

# CS6x/CS6R Specifications

## FUNCTIONS

<b>Keyboard</b>	61 Keys, Initial Touch/Aftertouch (CS6x)	
<b>Tone Generator</b>	AWM2	
<b>Multitimbrs</b>	16 + 1 (A/D) + 1 (Phrase Clip) + 2 (Plug-in)	
<b>Polyphony</b>	64 Notes	
<b>Effects</b>	Reverb: 12 Chorus: 23 Insertion Effects: 92 Insertion Effects for Plug-in Boards: 24 Master Equalizer: 4	
<b>Voice</b>	Preset Bank User Bank	normal: 256, drum kits: 8 normal: 128 (Internal) + 128 (External) drum kits: 2 (Internal) + 2 (External)
	Plug-in 1, 2 User Bank	normal: 64 (Plug-in 1), 64 (Plug-in 2)
<b>Performance</b>	User Bank	128 (Internal) + 64 (External) 4 zones per master keyboard setting (CS6x) 20 Parts (16 + Plug-in 1 + Plug-in 2 + A/D + Phrase Clip) *Part Layers: Max. 4
<b>Scene</b>	2 Memories per Voice /Performance (CS6x)	
<b>Phrase Clip</b>	Memory	4 MB (volatile)
	Clips	256
	Clip Kits	4 (73 keys x 4 sets)
	Sampling Freq.	44.1 kHz, 16-bit Linear
<b>Arpeggiator</b>	128 Types (MIDI Sync, MIDI TX/RX, Play Effect)	
<b>Sequencer</b>	SMF Playback (Format 0) Direct Play Only	
<b>Expandability</b>	2 Slots for Plug-in Boards	

## EXTERNAL MEMORY

<b>Card</b>	SmartMedia™ 3.3V
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## CONTROLLERS

Pitch Bend Wheel (CS6x)
Modulation Wheel (CS6x)
Ribbon Controller (CS6x)
Sound Control Knob x 14 (CS6x)
Master Volume Knob
Assignable Knob x 5
Data Entry/Page Knob x 2
A/D Gain

## CONNECTORS & TERMINALS

OUTPUT: L/MONO, R (1/4" Jack)
INDIVIDUAL OUTPUT 1, 2 (1/4" Jack)
BREATH CONTROLLER
FOOT VOLUME (CS6x)
FOOT CONTROLLER (CS6x)
SUSTAIN (CS6x)
FOOT SWITCH (CS6x)
MIDI: IN/OUT/THRU
TO HOST: Mini Din
PHONES: Stereo 1/4" Jack
A/D INPUT: MIC/LINE 2, LINE 1 (Stereo 1/4" Jack) *Analog Mix Mono

## DIMENSIONS (W x D x H), WEIGHT

<b>CS6x</b>	1019 x 357 x 109 mm (40-1/8" x 14-9/16" x 4-3/8"), 11.6 kg (25.6 lbs.)
<b>CS6R</b>	480 x 366 x 88 mm (18-7/8" x 14-3/8" x 3-1/2"), 6.0 kg (13.2 lbs.)

## ACCESSORIES

CD-ROM
SmartMedia™ 4 MB

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# CONTROL SYNTHESIZER

# CS6x

## TONE GENERATOR

# CS6R



## MODULAR SYNTHESIS PLUG-IN SYSTEM



For details please contact:



ISO9001  
JQA-1868



**YAMAHA**  
YAMAHA CORPORATION  
P.O.BOX 1, Hamamatsu Japan

# Creative Sound Control that Expands to Your Demands

Today's music production demands a versatile synthesizer that's capable of producing **fresh cutting-edge sounds** that have never been heard before.

Introducing the CS6x and CS6R—stylish synthesizers made for the next generation of **electronic dance music**.

These synths give you the power to transform your musical ideas into reality by providing a huge selection of incredibly **fat** onboard voices, from all the essential standards to funky acid basses, massive **analog** pads and floor-pounding drum kits.

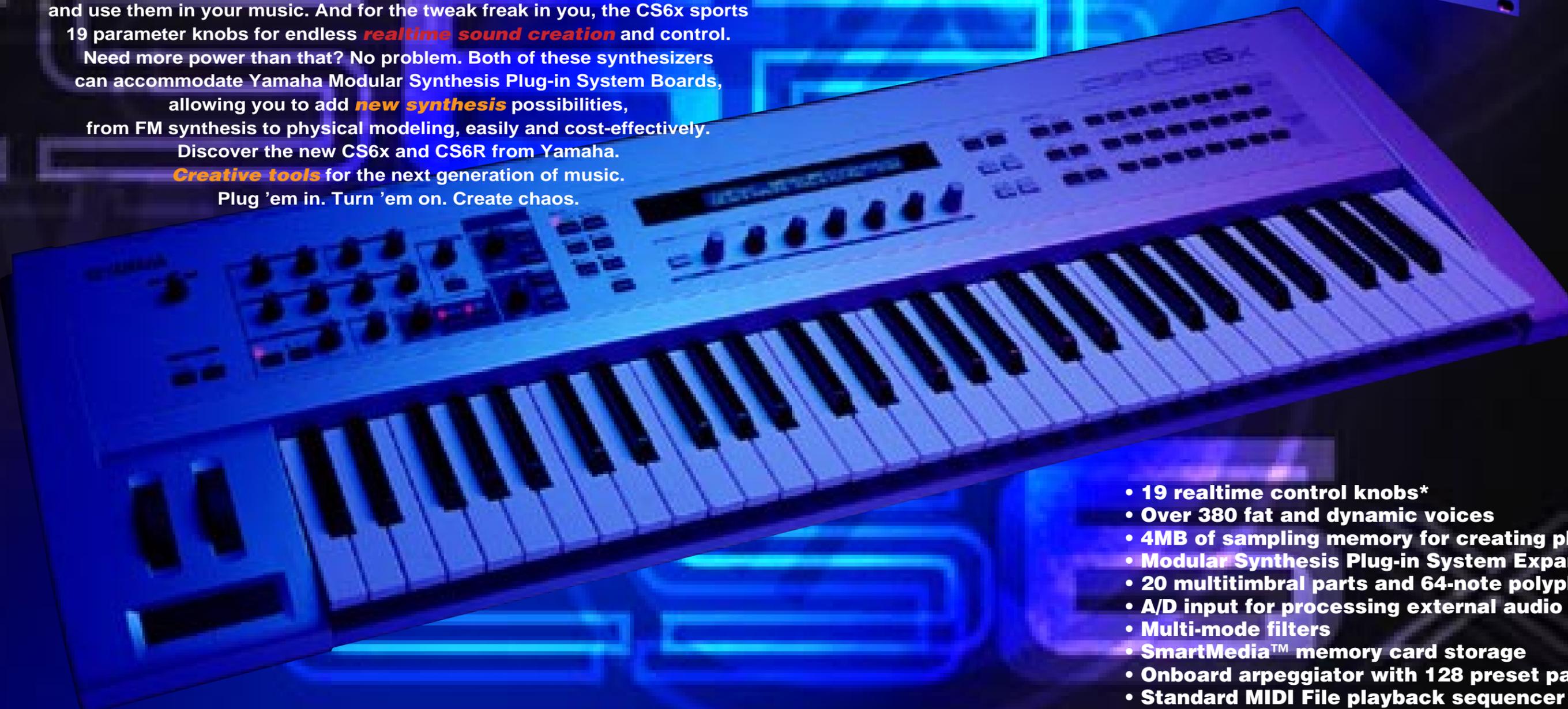
But that's not all. The CS6x and CS6R also feature sampling capability, so you can create your own **rhythm loops** and **sample phrases** and use them in your music. And for the tweak freak in you, the CS6x sports 19 parameter knobs for endless **realtime sound creation** and control.

Need more power than that? No problem. Both of these synthesizers can accommodate Yamaha Modular Synthesis Plug-in System Boards, allowing you to add **new synthesis** possibilities, from FM synthesis to physical modeling, easily and cost-effectively.

Discover the new CS6x and CS6R from Yamaha.

**Creative tools** for the next generation of music.

Plug 'em in. Turn 'em on. Create chaos.



- 19 realtime control knobs\*
- Over 380 fat and dynamic voices
- 4MB of sampling memory for creating phrase clips
- Modular Synthesis Plug-in System Expansion
- 20 multitimbral parts and 64-note polyphony
- A/D input for processing external audio sources
- Multi-mode filters
- SmartMedia™ memory card storage
- Onboard arpeggiator with 128 preset patterns
- Standard MIDI File playback sequencer

\*19 control knobs on the CS6x, 5 control knobs on the CS6R

## Ultimate Realtime Control

In the world of dance music, creating fresh tracks means being able to come up with never-before-heard sounds and control them on the fly. Accordingly, the CS6x gives you 14 preset and 5 assignable parameter control knobs that allow you to shape your sound exactly the way you want. Control the filter resonance and cutoff, reverb and chorus depth, EQ, panning and more...all in realtime! For further realtime sound control, the CS6x is also equipped with an assignable modulation wheel and ribbon controller. What's more, each of these knobs and controllers transmits MIDI control data, giving you the ability to record and play back all your "tweaks" with a MIDI sequencer.

## Arpeggiator

For instant musical inspiration, the CS6x and CS6R feature a sophisticated arpeggiator capable of generating a wide variety of rhythm sequences at the press of a key. A total of 128 pattern templates are provided, from smooth scales to radical funk grooves. By pressing the HOLD button, the arpeggiator will continue to play any notes you select, allowing you to take your hands off the keyboard and tweak some knobs. What's even cooler is that the arpeggiator can be sync'd to an external sequencer or used to control other MIDI synthesizers.

## Cutting-Edge Voices

The CS6x and CS6R are packed with hundreds of amazing voices designed for creating music with an impact. Along with a full array of essential voices, such as pianos and strings,

these synths are packed with a huge selection of acid synth leads, speaker-thumping basses and hard-hitting drum kits—a sonic oasis for producers of hip-hop and techno music. Plus you'll find a seemingly endless variety of sonic textures that provide the inspiration you need to explore new musical dimensions.

## Phrase Clip

Not only do the CS6x and CS6R feature a killer selection of onboard voices, they also allow you to sample your own sounds, making them the ideal tool for dance music producers, DJ's and remix artists. Both synths feature a generous 4MB of sampling memory for creating drum loops, sound effects and other phrase samples. Once a phrase is sampled, you can use the Loop Remix/LoopDivide function to create new sample variations without using up additional sample memory.

## 20 Multitimbral Parts with 64-Note Polyphony

Both the CS6x and CS6R provide support for up to 20 different voice parts (16 internal + 2 plug-in + 1 A/D input + 1 phrase clip), allowing you to produce fully arranged songs. And with 64 notes of polyphony, you can create thick-layered sounds and complex rhythm arrangements without worrying about voices dropping out of the mix.

## Multi-Mode Filters

The CS6x and CS6R feature some of the fattest, most dynamic sounds available in a synth today. To achieve such an incredible sound, these synths employ multi-mode filters in their voice architecture, allowing a combination of resonant filters to be assigned individually to each note—a low pass and high pass filter, for example. As a result, the onboard voices deliver more punch and expression.

## Digital Effects

Effects are an important part of the sound creation process, and to ensure you have all the signal processing power you need, the CS6x and CS6R feature an advanced DSP chip that allows up to 5 independent effects to be used simultaneously. Over 100 high-quality digital effects are provided, ranging from spacious echoes and reverbs to special effects such as Auto Synth and Beat Change.

## A/D Input

Add a creative edge to your music by plugging an external audio source—such as a microphone, CD player, or even another synthesizer—into the CS6x or CS6R and running the signal through the onboard digital effects processor. For even more creative versatility, you can use the A/D input in conjunction with the PLG100-VH plug-in board to add powerful harmony or vocoding effects to your voice.

## SMF Playback Sequencer

Now you can leave your computer at home the next time you perform live at a club event. Both the CS6x and CS6R are equipped with a Standard MIDI File (format 0) playback sequencer. By storing your original SMF sequences from an external sequencer onto a SmartMedia™ card, you can give an entire live performance using just the CS6x or CS6R! The sequencer can also transmit MIDI data to other synthesizers in your setup. Chain playback of up to 100 songs is possible.

## Scene Control

Arguably one of the most intuitive features of the CS6x, Scene memory lets you take a snapshot of the keyboard's current knob settings (such as attack, decay, resonance and cutoff) for instant recall at the touch of a button. Using the Scene Control knob, you can "morph" between each Scene in realtime, just as if you were tweaking several knobs at the same time. This function gives you the power to create a low droning bass line and slowly transform it into a resonant liquid lead with massive amounts of reverb and delay. Or, give an ultra realistic string performance by alternating between Scenes of a mellow string pad and a bright string staccato.

## Individual Outputs

In addition to their main stereo outputs, the CS6x and CS6R have two individual audio output jacks, allowing you to process specific voices, or even the A/D input signal, through an external effects processor or separate channels on a mixing board.

## SmartMedia™ Storage

Both the CS6x and CS6R are equipped with a SmartMedia™ memory card slot, allowing you to store keyboard data, including phrase clips, SMF sequences, voices and performance setups, conveniently on SmartMedia™ cards. A SmartMedia™ card can also serve as an extra voice bank for a wider selection of onboard sounds.

One 4MB SmartMedia™ card containing a demonstration song file is included with the CS6x and CS6R.

# CS6x



## Included CD-ROM

Bundled with the CS6x and CS6R is a hybrid CD-ROM containing valuable synthesizer support software. It's also packed with a wealth of audio samples, from break beats to vocal snippets, for you to make your own phrase clips.

### • CS6x/CS6R Voice Editor

This convenient software editor lets you visually edit the onboard voices of the CS6x or CS6R on a personal computer.



### • Voice Editors for Plug-in Boards

Software editors for various Yamaha plug-in boards are included on the CD-ROM as well. (Most editors on the CD-ROM are software plug-ins for XGworks.)

### • XGworks lite (Windows® only)

This software sequencing package gives you all the essential recording, editing and playback functions needed to create full-fledged songs with the CS6x/CS6R and any other MIDI gear you may have.



### • Card Filer

This handy utility lets you easily transfer data between a SmartMedia™ card and a computer. It also gives you the capability to convert Standard MIDI Files from format 1 to format 0 for use with the CS6x/CS6R's SMF playback sequencer.

Note: Windows®/Macintosh® hybrid CD-ROM. Applications differ depending on platform.



# MODULAR SYNTHESIS PLUG-IN SYSTEM

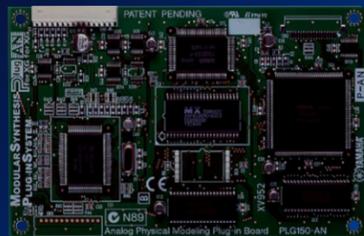
Yamaha's Modular Synthesis Plug-in System is a totally unique approach to keyboard expansion. Unlike conventional expansion boards, which only give you extra PCM samples, these plug-in boards add a complete synthesizer or sound processing engine to the CS6x or CS6R. And not only do you get new sound

creation possibilities with each synthesizer plug-in board installed, you also get increased polyphony and an extra multitimbral part. Both the CS6x and CS6R have two expansion slots, allowing you to customize them with the exact synthesis power you need—analogue physical modeling, FM synthesis, harmony/vocoding and more!



CS6R with top panel removed to show plug-in boards  
\* On the CS6x, plug-in boards are installed from the bottom of the keyboard.

## PLG150-AN



### Analog Physical Modeling Plug-in Board

Reproduce the fat and funky sounds of vintage analog synths! This board gives you a synth engine similar to the one featured in Yamaha's amazing AN1x analog physical modeling synthesizer. On top of its full array of wave algorithms, resonant filters, LFOs, and envelope generators, it also has distortion and a 3-band equalizer. With the PLG150-AN, you'll have even more power at your fingertips to produce killer synth sounds.

<b>Tone Generator Type</b>	AN (Analog Physical Modeling Synthesis)
<b>Polyphony</b>	5 notes
<b>Voice</b>	256 Preset 128 User
<b>Effect</b>	Guitar Amp. Simulator (Distortion), 3-Band EQ, XG Part EQ
<b>Interface</b>	Plug-in Connector (15-pin digital I/F connector)
<b>Dimensions (W) x (D) x (H)</b>	138.5 x 89.0 x 8.5 mm (5 9/16" x 3 5/8" x 3/8")
<b>Weight</b>	65 g (2.3 oz)

## PLG150-PF



### Piano Plug-in Board

For the serious piano player, this plug-in board is loaded with hundreds of painstakingly sampled piano and keyboard voices—from concert grands and uprights to electric pianos and harpsichords. Two piano boards can be used together, effectively doubling piano polyphony to an incredible 128 notes! For those looking for contemporary dance sounds and superb piano voices in a single synthesizer, a CS6x or CS6R loaded with the PLG150-PF makes a perfect solution.

<b>Tone Generator Type</b>	AWM2
<b>Polyphony</b>	64 notes
<b>Voice</b>	136 Preset
<b>Effect</b>	Reverb, Chorus, Insertion, 2-Band EQ
<b>Interface</b>	Plug-in Connector (15-pin digital I/F connector)
<b>Dimensions (W) x (D) x (H)</b>	138.5 x 89.0 x 8.5 mm (5 9/16" x 3 5/8" x 3/8")
<b>Weight</b>	72 g (2.5 oz)

## PLG150-DX



### Advanced DX/TX Plug-in Board

Get the classic sounds of Yamaha's world-famous DX-7 synthesizer. The PLG150-DX features the same 6-operator, 16-note polyphonic FM tone generator that took the synthesizer industry by storm. This board is a must-have for both electronic musicians and traditional artists alike.

<b>Tone Generator Type</b>	FM Synthesis
<b>Polyphony</b>	16 notes
<b>Voice</b>	912 Preset 64 User
<b>Effect</b>	Part EQ, Lowpass, Highpass
<b>Interface</b>	Plug-in Connector (15-pin digital I/F connector)
<b>Dimensions (W) x (D) x (H)</b>	138.5 x 89.0 x 8.5 mm (5 9/16" x 3 5/8" x 3/8")
<b>Weight</b>	63 g (2.2 oz)

## PLG100-XG



### XG Tone Generator Plug-in Board

This plug-in board gives you over 400 professional-quality sampled voices and 21 drum kits as well as 32 additional notes of polyphony. Plus it fully supports the XG MIDI standard, so you can use it to play back XG or Standard MIDI Files with an external sequencer or with the CS6x/CS6R's internal SMF playback sequencer.

<b>Tone Generator Type</b>	AWM2
<b>Polyphony</b>	32 notes
<b>Voice</b>	424 Preset + 21 drum kits
<b>Effect</b>	Reverb, Chorus, Variation
<b>Connector</b>	Plug-in Connector (15-pin digital I/F connector)
<b>Dimensions (W) x (D) x (H)</b>	138.5 x 89.0 x 8.5 mm (5 9/16" x 3 5/8" x 3/8")
<b>Weight</b>	64 g (2.3 oz)

## PLG150-VL

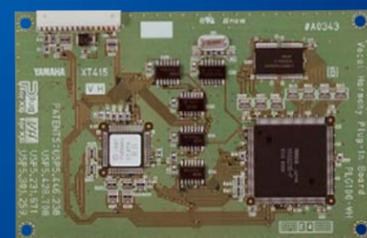


### Virtual Acoustic Plug-in Board

The Virtual Acoustic plug-in board lets you create incredibly expressive, natural-sounding voices by digitally simulating the physical characteristics of acoustic instruments. Thanks to its fabulous synthesis architecture, extensive realtime performance control of the voices is possible, making it the ideal plug-in board for keyboard soloists.

<b>Tone Generator Type</b>	SVA (Self-oscillating Virtual Acoustic Synthesis)
<b>Polyphony</b>	1 note monophonic
<b>Voice</b>	256 Preset 70 User
<b>Interface</b>	Plug-in Connector (15-pin digital I/F connector)
<b>Dimensions (W) x (D) x (H)</b>	138.5 x 89.0 x 8.5 mm (5 9/16" x 3 5/8" x 3/8")
<b>Weight</b>	56 g (2.0 oz)

## PLG100-VH



### Vocal Harmony Plug-in Board

The PLG100-VH lets you add powerful harmony and vocoding effects to your voice by plugging a microphone into the synthesizer's A/D input. Harmony intervals and vocoder melodies can be recorded in a sequencer track for automated playback—a dream tool for those who love to perform their music live.

<b>Maximum Harmony</b>	3 voices
<b>Effect</b>	Vocoder Harmony, Detune Harmony Chordal Harmony, Chromatic Harmony
<b>Voice Control</b>	Gender change (male → female, female → male) Vibrato, Volume, Pan, Detune
<b>Interface</b>	Plug-in Connector (15-pin digital I/F connector)
<b>Dimensions (W) x (D) x (H)</b>	138.5 x 89.0 x 8.5 mm (5 9/16" x 3 5/8" x 3/8")
<b>Weight</b>	53 g (1.9 oz)