YAMAHA

V50

DIGITAL SYNTHESIZER

V50—all-arou nd music power!

The V50 brings all the essentials of music power into a compact, affordable package; everything you need for creating, controlling, and performing music.

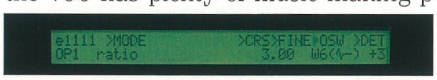
With the V50 supporting your musical creativity, main functions are just a push of a button away; accessable right when you need them. Rhythms, sounds, and songs can be created and modified smoothly, as your inspiration flows.

The V50 puts an entire studio in a single unit—music power fully under your control.

- Eight-timbre 16-note polyphonic FM synthesizer
- 61-note velocity and pressure sensitive keyboard
- DSP (digital signal processor) unit with reverb and other editable effects
- 8 track 16,000 note sequencer with note, measure, and track editing
- Rhythm machine with 61 PCM sampled sounds
- 3.5" 720 Kbyte floppy disk drive with MDR capability
- 40-character 2-line backlit LCD

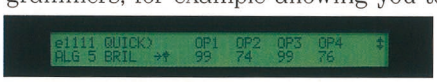
Synthesizer section

The eight-timbral 16 note polyphonic synthesizer section of the V50 has plenty of music-making power.



Each note uses 4-operator 8-waveform FM synthesis technology, for dynamite sounds even with just a single voice—there's no need to cut your polyphonic capabilities in half just to get a good sound. And up to 300 voices can be available for instant selection; 100 presets, 100 user memories, and 100 more in an optional RAM card.

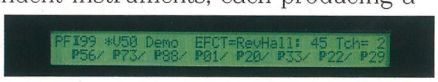
Programming your own voices is easier than ever before, with a Quick Edit feature that lets you make overall adjustments in brilliance, volume, attack time, or release time. The large LCD will be especially appreciated by serious programmers, for example allowing you to simultaneously view



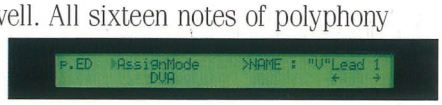
all EG parameters for an operator.

Since V50 voice data is upwards compatible with the DX11 and TX81Z, you can take advantage of the thousands of voices already existing for these instruments. Plus, new parameters such as an extended ultra-low operator frequency range, and negative keyboard level scaling have been added, for even more versatility.

Performance mode is where you assign the V50 to act as up to 8 independent instruments, each producing a different sound and being controlled



from its own area of the keyboard (or by a different MIDI channel). This allows you to program some amazing voice stacks and splits as well. All sixteen notes of polyphony are dynamically allocated, so voices not

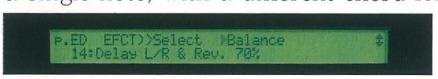


being played by one instrument are available for the other instruments to use—meaning that you'll hear every note of even those big two-handed chords, and your lavish orchestrations will be played just the way you want them.

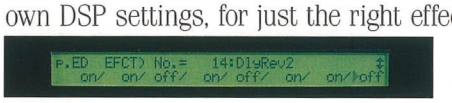
Specified instruments in a performance can use one of the 13 micro tune scales. Eleven scales

such as Mean Tone, Werckmeister and Pythagorean are preset, and two user-definable scales are also provided. You can play historical or non-western music using the scale it was intended for, or perform your own experiments in micro-tonality.

One of three types of performance effect can be selected for use in a performance memory. Pan allows you to periodically shift the sound between left and right, as determined by an LFO, note velocity, or note pitch. Transposed delay adds delayed and transposed notes to a note, with control over delay, transposition, and feedback. Chord set assigns a four-note chord to be sounded by a single note, with a different chord for each of twelve notes.



The built-in DSP (digital signal processor) utilizes the same type of circuitry that made Yamaha's studio signal processors famous. Thirty-two types of effect are provided, including reverb, delay, early reflection, distortion, multi-effect combination programs, and even two types of digital equalizer. You have total control over individual DSP parameters like reverb time, delay, room size, and LPF. Each voice memory can be given its own DSP settings, for just the right effect. In addition, the



DSP can be applied to specified instruments in a performance memory.

PRESET VOICES

00	Strings 1	25	MellowBrs	50	FolkGtr 1	75	IceBell
01	PowerBrass	26	FloatBrass	51	FolkGtr 2	76	SpaceBell
02	MetalSpace	27	Trumpet	52	E.Guitar 1	77	Sunbeam
03	Piano	28	Trombone	53	E.Guitar 2	78	BreathHit
04	E.Piano	29	Sax	54	Guitar	79	Suspense
05	ClinkDecay	30	Strings 2	55	FingerBs	80	Wire 1
06	SoftCloud	31	Strings 3	56	SynBass 2	81	Whasp
07	Metalimba	32	BrightStrg	57	SynBass 3	82	Sandarimba
08	PanFlute	33	WideString	58	FretlessB.	83	Cosmic
09	SynBass 1	34	SoftString	59	UpriteBass	84	Elegant
10	E.Piano 2A	35	Strings 4	60	Flute	85	HuskeyOrg.
11	E.Piano 2B	36	ClassicStr	61	Oboe	86	Wire 2
12	PianoAtck	37	Strg+Chime	62	Clarinet	87	Wire 3
13	Organ 1	38	CelloEns.	63	Violin	88	Wire 4
14	Organ 2	39	Pizzicato	64	Cello	89	Bells
15	Vibe	40	Ensemble 1	65	Whistle	90	SteelDrum
16	Marimba	41	DayBreak	66	Recorder	91	ShrineBell
17	Celeste	42	FluteVoice	67	Harmonica1	92	SofTimpani
18	Clavi	43	AngelChoir	68	Harmonica2	93	OilDrum
19	LargePipes	44	Ensemble 2	69	Harp	94	HandBells
20	SolidBrs	45	PEGvoice	70	AnalogLead	95	Strike 1
21	LowCutBrs	46	Ensemble 3	71	Dist.Lead	96	Strike 2
22	HiPeakBrs	47	WoodEns.	72	MetalAtck	97	Space
23	AttackBrs	48	Universe	73	WoodThump	98	Woosh
24	SoftLead	49	Forest	74	PuffPanFlt	99	Thunder

PRESET PERFORMANCES

00	"V"Lead 1	13	12stGuitar	26	VibeEp	39	FloatChime	52	TakeOff	65	SoftBrass	78	Explosion	91	Metal 4
01	PopsBrass1	14	"V"Bass 1	27	PopsBrass2	40	Ensemble 1	53	GrowVoice	66	Ensemble 2	79	Ac.Guitar	92	OilDrum
02	BalladEp	15	PuffBrass	28	SaxSection	41	PanBells	54	Harp	67	"V"Bass 4	80	Valley	93	DragonHit
03	Piano	16	Cotton	29	Waahz	42	BigBand	55	Ep+Strings	68	TaikoBells	81	Metal 3	94	*Pops
04	E.Organ 1	17	Sunbeam	30	Mystery	43	AttackBass	56	"V"Brass 3	69	WirePiano	82	HolloWood	95	*Funk
05	"V"Brass 1	18	Metal 1	31	Fanfare	44	"V"Lead 3	57	"V"Brass 4	70	Clavi	83	Fugue	96	*Rock
06	"V"Brass 2	19	SpaceBells	32	DeepBell	45	"V"Lead 4	58	PanFlute	71	Stakkato	84	DistLead	97	*Jazz
07	Resonance	20	HeavyMetal	33	Universe	46	SeqMarimba	59	Huskey	72	Harmonica	85	Ensemble 3	98	*Latin
08	"V"String1	21	Chorus	34	Clinkimba	47	Bells 1	60	E.Guitar	73	PuffLead	86	Tinqule	99	*V50 Demo
09	"V"String2	22	"V"Lead 2	35	Meteor	48	Bells 2	61	VibePiano	74	Bs/Brass	87	Tropical		
10	Pizzicato	23	MildBrass	36	Strings 1	49	Scatter 1	62	"V"Bass 3	75	Bs/E.Piano	88	Elegant		
11	SaxLead	24	E.Organ 2	37	"V"Bass 2	50	Scatter 2	63	Strings 2	76	Bs/Wire	89	SteelPiano		
12	WarmStrgs	25	Sequence	38	"DX"Ep	51	W-limba	64	Metal 2	77	Bs/MuteTp.	90	Ensemble 4		

Rhythm instruments can be played from the V50's velocity sensitive keyboard (using one of the three preset or two user-edited setups), or from rhythm patterns in a rhythm song. A rhythm pattern is from one to four measures long, and can use a time signature of 1/4—8/4, 1/8—16/8, or 1/16—32/16. 100 preset rhythm patterns are provided, and 100 of your own patterns can also be stored. You can create your own rhythm patterns by realtime recording (with looping and selectable quantize), or using step recording with a graphic display of pattern note position. Individual notes of individual instruments in a pattern can have their own accent setting, which can be edited freely. Functions are also provided to clear instruments from a pattern.

These patterns can be arranged to form a rhythm song of up to 999 parts. In addition to patterns, a song can contain begin and end repeat marks with a specified number of repetitions (nested if desired). Tempo changes can be inserted, and allow you to specify the time required for the change, making smooth accelerandos or ritardandos.

Rhythm section

The V50's rhythm machine utilizes 61 PCM recorded samples, ranging from traditional drum kit instruments to gated drums, timpani, latin percussion, glass crash, and other special effects. Up to eight of these rhythm sounds can be played at once, and each of the 61 sounds has its own independent settings for volume, pan, and MIDI note number. The DSP can also be applied to rhythm sounds.

Volume changes can also be inserted, and by inserting marks into a rhythm song, you can instantly jump to seven different locations, such as a specific chorus or coda.

Rhythm song editing functions allow you to insert, delete and copy parts, and also give a name to the song. Up to eight separate rhythm songs can be held in memory, and played back together with the sequencer songs.

RHYTHM VOICES

BD 1	GateSD	F. Tom4	Crash	Timb1H	Ago HI
BD 2	E. SD	E. Tom1	FMprc1	Timb1L	Ago LO
BD 3	Rim 1	E. Tom2	FMprc2	Whst1S	Tambrn
H. BD	Rim 2	E. Tom3	FMprc3	Whst1L	Claves
GateBD	Tom 1	E. Tom4	GlsCsh	CgaHMT	Cstnt
E. BD	Tom 2	HHclos	BellTr	CgaHOP	VbrSlp
SD 1	Tom 3	HHopen	TimpnH	Cga LO	
SD 2	Tom 4	HH1/4o	TimpnL	Bgo HI	
PiclSD	F. Tom1	HHpd1	Claps	Bgo LO	
H. SD 1	F. Tom2	Ride	Shaker	CuicaH	
H. SD 2	F. Tom3	Edge	Cowbel	CuicaL	

Sequencer section

The eight-track sequencer is the perfect sketch pad for your musical ideas, or can function as the control center that drives a live performance. The memory will hold approximately 16,000 notes in eight separate songs for instant selection and playback, ensuring that tightly-paced stage sets will be smooth and trouble-free.

Realtime recording captures notes just as you play them, and records aftertouch, pitch bend, modulation wheel, and program changes as well. In realtime recording, you have a choice of Replace or Overdub modes. Punch-in recording allows you to re-record selected measures instead of redoing an entire track. Minor mistakes can also be corrected using the step recording mode, which gives you a graphic display of individual note positions and lengths, and shows program changes as well. Step recording mode also allows you to record complex parts or chords that would be impossible for human hands to play. Simply press a note length button and play a key. The note will be entered at the cursor position. Editing notes is just as easy.

A wide variety of sequence editing operations makes it easy to put a song together. Tracks can be mixed down or quantized, and specified measures can be deleted or inserted from all tracks. Measures in a track can be copied, erased, or removed (with the option of removing only specified controllers, pitch bend, or aftertouch data).

Since each track of the sequencer has its own transmit channel setting, you can control external MIDI tone generator modules and synthesizers in addition to the V50's own tone generator. The V50 sequencer can serve as the master timing source for other sequencers, or synchronize itself to an external sequencer or rhythm machine.

The V50 sequencer can use sequence data from the QX5FD/QX5 sequencers, and also from the sequencer built into the YS200/B200 (via memory card).

Utility functions

The card slot will accept commercially available ROM cards, and allows you to use an optional RAM card (MCD32 or MCD64) to store your own voice, performance, or rhythm pattern and rhythm song data for instant access.

In addition to saving and loading synthesizer, sequencer and rhythm data, the 3.5" 720 Kbyte disk drive will function as an all-purpose MIDI data recorder, allowing you to store any type of bulk data on disk.

A full complement of MIDI functions makes the V50 an ideal master controller for any setup. In addition to independent settings for receive and transmit channels, local on/off allows you to disconnect the V50's keyboard from the internal tone generator. Control changes, aftertouch, and pitch bend received on a specified global channel can affect each instrument in a performance memory, for compatibility with advanced devices such as MIDI guitar controllers. A program change table lets you specify which voices or performances will be selected in response to incoming program change messages.

MIDI transmission capabilities are equally advanced, and you can assign the front panel data entry slider to transmit any MIDI control change. Eight different velocity response curves can be selected (including reverse velocity), allowing you to adjust keyboard sensitivity to respond to fit your playing style, and you can also set a fixed value to be transmitted regardless of playing velocity.

V50

DIGITAL SYNTHESIZER

SPECIFICATIONS

● Synthesizer section

Keyboard:	61-note (C1—C6), velocity and pressure sensitive
Tone generators:	4-operator 8-algorithm FM, 8 selectable waveforms
Polyphony:	16 notes maximum simultaneous, last note priority, 8-voice multi-timbral
Internal memory:	100 internal voices 100 preset voices 100 internal performances 100 preset performances 12 (3 types × 4 each) performance effects (delay, pan, chord) 2 micro tuning (octave, full) program change table system setup

● Sequencer section

Tracks:	8 (maximum 16 note polyphony/track, maximum 32 note total polyphony for all tracks)
Songs:	8
Resolution:	192th note (internal clock) 96th note (MIDI clock) 32nd note (step record)
Internal memory:	64Kbyte (approximately 16,000 notes)

● Rhythm section

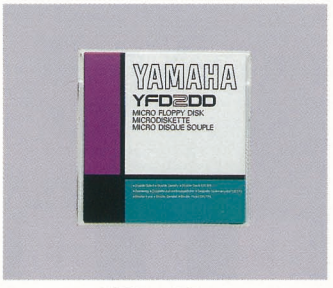
Tone generation:	PCM
Polyphony:	8 notes
Internal memory:	100 preset patterns 100 internal patterns

● Other

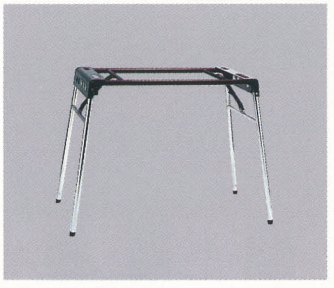
Digital effects:	32 types (parameters programmable for each voice and performance)
Terminals:	OUTPUT L/MONO, OUTPUT R, VOLUME, FC, FS, START/STOP, MIDI IN, OUT, THRU, BREATH CONTROL, PHONES
Display:	40 character 2 line, backlit
Power consumption:	25 W
Power requirements:	USA and Canadian model; 120 V 60 Hz General model; 220—240 V 50 Hz
Dimensions (W × D × H):	1002 mm × 326 × 98 mm (39-1/2" × 12-7/8" × 3-7/8")
Weight:	11.2 Kg (24 lbs 11 oz)

OPTIONAL ACCESSORIES

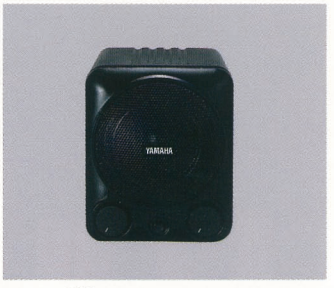
MCD 32, MCD 64
Memory Card



YFD 2DD
Floppy Disk



LG100
Keyboard stand



KS10
Keyboard Speaker

Specifications subject to change without notice.

For details please contact:

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