

# Roland & Yamaha GM/GS Midi Sound Modules

*A drum sound comparison*

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SC-55/50	
M-GS64	
SD-80	
SonicCell	
Yamaha SW1000XG	

MIDI GM/GS Sound-Unit	polyphony	effects	year	approx. price US \$
1. Roland Sound Canvas SC-55/50	24/28 voices	Reverb & Chorus	1991	850
2. Roland M-GS64 Expansion	64 voices	Reverb & Chorus & Echo	1995	1078
3. Edirol Studio Canvas SD-80	128 voices	Reverb & Chorus	2002	988
4. Roland SonicCell	128 voices	Reverb & Chorus	2007	1082
5. Yamaha SW1000XG PCI soundcard	64 voices	Reverb & Chorus & Echo	1998	957

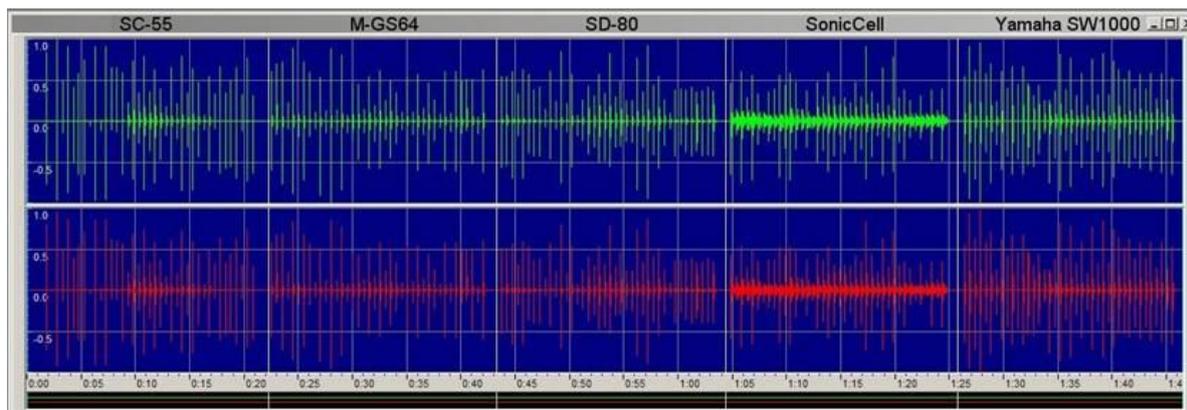
In 1991 Roland entered the market with the very first GM/GS multitimbral synthesizer sound unit the **Sound Canvas SC-55**. From that time on commercial musicians, sometimes as a one-man-band start performing with midi accompaniment. Since GM (General Midi) was a world wide standard, many midifiles were produced, sold and distributed all over the world. Many artists perform with midi players with more than 1000 songs on the memory disk or card.

It is therefore important when deciding to buy a newer GM unit with modern sounds, that it will function and sound correctly or even better.

The goal of this test was to find out if the newer units would function the same as the old ones so there would be no need to change or remix thousands of existing and good sounding midifiles. It also gives an impression of 16 years of Sound Canvas evolution.

The test midifile plays only drum sounds, no reverb, no chorus, no echo, standard GS reset, standard drumkit PG1 on channel 10.

You can [download](#) the midifile to test your own sound units. At the bottom of this page you will find more midi file samples, with additional instruments playing.



First I compared the **difference in sound** of kick drum 1 (#36) and kick drum 2 (#35) and the sounds of snare drum 1 (#38) and snare drum 2 (#40).

Each drum part two measures of four counts, so eight hits on each drum part.

**Results:** the SonicCell has very little difference between the two kick sounds and there is a lot of resonating noise in the snares too, making the sounds muddy, this is also visible in the waveforms. However for studio and recording purposes the SonicCell has the most modern and realistic sounds. For live gigs the tight sounds of the GS64 and SD80 are preferable.

The same time **velocity difference** is tested. Does the sound change if it is played louder or softer, as normally is the case with other instruments?

The eight notes are played with increased velocities of 60-70-80-90-100-110-120-120 and at the same time the expression (volume) is lowered: CC11 120-110-100-90-80-70-60-60 to obtain equal listening levels.

**Results:** does the sound change when hitting harder?...NO ! There is no difference in loud or soft drumming in none of the sound units, and in spite of the volume equalization the drum sounds of all units vary a bit in loudness.

At the end a NRPN (GS) commando (CC94-98) is tested to **lower the drum sound**, the used drum sound is the kick1 (#36).

The commando's are:

- CC 94 24 ( 24=adjust pitch coarse of drum instrument )
- CC 98 36 ( note number = #36 )
- CC 6 n ( enter the data: n= pitch 64= normal 65-128=higher pitch 1-63=lower pitch )
- CC 101 127
- CC 100 127 ( end commando, close NRPN sequence )

Two kick notes are played normal (n=64), two notes n=62, two notes n=59 and two notes n=55. You will hear the frequency decreasing/lowering that makes the tone drops.

**Results:** surprisingly the SonicCell does not lower the pitch although this is a Roland GM (GS?) unit, but the Yamaha XG (!) responds correctly.

**THE TEST FILE** (mp3 1:46 m)

Sound Module					
	Roland SC-55	Roland M-GS64	Edirol SD-80	Roland SonicCell	Yamaha SW1000 XG
Measure	1-10	11-20	21-30	31-40	41-50
Time	0:01 - 0:21	0:22 - 0:42	0:43 - 1:03	1:04 - 1:24	1:25 - 1:46

For each module:

Kick 1 midi note #36								
Measure	1				2			
Beat	<b>1</b>	2	3	4	<b>5</b>	6	7	8
Note #	36	36	36	36	36	36	36	36
volume	60	70	80	90	100	110	120	120

Kick 2 midi note #35								
Measure	3				4			
Beat	<b>1</b>	2	3	4	<b>5</b>	6	7	8
Note #	35	35	35	35	35	35	35	35
volume	60	70	80	90	100	110	120	120

Snare 1 midi note #38								
Measure	5				6			
Beat	<b>1</b>	2	3	4	<b>5</b>	6	7	8
Note #	38	38	38	38	38	38	38	38
volume	60	70	80	90	100	110	120	120

Snare 2 midi note #40								
Measure	7				8			
Beat	<b>1</b>	2	3	4	<b>5</b>	6	7	8
Note #	40	40	40	40	40	40	40	40
volume	60	70	80	90	100	110	120	120

Kick 1 midi note #36								
Measure	9				10			
Beat	1	2	3	4	5	6	7	8
Note #	36	36	36	36	36	36	36	36
Pitch (n)	64	64	62	62	59	59	55	55

### Results:

The drums of the classic Roland units sound tight, the Yamaha even tighter. The SonicCell however sounds muddy, as if there is reverb and resonance, although it has a more modern sound. If you play a lot of dance classics from the seventies the classic Sound Canvas units are your first choice. The SonicCell isn't completely GM/GS compatible as the unit does not response on these NRPN commando's.

The non-GS status of the SonicCell is noted in the manuals of the JV/JX sound modules. These units are NOT completely compatible GS units and the SonicCell is directly derived from those JV/JX & Fantom synth units. Surprisingly the Yamaha XG unit is GS/GM compatible.

Listen also to a comparison of other MIDI [instruments](#) with the same sound modules. It's a Dutch language file but you'll understand and hear the samples and differences. You can also translate the text with Google Translate.

The overall results are: tight SC-55 sounds (1991 unit !) the SD80 performing better in cymbals and hi-hats and the modern SonicCell (2007) with disappointing, resonating, booming and muddy lower frequencies also badly responding on reverb and chorus commando's.

### EXTRA

Comparison between (first) the **Roland Expansion M-GS64** & **Edirol Studio Canvas SD-80**.  
(mp3 files: *Disco Inferno - the Trammpps*)

[drum-sounds](#)

[clavinet-sound](#)

[GS64 & SD80 simultaneously](#)

[3 \(!\) units simultaneously](#)

This mp3 sample demonstrates the **GS64**, **SD80** and **SonicCell** all together. After a few measures the individual units are played single, at the end all together again. In between you'll hear small clicks when switching the units on/off. The stereo channels of the GS64 and SD80 are swapped to avoid phasing of exact similar sound waves.

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