



NOVELORG TECHNICAL SHEET

THE NOVELORG ELECTROMECHANICAL ACTION SYSTEM

NovelOrg's new electromechanical action system can be used to either assist or completely replace the mechanical devices linking the keys of the manual with the pallets of a slider chest pipe organ. The action system accurately conveys to the pallet the organist's subtle finger movements, the same way the classic mechanical system does. Simply put, the sound produced has exactly the same nuances, because the organist has complete control.

In addition to new possibilities for building organs at lower cost, the new action system offers the organ builder greater flexibility during installation by eliminating a range of constraints, particularly with respect to manual couplings.

SOME OF THE POSSIBILITIES OFFERED BY THE NOVELORG SYSTEM

For the organ builder:

- The system facilitates the addition of a remote console to a mechanical organ and supports the traditional mechanism, thereby making the manuals lighter, much like the Barker machine.
- The system allows, without any constraint, the upgrading and the addition of all types of couplings to the traditional organ.
- The serial digital communication architecture enormously simplifies the connections to the wind chests and at the console, reducing installation and maintenance time.
- The system provides automatic compensation and calibration of keyboards and pallets.
- The system easily widens pipe use from the manuals and supports chest extensions for additional tonal divisions.
- Troubleshooting time is considerably reduced by the modularity of the electronics. No special electronics skills are required.
- Magnets provided by NovelOrg do not emit audible noise so they can be installed inside or outside the wind chest.



CHARACTERISTICS OF THE NOVELORG ACTION SYSTEM

➤ System installation

What makes NovelOrg's new electromechanical action system particularly remarkable is the astonishing ease of installation, achieved by the fact that each of the modules comprising the system requires very few connections. These connections are made by using cables with connectors at each end, which in turn are equipped with locating pins, thereby preventing connection errors. The cables are delivered pre-assembled based on the organ specifications provided by the client.

Thanks to the NovelOrg system's serial digital communication architecture, all of the organ's actuators receive the same information, which significantly simplifies their connections. The cables no longer need to be labelled and, as a result, are interchangeable, since each one transmits the same signal.

This eliminates the need to install massive quantities of wires, solder countless connections and drill a multitude of holes for wire threading or to insert and screw wires into terminals. All these methods degrade the conductor strands, which could lead to breaks in the contacts and short-circuiting. In the NovelOrg system, all connectors feature a latching system, which ensure the reliability and ruggedness of all electrical connections.

➤ System calibration

Regardless of whether the system is integrated into an organ with an existing mechanism or installed in a new organ, the NovelOrg system features an automatic calibration system that allows each magnet to adapt to the movement of the pallet. Calibration helps optimize the movement of the pallet in order to open it at the right moment and with the appropriate stroke. Calibration of the system is independent of the precise adjustment of the mechanism that is carried out during assembly.

The same principle applies to manuals. The system can be adapted perfectly to a manual linked to an existing mechanism or even to a fully detached manual. In the case of the mechanical manual, the organ builder can adjust the dead zone of each key as he sees fit, thereby allowing for electric/mechanical couplings of unparalleled precision. This adjustment is carried out directly on the manual using the keys and requires no mechanical adjustment. As for the calibration of detached manuals, it is also possible to adjust a common dead zone for all keys.

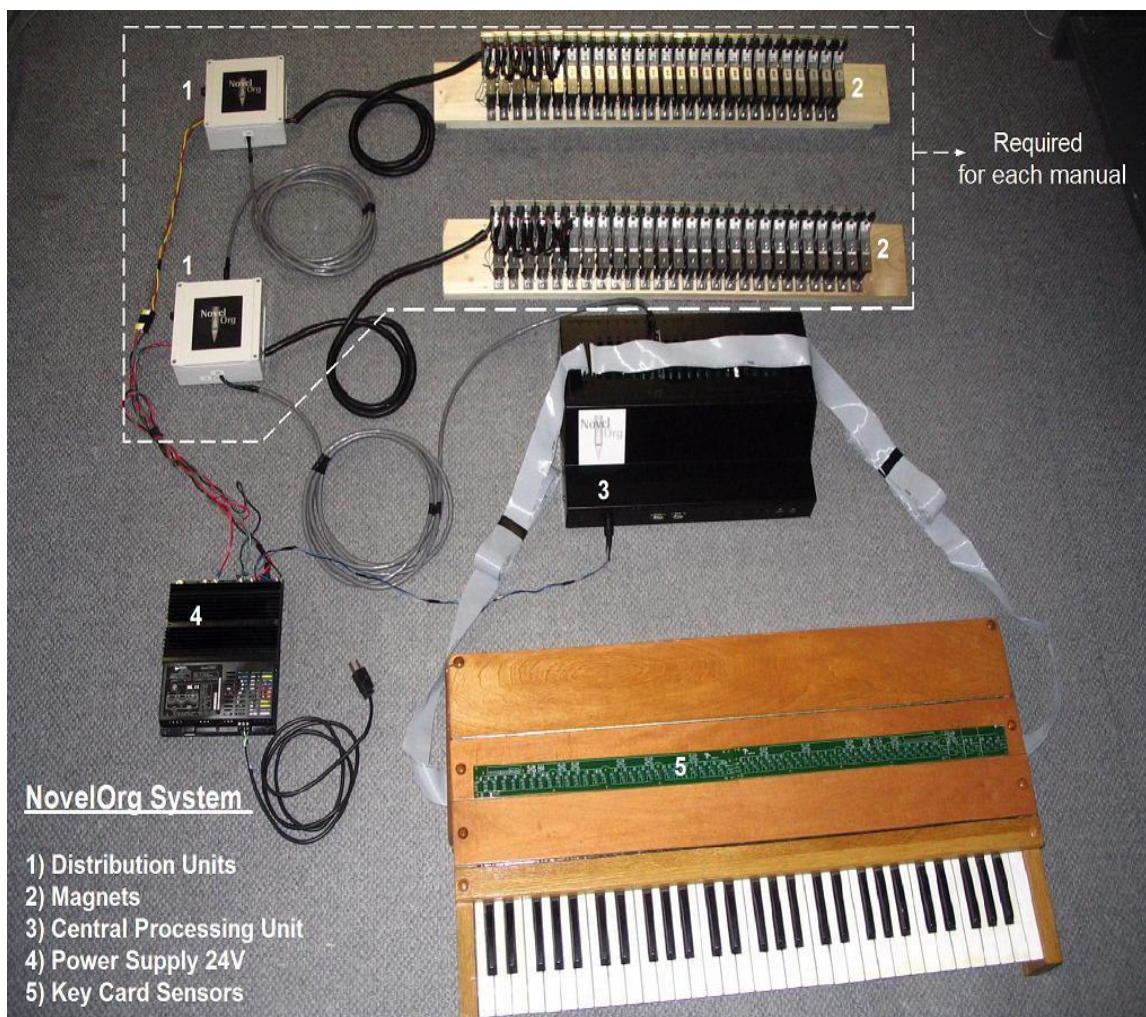
➤ System Troubleshooting

The simple, modular architecture of the new NovelOrg electromechanical action system makes troubleshooting and maintaining the system straightforward. A simple procedure developed by NovelOrg allows anyone, without any specific knowledge in electricity, to find the source of a problem in mere minutes.

ELEMENTS OF THE NOVELORG ACTION SYSTEM

Simplicity of the NovelOrg system

The NovelOrg system is incredibly easier to install. Thanks to the NovelOrg system's serial digital communication architecture. What you see on figure 1 represents the whole material needed for the first manual.



Overall picture of the elements of the NovelOrg system

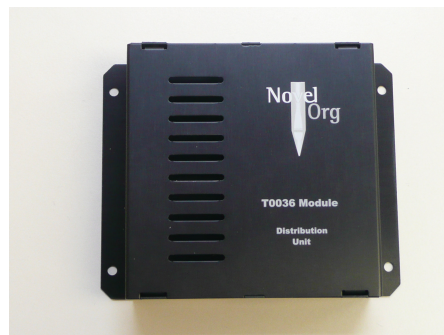
Central Processing Unit

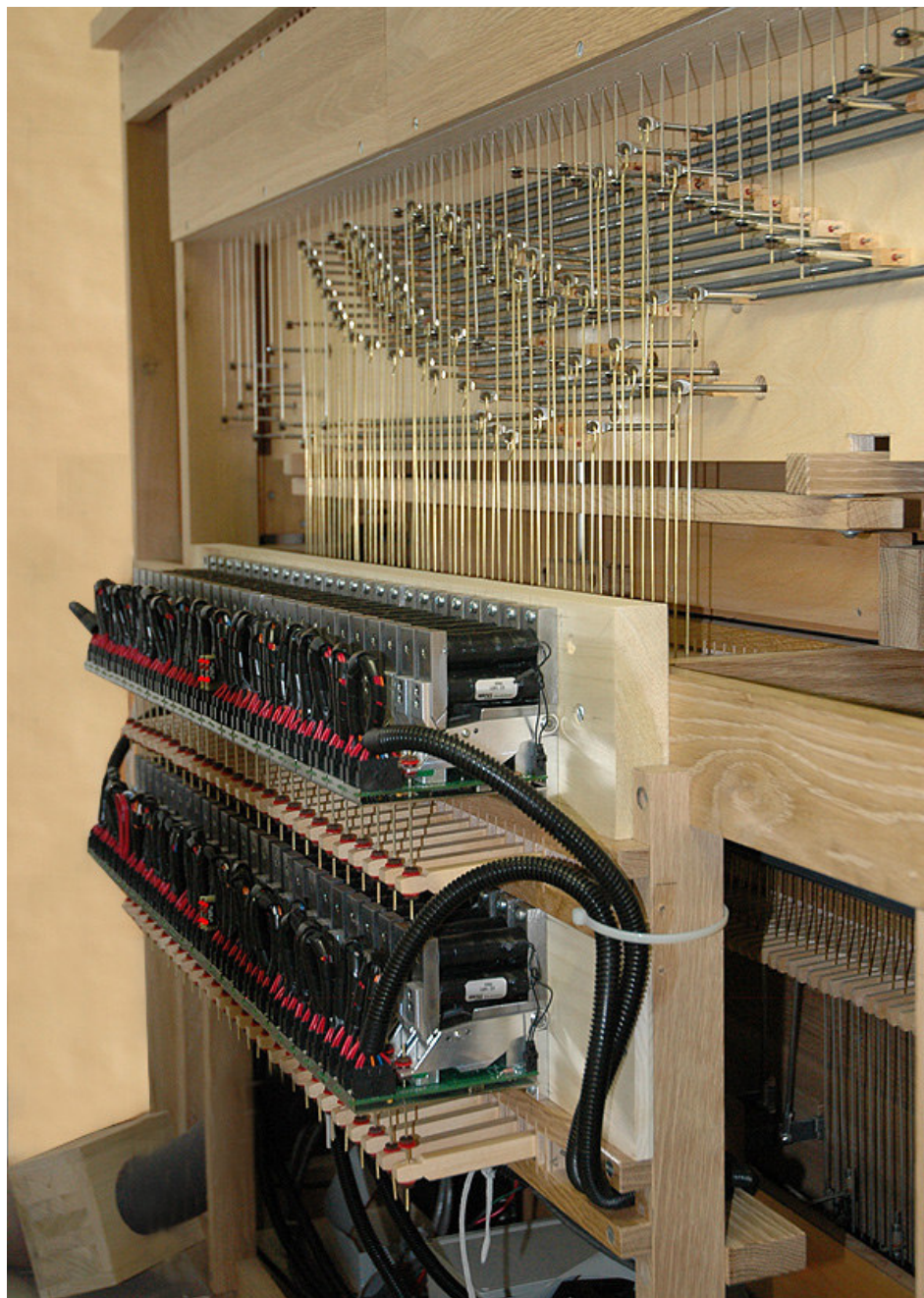
The central processing unit (CPU) contains a microprocessor that handles input (manuals) and output (serial digital link to the magnets). This unit is the system's brain. It must be located close to the console.



Distribution Unit

The distribution unit distributes the signals needed for the magnets to function. It receives the serial digital signal from the console and repeats it to the magnets and the next distribution units. Moreover, it provides the necessary power to the magnets and their electronic control card.



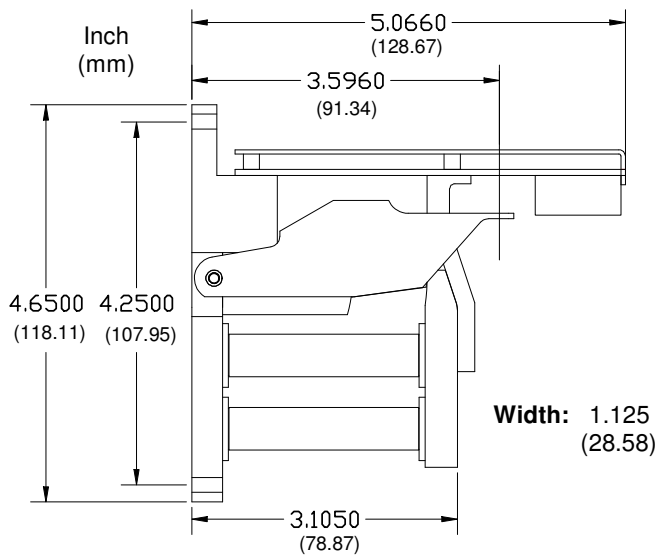


Overall picture of a typical installation of the NovelOrg system

NovelOrg magnet

The magnet is the system's electromechanical element, which is used to operate an organ's pallet. It is powered and controlled by an electronic circuit located in its upper segment. The magnets can be installed inside or outside the windchests because they do not emit any audible mechanical noise.

Physical dimensions



Technical specifications

Power supply: 24VDC
Maximum Force: 1.1Kg
Maximum Stroke: 15mm

Patent Pending



BLOCK DIAGRAM OF THE INSTALLATION OF THE NOVELORG SYSTEM

