

User's Manual

JOHANNUS

Opus 1

Document information

Document Code	OP01V202US.wpd
Document Title	User's Manual JOHANNUS Opus 1
Issue date	April 1999
Serial number	

© Copyright 1999 JOHANNUS Orgelbouw The Netherlands

All rights reserved. No part of this publication may be reproduced and/or published by print, microfilm, audiotape, electronically, mechanically or any other means, or stored in an information retrieval system, without prior written permission from JOHANNUS Orgelbouw.

The information in this document is subject to change without notice and should not be considered a commitment by Johannus Orgelbouw b.v. No responsibility is assumed for any error which may be appear in this document.

Introduction

Congratulations on your decision to purchase a new JOHANNUS organ. You are now the owner of an instrument with a well-chosen and balanced selection of stops. This organ gives you the opportunity to perform the full repertoire of classical and liturgical organ music.

This User's Manual contains a lot of useful information. First we present an overview of the organ, and then we present tips on use. Finally, we investigate all of your organ's technical possibilities, including how to play automatic chords, using free combinations, MIDI applications and so on.

In the appendices you will find options, technical information, MIDI implementation chart and registration examples.

Table of Contents

An overview	1
The organ cabinetry	1
The console	1
The music rack	1
The roll-top	1
The organ bench	1
Set up	2
Connecting the organ	2
Switching on the organ	2
The console in detail	3
Overview of controls	3
Accessories	4
Chords	4
Tremulant	4
Chorus	4
Octave coupler	4
Intonation 2	4
Stops	5
Flue pipes	5
Reeds	5
Overview of stops	5
Bass stops	6
Manual stops	6
Accompaniment stops	6
Expression pedal	8
Thumb pistons	8
SET	8
PP thru T	8
0	8
M1	8
Controls	9
PITCH	9
TRANSPOSER	9
VOLUME BASS	9
BALANCE	9
ACOUSTICS	9
External connections	10
MIDI IN	10
MIDI THRU	10
MIDI OUT	10
AUX IN	10
AUX OUT	10
EXT. REV.	10
PHONES	11
Automatic chords	12
Major chord	12
Minor chord	12
Seventh chord	13
Minor-seventh chord	13

Using free combinations (capture system)	14
What are free combinations?	14
How to set free combinations	14
Recalling the free combinations	14
MIDI applications	16
What is MIDI?	16
How and what to connect?	16
Options	17
Voice module	17
External Loudspeaker system	17
3-position switch	17
Maintenance	18
Guarantee	18
Appendices	19
Technical specifications	19
MIDI Implementation chart	20
Registration examples	21
Personal registrations	22

An overview

The organ cabinetry

The organ cabinet consists of the console shell, the music-rack and the bench.
Our standard organ cabinet is designed in dark or light oak with solid wood panels.
Your organ may be custom-ordered in another finish, color or wood.

The console

Typically, the console consists of one manual and several accessories.
The keyboard has a church organ touch and is normally designed with synthetic key surfaces. For more information, read "The console in detail".

The music rack

The music rack is typically not yet installed at the time of delivery. You can insert the music rack into the groove provided on the top panel of the organ cabinet.

The roll-top

You can lock the organ by pulling the roll-top toward you.

The organ bench

Your organ is provided with a bench that contains a music shelf.

Set up

Connecting the organ

Pay close attention to the following points when you connect the organ:

1. Check the main voltage before you connect the organ. This voltage must be the voltage as printed on the serial numberplate located on the left side under the keyboard.
2. Connect the organ to a grounded outlet. When this is not possible there is a chance some functions will not work properly.

Switching on the organ

Switch on the organ by depressing the main power switch located on the right side of the keyboard. The red pilot lamp will light up as soon as the organ is switched on. It takes a few seconds before all controls are working. The computer circuit needs this time to initialize.

The console in detail

Overview of controls

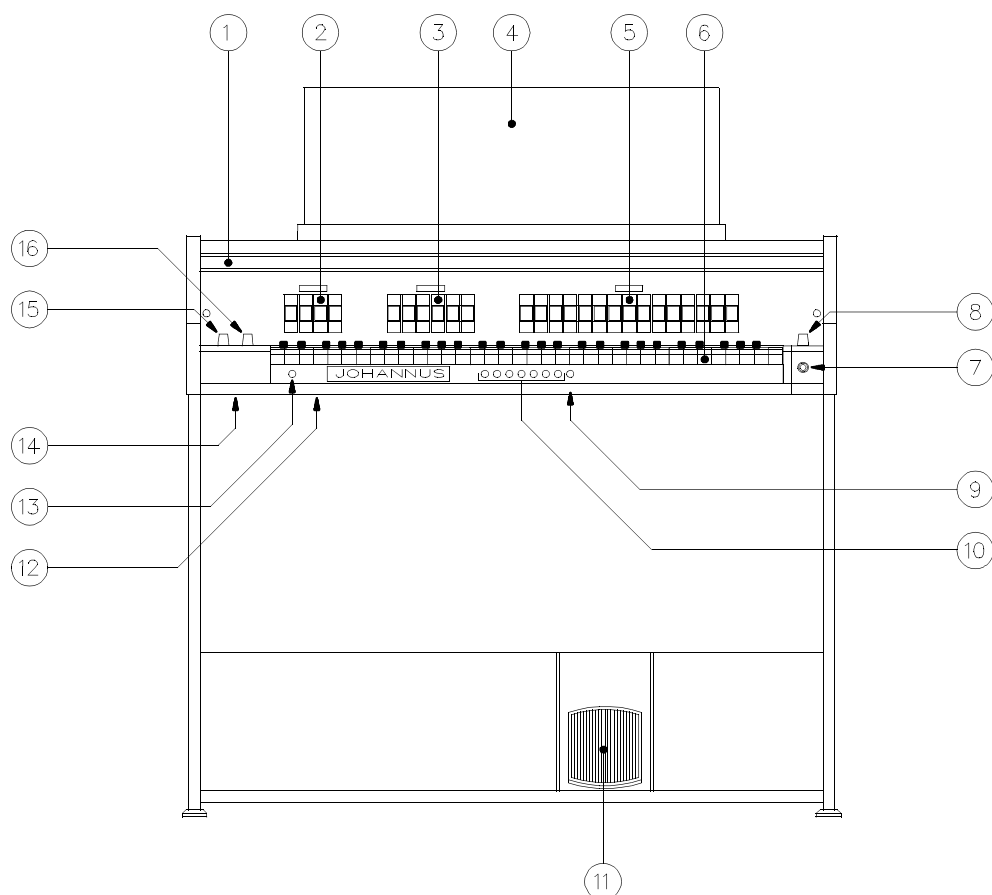


Fig. 1

1. Roll-top cover
2. Bass stops
3. Accompaniment stops and accessory Chords
4. Music Rack
5. Manual stops and accessories Tremulant, Chorus, Octave Coupler and Intonation 2
6. Keyboard
7. TRANSPOSER control
8. Power switch
9. Thumb piston
 - Function piston presets / free combinations
10. Thumb pistons
 - Presets / Free combinations
11. Expression pedal
12. Serial number plate
13. Thumb piston
 - SET
14. External connections
15. PITCH and VOLUME BASS controls
16. VOLUME ACOUSTICS and BALANCE controls

Accessories

The following accessories are standard:

- Chords
- Tremulant
- Chorus
- Octave coupler
- Intonation 2

Chords

The accessory chords is located on the right side of the accompaniment stops. When you switch on the accessory chords you can (only with the accompaniment stops) play the so-called “automatic chords” in the two lowest octaves (also see under “Automatic chords”).

Tremulant

The accessory tremulant is located on the right side of the manual stops.

The tremulant is meant to vibrate the sound of the organ especially with slow or soft music. By switching on the tremulant both the manual and the accompaniment stops will be influenced. The bass stops are not influenced by the accessory tremulant.

Chorus

The accessory chorus is also located on the right side of the manual stops.

To avoid the organ sounding too sterile, the instrument is designed with various stops tuned differently in relation to each other. These small differences give the organ a broader, more lively character. Switching on this stop will strengthen this effect.

Octave coupler

Like the two above-mentioned accessories, the accessory octave coupler is also located on the right side of the manual stops.

By switching on the accessory octave coupler, all keys that are played in the third or fourth octave will also sound one octave higher. The keys that are played are actually doubled. This has the advantage of allowing you to play a many-voiced melody with your right hand, for instance, and the pedal note with your left hand. By using the octave coupler the chords that are played with the right hand have a richer sound.

Intonation 2

The accessory intonation 2 is located on the far right of the manual stops.

Intonation determines the sound of the organ. In pipe organ-building the voicing is of major importance in the building process. Every stop will be adjusted note by note to the room where the organ is installed.

Your organ has two intonations, a romantic and a baroque. In general a romantic organ has a “rounder” sound, while the sound of a baroque organ is clearer.

By switching on the accessory Intonation 2 you choose for a baroque intonation.

Stops

The stops are on so-called tab stops. These are switches that will come back in their middle position after being switched on or off. Therefore, in every tab a light will light up when that stop is switched on. These stop lights also work with the use of presets and free combinations.

On a pipe organ you switch a rank of pipes on or off with the stops. By varying the combinations of stops the organist can create dynamic and colorful changes. This means that some knowledge of the traditional pipe organ is necessary to make good stop combinations. You should know a little bit about the different sounds of the different organ stops. That is why we give a brief explanation about these different kinds of organ stops.

In the appendices you will find extensive examples of registrations.

Organ pipes can be divided in two main groups:

- Flues
- Reeds

Flue pipes

Flue pipes occur in two versions: open or (half) stopped. An example of a half-stopped pipe is the Rohrflute. On the canister-stopper a small open tube has been soldered. An example of an open flue pipe is the Principal. Normally the pipes of this stop are located in the facade of a pipe organ. Flues can be subdivided in the following categories:

Principals

Principals are the Principal, Octave and Mixture. The last stop sounds with more than one pipe of different pitch together per note, the so-called multi rank stops.

Strings

These are the narrow scaled, open flue pipes like: Viola di Gamba and Vox Celeste.

Flutes

Flute stops, open as well as stopped, are made of metal or wood. For example: Rohrflute, Gedackt, Subbass and Flute Twelfth.

Reeds

In a reed pipe the wind is blown into the pipe bringing a reed into resonance. This resonance is 'amplified' and 'colored' by a tube (resonator). The trumpet has a conical resonator, the fagotto has a cylindrical resonator.

Overview of stops

You will find an overview of stops in the appendix under examples of registrations. Next to the stopnames you normally find the length, e.g. 8'. This means that the body of this pipe for the lowest C key is 8' (appr. 240 cm). A stop with 16' sounds one octave lower.

Bass stops

The bass stops can only be played in the two lowest octaves of the keyboard (see figure 2). These are so-called monophone stops. This means that per stop only one note at the same moment is reproduced. This is always the lowest note of the chord you are playing.

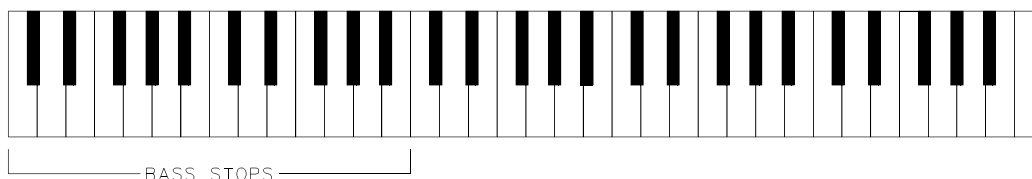


Fig. 2

The four bass stops can be seen as the “pedal stops” of the organ when we would be talking about an organ with a full pedal. When playing these stops they reproduce only one note at the same time and they can only be played in the two lowest octaves, and this is exactly reason why you can only use them as such.

Manual stops

The manual stops can be seen as the “normal” stops. They can be played over the full 5 octaves of the keyboard (see figure 3).

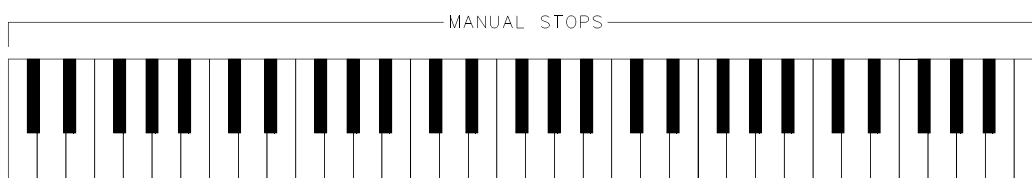


Fig. 3

Accompaniment stops

When switching on an accompaniment stop the keyboard is automatically divided in two separate parts. The accompaniment stops can only be played in the 2 lowest octaves of the keyboard, while the manual stops can now only be played in the 3 highest octaves of the keyboard (see figure 4).

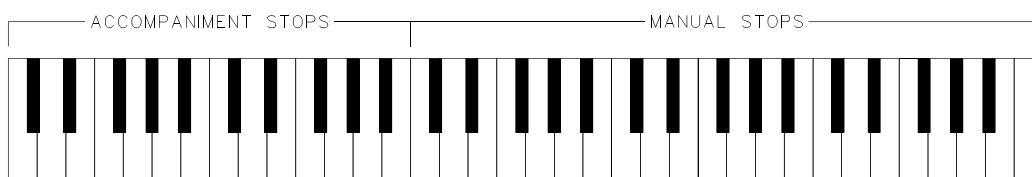


Fig. 4

By dividing the keyboard you get the opportunity to play the organ as a two-keyboard instrument: e.g., you can play the accompanying melody, with one or more accompaniment stops, play with your left hand while with your right hand, with one or more manual stops, you can play solo.

With a two-keyboard organ the accompanying melody is mostly played in the second and third octave of the keyboard. By dividing the keyboard into two (lowest) octaves for the accompaniment and three (highest) octaves for the manual voices this would not be possible. To overcome this the accompaniment stops sound one octave higher, so that you can play in the lowest octaves as though you were play on the second or third octave of a two-keyboard organ (see figure 5).

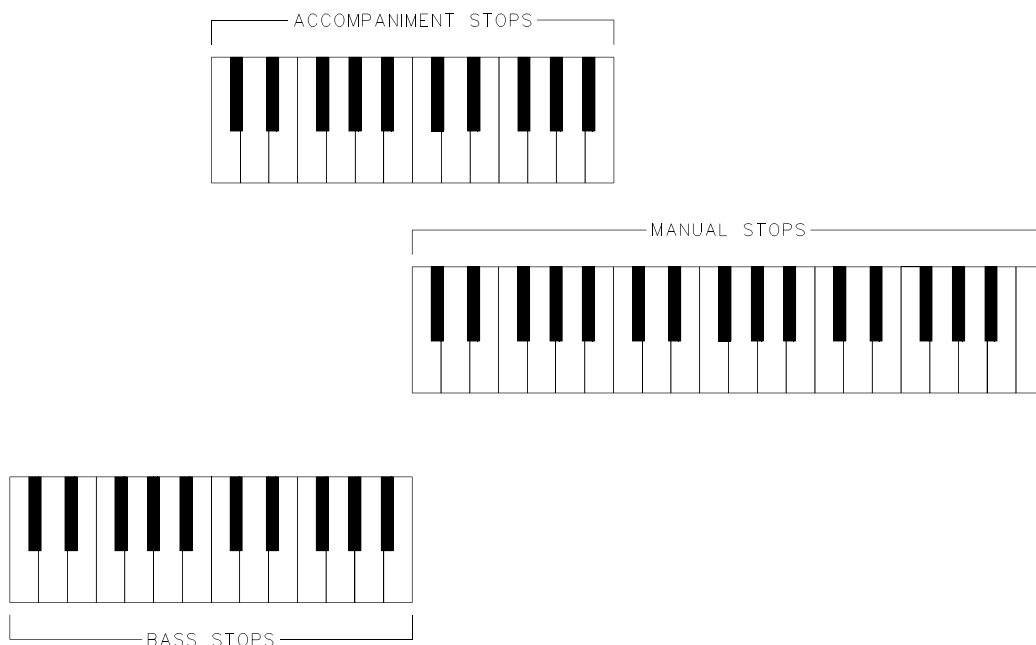


Fig. 5

And if you now also switch on a bass stop, you can play the organ as a two-keyboard instrument with pedal (also see figure 5).

Expression pedal

With the expression pedal you adjust the total volume of the organ.

This volume control is independent of the position of the controls VOLUME BASS and BALANCE.

Thumb pistons

SET

A thumb piston to program free combinations. (see under chapter "Using the free combinations").

PP thru T

The pistons PP-P-MF-F-FF-T have a double function. If the M1 has not been pushed, the pistons function as preset pistons for the bass and manual stops.

If the M1 piston has been pushed, these pistons function as free combination pistons (capture system) for both bass, manual and accompaniment stops. Also see under "Using the free combinations".

The fixed combinations (presets) are registrations, preset according to musical standards, starting by PP (Pianissimo: very soft) thru T (Tutti: full organ).

The Tutti piston has two functions. When you play a stop combination chosen by yourself or from the presets (PP thru F) the T piston calls the full organ: the normal function of this piston. However, when you push the T once more you will recall the previous registration.

These presets have been fixed in the factory and cannot be changed by the user.

When you push one of the preset pistons the factory programmed stops will light up accordingly. It is always possible to switch stops on or off by hand.

0

The "0" (cancel) piston is located to the right of the T piston.

The piston has two functions. It may happen that you switch on a preset or add a stop by hand by mistake. By pushing the "0" once quickly you will undo the latest change.

Example

You play the registration of Principal 8'. After some time you add the Flute 8' and Flute 4'. There is always a very short time between switching on the Flute 8' and the Flute 4'. By pushing the 0 piston briefly only the Flute 4' will be switched off (undo the last change). Not the Flute 8' as well as the Flute 4' will be switched off (according to the organist this would be his last registration). Actually the organ sees the Principal 8', Flute 8' as the last change and the organist sees the Principal 8' as the last one.

When pushing the "0" piston longer all stops will be switched off at once. Exceptions are the stops Chords, Chorus, Octave coupler and Intonation 2.

M1

Located to the far right of the presets is the M1 thumb piston. By pushing this piston the pistons PP thru T can be used as free combination pistons. Also see under "Using the free combinations".

Controls

PITCH

With this control you can adjust the temperament of the organ in quarter steps.

This control has a central position indication, which means that, when turning, you can feel this control click in this central position. This central position is meant to tune the organ (with the TRANSPOSER control on position 0) on A=440 Hz

TRANSPOSER

With this control it is possible to transpose the organ. This means that the organ can be transposed 1, 2 or 3 set half steps lower or higher. When the position of the control is 0, the standard pitch for the organ is A=440 Hz, on the condition that the PITCH control is in central position.

When using the TRANSPOSER in combination with the PITCH control it is possible to adjust the organ 3 half steps higher or lower.

VOLUME BASS

With this control you can adjust the volume of the bass stops. With this control in the central position the volume of the bass stops is normal in relation to the accompaniment and manual stops.

By turning the control to the left or to the right from this central position you can adjust the bass stops louder or softer in relation to the manual and accompaniment stops.

This volume control is independent of the position of the expression pedal and the BALANCE control.

BALANCE

With the BALANCE control you can adjust the relation between the volume of the manual stops and the volume of the accompaniment stops. With this control in the central position the balance between the manual and the accompaniment stops is normal.

By turning the control to the left from the central position the volume of the accompaniment stops decreases, while the volume of the manual stops remains the same.

By turning the control to the right from the central position the volume of the manual stops decreases, while the volume of the accompaniment stops remains the same.

The BALANCE control is independent of the position of the expression pedal and the VOLUME BASS control.

ACOUSTICS

The build-in digital acoustics provide a spacial reverberation of the organ sound. With this control the volume of the reverberation can be adjusted. To completely switch off the reverberations you turn the control to the left.

External connections

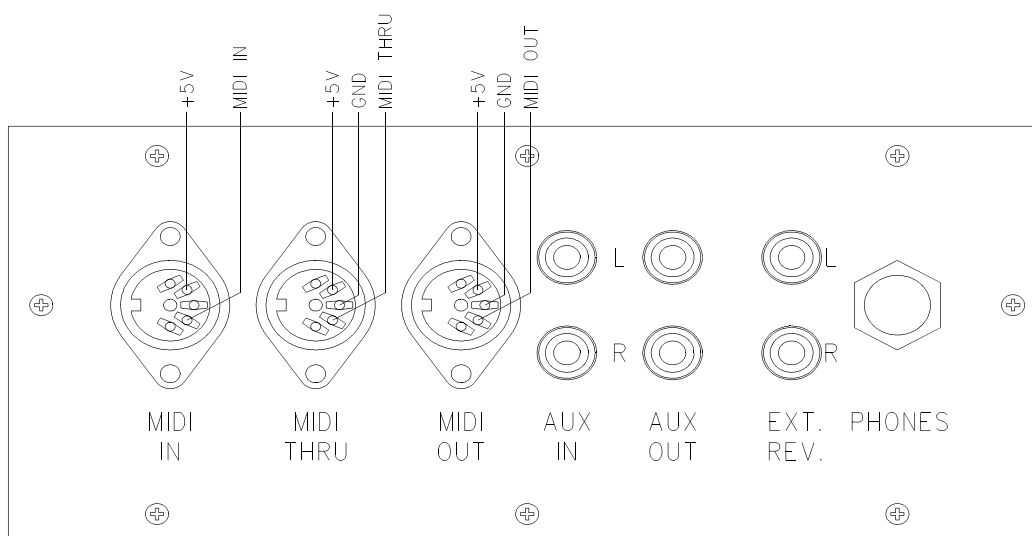


Fig. 6

The following external connections are located left under the console:

MIDI IN

To receive MIDI-codes from other devices.

MIDI THRU

For relaying incoming MIDI codes from other devices.

MIDI OUT

To send MIDI-codes to other devices.

AUX IN

This input can be used to amplify the sound of an external device through the speakers of the organ. E.g., it is possible to play the sound of an expander module that is controlled by the organ's MIDI out through the organ's speakers.

The volume of the device that is connected to the AUX IN cannot be adjusted by the expression pedals or the VOLUME control (except external devices that are controlled by the organ's MIDI OUT).

AUX OUT

This output is meant to connect an external stereo amplifier.

EXT. REV.

The connection EXTERN REVERB is specifically for the JOHANNUS external surround acoustics device. This system, that works with 4 independent loudspeaker boxes in the room, creates a realistic acoustical impression of a concert hall, church or cathedral. It is not recommended to use this output for other ends.

PHONES

This is the connection for a stereo headphone and suited for up to 2000 ohm. Using a low impedance headphone (e.g. 8 ohm) may give a too loud a volume. This can be regulated with the VOLUME control.

When using a headphone the organ loudspeakers will be automatically switched off. All loudspeaker channels will be divided stereophonically through the two headphone channels.

Automatic chords

From a musical point of view the four most important chords that belong with a fundamental are:

- Major chord
- Minor chord
- Seventh chord
- Minor-seventh chord

When you switch on the accessory chords you can play (only with the accompaniment stops) the so-called “automatic chords” in the two lowest octaves. The accessory chords is located on the right side of the accompaniment stops.

To explain which key(s) you have to push in order to automatically get a desired chord with a specific fundamental the four chords that belong to fundamental C will be given as an example.

Major chord

To play a C-major chord (in sheet music noted as C) you only have to press the fundamental C in one of the two lowest octaves (see figure 7). As a result you will hear the sound of the notes C, E and G.



Fig. 7

Minor chord

To play a C-minor chord (in sheet music noted as Cm)) you have to press two keys in the two lowest octaves. These are the fundamental (in this case the C again) and any black key located on the left side of the fundamental C (see figure 8). When pressing the mentioned keys you will hear the sound of the notes C, ES and G.



Fig. 8

Seventh chord

To play a C-seventh chord (in sheet music noted as C7) you also have to press two keys in the two lowest octaves. This time, however, the fundamental (in this case the C again) and any white key located on the left side of the fundamental C (see figure 9). When pressing the mentioned keys the notes BES, C, E and G will sound.



Fig. 9

Minor-seventh chord

To play a C-minor-seventh chord (in sheet music noted as Cm7) you have to push three keys in the two lowest octaves. These are: the fundamental C, any white key located on the left side of the fundamental and any black key located on the left side of the fundamental (figure 10). When this is done the notes BES, C, ES and G will sound.



Fig. 10

Using free combinations (capture system)

What are free combinations?

Free combinations are a special kind of presets. The combination of stops in presets are fixed. With free combinations you are able to store your choice of stop combinations into the memory and recall them when needed. This, of course, is especially helpful when many different registrations occur in a piece of music. It makes the help of assistants redundant.

The memory of free combinations is protected so that it cannot be erased when you switch off the organ or when you unplug the organ from the main power.

The capture system consists of the following:

- Thumb piston SET
- Thumb piston M1
- Thumb pistons PP thru 0

With the capture system you can program 7 personal registrations. These registrations can be recalled at any time. On every setter location you may store a personal registration. Only the accessories Chords, Chorus, Octave Coupler and Intonation 2 cannot be stored in the capture system.

How to set free combinations

A free combination is programmed as follows:

1. Check whether the piston M1 has been pressed. By pressing this piston you can use the pistons PP thru 0 as free combination pistons.
2. Choose the registration you want to store in the capture system.
3. Push on SET (keep on pushing) and choose the memory number (e.g. piston MF).
4. First release the piston for the memory number (in this example number MF) and then the SET piston.
5. Write the programmed combination (e.g. MF-S) in your music paper where you want to use it.

The personal registration has now been stored in memory bank 6 in number 3.

Recalling the free combinations

Recalling goes as follows:

1. Check whether the piston M1 has been pressed.
2. Determine the setter combination you want to recall (e.g. F).

In the registration you recalled you may add or remove stops by hand.

Tip

When the M1 piston has been pressed, the "0"piston does not work as a piston to switch off all stops at once, as is the case with presets.

The "0"piston" can also be used, when the M1 piston has been pressed, as a memory bank for a free combination.

If you wish that even in the free combinations all stops be switched off at once when pressing the "0"piston, you should make sure that this "free combination place" is always empty.

To be sure that this is the case, you switch off all stops and store this "combination" in the "0" piston.

MIDI applications

What is MIDI?

MIDI is the abbreviation of Musical Instruments Digital Interface. With MIDI different musical instruments can be connected with each other or a computer. For example, it is possible to play on your organ and at the same time on a synthesizer or an expander module. The MIDI standard is partly based on hardware. Next to that it is a worldwide agreement about the way music and sound are being interpreted and communicated between devices that have MIDI capability. The MIDI codes sent by a Johannus organ tell e.g. which key is played.

MIDI consists of the following parts:

- MIDI-connections (MIDI IN, MIDI THRU, MIDI OUT)
- A device (e.g. synthesizer) that you want to connect through MIDI
- Connection cables

How and what to connect?

Imagine you want to connect 3 expanders to your organ.

The following has to be done:

1. Connect the expanders with the MIDI cables (DIN).
2. The expander must be configured so that it can only receive data through channel 1. MIDI has 16 channels to transfer data. With the Opus 1 key information is always sent through channel 1.

Options

Depending on your choice the instrument may have some options.

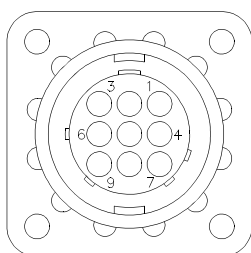
Voice module

The organ can be extended with a number of special stops. These stops can be seen as extensions of the instrument.

External Loudspeaker system

The organ can also be extended with an external loudspeaker system, for example a facade with several speaker boxes behind it. At the back side are 2 connectors (octal sockets). With a special cable you connect the loudspeaker system to the instrument. In that case there will be a 3-position switch on the instrument too.

The 8 pins of the octal sockets are connected as follows:



Number	Channel
1	Ground (–) channel. 1
2	Signal (+) channel 1
3	Ground (–)channel 2
4	Signal (+) channel 2
5	Ground (–) channel 3
6	Signal (+) channel 3
7	Not connected
8	Not connected

3-position switch

This switch enables you to choose between loudspeakers in the organ and the external loudspeakers.

The switch has the following positions:

Position A

The organ sound comes from the loudspeakers in the organ console and not from the external loudspeakers.

Position AB

The organ sound comes from the loudspeakers in the organ console as well as from the external loudspeakers. However, the sound from the loudspeakers in the organ console is softer than the A-position.

Position B

The organ sound comes from the external speakers and not from the console speakers.

Maintenance

The console consists of wooden veneer and solid wooden parts.

To clean the cabinet use a normal duster or a light wet cloth or chamois and polish with a dry cloth.

We do not recommend furniture- or teak oil, because it may be harmful for the lacquer. Direct sunlight may change the color of the cabinet, especially light oak consoles.

The keys can be treated the same as the woodwork. Little scratches that may originate from playing can be removed with car polish. **NEVER** try to remove spots with aggressive liquors like thinner, acetone, etc. These will irrevocably damage the instrument.

Guarantee

With the purchase of your JOHANNUS Organ you received a limited warrantee card. Please read the conditions carefully and send the bottom part to JOHANNUS Orgelbouw b.v. in Ede as soon as possible. Again we want to emphasize that modifications on the organ or incompetent handling will end the warrantee.

Appendices

Technical specifications

Voices:	
Romantic	20
Baroque	20
Manual 5 octaves (C-c ''') synthetic (church organ touch):	1
Amplifiers/Channels (50 Watt max., 8Ω each)	3
Acoustics (adjustable volume)	•
Transposer (6 steps +/- 3 half steps)	•
Pitch (+/- ¼ tone adjustable)	•
Fixed combinations (Presets) PP-P-MF-F-FF-T	•
Free combinations (Setzer)	7
Expressions (general volume, MIDI controlled)	•
Volume Bass (MIDI controlled)	•
Balance control (MIDI controlled)	•
3-position switch for external loudspeakers	option
Accessories:	
Chords	•
Tremulant	•
Chorus	•
Octave coupler	•
Intonation 2	•
0 (Cancel)	•
External connections:	
MIDI In-Thru-Out	•
Headphone Stereo up to 2kΩ	•
External Reverb 470Ω/300mV	•
Aux In 1kΩ/70mV (stereo)	•
Aux Out 470Ω/300mV (stereo)	•
Loudspeaker outputs 8Ω	option
Furniture:	
Dark oak or light oak	•
Other colors or kind of wood	option
Wooden roll cover	•
Wooden expression pedal	option
Bench with lid	•
Dimensions:	
Height (without music rack)	95 cm
Height (with music rack)	119 cm
Width	109 cm
Depth	43 cm

MIDI Implementation chart

JOHANNUS Organ
OPUS 1

MIDI Implementation Chart

Date: Feb. 1999
Version 2.00

Functions		Transmitted	Recognized	Remarks
Basic Channel	Default Changes	1, 12 N	1, 12 N	1 = Manual 12 = Stops
Mode	Default Messages Altered	Mode 3 N * * * * *	Mode 3 N N	
Note Number	True voice	36 - 96 * * * * *	36 - 96 36 - 96	
Velocity	Note ON Note OFF	9nH (v=64) 9nH (v=0)	9nH v=1 - 127 9nH v=0, 8nH v=*	*=irrelevant
After Touch	Keys Channels	N N	N N	
Pitch Bend		N	N	
Control Change	7	Y	Y	Expression pedal Volume Bass + Balance Pitch Transposer
	11	Y	Y	
	100/101/6	Y	N	
	100/101/6	Y	N	
Program Change	:True#	0 - 73 ¹ * * * * *	0 - 73 ¹ 0 - 73 ¹	0 - 3 Bass stops 7 - 12 Acc. stops 13 Accessory ² 17 - 27 Man. stops 28 - 31 Accessories ³
System Exclusive		Y	Y	All stops off
Common	:Song Pos	N	N	
	:Song Sel	N	N	
	:Tune	N	N	
System Real Time	:Clock :Commands	N N	N N	
Aux	:Reset All Controller	N	N	
	:Local On/OFF	N	N	
	:All Notes OFF	N	Y	
	:Active Sense	N	N	
	:Reset	N	N	
Notes		¹ Except 4-6 and 14-16 ² Chords ³ Tremulant, Chorus, Octave coupler and Intonation 2		

Mode 1: OMNY ON, POLY
Mode 3: OMNY OFF, POLY

Mode 2: OMNY ON, MONO
Mode 4: OMNY OFF, MONO

Y = YES
N = NO

Registration examples

		<i>ppp</i>	<i>pp</i>	<i>p</i>	<i>mf</i>	<i>f</i>	<i>ff</i>	<i>t</i>	Solo on Great	Solo on Swell	Trio 1	Trio 2	Romantic	Plenum
BASS														
Subbass	16'	●	●	●	●	●	●	●	●	●	●	●	●	●
Principal	8'	○	○	○	○	○	●	●	○	○	○	○	○	●
Gedackt	8'	○	○	○	●	●	●	●	○	○	○	○	●	●
Fagotto	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
ACCOMPANIMENT														
Diapason	8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rohrflute	8'	○	○	○	○	○	○	○	○	●	○	●	○	○
Viola di Gamba	8'	○	○	○	○	○	○	○	●	●	●	○	○	○
Vox Celeste	8'	○	○	○	○	○	○	○	●	●	●	○	○	○
Flute	4'	○	○	○	○	○	○	○	○	○	○	●	○	○
Chords		○	○	○	○	○	○	○	○	○	○	○	○	○
MANUAL														
Quintaton	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Principal	8'	○	○	○	●	●	●	●	○	●	○	○	○	●
Rohrflute	8'	○	○	●	●	●	●	●	●	●	●	○	●	●
Viola di Gamba	8'	●	●	●	●	●	●	●	○	○	○	○	●	○
Vox Celeste	8'	○	●	○	○	○	○	○	○	○	○	○	●	○
Flute	4'	○	○	●	●	●	●	●	●	●	●	○	●	●
Flute Twelfth	2 ² / ₃ '	○	○	○	○	○	●	●	●	●	●	○	●	●
Octave	2'	○	○	○	○	●	●	●	○	●	○	○	○	●
Tierce	1 ³ / ₅ '	○	○	○	○	○	○	○	○	○	●	○	○	○
Mixture	V	○	○	○	○	●	●	●	○	○	○	○	○	●
Trumpet	8'	○	○	○	○	○	●	●	○	○	○	●	○	○
Tremulant		○	○	○	○	○	○	○	●	●	○	○	●	○
Chorus		○	○	○	○	○	●	●	○	○	○	○	●	○
Octave coupler		○	○	○	○	○	○	○	○	○	○	○	○	○
Intonation 2		○	○	○	○	○	○	○	○	○	○	○	○	○

Personal registrations

BASS

Subbass	16'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Principal	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gedackt	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fagotto	16'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ACCOMPANIMENT

Diapason	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rohrflute	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Viola di Gamba	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vox Celeste	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flute	4'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chords		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

MANUAL

Quintaton	16'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Principal	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rohrflute	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Viola di Gamba	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vox Celeste	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flute	4'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flute Twelfth	2 ² / ₃ '	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Octave	2'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tierce	1 ³ / ₅ '	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mixture	V	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trumpet	8'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tremulant		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chorus		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Octave coupler		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intonation 2		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>