

# YAMAHA

MUSIC SYNTHESIZER

# SY35





### Dual Synthesis Systems

The SY35 incorporates two essentially different synthesis systems: AWM and FM. AWM — “Advanced Wave Memory” — is a sophisticated sampling technology that allows high-fidelity reproduction of digitally recorded “live” sound. The SY35 AWM system is particularly effective thanks to an extended waveform ROM that allows longer samples and therefore superior sound. FM is Yamaha’s proven Frequency Modulation synthesis technology which is capable of creating extraordinarily warm, vibrant simulations of actual instruments, as well as an infinite variety of original sounds. The vector synthesis system brings these two tone generation systems together in many expressive ways.

**SY35**  
MUSIC SYNTHESIZER  
DYNAMIC VECTOR SYNTHESIS

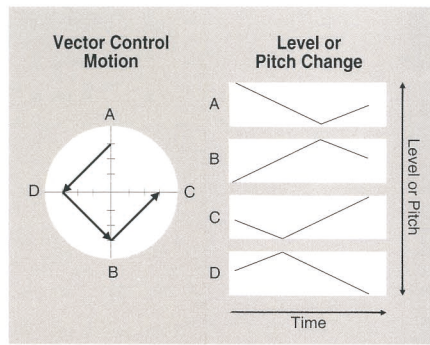
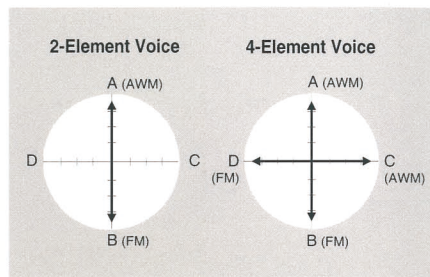
### Multi-Element Vector Voices

SY35 voices can have either a 2-element or 4-element configuration. Each “element” is actually an independent sound or “waveform.” A 2-element voice combines one AWM and one FM waveform, while a 4-element voice combines two waveforms of each type. The SY35 has 128 preset AWM waveforms and 256 preset FM waveforms that can be assigned to the appropriate elements in a voice, for an immense range of possible combinations. Vector control allows the 2 or 4 different waveforms in a voice to be blended and detuned in a variety of ways — manually or automatically.



### Vectors Control Level or Detune

The SY35 vector control can be used to control either level or detune along the vertical axis if a 2-element voice is selected, or along both the vertical and horizontal axes if a 4-element voice is selected.



Moving the control towards one element increases the level or pitch of that element while decreasing the level or pitch of the others proportionally.

This system allows an extraordinarily broad range of expressive effects, from subtle blending of several similar sounds to wild sweeps and bends between widely contrasting tones.

### In-depth or Instant Voice Editing

There’s actually more to SY35 voices than just vectors. You have a wide range of programming parameters with which you can shape the individual elements in a voice to precisely match your musical requirements. You can, for example, program complex amplitude envelopes for each element from scratch, choose from a range of preset generic envelopes that can later be edited for fine control, or simply use the original envelopes that are included with each of the SY35’s 384 internal waveforms. A range of other voice editing parameters give you extensive control if you want to get serious about programming.

The SY35 is also designed to make creating new voices simple and fun. Innovative random element selection and vector generation functions can help you to create

outstanding new voices with almost no programming at all. Global editing functions like attack and release parameters that simultaneously bias the attack and release rates of all element envelopes also contribute to fast, easy voice creation.

Your original voices can be stored in any of 64 internal user memory locations, or on convenient external Yamaha memory cards that plug into the SY35’s rear-panel CARD slot.

### Dynamic Vectors

Real-time manual vector control means unprecedented expressive freedom, while dynamic vectors that play automatically whenever you play a note on the keyboard can give your music a new dimension of life and animation. Anything you can do manually with the vector control can be recorded as a dynamic vector. “Recording” a dynamic vector is as simple as selecting the level or detune vector record function and playing the vector in real time. If you want to go into more detail, a number of editing functions let you fine tune your dynamic vectors to achieve precisely the sound you want.

### 128 Ready-to-play Voices

Although programming your own vector voices isn’t difficult, Yamaha has provided a range of 128 superb preset voices that you can play right away with no programming — 64 in permanent ROM memory and 64 in the SY35’s editable internal memory. Most feature dynamic vectors that give them an extraordinary sense of life and motion — but you can also use the vector control to inject a good dose of original expression into your music.

### Multi-timbre Mode and Built-in Drums

In addition to its normal voice play mode, the SY35 features a “Multi mode that can be used to play several voices simultaneously via the SY35 keyboard, or create a range of exotic split keyboard effects. The Multi mode is also ideal if you want to control the SY35 from an external MIDI sequencer, since 8 different voices can be assigned to 8 different MIDI channels. The SY35 includes 16 preset Multi setups and 16 memory locations for your own creations — including voice-to-channel assignments, individual voice volume, note shift, tuning, and effects. The SY35 even supplies a complete drum and percussion kit in the form of a single voice, so you don’t need an external drum machine.

### Drum Voice Names

Key	Wave Name	Key	Wave Name
C6	MetalHi	A4	Bottle
B5	HighTimpani	G4	HighWhistle
A5	LowTimpani	F4	LowCuica
G5	Slim 2	E4	LowAgogo
F5	Coin	D4	Claves
D#5	HighScratch	C4	FingerSnap
C#5	LowScratch	B3	Tambourine
B4	MetalCrash	A3	HighTimbales
A4	Cowbell 2	G3	HumanAttackLo
G#4	Bamboo	F3	HighConga
F#4	LowWhistle	E3	LowConga
D#4	HighAgogo	D3	Cup
C#4	Claves	C3	CrashCymbal
A#3	HighTimbales	B2	HH Open
G#3	HumanAttackHi	A2	HH Close
F#3	Mute Conga	G2	Cowbell 1
A#2	Gong	F2	Tom 4
G#2	Shaker	E2	SD 3
F#2	Claps	D2	Tom 3
D#2	Rimshot	C2	Tom 2
C#2	SD2	B1	Tom 1
A#1	CrossStick	A1	BD 3
G#1	BD 2	G1	E.Tom 4
F#1	E.Tom 3	F1	E.Tom 2
D#1	Analog HH Open	E1	E.Tom 1
C#1	Analog HH Close	D1	SD 1
		C1	BD 1

### Stereo Output

The SY35’s stereo outputs are behind more than just a few stereo effects. Since each element in any voice can be panned to any position in the stereo sound field, you can create true stereo voices that will add a new dimension to your sound.

### Built-in Effects Add Essential Ambience

Yamaha is already firmly established as the leader in digital signal processing for professional music and production applications. The SY35 gives you a healthy helping of this ambience-enhancing capability built in. You have direct access to 16 effect programs including reverb, delay, early reflection, and distortion, to give your sound the extra impact it deserves.

### Effect Programs

1	Rev Hall (Reverb Hall)
2	Rev Room (Reverb Room)
3	Rev Plate (Reverb Plate)
4	Rev Club (Reverb Club)
5	Rev Metal (Reverb Metal)
6	Delay 1 (Short Single Delay)
7	Delay 2 (Long Delay)
8	Delay 3 (Long Delay)
9	Doubler (Doubler)
10	Ping-Pong (Ping Pong Delay)
11	Pan Ref (Panned Reflections)
12	Early Ref (Early Reflections)
13	Gate Rev (Gated Reverb)
14	Dly & Rev 1 (Delay & Reverb 1)
15	Dly & Rev 2 (Delay & Reverb 2)
16	Dist & Rev (Distortion & Reverb)

### Other Features

- Complete MIDI implementation including programmable receive channel, device number, local keyboard control, and bulk dump functions.
- Large, bright 7-segment LED voice/multi number display is easy to read even in low stage or studio lighting.
- 16-character x 2-line backlit LCD display is easy on the eyes.
- Master volume control and headphone jack.
- Built-in demo playback feature.

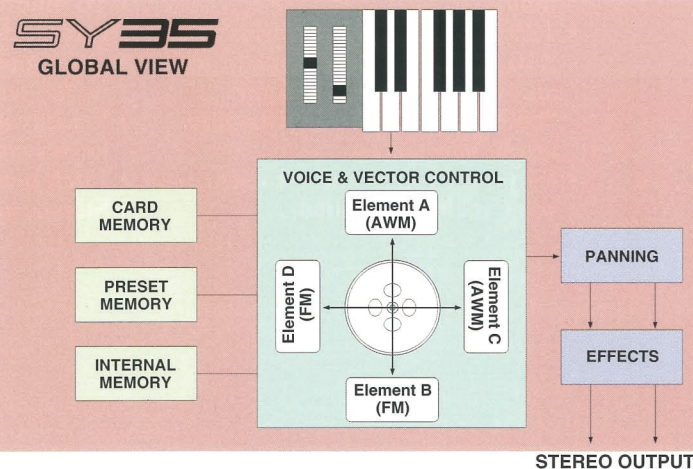
### WAVEFORM LIST

#### Preset AWM Waveforms

0	Piano	20	Gut	40	Cello	60	Sweep	80	Siam	100	Digital4	120	SEQ2
1	E. Piano	21	Steel	41	Pizz.	61	HumanAtk	81	Tp. Body	101	Digital5	121	SEQ3
2	Clavi	22	E. Gtr1	42	SynStr	62	Noise1	82	Tb. Body	102	Saw1	122	SEQ4
3	Cembalo	23	E. Gtr2	43	Choir	63	Noise2	83	HornBody	103	Saw2	123	SEQ5
4	Celesta	24	MuteGtr	44	Itopia	64	PopstHit	84	Fl. Body	104	Saw3	124	SEQ6
5	P. Organ	25	Star	45	Choir pa	65	NoisPad1	85	Str. Body	105	Saw4	125	SEQ7
6	E. Organ1	26	Pluck1	46	Vibes	66	NoisPad2	86	AirBlown	106	Square1	126	SEQ8
7	E. Organ2	27	Pluck2	47	Marimba	67	NoisPad3	87	Reverse1	107	Square2	127	DrumSet
8	Bandneon	28	Wood B 1	48	Bells	68	Coin	88	Reverse2	108	Square3		
9	Trumpet	29	Wood B 2	49	Timpani	69	Crash	89	Reverse3	109	Square4		
10	MuteTrp	30	E. Bass1	50	Tom	70	Bottle	90	EP vv	110	Plusc1		
11	Trombone	31	E. Bass2	51	E. Tom	71	BottleOpn	91	Organ vv	111	Plusc2		
12	Flugel	32	E. Bass3	52	Cuica	72	Cracker	92	M. Tp vv	112	Plusc3		
13	FrHorn	33	E. Bass4	53	Whistle	73	Scratch	93	Gtr vv	113	Plusc4		
14	BrasEns	34	Slap	54	ThumbStr	74	Metal 1	94	Str vv 1	114	Plusc5		
15	SynBras	35	Fretless	55	SynPad	75	Metal 2	95	Str vv 2	115	Plusc6		
16	Flute	36	SynBass1	56	Harmonic	76	Metal 3	96	Pad vv	116	Tri		
17	Clarnet	37	SynBass2	57	SynLead1	77	Metal 4	97	Digital1	117	Sin8*		
18	Oboe	38	Strings	58	SynLead2	78	Wood	98	Digital2	118	Sin8* +4*		
19	Sax	39	Vn. Ens.	59	BellMix	79	Bamboo	99	Digital3	119	SEQ1		

#### Preset FM Waveforms

0	E.Piano1	27	Brass 14	54	Bass 1	81	Bells 5	108	Sus. 11	135	Decay 11	162	Digi 2
1	E.Piano2	28	Wood 1	55	Bass 2	82	Bells 6	109	Sus. 12	136	Decay 12	163	Digi 3
2	E.Piano3	29	Wood 2	56	Bass 3	83	Bells 7	110	Sus. 13	137	Decay 13	164	Digi 4
3	E.Piano4	30	Wood 3	57	Bass 4	84	Bells 8	111	Sus. 14	138	Decay 14	165	Digi 5
4	E.Piano5	31	Wood 4	58	Bass 5	85	Metal 1	112	Sus. 15	139	Decay 15	166	Digi 6
5	E.Piano6	32	Wood 5	59	Bass 6	86	Metal 2	113	Attack 1	140	Decay 16	167	Digi 7
6	E.Piano7	33	Wood 6	60	Bass 7	87	Metal 3	114	Attack 2	141	Decay 17	168	Digi 8
7	E.Organ2	34	Wood 7	61	Bass 8	88	Metal 4	115	Attack 3	142	Decay 18	169	Digi 9
8	E.Organ3	35	Wood 8	62	Bass 9	89	Metal 5	116	Attack 4	143	SFX 1	170	Digi 10
9	E.Organ4	36	Reed 1	63	Str 1	90	Metal 6	117	Attack 5	144	SFX 2	171	Digi 11
10	E.Organ5	37	Reed 2	64	Str 2	91	Lead 1	118	Move 1	145	SFX 3	172	wave1-1
11	E.Organ6	38	Reed 3	65	Str 3	92	Lead 2	119	Move 2	146	SFX 4	173	wave1-2
12	E.Organ7	39	Reed 4	66	Str 4	93	Lead 3	120	Move 3	147	SFX 5	174	wave1-3
13	E.Organ8	40	Reed 5	67	Str 5	94	Lead 4	121	Move 4	148	SFX 6	175	wave2-1
14	Brass 1	41	Reed 6	68	Str 6	95	Lead 5	122	Move 5	149	SFX 7	176	wave2-2
15	Brass 2	42	Clavi 1	69	Str 7	96	Lead 6	123	Move 6	150	Sin 16'	177	wave2-3
16	Brass 3	43	Clavi 2	70	Vibes 1	97	Lead 7	124	Move 7	151	Sin 8'	...	...
17	Brass 4	44	Clavi 3	71	Vibes 2	98	Sus. 1	125	Decay 1	152	Sin 4'	...	...
18	Brass 5	45	Clavi 4	72	Vibes 3	99	Sus. 2	126	Decay 2	153	Sin2 2/3	...	...
19	Brass 6	46	Guitar 1	73	Vibes 4	100	Sus. 3	127	Decay 3	154	Sin 2'	...	...
20	Brass 7	47	Guitar 2	74	Marimba1	101	Sus. 4	128	Decay 4	155	Saw 1	...	...
21	Brass 8	48	Guitar 3	75	Marimba2	102	Sus. 5	129	Decay 5	156	Saw 2	250	wave27-1
22	Brass 9	49	Guitar 4	76	Marimba3	103	Sus. 6	130	Decay 6	157	Square	251	wave27-2
23	Brass 10	50	Guitar 5	77	Bells 1	104	Sus. 7	131	Decay 7	158	LFCnoise	252	wave27-3
24	Brass 11	51	Guitar 6	78	Bells 2	105	Sus. 8	132	Decay 8	159	Noise 1	253	wave28
25	Brass 12	52	Guitar 7	79	Bells 3	106	Sus. 9	133	Decay 9	160	Noise 2	254	wave29
26	Brass 13	53	Guitar 8	80	Bells 4	107	Sus. 10	134	Decay 10	161	Digi 1	255	wave30







## VOICE LIST

### Preset (ROM) Voices

11	AP:Rock	21	EP*Tine	31	BR:Trmpt	41	ST*Arco1	51	BA:Wood	61	WN:Sax	71	PL:Gypsy	81	CH*Pure
12	AP:Clasic	22	EP:Light	32	BR:Mute	42	ST:Arco2	52	BA:Frtls	62	WN:Flute	72	PL:Folk	82	CH*Itopy
13	AP*Chors	23	EP:Old	33	BR:Tromb	43	ST*Cello	53	BA*Slap	63	WN:Clari	73	PL*Wide	83	CH*Uhh—
14	AP:Honky	24	EP*Malet	34	BR:Flugl	44	ST*SlwAt	54	BA:Fingr	64	WN:Oboe	74	PL*Mute	84	CH*Angel
15	AP:Soft	25	KY*Clav1	35	BR:FrHrn	45	ST*Pizz	55	BA:Pick	65	WN*PanFl	75	PL:Rock	85	CH:Bell
16	AP*Pi&St	26	KY:Clav2	36	BR*Sect1	46	ST*Trem1	56	BA:Synth	66	WN*SaxEm	76	PL*Dist	86	CH*Snow
17	AP:Blend	27	KY:Celst	37	BR*Sect2	47	ST*OrchB	57	BA*Tchno	67	WN*Ensmb	77	PL:Chrng	87	CH*Vcodr
18	AP*Bell	28	KY:Hrpsi	38	BR*Fanfr	48	ST*OrchS	58	BA*Groov	68	WN*Orch	78	PL:Sitar	88	CH*Marin

### Internal (RAM) Voices

11	SP*Warm	21	SC*Dgcrd	31	SL*Saw	41	OR:Tango	51	BR*Punch	61	SE*Hit	71	ME*Wide!	81	PC:Vibe
12	SP*Resnc	22	SC*Elgnt	32	SL:Square	42	OR:Paris	52	BR*Power	62	SE*Start	72	ME*Drama	82	PC*Marim
13	SP*Full!	23	SC*sFz<	33	SL*Sync	43	OR*Rock1	53	BR*Fat	63	SE*Who?	73	ME*SleSg	83	PC:M.Box
14	SP*Bell	24	SC*Bell	34	SL*Power	44	OR*Rock2	54	BR*Lite	64	SE*Open	74	ME*Grand	84	PC:Timp
15	SP*Filtr	25	SC*Brash	35	SL*Whstl	45	OR*Rock3	55	ST*Modrn	65	SE*Emgsy	75	ME*Tafn	85	PC*Batl
16	SP*Deep	26	SC:Water	36	SL*2VCO	46	OR*Cat	56	ST*Soft	66	SE*Elect	76	ME*Tzone	86	PC*Human
17	SP*Fog	27	SC:Sand	37	SL*Fat	47	OR*Big	57	ST*Mild	67	SE*GoUp!	77	ME*Dyna	87	DR*Auto
18	SP*Space	28	SC:Reso	38	SL*AnaSy	48	OR*Combo	58	ST:Lite	68	SE*and>?	78	ME*Memry	88	DR:Kit

#### Notes:

SP = Synth Pad  
SL = Synth Lead  
ME = Musical Effect  
SC = Synth Comp  
SE = Sound Effect  
DR = Drum Voice  
EP = Electric Piano  
AP = Acoustic Piano  
BR = Brass  
OR = Organ  
KY = Keyboards  
WN = Winds  
BA = Bases  
ST = Strings  
PL = Plucked  
CH = Choir  
PC = Percussion  
: = 2-Element Voice  
\* = 4-Element Voice

## SPECIFICATIONS

### Keyboard

61 keys, initial and after-touch response.

### Tone Generators

AWM (Advanced Wave Memory) & FM (Frequency Modulation).

### Internal Memory

Wave ROM: 128 preset AWM & 256 preset FM waveforms.

Preset Voice ROM: 64 preset voices.

Internal Voice RAM: 64 user voices.

Preset Multi ROM: 16 Multi setups.

Internal Multi RAM: 16 Multi setups.

### External Memory

Voice & Multi data: MCD64 or MCD32 memory cards — write & read.

### Play Modes

Voice, Multi.

### DSP Effects

16 effect types

### Displays

16-character x 2-line backlit LCD.

7-segment 2-digit LED display.

### Controls

VOLUME, VECTOR CONTROL, PITCH BEND, MODULATION.

### Keys & Switches

POWER; VECTOR PLAY ON/OFF, LEVEL/DETUNE; PAGE < and >; MODE VOICE and MULTI; -1/NO and +1/YES; EDIT/UTILITY/COMPARE; STORE; INTERNAL, CARD, PRESET; BANK 1—8 (VOICE COMMON and VECTOR; ELEMENT TONE and ENVELOPE; MULTI; UTILITY RECALL, SETUP and MIDI); NUMBER/MULTI PART SELECT 1—8 (ELEMENT SELECT A—D, ELEMENT ON/OFF A—D).

### Connectors

DC 10V-12V IN; PHONES; OUTPUT L/Mono & R, FOOT VOLUME, SUSTAIN.

### MIDI Connectors

IN, OUT, THRU.

### Power Requirements/Consumption

DC 10—12V/7W  
(with PA3 AC adapter)

### Dimensions (W x D x H)

976 x 285 x 93 mm  
(3' 2-3/8" x 11-1/4" x 3-5/8")

### Weight

6.8 kg (15 lbs)

All specifications subject to change without notice.

## Optional Memory Cards



MCD32



MCD64

Yamaha MCD32 and MCD64 Memory Cards are light and compact, providing convenient external storage for your original SY35 voices and multi-play setups.