

YAMAHA
SYNTHESIZER

CS01 II

MICRO-MONOPHONIC SYNTHESIZER



Full Synthesizer Performance You Can Take Anywhere

The CS01II is a unique high-performance monophonic synthesizer that offers an extensive range of voice parameters, a 32-key keyboard, pitch and modulation wheels, plus several features many of the most sophisticated synthesizers don't even provide. Yet this remarkable music instrument is a mere 9-1/4" wide by 6-3/8" deep. Advanced Yamaha electronic music technology has managed to pack an amazing amount of synthesizer performance and versatility into an exceptionally compact, convenient package. And, since the CS01II has an amplifier and speaker system built in, you don't need any extra equipment to make the most of this remarkable little keyboard. It runs with an AC adaptor or batteries, so you can take the CS01II with you anywhere. Practice in the park, play at parties, or compose at your favorite campsite. Despite its small size, the CS01II still offers the fine overall sound quality necessary for professional performance. Of course, if you've never used a synthesizer before, the CS01II is the perfect introduction to the fascinating world of musical sound synthesis. Whether you're a newcomer to music, or an accomplished multi-keyboardist, the CS01II can greatly increase the scope of your musical world.

1 PITCH BEND and MODULATION Wheels

Both the Pitch Bend and Modulation wheels let you alter the CS01II sound while playing the keyboard. Rolling the Pitch Bend wheel up raises the instrument's pitch. Rolling the Modulation wheel up causes a corresponding increase in the amount or "depth" of LFO modulation applied to the VCO (Voltage Controlled Oscillator) or VCF.

2 BREATH CONTROL System

This is a unique Yamaha synthesizer feature that lets you control the CS01II's VCA (Voltage Controlled Amplifier) and VCF (Voltage Controlled Filter) using your breath via the optional BREATH CONTROLLER. This permits a broad range of expressive capability while leaving both hands free for keyboard and control operation.

3 LFO (Low-Frequency Oscillator)

The LFO can be used to modulate the pitch of the CS01II VCO, as well as the VCF cutoff frequency for an incredibly broad range of sonic possibilities. The LFO control adjusts the speed of the low-frequency oscillator, while the modulation wheel controls the amount of modulation.

4 GLISSANDO

Another rather unique synthesizer feature, the Glissando control creates a step-wise (half-tone steps) slide between notes played on the key-

board. The position of this control determines how long it takes to slide from one note to the next.

5 PITCH

Adjusts the overall CS01II pitch. Can be used to tune the CS01II to other instruments when playing in an ensemble.

6 FEET

The Feet selector determines the range of the keyboard. 4 feet is the highest keyboard range while 32 feet is the lowest. In the 8-feet position, for example, each note on the keyboard is one octave lower than it would be in the 4-feet position, and one octave higher than it would be in the 16-feet position.

There's even a white noise generator for creating the sound of wind, surf, storms and other special effects.

7 WAVE

Determines the basic waveform or "shape" of the signal generated by the CS01II's VCO—a critical parameter in determining the final overall sound. The triangular (△) wave form, for example,

creates a smooth, clean sound that is great for synthesizing the sound of a flute. The sawtooth (∧) waveform is perfect for brass instruments, while the rectangular (□) waveform is great for imitating wind instruments. A rectangular waveform is also provided that permits pulse width modulation.

8 PWM (Pulse Width Modulation)

Varies the "duty cycle" of the rectangular waveform. Using the PWM SPEED to slowly modulate the pulse width of the rectangular waveform can create pleasant swirling "chorus" effects.

9 VCF CUT OFF

This function plays a major role in shaping the synthesized sound. By adjusting the cutoff frequency of the voltage controlled filter, certain harmonics of the original waveform (determined by the WAVE control) are eliminated, dramatically altering the quality of the sound. The filter cutoff frequency can also be adjusted via the Breath Control system or Modulation wheel.

10 RESONANCE

This function emphasizes frequencies in the vicinity of the VCF cutoff frequency. The amount of emphasis depends on the control setting. In the maximum "VCO OFF" position, the VCO is actually cut off and sound is produced by filter oscillation. A high resonance setting can produce "wild" tonal variation when the VCF cutoff frequency is varied either via the Cutoff control, Breath Control system or Modulation wheel.

11 VCF EG (Envelope Generator) DEPTH

Determines the degree of effect the CS01II envelope generator (ADSR section) has on the VCF.

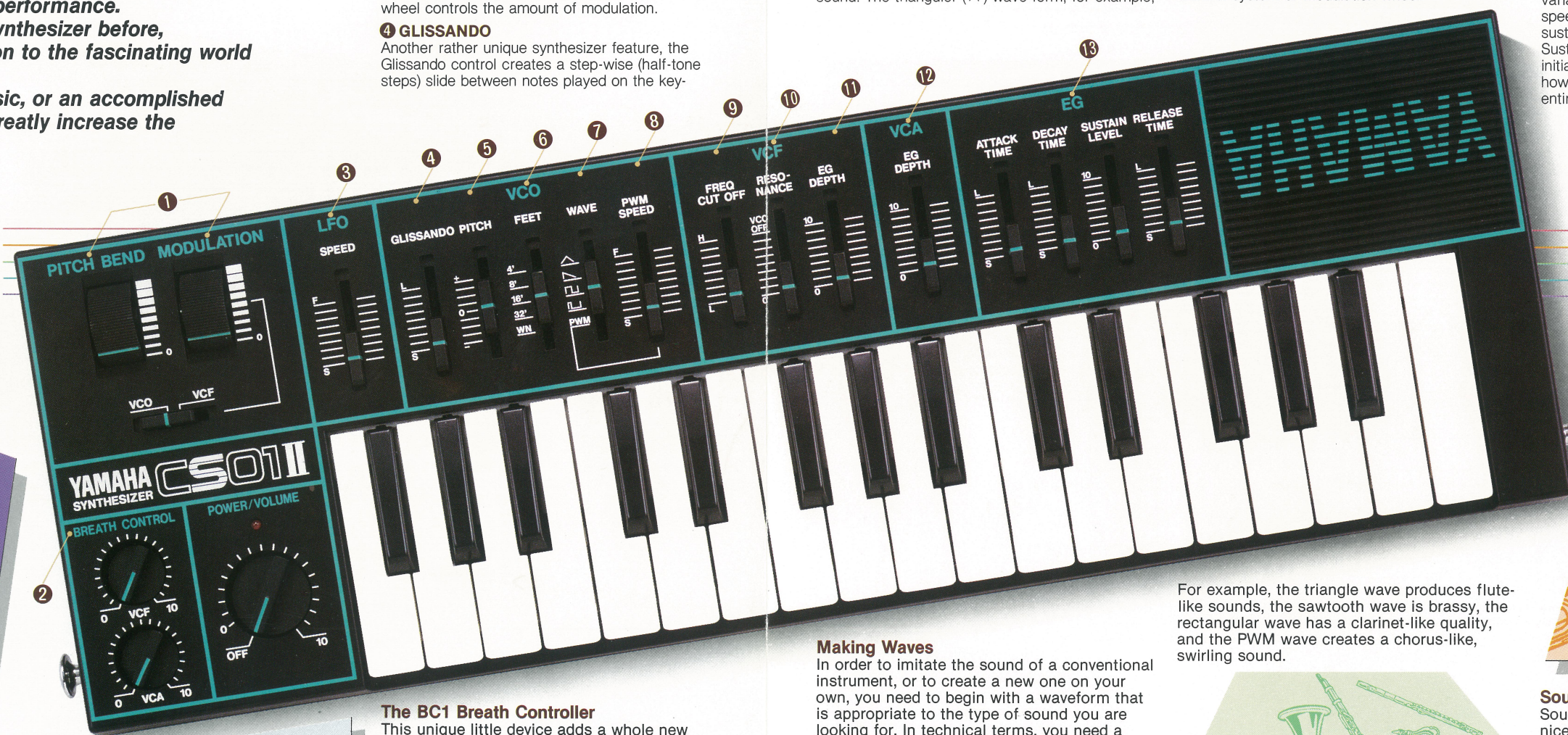
12 VCA EG DEPTH

Determines the depth of the volume envelope effect created by the ADSR controls.

13 ADSR (Attack, Decay, Sustain, Release)

These controls adjust the volume and filter envelope of each note. Attack determines how fast the VCF cutoff frequency and VCA reach maximum variation once a key is pressed, Decay sets the speed with which the envelope decays to its sustain level after maximum attack is reached, Sustain sets the sustain level to be held once initial decay has ended, and Release determines how long it takes for the envelope to diminish entirely after a key is released.

CS01II



Over-the-Shoulder Freedom

With a standard guitar-type shoulder strap, the CS01II can be slung over your shoulder so you can move around anywhere you like—on the stage or even in the audience. For really wide-ranging flexibility with no cables to get in your way you could hook the CS01II's output up to an FM wireless transmitter clipped to your belt. The pitch bend and modulation wheels have been located specially for easy access and control when performing "over-the-shoulder."

Here's your chance to take over some of the limelight the guitarist and vocalist have been enjoying all these years.



The BC1 Breath Controller

This unique little device adds a whole new world of expressive capability to synthesizer performance. The pressure-sensitive breath controller is held in the mouth and used just like the mouthpiece of a wind instrument to control volume (VCA) and tone (VCF). Touting techniques like those used by brass players, for example, can be used to add totally unique dynamics to your sound. Unlike many hand or foot operated controllers, the breath controller can produce very quick sound changes or carefully controlled non-linear variations for unprecedented expressive versatility.

Making Waves

In order to imitate the sound of a conventional instrument, or to create a new one on your own, you need to begin with a waveform that is appropriate to the type of sound you are looking for. In technical terms, you need a waveform that contains the right type of harmonic structure. The synthesizer's filter is then used to selectively remove and/or emphasise certain of these harmonics to produce the basic sound. The CS01II offers a selection of 5 different waveforms: a triangle wave, a sawtooth wave, two types of rectangular wave, and a PWM (Pulse Width Modulation) setting in which the duty cycle of the rectangular wave can be varied at any desired speed (the "duty cycle" of the waveform is the ratio of the positive portion of the cycle to the negative portion).

For example, the triangle wave produces flute-like sounds, the sawtooth wave is brassy, the rectangular wave has a clarinet-like quality, and the PWM wave creates a chorus-like, swirling sound.

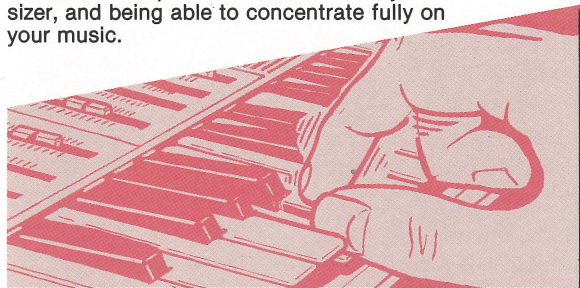


Sound Effects are Easy, Too

Sound effects like rolling waves, wind, etc., are nice in music, but they are also extremely useful for plays, home video production and audio-visual presentations. The CS01II offers plenty of sound effect generation capability. The WN setting on the FEET selector, for example, produces pure "white noise" which can be filtered using the VCF and EG sections to create an unlimited variety of effects: surf, wind, steam trains, jets, etc., etc. Some wild effects can also be created by setting the RESONANCE control to its maximum setting—VCO OFF, causing the VCF to go into oscillation. A little experimentation will reveal some of the limitless possibilities.

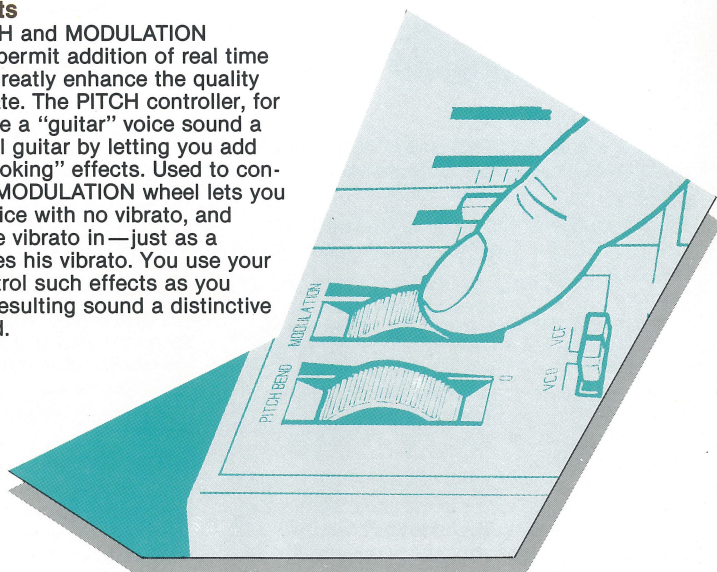
The CS01II as an Accessory Lead Keyboard

If you already have a piano, organ, polyphonic synthesizer or even a full-blown multi-keyboard setup, the CS01II is a useful addition. It can provide an extra monophonic voice for playing right-hand lead lines while the left hand does the chord work. Having that extra voice can mean the difference between fussing around with a lot of button pushing and control twiddling in the middle of a performance to set up a lead voice on one synthesizer, and being able to concentrate fully on your music.



Real Time Effects

The CS01II's PITCH and MODULATION controller wheels permit addition of real time effects than can greatly enhance the quality of voices you create. The PITCH controller, for example, can make a "guitar" voice sound a lot more like a real guitar by letting you add string bend or "choking" effects. Used to control the VCO, the MODULATION wheel lets you start a trumpet voice with no vibrato, and gradually bring the vibrato in—just as a trumpet player uses his vibrato. You use your own "feel" to control such effects as you play, making the resulting sound a distinctive part of your sound.



SPECIFICATIONS

Keyboard	32 Keys, F ₂ ~ C ₅
LFO	Speed
GLISSANDO	Speed
VCO	PITCH — ~ 0 ~ + FEET 4', 8', 16', 32', NOISE WAVE Δ, ▽, □, ▽, PWM PWM Speed
VCF	CUT OFF L ~ H RESONANCE 0 ~ 10/VCO OFF EG DEPTH 0 ~ 10
VCA	EG DEPTH 0 ~ 10
EG	ATTACK TIME S ~ L DECAY TIME S ~ L SUSTAIN LEVEL 0 ~ 10 RELEASE TIME S ~ L
Wheels	PITCH BEND MODULATION VCO/VCF
BREATH CONTROL	VCF 0 ~ 10 VCA 0 ~ 10
POWER SWITCH/VOLUME	0 ~ 10
Side Panel	LINE OUT 10kΩ PHONES 8 ~ 150Ω DC IN (use PA-1 adaptor) BREATH CONT. IN
Power Source	"R6" or "AA" battery × 6 (9 V) AC Adaptor PA-1 (DC 12 V, 300 mA)
Power Consumption	No Output, 650 mW Maximum Output, 2,200 mW
Dimensions (W × H × D)	489 × 36 × 160 mm (19-1/4" × 1-1/2" × 6-3/8")
Weight	1.5 kg (3 lbs. 5 oz.)
Accessories	Breath Controller BC1 AC Adaptor PA-1 Soft Case SC-01 Stereo Headphone MH10

Specifications are subject to change without notice.

OPTIONAL ACCESSORIES



BC1 Breath Controller

(Standard accessory: soft case)



SC-01 Soft Case

- Convenient snap-down headphone strap and cord pocket.
- The case strap can be detached and used as a shoulder strap with the CS01II.
- BC1 soft case can be attached.

For details please contact:

SINCE 1887



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