V/2011

OrgNG1.0
- Computer-based Setzer-type Memory, Encoder, Decoder and MIDI Driver for Pipe Organ

short overview

OrgNG1.0 is a modular electronic system intended to serve electric stop and key action of a pipe organ and its console. It mediates the exchange of data between console keys and executable elements such as magnets and actuators. This also allows automation of a wide range of tasks of the action or to modify the sound substance of the instrument by adding easy-implementable transmissions and "sub"/"super" couplers. The system offers other useful features, such as the ability to record an artist's performance in MIDI file format on an external memory card, wired or wireless connections between various musical intruments or a computer and the pipe organ and so on. The system has an embedded "setzer"-type combination memory with new, helpful features, which can simplify stop-action usage. This "setzer" part can be installed separately, apart from the key action type, as it operates only in the stop-action area. Thanks to the total separation of keyboards and valves (magnets), OrgNG1.0 gives practically unlimited possibilities for modification of instrument operation just by altering and developing the CPU software.

Some of the more significant features of **OrgNG1.0**:

- ability to drive action of a pipe organ with up to 6 manuals and pedal, up to 254 stops;
- MIDI standard protocol, external transmission enhanced with checksum and carried out by differential transceivers;
- total electrical separation of keyboards and executive elements (e.g. magnets, actuators);
- the serial bus application makes it possible to significantly reduce the amount of wiring between the console (often relatively distantly positioned) and the organ's internal mechanisms to one standard "ethernet" signal cable or even to use wireless connection (significant cost and material savings in the electrical installation);
- ability to interconnect the pipe organ with other instruments and devices that are based on the widely-used MIDI standard, e.g. to integrate the organ with other custom consoles or a computer to create a hybrid instrument;
- ability to use a remote control for easy one-person pipe tuning;
- internal "setzer" memory organized by any number of series, each containing ten combinations (0-9);
- ferroelectric memory, which does not wear out, unlike commonly used flash-type memories;
- large, easily readable LCD touch screen and comfortable icon menu for setting up system parameters;
- SD-MMC or USB slot to save "setzer" memorized combinations on widely-available SD memory cards or pendrives;
- energy-saving: automated blowers shut-down after a preset time and when the console power is turned off;
- dynamic pulse-wave-modulated magnet power adjustment, which saves extra energy;
- support for adjustable-depth and adjustable-speed tremulants;
- ±6 semitone transposer;
- fully configurable crescendo;
- programmable coupler - coupling any division to any keyboard at any interval (offset in semitone resolution);
- disabling of any stop (indication by the special stop-keys highlight color);
- combination preview feature (no need to alter currently set combination when previewing the other one);
- non-volatile HR ("hand register" combination) - HR status is restored after the console is powered off and then turned on;
- ability to switch the manual order (manual numbers indicated by 7-segment LED displays placed near each manual) or to link organ divisions to particular manuals independently;
- other custom features may be implemented at the customer's request.

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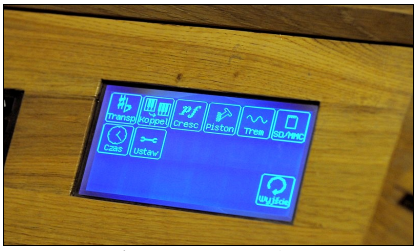
pipe organs
- electronics, automatics, modernization, maintenance

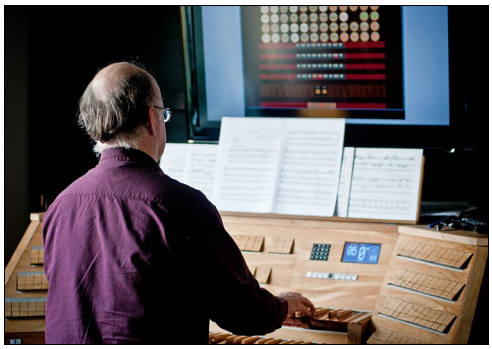
An example of an organ console
equipped with the OrgNG system:

- possibility to link four organ divisions to the keyboards in any selectable way;
- 96 stops, 27 couplers + programmable coupler;
- setzer-type memory;
- ergonomically arranged knobs and switches;
- expression I, expression II, crescendo;
- sequencer pistons, piston with selectable function

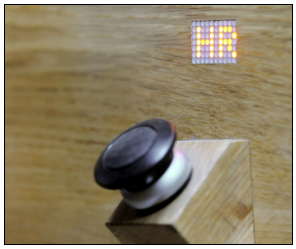
large, easy-to-read and easy-to-use OrgNG touchscreen



graphical menu to set the instrument functions and parameters



OrgNG system driving a pipe organ emulating software



piston, the function of which can be set in the menu
(currently set function is displayed)

3-manual console equipped with the OrgNG system:

- drives two separate instruments (placed in the church opposite to each other), using digital transmission;
- possibility to link several consoles in cascades (registration data will be exchanged between them);
- possibility to record music from the console and replay it on the pipe organ, using an externally connected computer

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