NOTES TO MIDI control system

Giorgio Morricone, Zindaco Del Bono

MIDI (Musical Instrument Digital Interface) is a

SYNTEC 7 (Music System Device Number 7) is a

music control system with MIDI interface.

It is a MIDI (Music System) sub-system/2:10 version realized by Giorgio Morricone at

The version of the system was realized at

ILR in 1985. It is primarily employed for

music compositions and electronic digital audio

processing research (Fig. 1).

Any MIDI 7 is a sub-system compatible with

MIDI but can be used in a completely independent way.

Hardware configuration is based on a

special purpose 80286 compatible, a

IBM/DOS interface and at least one synthesizer;

AROMA interface (Fig. 2).

It is possible to control a maximum of

8 synthesizers. Actual realization is

designed for a fully utilization of IBM

features, but it may be equipped with

any other kind of keyboard and/or controller.

MIDI/DOS interface has been designed by

Liliput Del Bono at ILR labs, in 1985.

It allows transmission/reception data according to

MIDI standard from a personal computer IBM compatible.

Software structure includes a main program

and a set of modules, each of them realizing

a particular function (Fig. 3).

Each interface is a "menu driven" type by

means of windows that concurrently appear on the
display surface.

Two levels of scores are considered as

symbolic and an operative level. Files at

these levels have the extensions .MUS and

.MCH respectively.

Operating level is structured to allow

on-line editing by means of a real time

graphic editor (Edit 7)

A symbolic score can be generated by any

their editor or by an under written composi-
tional process.

Data module (MIDI 7) complete score edit-
ting, compilation, performance and printing.

- FASE 7: pre-compiles a symbolic score
- JACO 7: completes compilation of a

MIDI score
- KNOX: graphic editor; it works on an

operative score and can also perform and

synthesize it.
- MATT: performs an operative score
- FRAM: makes a graphic print-out of a

score.

MIDI

This graphic editor allows data input from

computer keyboard control, a "printing de-

vice" of a mouse or MIDI interfaced musical

keyboard.

The score is displayed in the twoHWND

areas: pitch and time.

Pitch range is continuous and time units are

seconds.

A flashing cursor allows input of an

event or its location in a given instant at the

right position.

Parameters related to a single event are

displayed in numerical note that can be modi-

fied at any time (Fig. 4, right bottom).

Parameters define an event according to

MIDI standard:

- Pitch
- Key velocity
- MIDI channel number.

In Figure 5, are shown two minutes of G91,

a composition by Giorgio Morricone realized

in 1985.

Window width can be modified giving a zoom

effect; in Figure 5 are shown 30 seconds of

the same score executed from 150 sec.

to 70 sec.

Ends include number of functions that allow

capture, overlapping and insertion of

scores modules.

Each module can be independently in pitch of

and number of repetitions and modified in

duration.

Scores can be joined by overlapped allow-

ning partial scores editing and final

linking.
Score execution or part of it is possible at any time. Metronome can be varied in real time. Editing, file and execution modes windows are shown in Figure 6 together with main menus.

Some compositions are:
- Grid, by Giorgio Nottoli
- Store, by Nicola Gent
- Lote, by Germa Tambugi,
here lead realized with this system connected to a Yamaha DX7 synthesizer.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

ICMC 86 Proceedings