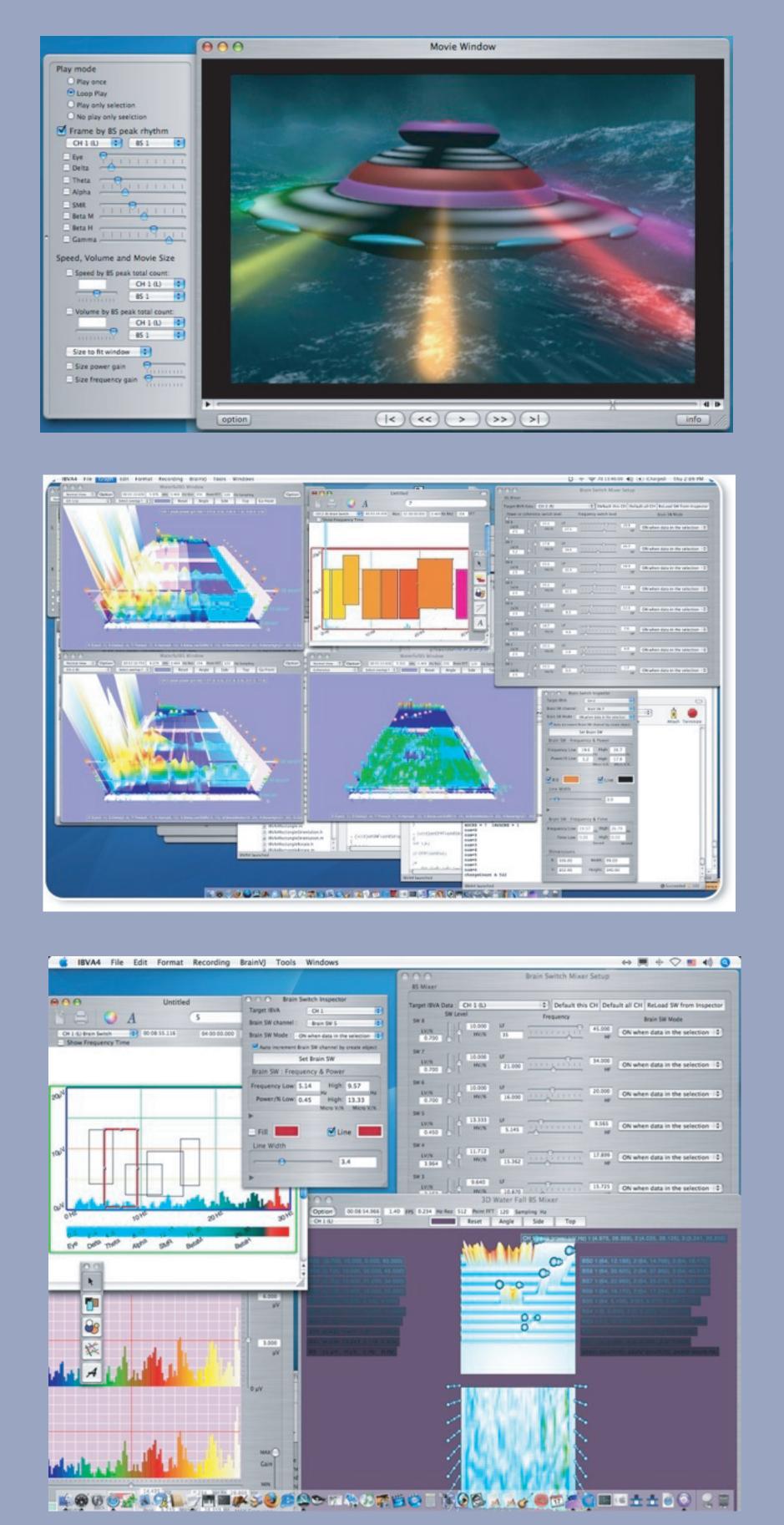
We can create a different setup (1 to 128) for each different IBVA Data channel

(1 to 4 and coherence) in the "Brain peak MIDI" and "Brain rhythm MIDI".

Each IBVA Data channel can translate MIDI in to different ways and send MIDI to a different **MIDI port with different MIDI Out Tempo.** Brain wave frequency can translate max over 900 Hz.



Brain switch mixer setup



Brain switch :

frequency and power region to trigger switch count over one display time.

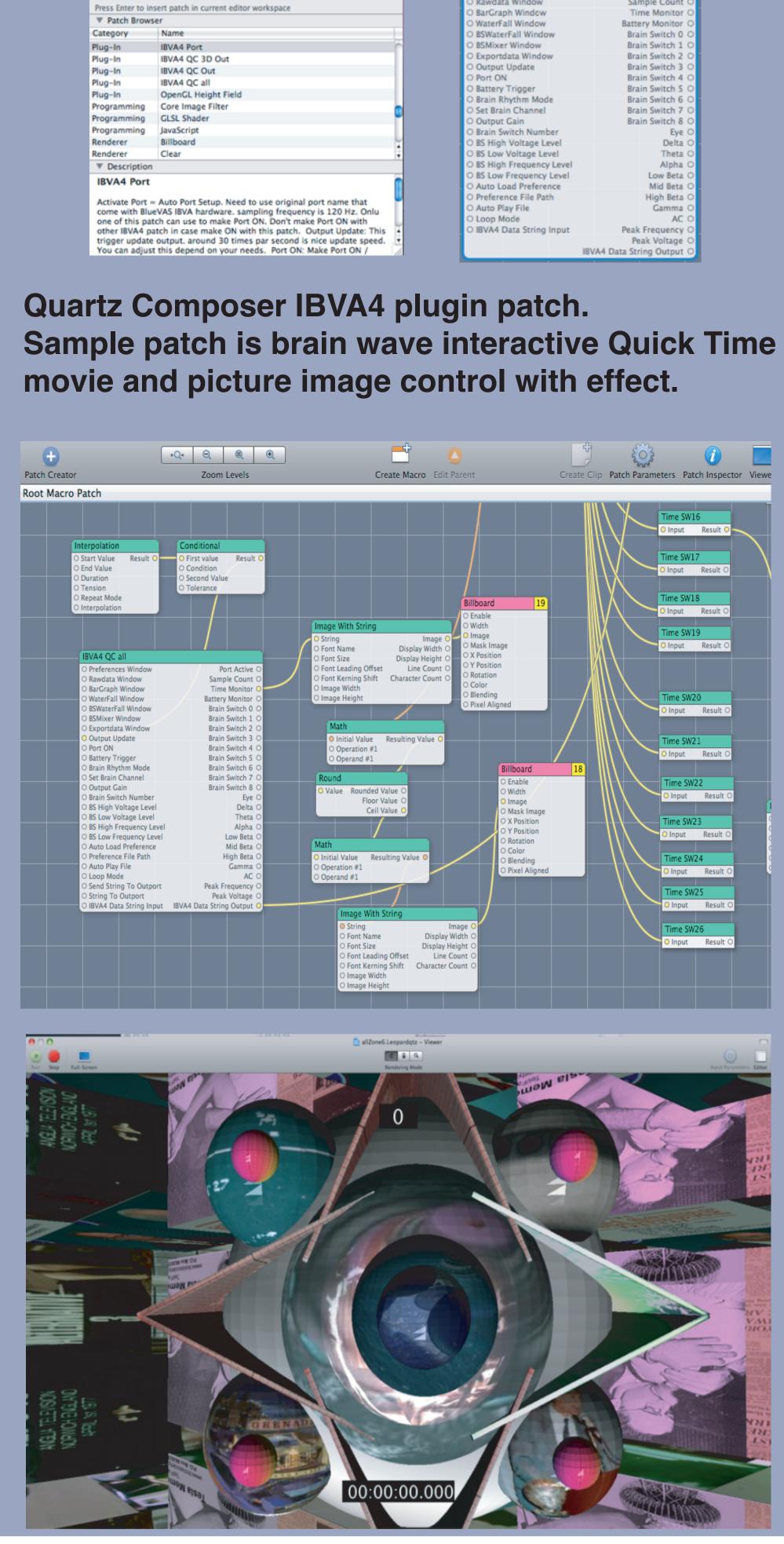
We can transmit this count number as system notification.

Movie control sample is use brain switch to trigger and change start point of Quick Time movie.

End user can use this system notification to use there own interactive experience. AU brain plugin use this brain switch

notification to sound volume control in the AU supported music application such as GarageBand, Logic, etc. Use for Brain mixing.

Quartz Composer IBVA4 plugin



Contact & other Info:



	Patch Creator (Untitled)	
Nam	le D	+
to in	sert patch in current editor workspace	
rows	ier	
	Name	
	IBVA4 Port	ŕ
	IBVA4 QC 3D Out	
	IBVA4 QC Out	18
	IBVA4 QC all	
	OpenGL Height Field	
ng	Core Image Filter	
ng	GLSL Shader	
ng	JavaScript	
	Billboard	4
	Clear	
tion		
ort		m
s pat 4 pi	Auto Port Setup. Need to use original port name that eVAS IBVA hardware. sampling frequency is 120 Hz. Onlu tch can use to make Port ON. Don't make Port ON with atch in case make ON with this patch. Output Update: This output, around 30 times par second is nice update speed.	

IBVA4 QC all				
O Preferences Window	Port Active			
O Rawdata Window	Sample Count			
O BarGraph Window	Time Monitor			
O WaterFall Window	Battery Monitor			
O BSWaterFall Window	Brain Switch 0			
O BSMixer Window	Brain Switch 1			
O Exportdata Window	Brain Switch 2			
O Output Update	Brain Switch 3			
O Port ON	Brain Switch 4			
O Battery Trigger	Brain Switch 5			
O Brain Rhythm Mode	Brain Switch 6			
O Set Brain Channel	Brain Switch 7			
O Output Gain	Brain Switch 8			
O Brain Switch Number	Eye			
O BS High Voltage Level	Delta			
O BS Low Voltage Level	Theta			
O BS High Frequency Level	Alpha			
O BS Low Frequency Level	Low Beta			
O Auto Load Preference	Mid Beta			
O Preference File Path	High Beta			
O Auto Play File	Gamma			
O Loop Mode	AC			
O IBVA4 Data String Input	Peak Frequency			
	Peak Voltage			
IBVA4 Data String Output				

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