YAMAHA

MUSIC SYNTHESIZER

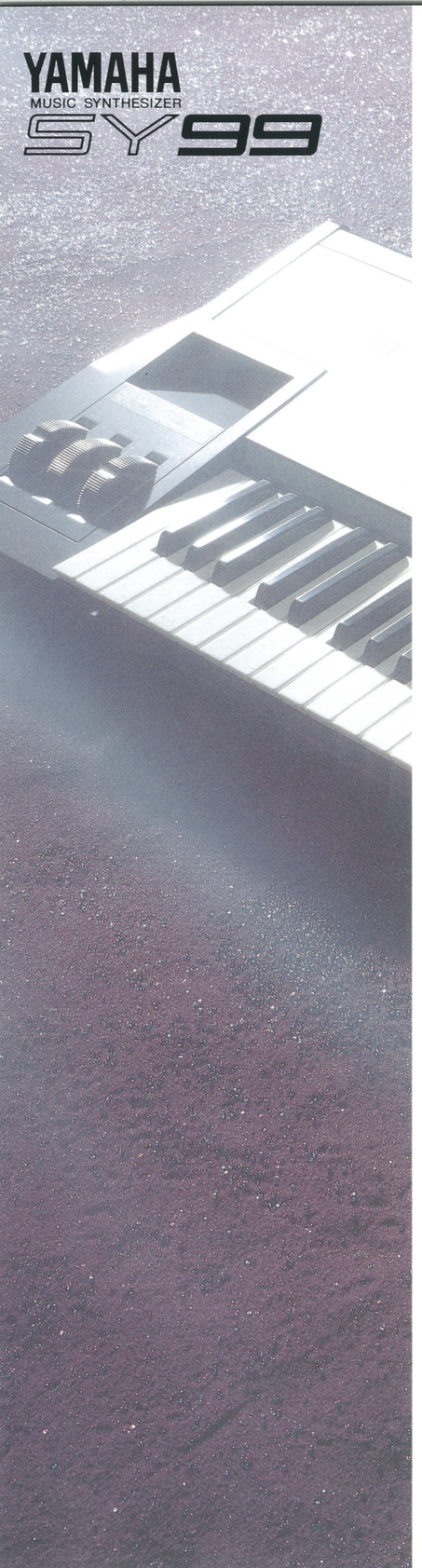
SY99

Serious Synthesis for the Artist Who Will Not Compromise

Yamaha presents the most powerful musical tool available. Never before has this much sound, expression, programmability, and total production capability been concentrated in one extraordinary keyboard instrument.

If you're serious about your music — whether you make it at home, in the studio, or on stage — the Yamaha SY99 Music Synthesizer is the one instrument you can't afford to be without.

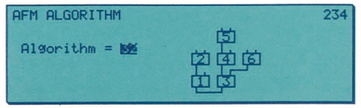
- AWM2 (second-generation 16-bit Advanced Wave Memory) with an expanded ROM, offering 267 waveform presets for unmatched sample playback quality.
- Expandable sample RAM allows samples to be received via MIDI Sample Dump transfer, loaded from disk, or loaded from wave cards.
- AFM (Advanced Frequency Modulation) provides a dramatic boost in FM sound quality and programming versatility.
- RCM (Realtime Convolution & Modulation) achieves a new fusion of sample realism and the expressive power of FM.
- Versatile 1, 2, 3, or 4-element voice architecture and complex envelope generators for extensive sample layering capability.
- Advanced digital filters for dynamic timbre control.
- Multiple complex programmable envelope generators.
- Dynamic panning for enhanced sonic animation.
- Programmable aftertouch and assignable controllers.
- Two internal digital signal processors provide 63 top-quality effects.
- Sophisticated master MIDI controller capabilities.
- Zoned aftertouch enhances expressive control.
- Comprehensive display and data entry controls for intuitive programming.
- A multi-timbre mode. 10-song 16-track sequencer with 27,000-note capacity, and built-in drums provide powerful production capabilities.
- Dual assignable stereo outputs.
- External storage using 3.5" floppy drive and data cards.
- Complete MIDI implementation.

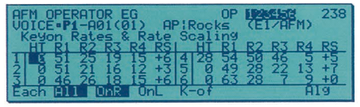


AWM2, AFM, & RCM: The Ultimate Tone Generation Trio

AWM2 — second-generation Advanced Wave Memory — takes the musical reproduction of digitally sampled sound to new levels of performance. AWM2 handles 16-bit wave data via 24-bit internal signal processing circuitry and high-resolution 22-bit digital-to-analog converters. The sound rivals and often surpasses the quality of the finest compact disc players, giving you unprecedented clarity and realism in the reproduction of acoustic instruments and other natural timbres. However, you're not limited to the sampled sound, an extraordinarily versatile digital filter system lets you shape the sound in real time for extended expressive control, and the AWM2 waveforms can be layered and blended with the AFM tone generator output in a variety of ways. The SY99 packs a very impressive 8 megabytes of sampled waveform ROM, so you have a choice of 267 individual waveforms built in. External wave cards and expandable sample RAM with MIDI Sample Dump receive capability provide virtually unlimited potential for expansion.

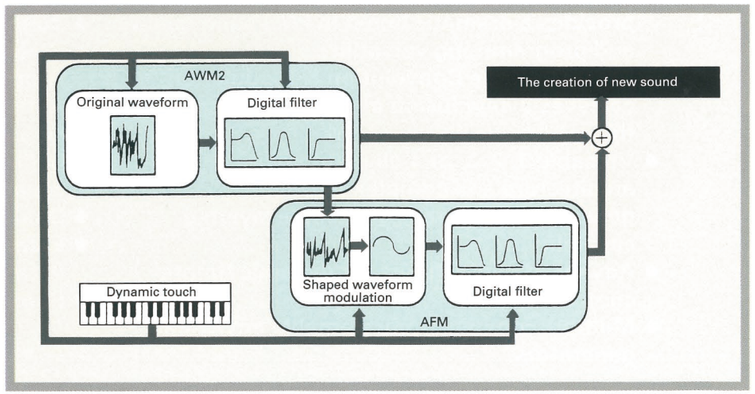
AFM — Advanced Frequency Modulation — represents a major evolution in FM tone generation technology. The original 6-operator 32-algorithm configuration has been expanded to include 45 different algorithms, each with up to three user programmable and independent feedback loops. And while the original operators functioned only with simple sine waves, the new system allows any of 16 different preset waveforms to be assigned to each operator. There's also a new set of enhanced FM parameters, six-segment envelope generators for each operator with adjustable envelope delays and segment looping capability, four-breakpoint rate scaling, plus the unprecedented real-time timbral control provided by the SY99's digital filters.





RCM — Realtime Convolution & Modulation — allows AWM2 samples to be used as part of an AFM algorithm, adding further harmonic content to the already complex AWM2 waveform. The AWM2 sample can be filtered and enveloped prior to modulation, then the raw AFM output can be further filtered prior to panning, effect processing and final output.

Not only does this make it possible to create waveforms of unequalled complexity and diversity, but the entire process is totally controllable. The result is a fusion of sample realism with the extraordinary expressive power of FM. The potential of this system can be even further enhanced by mixing the "straight" AWM2 output with the AWM2-modulated AFM output.



Versatile Voice Architecture

Each SY99 voice is composed of one, two or four "elements." Each element can be assigned either an AWM2 or AFM waveform, so you can have a number of voice configurations:

SY99 VOICE MODES

	Name	Configuration
1.	1AFM mono	One AFM element
2.	2AFM mono	Two AFM elements
3.	4AFM mono	Four AFM elements
4.	1AFM poly	One AFM element
5.	2AFM poly	Two AFM elements
6.	1AWM poly	One AWM element
7.	2AWM poly	Two AWM elements
8.	4AWM poly	Four AWM elements
9.	1AFM&1AWM	One AFM and one AWM element
10.	2AFM&2AWM	Two AFM and two AWM elements
11.	Drum set	Seventy-six AWM elements

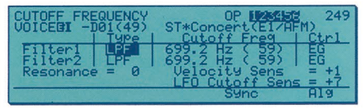
AWM2 elements have a 5-segment amplitude envelope generator so you could, for example, patch an AWM2 piano attack to a fat AFM synth-brass type sustain, or create any number of unique sonic hybrids. In addition to "layering" the elements in this way, individual elements can be assigned to different note ranges for exotic split keyboard setups.

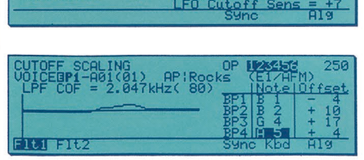
Other important voice and element features include element detuning capability, element transposition, output assignment to the SY99's group 1 and/or group 2 stereo outputs, random pitch, portamento for AFM elements, microtuning, dynamic panning, effect selection and controller assignments.

Advanced Digital Filters for Dynamic Timbre Control

Two advanced digital filters are available to each SY99 voice element. One of the filters is a low-pass type, and the other is switchable for either low-pass or high-pass response. Each has its own 6-segment envelope generator so that a virtually unlimited range of dynamic filtering patterns can be produced. Low-pass and high-pass filters can be combined to create a bandpass response, or both filters can be set for low-pass operation — each with a rolloff slope of –12 dB/octave — to produce a steep –24 dB/octave low-pass curve. For those of you who miss the distinct musical personality of analog synthesizer type filters, the SY99 filters even have a resonance parameter that allows you to boost their cutoff-frequency peak all the way into oscillation if you like.

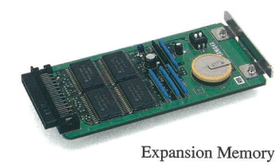
To sum up, in a four-element voice with two filters per element, you have a total of eight filters working all at once.





Expandable Sample RAM

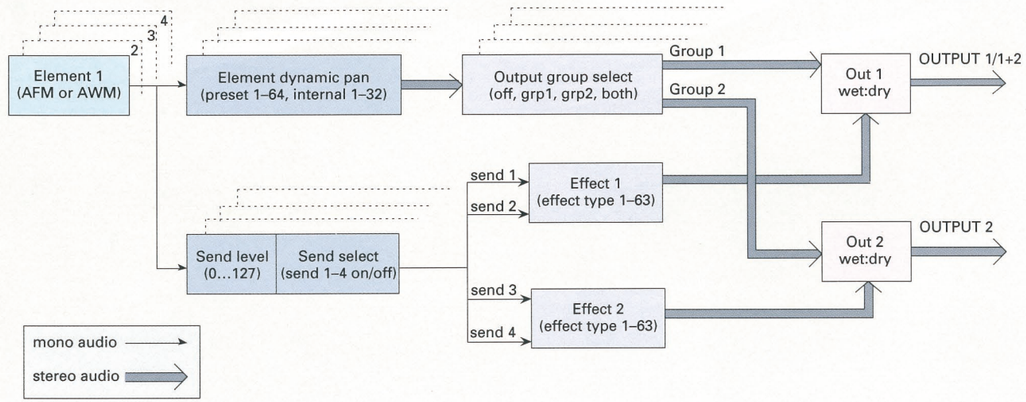
The SY99 comes with 512 kilobytes of RAM that can be allocated to hold samples or MIDI bulk data (see "Complete MIDI Implementation"). An expansion slot allows up to 2.5 megabytes of additional sample memory to be installed. Samples can be loaded into the RAM from external sources via either MIDI Sample Dump or sample disks such as those created for the Yamaha TX16W sampler. The loaded sample data can then be assigned to waveforms and used in the same way as the preset AWM samples. This capability means that the SY99 has virtually "open-ended" sample handling capability, giving you access to an unlimited world of sound.



Expansion Memory Board

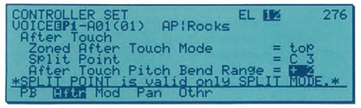
SYEMB05

BASIC VOICE ARCHITECTURE



Zoned Aftertouch for Enhanced Expressive Control

Zoned aftertouch is an innovative new feature that allows aftertouch response to be restricted to a single note or range of notes. Aftertouch can be applied to all notes played, the highest note played, the lowest note played, all notes above a specified split point, or all notes below the split point. You could, for example, assign aftertouch to the highest note played so that vibrato is only applied to the melody line. Pitch bend wheel operation can also be linked to the zoned aftertouch assignment, allowing pitch bend to be applied only to the specified note or range of notes.

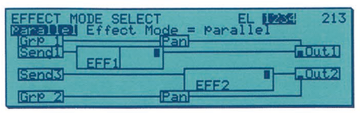


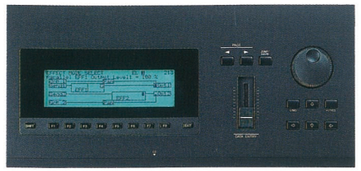
After-touch pressure data MIDI note velocity can be assigned to control pitch, filtering, AWM2 modulation level and/or a range of AFM parameters. You also have a choice of controlling the assigned parameters in a positive or negative direction, according to your personal expressive needs. Velocity switching is another expressive feature that can be used to bring different elements into play depending on how loud you play the notes.

63 Superb Effects Add Essential Ambience

The SY99 offers stunning effects with two high-performance internal digital signal processors. These processors, in fact, are equivalent in quality and performance to some of the most advanced rack-mount units available today.

The separate effect processors can be interconnected in several ways, providing a wide range of sophisticated parallel and series processing configurations. A range of programmable parameters for each effect make it easy to give your sound the extra warmth and "spaciousness" that it deserves.

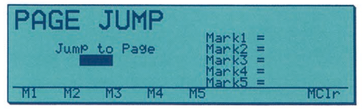




Comprehensive Display and Data Entry Controls for Intuitive Programming

A large 240 × 64 dot backlit liquid crystal display panel simplifies operation by making several parameters visible at the same time. Titles are displayed in large bold type to differentiate them from parameters, and names are spelled in full wherever possible to minimize the frustration of trying to decipher a screen full of abbreviations. There are also a number of flow diagrams and bar graphs that are displayed in graphic form for instant recognition. Further, a well-thought-out hierarchy of directory pages leads you to the function you're looking for, and a unique "jump" number system allows direct switching between related functions. A set of "smart" function keys also make it easy to move around in the parameter-packed SY99 programming environment.

For data entry you have a choice of increment and decrement, buttons, a numeric keypad, and a data entry slider for fast absolute value changes.

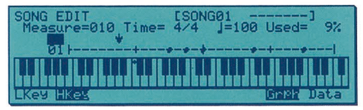


A Complete Production System: Multi-timbre Mode, 16-track Sequencer, and Built-in Drums

In addition to its normal voice play mode, the SY99 features a multi-timbre mode in which up to 16 different voices can be assigned to 16 different MIDI channels. 16 memory locations are provided for complete "MULTI" setups including voice-to-channel assignments, individual voice volume, note shift, tuning, panning, and effects.

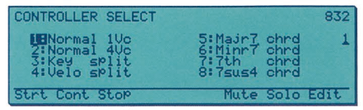
Of course, you could use an external MIDI sequence recorder to control the various SY99 voices in this mode, but a very sophisticated internal 16-track sequencer makes external equipment quite unnecessary. Rivalling some of the best separate sequencers in versatility, the SY99's 16-track sequencer offers all the functions and features you need for serious music production, and directly drives the SY99 multi-timbre setups. You can record in real-time to capture the spontaneity of a performance, using the step-write mode for precisely-timed fast or complex passages, and using the punch-in feature to "fix" a portion of a previously recorded track. Quantization either after recording or "on the fly" can tighten up loose timing. There's also an extensive range of editing features that let you control the finest details: individual note duration, velocity, note position and more. Measures can be copied, erased and left blank, deleted and filled with the subsequent measures, or inserted. Tracks can be mixed and erased. There's much more.

The SY99 even supplies a range of high-quality AWM2 drum and percussion samples that can be assigned to 76 different keys and handled as a single voice — so you don't need an external drum machine. Your "drum set" doesn't have to consist only of drum samples, though. Any waveform can be used in a drum voice, and any drum waveform can be used in normal voice programming.



Advanced Master MIDI Controller Facilities

In addition to an expanded 76-note keyboard, the SY99 provides a range of powerful master MIDI controller functions. You have eight editable master control setups, each with four zones that transmit on independent MIDI channels. Independent output filters are available for each MIDI channel, so the data you transmit is entirely under your control.



Dual Stereo Outputs

For versatile mixing and real-time control, the SY99 has two pairs of stereo outputs — GROUP 1 and GROUP 2 — each with its own front-panel group fader. Elements can be assigned to either or both groups. By using the output assignments parameters in combination with panning, it is therefore possible to have each element in a four-element voice to appear separately at a different output. Since different effects can also be combined on each group output, the group faders can be used to vary the effect complement in real time.

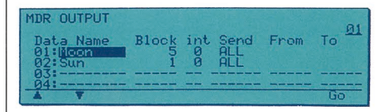
External Storage: 3.5" Floppy Drive and Data Cards

For convenient mass data storage, the SY99 features a built-in 3.5" floppy disk drive that can be used to store both synthesizer and sequencer data. Floppy disks are a convenient way to store and transport data. A "backup" function is provided so you can easily make backup copies of important data or data you want to share with others.

Synthesizer data can also be saved to compact Yamaha MDC64 type data cards. A single card holds up to 64 kilobytes of data — that's 64 voices, 16 multi-timbre setups, and system setup data.

Complete MIDI Implementation

Since the SY99 may be asked to perform in any MIDI system, it has been provided with a complete set of MIDI parameters for maximum compatibility and versatility. Receive and transmit channels are independently programmable, a program change assignment table maximizes voice selection versatility, MIDI bank select messages can be received and transmitted for expanded voice selection capability, and a range of bulk dump functions make data transfers to bulk storage devices quick and easy. 512 kilobytes of sample memory can be used to receive bulk data from external MIDI devices which can then be saved to floppy disk. This means that the SY99 can be used as a MIDI data recorder for other MIDI devices in your system.



Chick Corea Demo & Voice Data Included

Two floppy disks containing demonstration sequences created by Chick Corea and other artists are provided to highlight some of the SY99's extraordinary capabilities. The disks also contain extra voice data, programmed for use with the demos, that you can use for your own performance or sequences.

REAR PANEL

MUSIC SYNTHESIZER

SY99

SY99 Voice List

PRESET 1 (64 voices)				
#	Bank A	Bank B	Bank C	Bank D
1	AP¦Rocks	SP:Alaska	BR¦TrmpSec	ST*Concert
2	AP¦CrsRock	SP¦SawPad	BR:BigBand	ST*Chestra
3	AP¦Concert	SP¦Square	BR¦JazzTmp	BR*Spitz
4	AP¦StgLayr	SP¦Elegant	BR. MuteTmp	ME*BigNeck
5	EP¦76Stage	SP:DigiPad	BR¦FrHorns	PC¦Snapper
6	EP:Classic	SP¦Lashed	BR¦DrkHorn	PC¦Marimba
7	EP:NiteHwk	SP¦Sweeper	BR¦Azen 16	PC. Vibes
8	EP:Belrose	SP¦Flash	BR:DaBurbs	PC¦MusicBx
9	EP¦BellRng	SP¦HrpsiPd	BR:Splatz	PC¦Tahiti
10	EP:Dxism	SP. Skylane	BR:Pumped	PC:Cloche
11	EP¦GrnDual	SP¦Arpeggi	BR¦StgLayr	PC¦Balan
12	EP¦VoxLayr	SP¦Vecktar	ST:Octaves	PC:Berim
13	KY¦Smokey	SP:Crystal	ST:ChorAna	SE¦Slither
14	KY¦CrsClav	SP¦Twinks	ST¦Rosin	DR Kits
15	KY¦Clavint	SP:Polydor	ST¦Quartz	DR Perc
16	KY¦ResoClv	SP¦WarmJet	ST:Pizza	DR Mixed

PRESET 2 (64 voices)				
#	Bank A	Bank B	Bank C	Bank D
1	SC¦Heretic	PL¦Steel6	BA¦Picked	WN¦Tenor
2	SC¦AeroPno	PL¦JazzGtr	BA¦Slapped	WN¦SaxSect
3	SC:Jupiter	PL¦Nylon6	BA¦Fingers	WN¦Alto
4	SC. RezWhap	PL¦12Strng	BA. Fretles	WN¦Soprano
5	SC:Plectar	PL:Eko12St	BA. Classic	WN¦Clarine
6	SC:Quatar	PL:Echoes6	BA:Upright	WN¦PanPipe
7	SC¦Plastiq	PL:Caster	BA:DXSlap	ME*Phantom
8	SC¦Tanjeln	PL:SloLead	BA. Anabass	ME¦5thsMan
9	SC:Gizmo	PL¦RockAT	BA¦ResoSyn	ME*Emperor
10	SC:Healing	SL:SawLead	BA:FatSyn	ME¦SloLoop
11	SC:Angelic	SL. EchoSaw	BA¦Mogue	ME*Asia
12	CH¦Glasine	SL:Duke	OR¦BJazzy	ME:Dreams
13	CH:Itopian	SL¦Sync	OR¦BookerB	ME:Galaxy
14	CH. Vespers	SL:Square	OR¦Deep	ME¦Isis
15	CH:Nebula	SL. PulseWM	OR¦Purple	ME¦ZoZoid
16	CH¦Witches	SL:Lyle	OR¦Bsilica	ME*Thusian

Internal (64 voices)				
#	Bank A	Bank B	Bank C	Bank D
1	SP¦Eternal	AP¦Bright	BA.FrtlsBs	WN¦HrdAlto
2	SP:Dreampd	EP¦BellEP	BA¦Picky	WN¦HrdTenr
3	SP:Freeze	EP.HrpPhon	BA¦Roque	WN:BariSax
4	SP:Polygar	EP:DualDA	BA:VelSlap	WN.AmpHarp
5	SP:DarkPad	OR¦Ghosty	BA¦Stile	SP*MoonPad
6	SP¦Digi82	KY¦Squeeze	BA¦Upright	ME*Cosmos
7	SP.Digima	SL.PrtaSaw	BA¦Serious	ME*Aurola
8	SP.SynStr	SL:OctSqu	BA¦DgiWild	ME.Galaxy
9	SC:Magic	ST¦StrgPad	PL¦Elktrik	ME*Catrsis
10	SC.DnzStb	ST¦ClasStr	PL¦MetlHed	SE¦Astral
11	SC¦SlapClv	ST:Tremolo	PL¦OvDrive	KY*Harpsi
12	SC.Analogy	ST:Qk Syns	PL:Stratus	BR¦Fall
13	SC¦Steps	ST:Violin	PL¦ElMute	PL*VelGtr
14	SC¦DigiStb	ST:Cello	PL¦VelMute	KS:Anlg +2
15	CH¦ChorWn	BR¦HouseAT	PL¦Harp	KS:Pad/Sax
16	CH:OooAh	BR¦SfzSwel	PL:LAPizzi	KS*JazComb

The original internal voices can be re-loaded by loading the file named "INTVOICE" from the "Chick Corea" demo disk.

SY99 AWM2 Waveform List

Preset 1							
1	Piano	40	Celesta	79	EG Harm1	118	Ride
2	Trumpet	41	Harpsi	80	EG Harm2	119	Choke
3	MuteTp 1	42	Pipe Wv	81	EG Mutè	120	Claps 1
4	MuteTp 2	43	AnlgBrs1	82	EG Comp	121	Claps 2
5	Horn	44	AnlgBrs2	83	EG Dist	122	Cowbell1
6	Flugel	45	AnlgBrs3	84	EG Pluk1	123	Cowbell2
7	Trombone	46	Pad 1	85	EG Pluk2	124	Tambrn
8	Tuba	47	Pad 2	86	BD 1	125	Shaker
9	Brass	48	AnlgBass	87	BD 2	126	FngrSnap
10	BrsFall	49	FrtlsSyn	88	BD 3	127	AnlgPerc
11	Tenor1	50	Chorus	89	BD 4	128	NoisePrc
12	Tenor2	51	Chorus L	90	BD 5	129	Scratch
13	Alto Sax	52	Chorus R	91	BD 6	130	Agogo
14	Baritone	53	Itopia	92	BD 7	131	Berimbau
15	Soprano	54	Choir	93	BD 8	132	Bongo
16	Tenors	55	OohChoir	94	SD 1	133	Cabasa
17	Flute	56	Vibe	95	SD 2	134	Cga Hi
18	Clarinet	57	Marimba	96	SD 3	135	CgaHiSlp
19	Piccolo	58	Tubular	97	SD 4	136	Cga Lo
20	Reed Wv	59	Xylophon	98	SD 5	137	CgaLoSlp
21	Basoon	60	Glocken	99	SD 6	138	Clave
22	Recorder	61	SteelDrm	100	SD 7	139	Guiro 1
23	MtReedWv	62	HandBell	101	SD 8	140	Guiro 2
24	PanFlute	63	Shamisen	102	SD 9	141	Maracas
25	Violin	64	Koto	103	SD Side	142	SD roll
26	Cello	65	Harp	104	Tom 1	143	Tabla Hi
27	ContraBs	66	Sitar	105	Tom 2	144	Tabla Lo
28	Pizz	67	E.Bass 1	106	Tom 3	145	Temple
29	SectPizz	68	E.Bass 2	107	Tom 4	146	Timbale1
30	Strings1	69	E.Bass 3	108	Tom 5	147	Timbale2
31	Strings2	70	ThmpBass	109	Tom 6	148	Timpani
32	StringsL	71	SlapBass	110	HH foot	149	Whisle
33	StringsR	72	Fretless	111	HH light	150	Belltree
34	Organ 1	73	WoodBass	112	HH mid	151	BDs Wv
35	Organ 2	74	GtrSteel	113	HH heavy	152	SDs Wv
36	E.P.Wv1	75	GtrNylon	114	HH open	153	Toms Wv
37	E.P.Wv2	76	12string	115	HHclAnlg	154	CymbalWv
38	Clavi 1	77	EG Sng1	116	HHopAnrg	155	Drums Wv
39	Clavi 2	78	EG Humbk	117	Crash		

Preset 2							
1	Piano Np	29	Typist	57	DigiVox2	85	Stuff 20
2	E.P. Np	30	BellRing	58	DigiVox3	86	Stuff 21
3	Vibe Np	31	SeqLatin	59	DigiVox4	87	Stuff 22
4	DmpPiano	32	EleMagic	60	DigiVox5	88	Stuff 23
5	Bottle 1	33	Vox Bell	61	Pluse 10	89	Stuff 24
6	Bottle 2	34	Mellow	62	Pluse 25	90	Stuff 25
7	Bottle 3	35	BigSyn L	63	Pluse 50	91	Stuff 26
8	Tube	36	BigSyn R	64	Tri	92	Stuff 27
9	Vocal Ga	37	VoxGrace	65	DigiWild	93	Stuff 28
10	Vocal Ba	38	Cry Bell	66	Stuff 1	94	Stuff 29
11	Sax tran	39	Voices	67	Stuff 2	95	Stuff 30
12	Bow tran	40	AnlgSaw1	68	Stuff 3	96	Stuff 31
13	Blub	41	AnlgSaw2	69	Stuff 4	97	Stuff 32
14	Tear	42	CS Saw	70	Stuff 5	98	Stuff 33
15	Bamboo	43	CS Sqr	71	Stuff 6	99	Stuff 34
16	Cup Echo	44	Digital1	72	Stuff 7	100	Stuff 35
17	Digi Atk	45	Digital2	73	Stuff 8	101	Stuff 36
18	Temp Ra	46	Digital3	74	Stuff 9	102	Stuff 37
19	Giri	47	Digital4	75	Stuff 10	103	Stuff 38
20	Water	48	Digital5	76	Stuff 11	104	Stuff 39
21	Steam	49	Digital6	77	Stuff 12	105	Stuff 40
22	Narrow	50	Digital7	78	Stuff 13	106	Stuff 41
23	Airy	51	Digital8	79	Stuff 14	107	Stuff 42
24	Styroll	52	Digital9	80	Stuff 15	108	Stuff 43
25	Noise	53	Digitl10	81	Stuff 16	109	Stuff 44
26	Bell Mix	54	Digitl11	82	Stuff 17	110	Stuff 45
27	Haaa	55	Digitl12	83	Stuff 18	111	Stuff 46
28	OhAttack	56	DigiVox1	84	Stuff 19	112	Stuff 47

SY99 Specifications

Tone generator: Realtime Convolution and Modulation (RCM)
- **AWM2:** 16 bit linear waveform data, maximum 48 kHz sampling frequency
- **AFM:** 6 operators, 45 algorithms, 3 feedback loops, 16 waveforms, modulation from AWM output
- **Filter:** Time variant IIR (infinite impulse response) digital filters, 2 filters for each element (maximum of 8 filters per voice)
- **Maximum simultaneous notes:** 16 (Voice mode), 32 (Multi mode)
- **Maximum simultaneous timbres:** 1 (Voice mode), 16 (Multi mode)
- **Note assignment:** Last note priority, DVA (dynamic voice allocation)

Keyboard: 76 notes, key velocity sensitivity, channel aftertouch (with zoned aftertouch)

DSP effects: 2 units, 63 effect types

Sequencer:
- **Tracks:** 16 (15 tracks + 1 pattern track)
- **Songs:** 10
- **Resolution:** 1/96 of a quarter note (for internal clock), 1/24 of a quarter note (for MIDI sync)
- **Maximum simultaneous notes:** 32
- **Capacity:** approximately 27,000 notes
- **Patterns:** 99
- **Recording:** realtime/step/punch in

Memory:
- **Preset memory:** 128 voices, 16 multis
- **Internal memory:** 64 voices, 16 multis
- **Waveform memory:** 4 Mwords (8 Mbytes), 267 sounds
- **MDR/sample memory:** 512 kbytes (expandable to 3 Mbytes)
- **Card slots:** synthesizer data × 1, waveform data × 1
- **Disk:** 3.5" floppy disk drive (720 kbyte formatted)

Controllers:
- **Wheels:** PITCH, MODULATION 1, MODULATION 2
- **Slider:** OUTPUT 1, OUTPUT 2, DATA ENTRY
- **Knobs:** LCD contrast, click volume
- **Dial:** data entry dial
- **Panel switches:** MODE × 5, EDIT/COMPARE, COPY/SAVE, EF.BYPASS, SEQUENCER × 7, SHIFT, function × 8, EXIT, PAGE ◄►, JUMP/MARK, cursor ▼▲◄►, –1/NO, +1/YES, numeric keypad 0–9, ENTER, –, MEMORY × 4, BANK × 4, voice select × 16

Display:
- **LCD:** 240 × 64 pixels (with backlight)
- **LED:** red × 11, red/green × 21

Terminals:
- **Audio output:** OUTPUT 1 (L/1+2/MONO, R/1+2), OUTPUT 2 (L, R), PHONES
- **Controller:** BREATH, FOOT VOLUME, FOOT CONTROLLER, SUSTAIN, FOOT SWITCH
- **MIDI:** IN, OUT, THRU

Power requirements:
- **US & Canadian models:** 120V
- **General model:** 220–240V

Power consumption:
- **US & Canadian model:** 35W
- **General model:** 35W

Dimensions: 1254(W) × 407(D) × 120(H) mm (4' 1-3/8" × 1' 4" × 4-3/8")

Weight: 19.6 kg (43 lbs 3 oz)

Specifications are subject to change without notice.

For details please contact:

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