Casio FZ System Exclusive Messages for Effect parameters

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This text describes the System Exclusive messages that alters the effects parameters in the Casio FZ samplers. Please report any errors in this text to me. I will be happy to add any additional information about these System Exclusive messages to this document.

Contents

1. Overview

The Casio FZ can send and receive System Exclusive (SysEx) messages that alters the effects parameters. The parameters can be altered one by one from a computer or another Casio FZ. Parameters not editable from the menus in the Casio FZ can be edited, see below.

2. Preparations

A computer with a MIDI interface installed and a Casio FZ (or two Casio FZ:s) connected with each other. This is a "one way" communication so the MIDI connection requred is MIDI OUT on the computer (or a Casio FZ) to MIDI IN on the Casio FZ.

Note: It seems that these SysEx messages are received by the Casio FZ almost regardless of where you are in the FZ operating system. You do not have to set the Casio FZ in any special mode, for example DUMP DEV = MIDI.

3. System Exclusive messages

The SysEx messages have the structure (shown in hexadecimal):

[F0][44][02][00][7n][78][en][ev][F7]

[7n] : n is the MIDI channel where 0 = Channel 1, 1 = Channel 2...
[en] : effect parameter number
[ev] : value of effect parameter

The table below describes the values of [en]. All values are in hexadecimal form. [ev] can have values between 0 to 7F (127 decimal) unless otherwise noted.

Parameter	[en]	Comment
Bend Range	00	Valid values for [ev] = 00,08,10,18,20,28,30,38,40,48,50,58,60.
Master Volume	01	See Note 1and Note 2.
Sustain On/Off	02	Valid values for [ev] = 00,01. See Note 1 and Note 2.
LFO DCO	03	Modulation wheel
LFO DCA	04	Modulation wheel
LFO DCF	05	Modulation wheel
LFO Resonance	06	Modulation wheel. See Note 2.
DCA Level	07	Modulation wheel
DCF Level	08	Modulation wheel
Resonance Value	09	Modulation wheel. See Note 2.
LFO DCO	0A	Foot VR
LFO DCA	0B	Foot VR

LFO DCF	0C	Foot VR
LFO Resonance	0D	Foot VR. See Note 2.
DCA Level	0E	Foot VR
DCF Level	0F	Foot VR
Resonance Value	10	Foot VR. See Note 2.
LFO DCO	11	After Touch
LFO DCA	12	After Touch
LFO DCF	13	After Touch
LFO Resonance	14	After Touch. See Note 2.
DCA Level	15	After Touch
DCF Level	16	After Touch
Resonance Value	17	After Touch. See Note 2.

Values 18 to 7F for [en] are undefined.

Note 1: Seems to have no effect what so ever.

Note 2: Can not be edited from the Casio FZ. A computer must be used.

The communication runs "one way", that is, no reply is expected from the Casio FZ the SysEx message was sent to.

4. File Formats

The effects settings are stored in FZF and FZE files created by programs like FZ Dump or FZ File Transfer Utility. A description of the file formats can be found in the documentation for FZ Dump. Information about the effects settings are stored starting at 960 (decimal) bytes into the file. Here is the layout of the data in a C language format:

```
struct fz_fx_params {
    short bend;         /* Bend depth     00*/
    short mvol;         /* Master volume  01*/
    short suss;         /* Sustain switch ON/OFF 02*/
                        /* Modulation wheel */
    short mod_lfo;      /* lfo osc        03*/
    short mod_lfa;      /* lfo dca        04*/
    short mod_lff;      /* lfo dcf        05*/
    short mod_lfq;      /* lfo resonance  06*/
    short mod_dca;      /* dca level      07*/
    short mod_dcf;      /* dcf level      08*/
    short mod_dcq;      /* resonance level  09*/
                        /*Foot VR */
    short fot_lfo;      /* lfo osc        0A*/
    short fot_lfa;      /* lfo dca        0B*/
    short fot_lff;      /* lfo dcf        0C*/
    short fot_lfq;      /* lfo resonance  0D*/
    short fot_dca;      /* dca level      0E*/
    short fot_dcf;      /* dcf level      0F*/
    short fot_dcq;      /* resonance level  10*/
                        /* After Touch */
    short aft_lfo;      /* lfo osc        11*/
    short aft_lfa;      /* lfo dca        12*/
    short aft_lff;      /* lfo dcf        13*/
    short aft_lfq;      /* lfo resonance  14*/
    short aft_dca;      /* dca level      15*/
    short aft_dcf;      /* dcf level      16*/
    short aft_dcq;      /* resonance level  17 */
```

```
};
```

short = A binary value stored in one byte

5. Disclaimer

This information is provided AS IS. Use it on your own risk. If this information causes any physical, mental or material harm to anyone or anything using it, I can not be held responsible!