

ANKLUNG

programmed by Paul Kriwaczek

This version of **ANKLUNG** has five "**Players**", all driven by the same **Main Program Clock**, allowing for up to five-note polyphony.

Each **Player** can generate a tune: a monophonic pattern of notes, repeated over a shorter or longer period, and output through any installed Windows MIDI driver.

Getting Started

The simplest way to start is to think of each **Player** as divided into four regions: top left, top right, lower left, lower right.

Stage 1: Set one or more of the righthand scrollbars in the top right region. This will generate a simple pattern.

Stage 2: Set one or more of the lefthand scrollbars in the top left region. Now set one or more of the righthand scrollbars in the lower right region. This will generate a more complex pattern.

Stage 3: Keeping at least one of the lefthand scrollbars in the top left region, move one or more into the lower left region. This will create the most complex patterns of all.

Stage 4: Press the **Beat** button and uncheck some of the checkboxes. This will make the same pattern of notes more irregular in time. Select a **Tempo**, an octave and a mode.

THE MAIN CONTROLS

Each **Player** consists of a **Counter** and a **Shift Register**, to which are connected a **Note Selector** and a **Parity Generator**. (See Chamberlin's original description in **THE_MUSE.WRI**. And **THE_MUSE.TIF** for visual reference).

The **Counter** has 9 outputs including always **OFF** and always **ON**; each is labelled with the number of the divider connected to that output. Thus **C2** divides the **Main Program Clock** by 2, **C4** divides it by four, **C8** by 8, **C16** by 16, **C3** by 3, **C6** by 6.

The Shift Register has sixteen outputs labelled **S1** to **S16**.

The **Parity Generator** is controlled by the four scrollbars labelled **VARIATION**. When set to the **Counter outputs**, the sum of all four will be either even or odd. If the sum is even, the Parity generator will feed an input into the **Shift Register**. Setting one or more of the **VARIATION** scrollbars to the **Shift Register outputs** can make the resulting pattern which shifts through the register arbitrarily complex and difficult to predict. A visual display mode in the interface makes it possible to observe the changes.

The **Note Selector** is labelled **PATTERN**. The note is generated by connecting the four

PATTERN scrollbars to the **Counter** and **Shift Register** outputs. The scrollbars are the input to a four-bit register, able to convert them into different 16 notes.

THE BUTTONS

TEMPO

Adjusts the **Main Program Clock**. A beat is **ANKLUNG'S** unit of time. There are no subdivisions of a beat. Thus fast short notes require a high **Tempo**.

Volume

Allows for selecting the MIDI Velocity of the player's notes.

Mute

Mutes the **Player**.

Slip

Selects a number of beats by which to slide the output of the **Player** backwards or forwards relative to the other **Players**. When slipped, the contents of all counters and shift registers are first reset to zero.

Reset

Resets the **Player** to its initial condition.

PAUSE

Toggles the entire **ANKLUNG** to stop and start. When paused, **Counters** and **Shift Registers** retain their contents, ready for restarting.

Channel

Selects the MIDI Channel through which to output the **Player's** notes. The **Player** may also be set to send its output to another **Player**, offsetting the second **Player's** note by the amount of the first **Player's** note.

Rhythm

Allows for selected clock ticks in a repetitive pattern to be missed by the **Player**. Uncheck the checkboxes representing the beats to be missed. The pattern may be made of groups of 3, of 4, of 5, of 7, or of 11. The marks above the checkboxes are to help with counting the groups.

Pitch

Adjusts the output of the **Note Selector** up or down by an selectable number of semitones.

Octave

The **Player** begins with its base note C = 440Hz. This is the **Alto** voice. **Soprano** is up one octave, **Tenor** down two and **Bass** octave is down by three.

Mode

The **Note Generator** outputs a series of numbers. These are converted to whichever scale is set in **Mode**. Major (Ionian), Dorian (with two flats), Phrygian (four flats), Lydian (one sharp), Mixolydian (one flat), Aeolian (three flats), Locrian (five flats) and Melodic Minor are available.

Voice

Selects a synthesizer voice for the **Player**. A MIDI Change Program message is sent at the time of changing **Voice** and also whenever a configuration is loaded from file.

THE OPTIONS MENU

Collect in MIDI File

When the **Start** button is pushed, the collecting of notes into the file begins. Thus a particular moment in the sequence may be selected as the beginning. When the **Stop** button is pushed, the user is asked to give a name to the resulting MIDI file. The **ANKLUNG** may be paused while collecting a MIDI file, allowing the configuration to be changed. When the machine is restarted, MIDI collection continues after a seamless join.

Visual Display

Presents the user with a visual display of the state of the **Counter** and of the **Shift Register**. This is one of the most helpful features. The **Visual Display** can select which **Player's** setting to show.

Print Configuration

Produces a printout of all the settings of each player on the currently selected Windows default printer.

OTHER MENUS

The **File** and **Windows** menus contain the usual facilities.