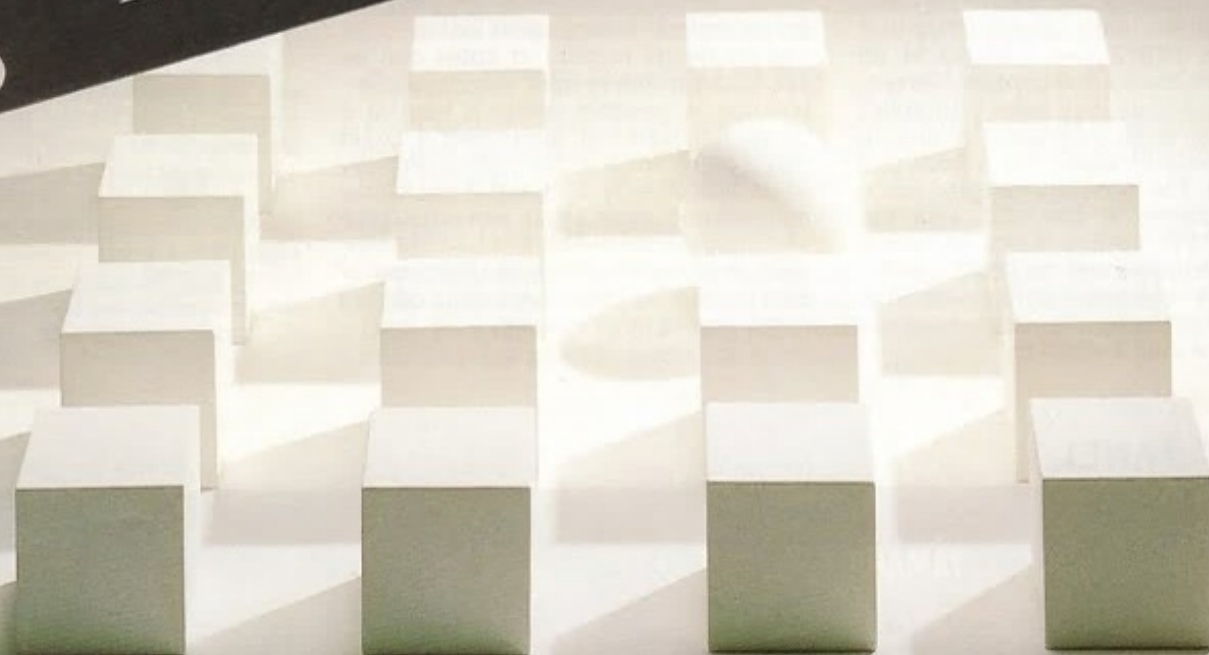


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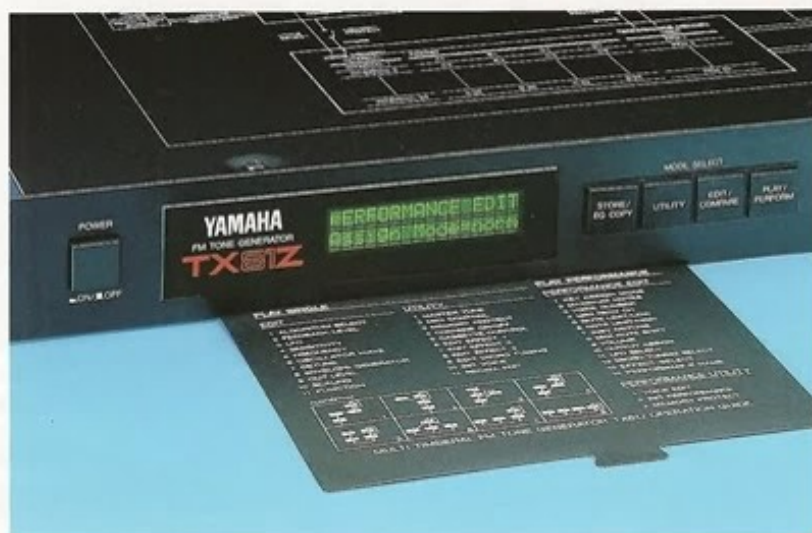
TX81Z

FM TONE GENERATOR





# TX81Z MULTI-TIMBRAL FM TONE GENERATOR



Announcing eight of the most sophisticated tone generators Yamaha has ever produced — in one package. The TX81Z is an 8-note polyphonic tone generator that can act as up to 8 independent instruments. You can use it as a simple expansion tone generator to add an additional voice to your MIDI keyboard, or with a sequence recorder to playback multi-part compositions, responding to MIDI messages on up to 8 independent channels. The 24 performance memories can each be programmed to an entirely different setup, and the note limits, MIDI reception channels, voice numbers, detune, and volume settings for each instrument can be changed instantly.

The TX81Z uses the same FM synthesis technology that made the Yamaha DX series famous, giving you an infinite spectrum ranging from natural, touch responsive "acoustic-sounding" voices to outrageous sound effects. While voice data is compatible with the DX21/27/100, a newly developed tone generator LSI provides even high-

er quality sound, using high-resolution envelope generators to eliminate digital noise. New voice parameters such as simulated Reverb and EG Shift have been added, and for the first time ever, you can do FM synthesis using non-sinewave operators. All voice parameters can be programmed from the front panel; no external programmers or computers are necessary.

The functions are sophisticated, but operation is simple. A two-line 16 character LCD (reversed for high visibility in dim light) tells you everything you need, and the pull-out operation guide is always available for quick reference. Whether you're a live performer or a studio composer, the TX81Z is a highly developed tool that will open up new possibilities.

## PLAY SINGLE

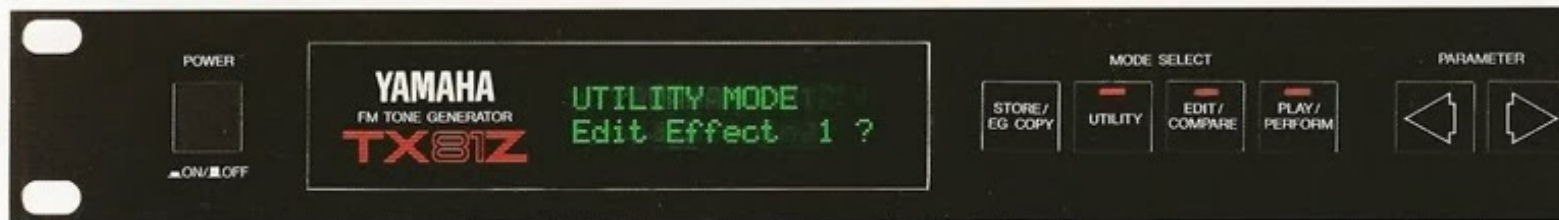
Play Single mode allows you to play one voice at a time, using chords of up to 8 notes. The TX81Z has 5 banks of 32 voices each. Banks A-D contain 128 factory preset voices, and bank I (Internal) has 32 user voice memories for storing edited presets of totally new voices that you create. The currently selected voice name is shown in the LCD. Use the PARAMETER select keys to move through the banks and the DATA ENTRY keys to select voices 1-32. You can also select voices using the program select switches on your keyboard.

## PLAY PERFORMANCE

Performance Mode allows the TX81Z to act as several independent instruments. The maximum number of notes can be set for each instrument, and any combination is possible within a total of 8 notes. For instance, instrument 1 could play a piano voice with 5-note polyphony while instruments 2, 3 and 4 each play monophonic parts. You can also take advantage of the Note Limit functions for each instrument to create any type of split or doubled effect even when playing notes on one MIDI channel.

Performance name	1	2	3	4	5	6	7	8
Instrument	Normal/Alternate							
Assign Mode								
Max Notes	00-01							
Voice No.	001-032							
Receive Ch.	1-16, auto							
Limit/L	00-08							
Limit/R	00-08							
Inpt Detune	-7 - +7							
Note Split	-24 - +24							
Volume	00-99							
Out Assign	left 1, 2, 1 (1)							
LFO Select	left 1, 2, vib							
Micro Tune Select	off/on	off/on	off/on	off/on	off/on	off/on	off/on	off/on
Effect Select	off/Delay/Pan/Chord							

## FRONT PANEL





## PROGRAM CHANGE TABLE

The TX81Z memory contains a Program Change Table that lets you specify which TX81Z voice (banks I, A-D) or performance memory (1-24) is to be selected in response to each MIDI program change (1-128). This is very handy for concerts, since you can set the desired voices to be selected consecutively without rearranging the actual voices in memory. If the Program Change Table contains a performance number, the entire setup of the TX81Z (independent settings for all 8 instruments) can be changed by pressing one switch on your keyboard.

## ALTERNATIVE SCALES

Incoming Note On messages can be routed through one of the 13 Micro Tune Tables (2 user-programmable, 11 preset) to produce non-standard intonation. Eleven scales such as Mean Tone, Werckmeister, Pythagorean and Kirnberger are preset, and two memories are provided for your own scales. (One for a 12 note octave and one for the full keyboard scale.) You can use a standard MIDI keyboard to play harpsichord voices in mean-tone temperament, or play gongs and bells in authentic Balinese gamelan scales.

## THREE EFFECTS

One of the three effects can be selected for use in each performance memory. Using Pan, the sound can be periodically shifted between the two outputs, with full control over speed and direction. The Transposed Delay effect lets one note trigger a delayed, transposed note. You can set the delay time, transposition, number of repetitions and velocity of the delayed note. Chord Set assigns up to 4 notes to be sounded by a single incoming note. Twelve notes can be specified, with a different chord for each.

## VOICE EDITING



Voice data is compatible with the DX21/27/100, so you can take advantage of the hundreds of voices already programmed for these popular instruments. In addition, the TX81Z offers several new voice parameters. Oscillator Wave Select gives you a choice of 8 different waveforms to use in each operator, generating sounds more complex than were possible with previous 4-operator FM synthesizers. Fixed Frequency mode is selectable for each operator, and is useful for formants (stationary regions of frequency emphasis) or complex modulation effects. EG Shift sets the range of the envelope, and can determine a minimum ope-



erator output level even before you play a note. Reverb is another new voice parameter which simulates the lingering decay of sound in a live room by slowing the EG release rates when the operator level falls below a certain point. Voice Functions are a part of each voice memory. Poly/Mono, Pitch Bend Range, Portamento Time, and Transpose can be set for each voice. MIDI controllers on your keyboard can regulate pitch or amplitude modulation, and a Breath Controller can control two additional parameters; EG Bias and Pitch Bias, for expressive phrasing typical of a wind instrument.

## REAR PANEL



## CASSETTE SAVE/LOAD

You can use the included cable to connect a cassette data recorder for saving and loading Voice and Performance data, as well as Setup, Micro Tune and Program Change Table memories.

## MDF1 (MIDI Data Filer)

The MDF1 MIDI Data Filer is handy disk drive that can store up to 19 files of MIDI bulk data (total 60 Kbytes) on each side of an inexpensive 2.8" Quick Disk. Any type of TX81Z bulk data (voice, performance, micro tune, effects, etc.) can be quickly saved or loaded.



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## PARAMETERS

SINGLE EDIT		
<b>Algorithm</b> <b>Feedback</b> <b>Edit LFO</b> Wave Speed Delay Pitch Modulation Depth Amplitude Modulation Depth Sync <b>Sensitivity</b> Pitch Modulation Sensitivity Amplitude Modulation Sensitivity EG Bias Sensitivity Key Velocity Sensitivity <b>Edit Frequency</b> Ratio Fixed Frequency <b>Oscillator Wave</b> <b>Detune</b> <b>Edit EG</b> Attack Rate 1st Decay Rate 1st Decay Level 2nd Decay Rate Release Rate EG Shift (EG Copy) <b>Operator Output Level</b> <b>Scaling</b> Rate Scaling Level Scaling <b>Function</b> Poly Mode Pitch Bend Range Full Time/Fingered Portamento Portamento Time Foot Controller Volume Foot Controller Pitch Foot Controller Amplitude	Modulation Wheel Pitch Modulation Wheel Amplitude Breath Controller Pitch Breath Controller Amplitude Breath Controller Pitch Bias Breath Controller EG Bias Middle C Reverb Rate Voice Name <hr/> <h3 style="text-align: center;">SINGLE UTILITY</h3> <b>Master Tune</b> <b>MIDI Control</b> Receive Channel Transmit Channel Key Number Mode Program Change Control Change Aftertouch to Breath Controller Pitch Bend Exclusive Voice Transmit Performance Transmit Setup Transmit Initialize Program Change Table Edit Program Change Table <b>Memory Protect</b> <b>Combine</b> <b>Cassette Control</b> Save 32 Voice Verify 32 Voice Load 32 Voice Load 1 Voice Save 24 Perform Verify 24 Perform Load 24 Perform Load 1 Perform Save Setup Verify Setup Load Setup	<b>Edit Effect 1 (Delay)</b> Delay Time Pitch Shift Feedback Effect Level <b>Edit Effect 2 (Pan)</b> Select Direction Range <b>Edit Effect 3 (Chord)</b> <b>Micro Tune</b> Edit Octave Initialize Octave Edit Full Kbd Initialize Full Kbd <b>Initialize Voice</b> <b>Recall Edit</b>
		PERFORMANCE EDIT
		<b>Assign Mode</b> Maximum Notes Voice Number Receive Channel Limit/L Limit/H Detune Note Shift Volume Output Assign LFO Select Micro Tune Effect Select Performance Name
		PERFORMANCE UTILITY
		<b>Voice Edit</b> Initialize Performance

## PRESET VOICES

### PRESET VOICES

Bank A	Bank B	Bank C	Bank D
1 GrandPiano	1 Trumpet81Z	1 NylonGuit	1 BaadBreath
2 Uprt Piano	2 Full Brass	2 Guitar #1	2 VocalNets
3 Deep Grd	3 FlugelHorn	3 TwelveStrg	3 KrstlChoir
4 HonkeyTonk	4 ChorusBras	4 Punky Pick	4 Metalimba
5 Elec Grand	5 FrenchHorn	5 AllThatJaz	5 WaterGlass
6 Fuzz Piano	6 AttackBrass	6 HeavyMetal	6 BowedBell
7 SkoolPiano	7 SpitBoneBC	7 Old Banjo	7 >>WOW<<
8 Thump Pno	8 Horns BC	8 Zither	8 Fuzzy Koto
9 LoTine81Z	9 NelloTenor	9 ElecBass 1	9 Spc Midiot
10 HiTine81Z	10 RaspAlto	10 SncrBass	10 Gurgle
11 ElectroPno	11 Flute	11 SynFunkBas	11 Hole in 1
12 NewElectro	12 Pan Floot	12 ElecBass 2	12 Birds
13 DynamiteEP	13 Bassoon	13 AnalogBass	13 MalibuNite
14 DynoWurlie	14 Oboe	14 Jaco Bass	14 Helicopter
15 Wood Piano	15 Clarinet	15 LatelyBass	15 Flight Sim
16 Reed Piano	16 Harmonica	16 MonophBass	16 Brthbells
17 PercOrgan	17 DoubleBass	17 StadiumSol	17 Storm Wind
18 16 8 4 2 F	18 BowCello	18 TrumpSolo	18 Alarm Call
19 PumpOrgan	19 BoxCello	19 BCSexyPhon	19 Racing Car
20 (<6 Tease)	20 SoloViolin	20 Lyrissy	20 Whistling
21 Farchezza	21 HiString 1	21 WarmSquare	21 Space Talk
22 Small Pipe	22 LowString	22 Sync Lead	22 Space Vibe
23 Big Church	23 Pizzicato	23 MellowSqar	23 Timpani
24 AnalogOrgn	24 Harp	24 Jazz Flute	24 FM Hi-Hats
25 Thin Clav	25 ReverbStrg	25 HeavyLead	25 Bass Drum
26 EZ Clav	26 SynString	26 Java Jive	26 Tube Bells
27 Fuzz Clavi	27 Voices	27 Xylophone	27 Noise Shot
28 LiteHarpsi	28 HarmoPad	28 GreatVibes	28 Snare 1
29 RichHarpsi	29 PanfarTpts	29 Sitar	29 Snare 2
30 Celeste	30 HiString 2	30 Bell Pad	30 Hand Drum
31 BriteCelst	31 PercFlute	31 PlasticHit	31 Synballs
32 Squeezebox	32 BreathOrgn	32 DigiAnnie	32 Efem Toms

## SPECIFICATIONS

<b>Switches</b>	POWER, STORE/EG COPY, UTILITY, EDIT/COMPARE, PLAY/PERFORM, PARAMETER UP, PARAMETER DOWN, DEC, INC, CURSOR LEFT, CURSOR RIGHT, CURSOR
<b>Display</b>	16 character x 2 row backlit LCD
<b>Terminals</b>	CASSETTE, MIDI THRU, MIDI OUT, MIDI IN, OUTPUT I/II, PHONES
<b>Power Requirements</b>	(US and Canadian model) AC 110-120V, 50/60 HZ (general model) AC 220-240V, 50/60 HZ
<b>Power Consumption</b>	8 W
<b>Dimensions (WxDxH)</b>	480 x 282 x 45.2 mm (18-15/16" x 11-1/8" x 1-3/4")
<b>Weight</b>	3.4 kg (7 lbs. 8 oz.)

SINCE 1887



# YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN