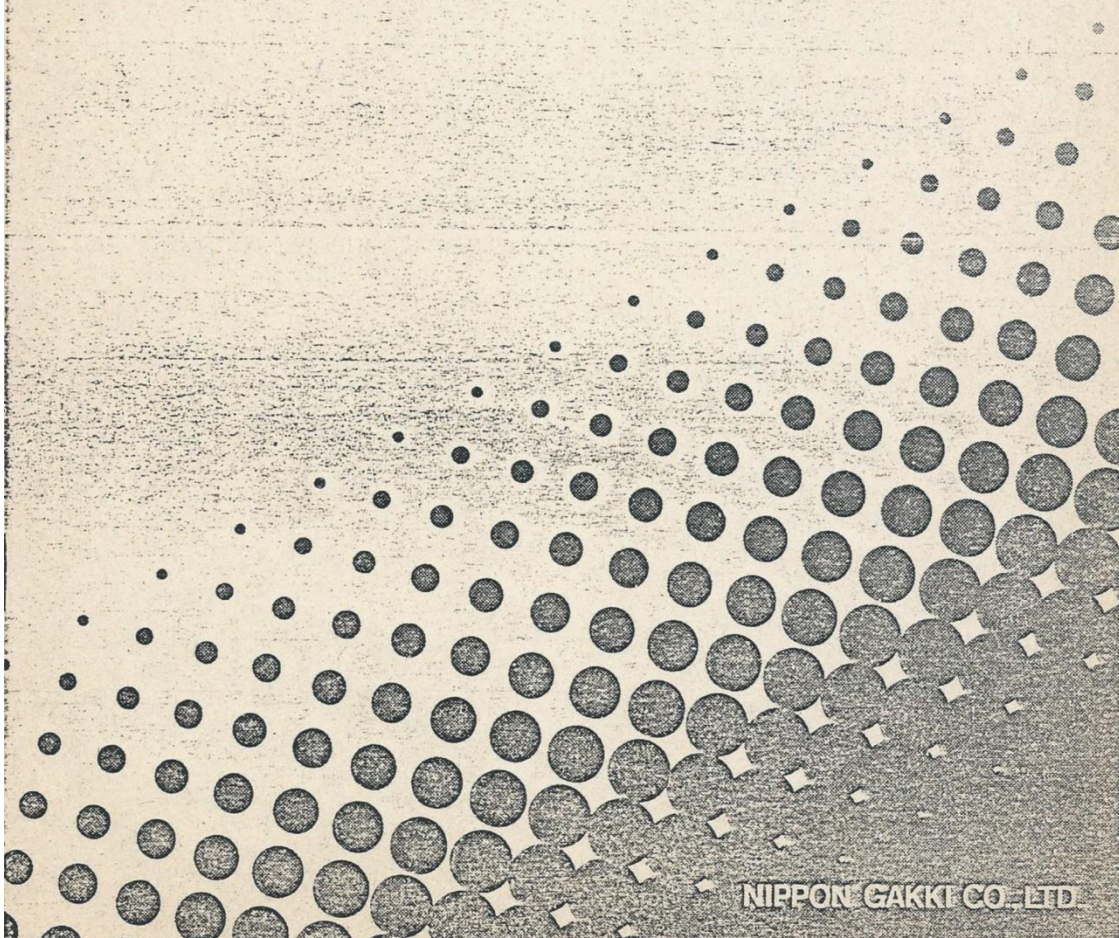# YAMAHA
FM Sound
Synthesizer Unit

SFG-01 FMサウンドシンセサイザーユニット 取扱説明書

FM SOUND SYNTHESIZER UNIT

INTRODUCTION

Features of FM sound synthesizer unit SFG-01

(1) FM sound generator is used to obtain a professional quality musical sound which is equivalent to YAMAHA DX series FM degital synthesizer.

(2) It is a 8 note polyphnic synthesizer and is capable of playing 8 different sounds simultaneously.

(23) Various subroutines are installed to easily operate FM sound generator.

(4) 48 preset sound data (two of which are assigned for voice synthesis.)

(5) MIDI is equipped so communication with a MIDI standard musicaxl instruments is possible.

(6) Enjoy the following fuctions by using an optional music keyboard YK-01.

  - Keyboard split function is possible at any arbitrary note and ply thxe music keyboard as two different keyboard.

  - Rhythm and auto-bass- chord are built in for easy play.

  - Record/playback function to record and reproduce your oun performance using RAM area.
                                                                      quality
  - LFO, portament, sustain,atc. are provided for professional/degital music synthesizer.

(7) Voice synthesis at BASIC level is possible by using optional "XFM music macro" program.

(8) Following application software are available from your MSX dealer;

  - YAMAHA FM MUSIC MACRKO YRM-Q11 is an extended BASIC to utilize FM sound synthesizer unit at BASIC ixbxx level. Voice synthesis data is also included.

  - YAMAHA FM VOICING PROGRAKM YRM-12 is used to obtain a wide variety of sound synthesis with your FM sound synthesizxxer in order to convert MSX onto the xx desxgital music instrument.

  - YAMAHA FM MUSIC COMPOSER YRM-15 is a music editing program to fill in your music on your CRT screen and auto play the music withouxt playing keyboard.

Before using your FM SOUND SYNTHESIZER
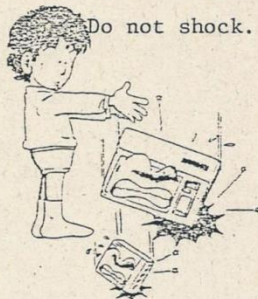please be careful about the following.

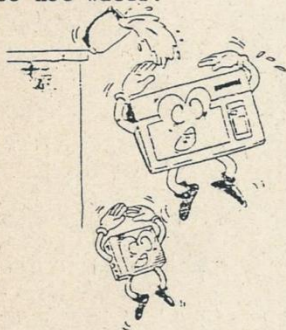In case of mulfunction
please unplug AC consent.
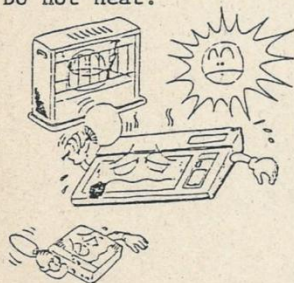
Do not disassemble.

Do not shock.

Do not water.

Do not touch or soil
exposed connectors.
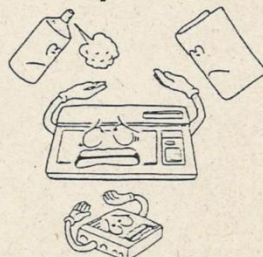
Please unplug AC
consent when under
severe thunderstorm.

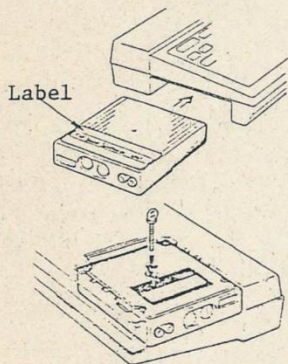Do not heat.

Do not expose to an exessive
humidity or dust.

Do not splay or
wipe with chemicals.

(WARNING) WHEN MOUNTING OR DISMOUNTING FROM MSX PLEASE TURN THE POWER OFF
TO THE MSX. DO NOT TOUCH THE EXPOSED INTERNAL PARTS BY HANDS.

coin

side slot cover
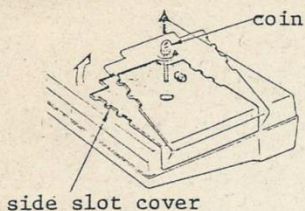
Label

(1) Remove the screw fixing the
    side slot cover.

(2) Remove the side slot cover.

(3) Insert the FM SOUND SYNTHESIZER UNIT
    to the side slot.
    (NOTE) HOLD SO THE LABEL COMES TO TOP
    AND INSERT FIRMLY.

(4) Tighten the side slot cover screw
    again.
    (NOTE) IT IS IMPORTANT TO TIGHTEN THIS
    SCREW IN ORDER TO AVOID TROUBLES.

CONNECTION OF FM SOUND SYNTHESIZER

MIDI connectors

Audio output jacks

Music keyboard
connector

Music keyboard
(YK-01)

Degital synthesizers
DX-7,DX-9 etc.

Portable
Stereos

Keyboard amplifier

Stereos
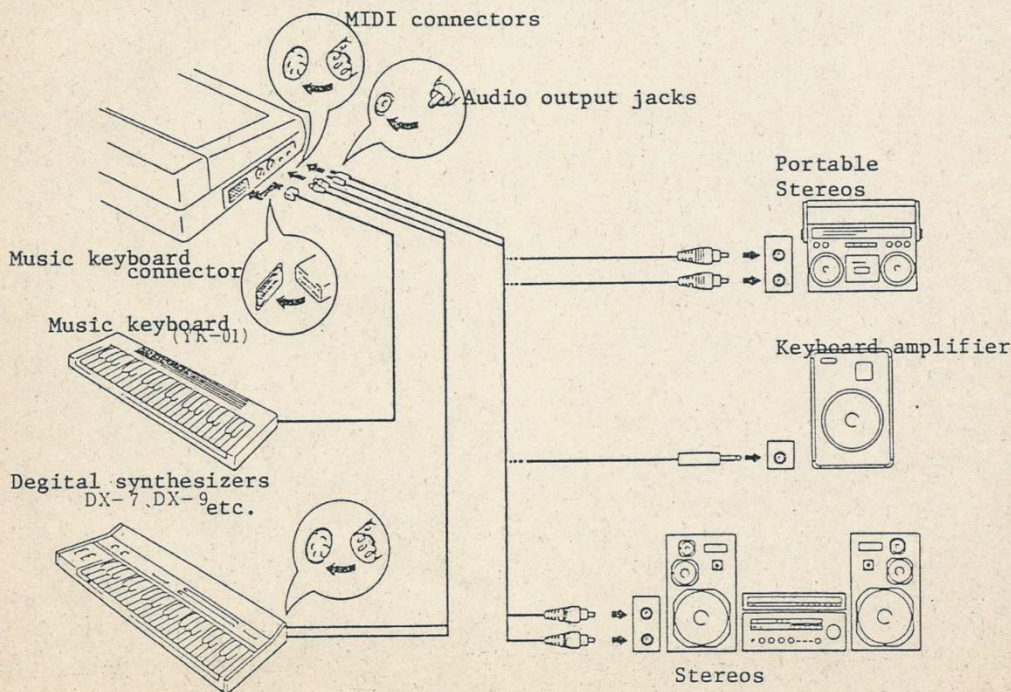
MUSIC KEYBOARD FUNCTION

The FM SOUND SYNTHESIZER UNIT includes a music keyboard function that, with a symply
connecting an optional music keyboard YK-01, it can play as a degital music synthesizer.

(1) Keyboard split function to separate a keyboard at an arbitrary point and two
    different sound can play simultaneously. One sound is monophonic and the other
    is polyphonic.

    - Each sound can be assigned to either higher or lower portion of music keyboard.

    - Either portion can be played as either monophonic or polyphonic.

    - All keyboard can be played as either monophonic or polyphonic.

    - You can add a portament and/or trigger function to monophonic sound.

    - The maximumm of 7 notes can be played with polyphonic mode if both rhythm and
      auto-bass-chord are not used. Sustain function is available to polyphonic
      sound.

    - LFO functions on both polyphonic and monophonic sound to obtain vibrato or
      tremolo effect.

(2) Rhuthm and auto-bass-chord function is built in for easy operation.
    Each rhysm, bass and chord section is independently switched on and off.

(3) Your own performance can be recorded and reproduced from MSX memory.
    It alsio can be saved to the cassett data recorder.

(4) Using YAMAHA FM VOICING PROGRAM any arbitrary sound synthesxis is possible for
    your custom design sound.

(5) Using MIDI you can play along with DX-7 or DX-9 FM degital synthesizer.

Note;

There are two method to play with your FM sound synthesizer unit.

(1) Using TV momnitor built-in speaker.....

    FM and MSX sounds are mixed together internally and can be played thræough the
    TV speaker. You can only connect the video and audio output cable to your monitor
    TV.
    In case the home xTV is used via RF moduxlator, just connect the audio and video
    cables to RF modulator and connect RF output cable to your TV antenna inæput
    terminal.

(2) Using NxKK HiFi stereo amplifier and speaker......

                                              external
    You will obtain real professional quality sound by using/power amplifier and
    xxkæxnai speaker. Please connect the stereo power amplifier to R/L output connector
    on your FM sound synthesizer unit.
    Each sound can be located either to the right or to the left or centered by using
    "FM voicing program" software. All preset tones are centered, in x a meantime.

(WARNING)
   Due to wide dynamic ᵢ range of FM SOUND SYNTHESIZER~~UNIT~~ UNIT, when TV monitor
speaker is used for audio out, the tone may reach the saturation point. Should
it be the case please decrease the output level of in the FM sound synthesizer
unit.

It is advisorble to use stereo amplifier and speakers or ᵃkeyboard speakers
for a better listning tonal quality.

<u>MUSIC KEYBOARD FUNCTION</u>

<u>How to operate the music keyboard function</u>

1. Turn the MSX power on.

2. MSX will show now that it is in BASIC mode.

3. Type in CALL MUSIC then <u>return</u>.

4. Now MSX is in FM music synthesizer mode.

                MSX BASIC version 1.0
                Copyright 1983 by Microsoft
                12345 bytes free
                Ok
                call music RET

Selection of sound, rhythm, etc. will be done on MSX keyboard. If you desire to
select sound or rhythm cursor( ) has to be moved the appropriate portion on the
screen. When power to the MSX initially is turned on, cursor indicates top left
portion (POLY) and stays at VOIC(E) selection.

Cursor can be moved back and forth with <u>return</u> or <u>BS</u> key.

        <u>RET</u>   key to move cursor to the next selection on the screen.

        <u>BS</u>   key to move cursor back to the preceding selection.

Screen is devided into 5 blocks. Function key will move cursor to top first
selection of each block.

        <u>F1</u>   POLY

        <u>F2</u>   RHYTHM

        <u>F3</u>   LFO

        <u>F4</u>   MONO

        <u>F5</u>   BALANCE

If the cursor has moved to one block another press of the function key (same
as originally pressed to move the cursor in to the block) will move the
cursor within the block. For example, if cursor is on TEMPO in the RHYTHM block
and F2 key is pressed for the second time then cursor moves to CHOR RM. BASS
and then to BASS R1. BASS then goes back to NAME (16 BEAT) and so forth.

Cursor movement key is uset to change the argument of each selection.

        $\rightarrow$ Fine adjustment(+)

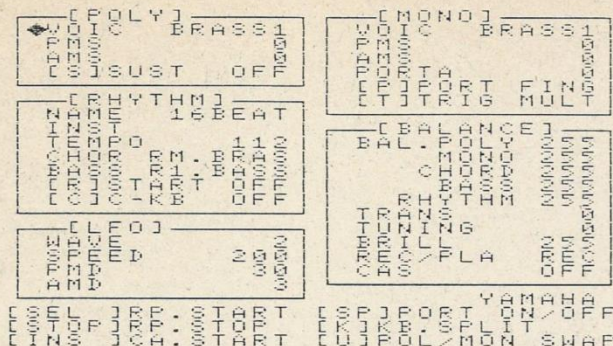 $\leftarrow$ Fine adjustment(-)

$\uparrow$ Coarse adjustment(+)

$\downarrow$ Coarse adjustment(−)

HOME key is used to change any argument the cursor is indicating to its default value or function.

Sustain or Portament mode will be changed by simply pressing sertain key. For example S is pressed to obtain or eliminate a sustain effect.

SCREEN DESCRIPTION

( ) shows its default value

SECTION1

POLY : Polyphonic section

VOIC	:Voice selection	(BRASS 1)
PMS	:Pitch modulation sensitivity	(0)
AMS	:Amplitude modulation sensitivity	(0)
(S) SUST	:Sustain on/off switch	(off)

SECTION2

RHYTHM : Rhythm and auto-bass-chord selection

NAME	:Rhythm pattern selection	(16 BEATS)
INST	:Instruments selection (rhythm, bass and chord)	
TEMPO	:Rhythm tempo control	(128)
CHORD	:Chord sound selection	(RM.BRASS)
BASS	:BASS sound selection	(R1.BASS)
(R) START	:Rhythm start/stop	
(C) C-KB	:Auto bass chord mode	

SECTION3

LFO : Low frequency oscillator section

WAVE	:LFO wavefor selection	(0)
SPEED	:LFO frequenfcy adjustment	(0)
PMD	:Pitch modulation depth	(0)
AMD	:amplitude modulation depth	(0)

SECTION4

MONO   :Monophonic section

        VOIC   :Voice selection   (BRASS 1)
        PMS   :Pitch modulation sensitivity   (0)
        AMS   :Amplitude modulation sensitivity (0)
    (P)PORTA   :PORTAMENTO mode select   (FING)
    (t)TRIG   :TRIGGER mode select   (MULT)

SECTION5

BALANCE :Volume balance, etc.

        BAL. POLY : Polyphonic part volume control   (255)
             MONO : Monophonic part volume control   (255)
             CHORD: Chord part volume control   (255)
             BASS : Bass part volume control   (255)
             RHYTHM:Rhythm paxrt volume control   (255)
        TRANS   :Key transpose   (0)
        Tuning   :Fine tuning   (0)
        Brill   :Brilliance control   (255)
        REC/PLA :Recording and playback selection (REC)
        CAS   :Saving to cassett data recorder (off)

(SEL)RP.START   : Recording/playback start button
(STOP)RP.STOP   : Recording/playback stop button
(INS)CA.START   : Cassett data recorder start button
(SP)PORT ON/OFF : Portament on/off
(K)KB.SPLIT   : Keyboard split initialize
(U)POL/MONO SWAP : Swap poli and mono part of keyboard