General
MFB's URZWERG PRO is an analogue step-sequencer. It allows controlling synthesizers using CV/Gate and MIDI. The unit offers 32 steps in four rows. Either can these be used for two sequences with 16 steps each or for four sequences with 8 steps each, including variations that use shorter sequence lengths. Accordingly, URZWERG PRO allows addressing up to four monophonic synthesizers. Using MIDI, the unit allows creating polyphonic sequences with up to four voices. Alternatively, or even in parallel, control over sound shaping parameters using CV and MIDI-controllers is possible.

Set-up and connections
Connect the external power-supply to the **Power** jack. Use **CV1** to **CV4** and **Gate1** to **Gate**4 to connect the CV- and Gate-inputs of analogue synthesizers, filters and modular synthesis components. At the same time, you may connect a synthesizer to **MIDI Out**. **MIDI IN** serves to connect an external tempo-source (e.g. a drum-machine) or a MIDI-keyboard. To switch URZWERG PRO on and off, press **On/Off** on the unit's rear.

CV-Settings
The CV-outputs range from approximately 1 to 10 volts. This range can be limited to allow advanced control over step adjustments. Use **Range12** to limit the range for sequence rows 1+2 and **Range34** to adjust rows 3+4. The output CV-level and therefore the resulting pitch or the modulation values are controlled using the individual step-controls.

General control functions
Each of the 4x8 controls on URZWERG PRO's user-interface represents a step of a rhythmic pattern that sends an individual control-voltage or MIDI value. Depending on where the CV-out is connected, these voltages control pitch or other parameters of a synthesizer step by step. Step advancement is displayed using step-LEDs for each row. **Start/Stop** will start and stop the sequencer; **Tempo** sets the speed. In addition, the tempo can be continuously controlled by an external CV-voltage source using the **CV Clock** input.
When setting URZWERG PRO to work as sync-slave, start/stop functions and the tempo will be externally controlled by MIDI or gate-signals. Toggle between master- and slave-mode using the **Sync Mode** switch.

Start In/Clock In
URZWERG PRO can be synchronized to other analogue gear using its **Start In** and **Clock In** jacks. These jacks work as in- and outputs, depending on the **Sync Mode** switch setting (**Int** or **Ext)**, which defines master or slave mode.

Sequence length
Each of the four sequence rows offer a **Length** control that can be set anywhere between 1 to 8 steps. In addition, sequence rows 1+2 and 3+4 can be combined using the **Chain** switches. By this, two sequences add up for up to 16 steps in length. The step length is also variable with combined rows.

Skip-Switch/Hold-Notes
Every step-control has a corresponding skip-button to switch off the gate-signal for each step. With the LED lit, the gate-signal for the corresponding step is activated, else deactivated. Note that CV-voltages for the steps can also be sent with the gate being deactivated (see Settings).

Quantize
To create precise chromatic pitches, the CV-output can be quantized to approximately 1 to 5 volts. Use **Range12** and **Range34** controls and set a value left to center position. With values right from center position, CV-quantization is inactive. The **Quantize** switch either activates this function for sequence rows 1+2 or all four rows. In its center position, quantization is deactivated.

Glide + Autoglide
With **Autoglide** set to center, use **Glide12** and **Glide34** to specify a glide-effect for sequence rows 1+2 and 3+4. Here, values no longer change stepped but continuously. When controlling pitches, this results in a so-called Portamento. With **Autoglide** set to 1+2 or 1-4, the **Autoglide** function is enabled for the corresponding tracks. Here, the glide-effect will only affect steps where the corresponding skip-switch is deactivated. Note that active skip-switches in row 1 are also valid for row 2 when in 2x8 mode.

Gate-length
GateTime12 and **GateTime34** adjust the length for the output gate-impulse between 15 and 85 % in five steps.

Direction
The **Direction** switches set the running direction for each sequence row. Chose between forward, backwards and alternating (forth & back) modes. The fifth **Direction** switch sets the behavior in alternate mode: In mode **Incl,** the sequence will run from the first to last step and back. When changing direction, the last and first steps are repeated (which makes the sequence pattern exactly twice as long as forward and backwards modes)? Mode **Excl** skips first and last step repetitions and therefore shortens the length of the sequence. Finally, the **RND** (Random) setting plays the sequence steps randomly.

Reset/Manual Step advancement
Reset1+2 and **Reset3+4** buttons force a reset to the first step for the corresponding sequence rows. With the sequencer stopped, these buttons can be used to advance the step number manually.

Shuffle
URZWERG PRO offers two optimized shuffle-modes. With shuffle actived, the length controls will only allow even sequence lengths, to avoid unsynced sequences. Mode 1 will result in a moderate, mode 2 in a more intense shuffle-feel. Setting the switch to center position disables the shuffling.

Settings
Pressing and holding **Program**, allows using the step switches to control the following MIDI- and general features:
Row 1: MIDI-Channel 1-8; Row 2: MIDI-Channel 9-16 (only one channel to be selected)

Row 3 (only one setting possible):

1. 4 x monophonic (1st track w. selected MIDI-Channel, plus following 3 channels)
2. 4-voice-polyphonic (selected MIDI-Channel)
3. 3-voice-polyphonic / Row 4: (selected MIDI-Channel)
4. 2-voice-polyphonic / Row 3 and 4: Velocity (selected MIDI-Channel)
5. 2 x monophonic / Row 3: Velocity, Row 4: Modulation Wheel (CC#1)
6. 2 x monophonic / Row 3 and 4: Modulation Wheel (CC#1)
7. 2 x monophonic / Row 3 and 4: Velocity
8. 2 x monophonic / Row 3: Modulation Wheel (CC#1), Row 4: Velocity

Row 4 (all functions can be active simultaneously, set LED on/off to activate/deactivate):

1. OFF = gate, positive slope; ON = gate, negative slope
2. OFF = gate, 10 volts; ON = gate, 5 volts
3. OFF = held notes, ON = notes not held (row 1+2)
4. OFF = held notes; ON = notes not held (rows 3+4)

5/6 To set the quantize scaling, use buttons 5+6 in combination:
OFF/OFF= semitones; ON/OFF= whole tones
OFF/ON= pentatonic scale; ON/ON= hexatonic scale

7. OFF = darker LED base setting, ON = brighter LED base setting
8. OFF = darker step LED display, ON = bright step LED display

MIDI-Sync
URZWERG PRO can be synchronized as sync-master or sync-slave to other MIDI-compatible units. Toggle between master- and slave-mode using the **Sync Mode** switch.

Transposing sequences
Sequences can be transposed globally within a range of 2.5 octaves using a MIDI-keyboard [C1 (#36) to G3 (#67)]. Note that high transpose settings might reach the borders of your sound generating source. Separate transposing of rows 1+2 and 3+4 is only possible using inputs **CV1+2In** and **CV3+4In**.

MIDI-step-control
With the sequencer stopped, all steps can be stepped through using MIDI-note commands. Note-number A3 (#69) will step through of all four sequences, while A#3 (#70) and B3 (#71) treat rows 1+2 and 3+4 independently.
Note-numbers C4 (#72) to G4 (#79) jump to the individual step positions of all four sequences. C4 = step 1, C#4 = step 2 and so on… This works for the active MIDI-channel with all four sequence rows being addressed at the same time.
Using the next-higher MIDI-channel accesses the steps of the sequence rows independently: Sequence 1 = C1 to G1, Sequence 2 = C2 to G2, Sequence 3 = C3 to G3 and Sequence 4 = C4 to G4.

Owner’s manual

MFB-URZWERG PRO