User's Manual

JOHANNUS

Sweelinck 10, 20 and 30
AGO

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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 choose another temperament, using free combinations, using the general crescendo, MIDI applications and so on.

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

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An overview

The organ cabinetry

The organ cabinet consists of the console shell, music-rack, pedalboard and 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 two or three manuals and several accessories.
The keyboards have a church organ touch and are normally designed with synthetic key surfaces. You may custom-order wooden keys. 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

The wooden roll-top cover is provided with a lock and key. The lock is placed behind the music-rack on the top of the organ.

Open the organ in the following way:

1. Put the key in the lock.

2. Rotate the key a quarter turn; the lock moves upwards.

3. Push the roll-top upwards.

Lock the organ in the following way:

1. Make certain that you have the key handy (see warning).

2. Pull at the roll-top toward you.

3. Push in the cover-lock.

Warning
You **can** lock the organ without using the key. However, the key is necessary to open the organ. Therefore, always take care that the key is not left within the console before depressing the lock.

The pedalboard

Typically, AGO (American Guild of Organists) organs have a 32-note AGO pedalboard.

The pedalboard is removable. At the front of each pedal key is a magnet. This magnet normally sits in close proximity to a reed switch, which is invisibly mounted behind the black painted front panel at the bottom of the console. When you depress a pedal key, the reed switch is activated by the magnet at the end of the key.

Your new organ has lighting above the pedalboard which is switched on and off automatically with the organ.
The following points are important for installing the pedalboard:

1. Make sure that the surface under the console in combination with the pedalboard is flat.

2. For the best alignment of the pedalboard, it may be necessary to adjust the console height slightly while positioning the pedalboard.

3. Shift the pedalboard against the black painted front panel as close as possible.

The organ bench

Your organ is provided with a bench that contains a music shelf. If you wish, you can order an adjustable-height bench.

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 keyboards.

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 he organ

Switch on the organ by depressing the main power switch located on the right side of the keyboards. 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.

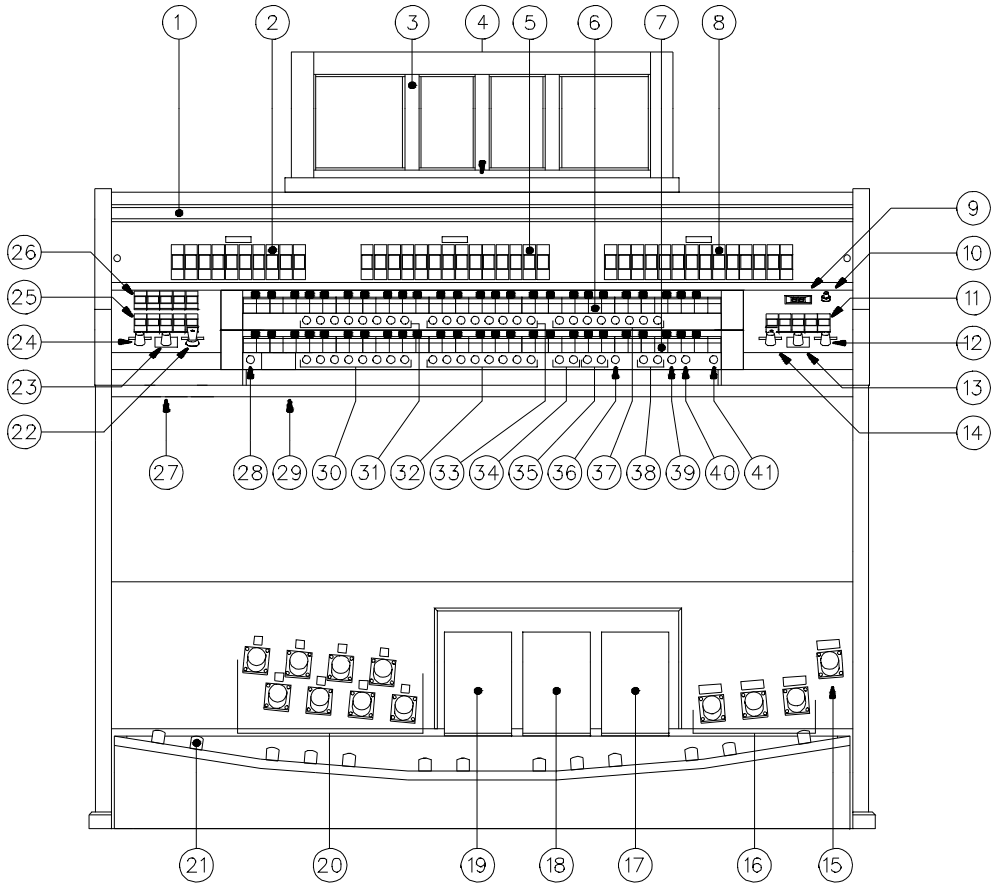
The display of the organ (located on the right side next to the keyboards) will show the figure *I*.
Also the '0' thumb pistons will light up.

The console in detail

Overview of the controls per type

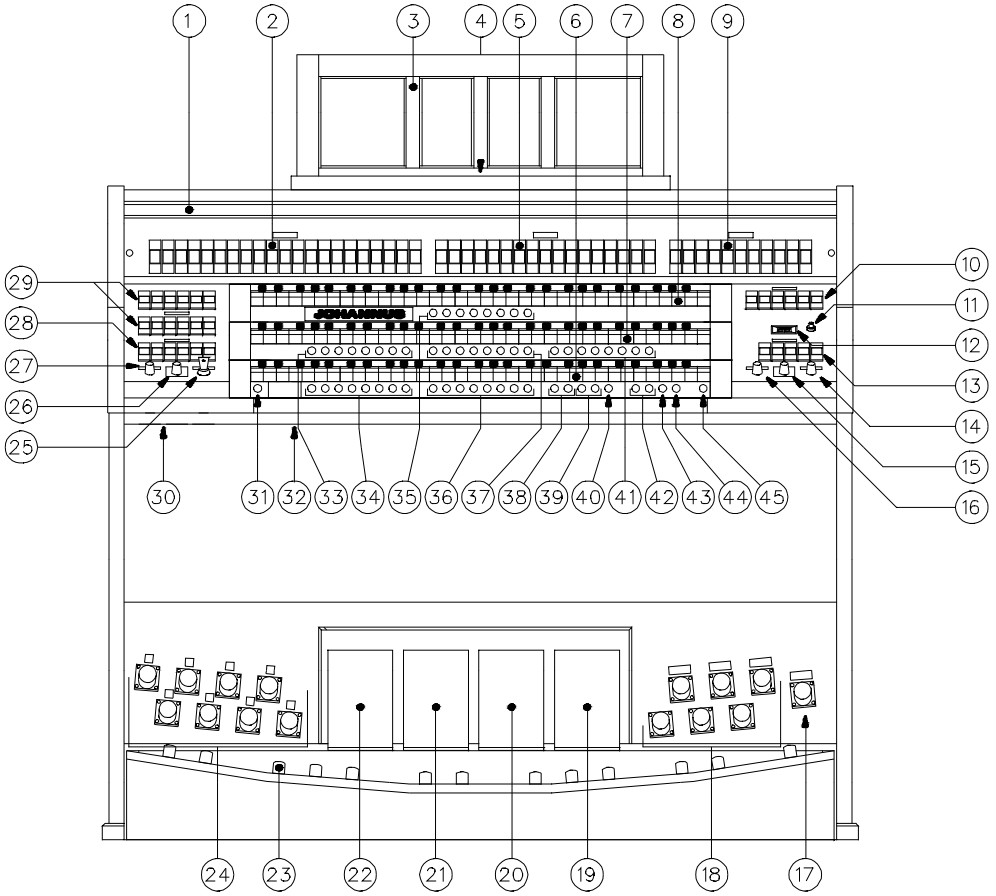
The number and the location of the controls are different by type. The following pages show controls of the different Sweelinck models.

Sweelinck 10 and 20 AGO
The Sweelinck 20 AGO has more stops than the Sweelinck 10 AGO. De location of the controls is the same.



1. Roll top cover
2. Pedal stops
3. Music rack
4. Roll-top cover lock
5. Swell stops
6. Swell keyboard
7. Great keyboard
8. Great stops
9. Display
10. Power switch
11. Special voices
12. Pitch control
13. TRANSPOSER control
14. VOLUME control
15. Toe stud Tutti
16. Toe studs couplers
17. General crescendo pedal
18. Expression pedal Swell
19. Expression pedal Great+Pedal
20. Toe studs capture
21. Pedal
22. Key switch MEMORY LOCK
23. ACOUSTICS control (Program)
24. ACOUSTICS control (Volume)
25. Accessories (midi's/chorus/int. 2)
26. Accessories (couplers/tremulants)
27. External connections
28 Thumb piston
    • SET
29 Serial number plate
30. Thumb pistons
    • 1 - 8 Pedal division
31. Thumb pistons
    • 1 - 8 Generals
32. Thumb pistons
    • 1 - 8 Great division
33. Thumb pistons
    • 1 - 8 Swell division
34. Thumb pistons
    • WM (Werckmeister III)
    • MT (Meantone)
35. Thumb pistons
    • MB (Manual Bass)
    • CF (Cantus Firmus)
36. Thumb piston
    • FA (Fix Accessories)
37. Thumb pistons
    • Presets
38. Thumb pistons
    • – (min)
    • + (plus)
39. Thumb piston
    • GC (General Crescendo)
40. Thumb piston
    • PGM (Program. Gen. cresc. and MIDI)
41. Thumb piston
    • 0 (Cancel/undo)

Sweelinck 30 AGO



1. Roll-top cover
2. Swell stops/tremulant
3. Music rack
4. Roll-top cover lock
5. Great stops/tremulant
6. Choir keyboard
7. Great keyboard
8. Swell keyboard
9. Choir stops/tremulant
10. Accessories (midi's/chorus/int. 2)
11. Power switch
12. Display
13. Special voices
14. PITCH control
15. TRANSPOSER control
16. VOLUME control
17. Toe stud Tutti
18. Toe studs couplers
19. General crescendo pedal
20. Expression pedal Swell
21. Expression pedal Great+Pedal
22. Expression pedal Choir
23. Pedal
24. Toe studs capture
25. Key switch MEMORY LOCK
26. ACOUSTICS control (Program)
27. ACOUSTICS control (Volume)
28. Accessories (couplers)
29. Pedal stops
30. External connections
31. Thumb piston
    • SET
32. Serial number plate
33. Thumb pistons
    • 1 - 8 Generals
34. Thumb pistons
    • 1 - 8 Pedal division
35. Thumb pistons
    • 1 - 8 Swell division
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    • 1 - 8 Choir division
37. Thumb pistons
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38 Thumb pistons
    • WM (Werckmeister III)
    • MT (Meantone)
39 Thumb pistons
    • MB (Manual Bass)
    • CF (Cantus Firmus)
40. Thumb piston
    • FA (Fix Accessories)
41. Thumb pistons
    • Presets
42. Thumb pistons
    • – (min)
    • + (plus)
43. Thumb piston
    • GC (General Crescendo)
44. Thumb piston
    • PGM (Program. Gen. cresc. and MIDI)
45. Thumb piston
    • 0 (Cancel/undo)

Accessories

The following accessories are standard:

- Couplers
- Tremulants
- Tremolo
- Chorus
- Intonation 2
- MIDI-stops

Couplers
All couplers are full unison couplers. This means all depressed keys are coupled.

Choir - Great (only for Sweelinck 30 AGO)
This coupler couples the Choir to the Great. When playing keys on the Great, the corresponding keys on the Choir will be played as well. This way you can add all stops of the Choir to the Great.

Swell - Great
This coupler couples the Swell to the Great. When playing keys on the Great, thecorresponding keys on the Swell will be played as well. This way you can add all stops of the Swell to the Great.

Swell - Choir (Only for Sweelinck 30 AGO)
This coupler couples the Swell to the Choir. When playing keys on the Choir, thecorresponding keys on the Swell will be played as well. This way you can add all stops of the Swell to the Choir.

Choir - Pedal (Only for Sweelinck 30 AGO)
This coupler couples the Choir to the Pedal. When playing keys on the Pedal, the corresponding keys on the Choir will be played as well. This way you can add all stops of the Choir to the Pedal.

Great - Pedal
This coupler couples the Great to the Pedal. When playing keys on the Pedal, the corresponding keys on the Great will be played as well. This way you can add all stops of the Great to the Pedal.

Swell - Pedal
This coupler couples the Swell to the Pedal. When playing keys on the Pedal, the corresponding keys on the Swell will be played as well. This way you can add all stops of the Swell to the Pedal.

Tremulants
The tremulants are meant to vibrate the sound of the organ especially with slow or soft music. Every division has its own independent tremulant.

When you use couplers and/or the CF piston the tremulants will be coupled to the corresponding keyboards.

Tremolo
The Gospel Organ stop has it's own independent tremolo. This special stop belongs to the swell division (Sweelinck 10/20 AGO) or to the choir division (Sweelinck 30 AGO).

When you use couplers (and/or the CF piston on the Sweelinck 10/20 AGO) the Gospel Organ Tremolo will be coupled to the corresponding keyboards.

Chorus
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 intensify the difference in tuning between the various voices.

Intonation 2
Intonation determines the sound of the organ. In pipe organ-building the voicing is a very important part of 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 intonation. In general a romantic organ is wider and sounds symphonic, while a baroque organ is brighter and more tightly tuned. Also see under "Choice of temperament".

MIDI-tabs
The programmable MIDI-tabs are a special group of accessories. See under "MIDI applications" and "Programmable MIDI".

Display

A so-called 7-segment display is located on the right side next to the keyboards. This display has several functions:

When the GC thumb piston is not switched on the display will show the chosen memory group of the capture system. Also see under "Using free combinations (capture system)".

When the GC thumb pistons is switched on the display will show to which level the general crescendo pedal is depressed. Also see under "Using the General Crescendo".

When the GC and PGM thumb pistons are switched on the display will show a $\mathcal{O}$ (level 0, meaning all stops of the general crescendo off). Also see under "Using the General Crescendo".

When the PGM thumb piston is switched on, the display will show the required data for programming the MIDI-tabs (The GC piston should not be switched on). See under "Programmable MIDI".

Stops

The stops are on so-called tab switches. 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
The principle of the tone generation with flue pipes is the same than with a record. 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, Twelfth, Superoctave, Mixture, Scharff, Cymbel, Rauschpfeife and Sesquialter. The last 5 stops sound with more than one pipe of different pitch together per note. So called multi rank stops.

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

Flutes
Flute stops, open as well as stopped, are made of metal or wood. For example: Stopped Flute, Gedackt, Bourdon, Subbass, Nazard, Waldflute, Gemshorn and Rohrflute.

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). Reeds with a conical resonator are: Bombarde, Trumpet, Schalmei, etc. The group of cylindrical resonators are: Fagotto, Cromorne, Krummhorn, etc. The following reeds have a short resonator: Regal, Vox Humana, Ranket, etc.

Special voices

Except the characteristic pipe organ voices, the organ also has four special voices. Although these special voices are no standard pipe organ voices, nevertheless they can be seen as an enrichment of your organ.

On the Sweelinck 10/20 AGO, the Chimes, the Harpsichord, the Strings and the Gospel Organ are added to the Swell division.

On the Sweelinck 30 AGO, the Chimes, the Harpsichord, the Strings and the Gospel Organ are added to the Choir division.

Overview of stops per type

You will find an overview of stops per organ 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.

Volume adjustment

The volume of is adjustable in the following ways:

VOLUME control
With the VOLUME control you adjust the General Volume, independent of the position of the expression pedals. Therefore, this control has influence on each keyboard.

Expression pedal Choir (for Sweelinck 30 only)
With the left expression pedal you adjust the Choir volume.

Expression pedal Great + Pedal
With the left expression pedal you adjust the Great and Pedal volume at the same time.

Expression pedal Swell
With the right expression pedal you adjust the volume of the Swell.

The expression pedals work independently of the position of the VOLUME control.

Thumb pistons

The thumb pistons are switches that after being switched on or off remain in the same position. Therefore, every thumb piston has a light built in that lights as soon as it is switched on.

WM = Werckmeister
By pushing this piston you choose for the Werckmeister temperament. See under chapter “Choice of temperament”. As soon as you switch on this temperament the Meantone temperament will be switched off automatically in case it was on.
By pushing the WM thumb piston again its function will be switched off again.

MT = Meantone
By pushing this piston you choose for the Meantone temperament. See under chapter “Choice of temperament”. As soon as you switch on this temperament the Meantone temperament will be switched off automatically in case it was on.
By pushing the MT thumb piston again its function will be switched off again.

MB = Manual Bass
By pushing this piston the pedal will be coupled to the Great keyboard automatically. When you play a chord on the Great, the lowest key of this chord will be coupled from the Pedal to the Great. By pushing the MB thumb piston again its function will be switched off again.

CF = Cantus Firmus
By pushing this piston the Swell will be coupled to the Great keyboard. When you play a chord on the Great, the highest key of this chord will be coupled from the Swell to the Great. This way the effect of an automatic solo can be achieved. In case the Swell to Great coupler is already in use the CF function has no effect. By pushing the CF thumb piston again its function will be switched off again.

FA = Fix Accessories (Freeze Accessories)
When you use the couplers and tremulants in the fixed combinations (presets) or in the free combinations (capture system) or by using the thumb piston “0" (cancel) these will change too. You can avoid this by using the FA thumb piston. As long as this piston is switched on, you can only switch the couplers and tremulants on or off by hand. By pushing the FA thumb piston again its function will be switched off again.

SET
A thumb piston to program:
- Free combinations (see under “Using free combinations”).
- Stop combinations of the General Crescendo (see under “Using the General Crescendo”).
- MIDI-tabs.

1 thru 8
Thumb pistons to store a personal registration into the capture memory by giving these registrations a number (1 thru 8) within a memory level (bank). These thumb pistons you need again to call these stored registrations from the capture memory. See under chapter “Using free combinations”.

- and +
Thumb pistons with which you:
- Choose a Memory level (bank 1 thru 8). (See under “Using free combinations”.)
- Choose a step to be programmed in the General Crescendo. (See under using the General Crescendo.)
- Choose an expander module patch/voice number and a channel number (see under “Programmable MIDI”).

GC = General Crescendo
Piston to switch the General Crescendo function on or off. See under “Using the General Crescendo”.

PGM = Program General Crescendo
Piston that enables you:
- To change the stop combinations of the General Crescendo. See under “Using the General crescendo”.
- To program a MIDI-tab. See under “Programmable MIDI”.

PP thru T
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 FF) 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.

The 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 piston (cancel/undo) can be found at the far right under the lowest keyboard.The 0 piston on the organ is duplicated. The 0-piston is also 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 quicky you will undo the latest change.

Example
You play the registration of Flute 8', Flute 4', and Flute 2'. After some time you add the Principal 8' and Principal 4'. There is always a very short time between switching on the Principal 8' and the Principal 4'. By pushing the 0 piston briefly only the Principal 4' will be switched off (undo the last change). Not the Principal 8' as well as the Principal 4' will be switched off (according to the organist this would be his last change). Actually the organ sees the Flute 8', flute 4', Flute 2' and the Principal 8' as the previous registration and the organist the combination Flute 8', Flute 4', and Flute 2' as the last one.

When pushing the “0" piston longer all stops will be switched off at once. Exceptions are: The couplers and the tremulants when the FA piston is switched on and the stops Chorus, Intonation 2 and the MIDI.

RO = Reeds Off
Located to the far right of the presets is the RO (Reeds Off) thumb piston. By pushing this piston all reeds will be switched off at once. As long as the RO piston is switched on no reeds can be switched on. By pushing the RO thumb piston again its function will be switched off again.

S/S = All swells to swell
The S/S piston may be a custom-ordered piston for the Sweelinck 30 AGO. Pushing this piston will couple all expression pedals to the swell division expression pedal. This enables you to adjust the volume of the entire organ with only one expression pedal.

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 transpone 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.

ACOUSTICS (volume)
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.

ACOUSTICS (program)
With the position switch you may choose from 3 different acoustical environments.

Key switch

MEMORY LOCK
To save your registrations, modified general crescendo levels and MIDI settings into the organ memory, this switch must be switched on. As soon as the key switch of the memory is switched on the SET button will light up. See “Using free combinations”, “Using the general crescendo” and "Programmable MIDI".

Toe Studs

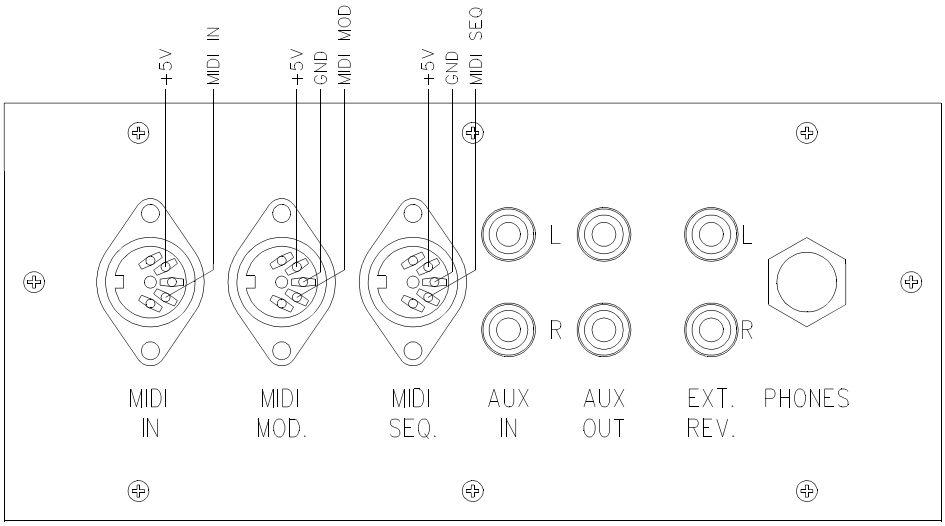
The organ have the following Toe Pistons/Studs:

COUPLER pistons
With these toe studs you can control couplers. When a coupler is switched off, you can switch it on with the toe studs. Reverse is also possible.

TUTTI piston
This toe stud has the same function as the T thumb piston of the fixed combinations.

CAPTURE pistons
These toe studs have the same function as the memory pistons 1 thru 8.

External Connections



The following external connections are located left under the console:

MIDI IN
To receive MIDI-codes from other instruments.

MIDI MOD.
Programmable MIDI-output. This MIDI-output is programmable for optimal use of e.g. an Sound expander module.

MIDI SEQ.
Non-programmable MIDI-output. This MIDI-output is sending a constant data-output with all (for e.g. a sequencer) required information (data dump).

When using our personal voicing software INTONAT you should use the MIDI SEQ output to send data to the computer. (In fact, a data dump too).

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 MOD. 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 one of the organ's MIDI outputs).

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 purposes.

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 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.

Choice of temperament

The temperament is the way the different notes within an octave are tuned. This has been changed through the ages, depending on taste, different instruments and new instruments.

On this JOHANNUS organ you may choose from 3 different temperaments:
- Equal temperament
- Werckmeister III temperament
- Meantone temperament

Equal temperament

Today the most widely used and accepted temperament is the “equal temperament”. This is a tuning where all 12 quints have been under tuned and all tierces have been overtuned to keep the octave pure. Equal temperament is standard on the Johannus organ. In addition you have a choice out of a Romantic voicing and a Baroque voicing. On an instrument with Equal temperament you may play in any key.

Werckmeister III temperament

Andreas Werckmeister introduced his tuning approximately in 1691 in Germany. Within this temperament the often used tierces are more or less pure tuned. Every key has his own specific character. This effect has been used extensively in the baroque age and even after that. Johann Mattheson writes in 1713 that e.g. f-flat is used to express a resigned, deep and desperate agony. According to him C major is impertinent, but not unsuitable to also express feelings of joy. This temperament is recommended with “intonation 2".

Meantone temperament

In Meantone the often used tierces are tuned pure. E.g. c-e, d-f#, etc. Because the tierces in chords with quints and tierces are determining the purity of a chord we experience these pure chords as very restful. Playing a chromatic scale it appears there are clear differences between the half steps. It is impossible to play pure sounding chords on the a#, f#, g# and b in a Meantone temperament.

This Meantone temperament was in use until appr. 1650. Music from this period of time is based on this temperament. Because all the half steps the chromatical parts of the music sounds violent. This possibility has often been used to create special feelings among the listeners. The more false the chords, the deeper the emotion.

From the period of time of appr. 1550-1650 there are many examples where also the less pure chords have been used for expressive purposes. Composers that lived and worked then were e.g. Michael Praetorius (1571-1621) and Jan Pieterszoon Sweelinck (1562-1621).

In fact this music needs a meantone temperament to give it an extra dimension. In our modern equal temperament this music sounds accentless and the true dimension gets lost. This Meantime temperament sounds best with the “intonation 2" switched on.

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 is 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:
- Key switch MEMORY LOCK
- Thumb pistons - and +
- Display
- Thumb piston SET
- Thumb pistons 1 thru 8

With the capture system you can program 64 personal registrations per division (divisionals) as well as for the entire organ (generals). These registrations can be recalled at any time. The generals as well as the divisionals have eight memory banks to be chosen with the pistons - and +. Every memory bank can store 8 combinations accessible by the pistons 1 thru 8. On every setter location you may store a personal registration. Only the accessories Chorus and Intonation 2 cannot be stored in the capture system.

How to set free combinations

A free combination for e.g. the Great is programmed as follows:

1. First check if the pistons GC and PGM are not switched on. This to avoid modifying a stop combination of the General Crescendo.

2. Make the memory accessible by turning the MEMORY LOCK a quarter turn to the right. The SET piston will light up to indicate the memory can be accessed.

3. Choose the registration for the Great division you want to store in the capture system.

4. Choose a memory bank (e.g. memory bank M6) by pushing one or more times on the - or + piston until the display shows the correct memory bank (in this example *6*).

5. Push on SET (keep on pushing) and choose the memory number (e.g. piston number 3 of the Great division). On the display you will see the letter *P* to indicate that the registration is programmed in the capture.

6. First release the piston for the memory number (in this example number 3) and then the SET piston.

7. Close the memory by turning the key switch MEMORY LOCK a quarter turn to the left and remove, if necessary, the key from the switch. The light in the SET piston will go off to indicate that the memory is not accessible anymore.

8. Write the programmed combination (e.g. M6-3GR) in your music paper where you want to use it.

The personal registration has now been stored in memory bank 6 in number 3 of the great division.

Recalling the free combinations

To recall the personal registrations it is not necessary to make the capture system accessible with the key switch MEMORY LOCK. Recalling goes as follows:

1. Determine the setter combination you want to recall (e.g. M2-3SW).

2. Choose the memory bank with the - and + pistons (e.g. M2). The memory bank shows up in the display.

3. Then choose the memory number (e.g. push piston 3 of the swell division).

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

Using the General Crescendo

With the general crescendo you can add stops from very soft (pianissimo) till full organ (Tutti). The 20 steps are preset according to musical standards.

The general crescendo always has priority above the manual registration, fixed combination or free combination. Also the stops switched on by the general crescendo cannot be canceled by the 0 piston. Within a stops combination of the general crescendo it is possible to add extra stops. Reeds which have been switched on by the general crescendo can be switched off by the RO (Reeds Off) switch.

When desired you may change the standard stop combination setting of each general crescendo step - except the 0 - and store in the general crescendo memory.

It is always possible to restore the stop combinations as initially stored by the designer of the organ into the general crescendo memory. However, this can only be done with all 20 steps at once. This will erase all personal combinations too.

The memory of the general crescendo 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 general crescendo consists of the following:

- Pistons GC and PGM
- Display
- General crescendo pedal
- Key switch MEMORY LOCK
- Thumb piston - and +
- Thumb piston SET

To use the general crescendo pedal the piston GC must be pushed. The display on the right of the keyboards will not longer show a chosen memory group of the capture system, but indicate until which step the general crescendo has been switched on.

Programming the general crescendo

A stop combination in the general crescendo can be changed as follows:

1. Make the memory accessible by turning the MEMORY LOCK a quarter turn to the right. The SET position will light up to indicate that the memory can be accessed.

2. Push the pistons GC and PGM. The display will show a *0* (level 0, meaning all stops of the general crescendo off). Also all stops will switch off. Changing the general crescendo pedal will have no effect anymore.

3. Choose the level of the general crescendo you want to change by pushing on or more times on the - or the + piston until the display shows the level you want to change (e.g. level 5). The stops that belong to this level in the general crescendo will light up.

4. Choose the personal registration for the level (in this case level 5) of the general crescendo you want to store in the general crescendo memory.

5. Push the SET piston. As long as you push the SET piston a *P* will show up in the display to indicate that the personal registration is programmed into the general crescendo memory.

6. Close the general crescendo memory by turning the key switch MEMORY LOCK a quarter turn to the left (and, if necessary, remove the key from the switch). The light in the SET piston will go off to indicate that the memory is not accessible anymore.

7. Push the PGM piston again to switch it off. The general crescendo can be used as normal again.

Recalling the factory settings of general crescendo

The factory setting of stop combinations in the general crescendo can be restored as follows:

1. Make the memory accessible by turning the MEMORY LOCK a quarter turn to the right. The SET piston will light up to indicate the memory can be accessed.

2. Push the pistons GC and PGM. The display will show a $\mathcal{O}$ (level 0, meaning all stops of the general crescendo off). Also all stops will switch off. Changing the general crescendo pedal will have no effect.

3. Push the 0 piston (keep on pushing) and push the SET then. As long as you push the SET piston a P will show up in the display to indicate that the personal registration is programmed into the general crescendo memory.

4. Release the SET piston before releasing the 0 piston.

5. Close the general crescendo memory by turning the key switch MEMORY LOCK a quarter turn to the left (remove, if necessary, the key from the switch). The light in the SET piston will go off to indicate that the memory is not accessible anymore.

6. Push the PGM piston again to switch it off. The general crescendo can be used as normal again.

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 MOD., MIDI SEQ.).
- MIDI-stops
- A device (e.g. synthesizer) that you want to connect through MIDI
- Connection cables

The MIDI-stops are the last in the group of stops of the Pedal, Great, Swell and Choir (only for Sweelinck 30).

The MIDI stops have a number. The MIDI number for Great on the Sweelinck 10 and 20 is number 1 (for Sweelinck 30 the MIDI Great is number 2). This number indicates the MIDI channel used to transfer key information through MIDI SEQ. when playing the Great. MIDI has at least 16 channel to transfer data. The MIDI stops determine from which keyboard(s) you send key information to other device(s).

How and what to connect?

Imagine you want to connect 3 expanders to your organ. One you want to play from the Great, the other from the Swell and the third from the Pedal.

The following has to be done:

1. Connect the expanders with the MIDI cables (DIN).

2. Switch on MIDI stop Great 1. The expander must be configured so that it can only receive data through the channel programmed to MIDI stop Great 1 (see under "Programmable MIDI").

3. Switch on MIDI Swell 2. Set the second expander for the channel programmed to MIDI stop Swell 2.

4. Switch on MIDI stop Pedal 3. Set the third expander for the channel programmed to MIDI stop Pedal 3.

Programmable MIDI

Programmable MIDI allows you to access an expander module voice/patch (1-128) through one of the channels (1-16) by switching on a MIDI stop. (MIDI Great 1; MIDI Swell 2; MIDI Pedal 3 etc.).

E.g. when the MIDI stop MIDI Great 1 is programmed to expander module voice/patch number 7, channel 15, and MIDI stop Great 1 is switched on, the key data will be transferred through channel 15 and expander module voice/patch 7 can be heard when playing.

The memory is protected so that it can not be erased when you switch off the organ or when you unplug the organ from the main power.

Program MIDI manually

Items to programming the MIDI stops are:

- Key switch MEMORY LOCK
- Thumb pistons – and +
- Display
- Piston SET
- Piston PGM
- MIDI-stops

A MIDI stop can be programmed as follows:

1. First push one of the 0 pistons or one of the preset pistons. This to be sure that you don't change a MIDI stop that was already programmed in the capture.

2. Also check if the GC is not switched on. This to be sure that you don't change a general cresendo level.

3. Make the memory accessable by turning the MEMORY LOCK a quarter turn to the right. The SET piston will light up to indicate the memory can be accessed.

4. Switch on the MIDI stop you want to program (e.g. Swell 2).

5. Push the PGM piston. The display will show the actual (last programmed) channel number (in this example the channel number of the accesory MIDI SWELL 2).

6. Choose, by pushing one or more times on the - or the + piston, the channel you want to assign to the MIDI stop. The channel (1 thru 16) will show up in the display.

7. Push SET when you selected the right channel (e.g. channel 6). The selected channel has been assigned now to the MIDI stop.

   The display will reflect the actual patch number directly after depressing (and releasing) the SET piston.

8. Now you can choose the module voice you want to assign to the MIDI stop, by pressing once or more times the minus or plus piston. The module voice (e.g. 40) will show up in the display.

   The selected patch number (1-128) will be reflected as follows:
   1-99 will appear normally as *1 - 99*.
   100 to 128 will appear as *0.0 - 2.8*.
   The dot between the two digits is indicates the third digit (the hundreds).

9. Push SET when you selected the right module voice (e.g. patch 40). To indicate that the selected channel and module voice are being programmed a *P* will show up in the display as long as you push SET.

10. The MIDI stop MIDI Swell 2 now has been programmed with channel 7, module voice 40. This means that switching on MIDI Swell 2 while playing the swell, key data will be transferred over channel 6 to the module and that module voice 40 will be switched on.

11. Close the memory by turning the key switch MEMORY LOCK a quarter turn to the left and eventually remove the key from the switch. The light in the SET piston will go off to indicate that the memory is not accessable anymore.

12. Switch off the PGM by pushing it again.

Program MIDI into capture system

In fact this means storing a module voice into the capture system of the organ, possibly in combination with some other normal organ voices.

A MIDI-stop can be programmed in the memory as follows:

1. Check if the GC is not switched on. This to be sure that you don't change a general cresendo level.

2. Make the memory accessable by turning the MEMORY LOCK a quarter turn to the right. The SET piston will light up to indicate the memory can be accessed.

3. Switch on the MIDI-stop that has to be programmed (E.g. MIDI Swell 2) together (when desired) with other stops that you want to store into the capture system.

4. First store this registration in the chosen free combination (see under "Using free combinations). This can be a free combination from the generals as from the divisionals.
   Note: 1. If you don't store the chosen module registration in the capture memory first, the programmed manual registration of this MIDI stop will be changed unintentionally.
   2. Concerning the divisionals (separates) you can only program MIDI-stops into the accompanying divisions. For example, you can only program MIDI Swell 2 into the Swell divisionals and not into e.g. Great divisionals.

5. Push the PGM piston. The display will show the actual (last programmed) channel number (in this example the channel number of the accesory MIDI SWELL 2).

6. Choose, by pushing one or more times on the - or the + piston, the channel you want to assign to the MIDI stop. The channel (1 thru 16) will show up in the display.

7. Push SET when you selected the right channel (e.g. channel 7). The selected channel has been assigned now to the MIDI stop.

   The display will reflect the actual patch number directly after depressing (and releasing) the SET piston.

8. Now you can choose the module voice you want to assign to the MIDI stop, by pressing once or more times the minus or plus piston. The module voice (e.g. 41) will show up in the display.

9. Push SET when you selected the right module voice (e.g. patch 41). To indicate that the selected channel and module voice are being programmed a *P* will show up in the display as long as you push SET.

10. The MIDI stop MIDI Swell 2 now has been programmed with channel 7, module voice 41. This means that recalling the concerning free combination the key data from the Swell is transmitted through channel 7 to the external module while module voice (patch) 41 is switched on.

11. Close the memory by turning the key switch MEMORY LOCK a quarter turn to the left and eventually remove the key from the switch. The light in the SET piston will go off to indicate that the memory is not accessable anymore.

12. Switch off the PGM by pushing it again.

Using the capture system you can assign one MIDI-stop to serveral channels/module voice (patches). E.g. a Sweelinck30 with expanded capture system may have 129 different settings **per** MIDI stop. (1x manual setting, 64 general settings and 64 separate settings). The entire organ can handle 4 x 129 = 516 different settings.

When programming more than one MIDI stop (with or without a combination with normal organ voices) in one free combination you should start with the lowest numbered MIDI stop.

Program e.g. MIDI-Great 1, MIDI Swell 2 and MIDI Pedal 3 in one free combinaiton as follows:

1. Switch on the three MIDI switches (upon wish including other organ stops).

2. First store this registration into the free combination of your choice. (see under 'Using free combinations').

3. Push the PGM piston.

4. Choose the channel for MIDI Great 1 (the MIDI with the lowest number) by using the - and + pistons.

5. Push the SET piston.

6. Choose the module voice (patch) for MIDI Great 1 by using the - and + pistons.

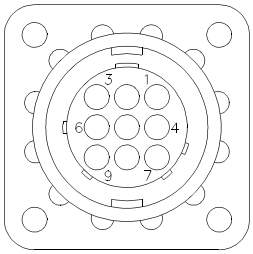
7. Push the SET piston. The setting for MIDI Great 1 is programmed now.
8. Switch off the MIDI Great 1 stop.

9. Choose the channel for MIDI Swell 2 (now the MIDI with the lowest number) by using the - and + pistons.
10. Push the SET piston.
11. Choose the module voice (patch) for MIDI Swell 2 by using the - and + pistons.
12. Push the SET piston. The setting for MIDI Swell 2 is programmed now.
13. Switch off the MIDI Swell 2 stop.
14. Choose the channel for MIDI Pedal 3 (now the MIDI with the lowest number) by using the - and + pistons.
15. Push the SET piston.
16. Choose the module voice (patch) for MIDI Pedal 3 by using the - and + pistons.
17. Push the SET piston. The setting for MIDI Pedal 3 is programmed now.
18. Switch off PGM.

External Loudspeaker system

The organ can be extended with an external loudspeaker system, for example a pipe facade with several speaker boxes behind it. At the back side (or kept internally) 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	Organ model
LS1-1 LS1-2	Ground (–) ch. 1 Signal (+) ch. 1	Sweelinck 10,20,30
LS1-3 LS1-4	Ground (–) ch. 2 Signal (+) ch. 2	Sweelinck 10,20,30
LS1-5 LS1-6	Ground (–) ch. 3 Signal (+) ch. 3	Sweelinck 10,20,30
LS1-7 LS1-8	Ground (–) ch. 4 Signal (+) ch. 4	Sweelinck 10,20,30
LS2-1 LS2-2	Ground (–) ch. 5 Signal (+) ch. 5	Sweelinck 10,20,30
LS2-3 LS2-4	Ground (–) ch. 6 Signal (+) ch. 6	Sweelinck 20,30
LS2-5 LS2-6	Ground (–) ch. 7 Signal (+) ch. 7	Sweelinck 30
LS2-7 LS2-8	Ground (–) ch. 8 Signal (+) ch. 8	Sweelinck 30

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

	Sweelinck 10 AGO	Sweelinck 20 AGO	Sweelinck 30 AGO
Voices:			
Romantic	42	51	62
Baroque	42	51	62
Keyboards (churchorgan touch):			
5 octaves (C-c’’’) synthetic	2	2	3
5 octaves (C-c’’’) wood	option	option	option
Amplifiers/channels (50 Watt max., 8Ω each)	5	6	8
Acoustics			
adjustable volume	●	●	●
programs (length)	3	3	3
Transposer (6 steps +/- 3 halve tones)	●	●	●
Pitch (+/- ¼ tone adjustable)	●	●	●
Fixed combinations (Presets) PP-P-MF-F-FF-T	●	●	●
Capture system			
Generals	64	64	64
Divisionals	192	192	256
MIDI-tabs (programmable)	3	3	4
General volume (MIDI controlled)	●	●	●
Expression pedals (MIDI controlled)	2	2	2
General Crescendo (20 steps programmable)	●	●	●
3-position switch for external loudspeakers	option	option	option
Toe studs	12	12	15
Pedal:			
32 note AGO (C-g’)	●	●	●
Accessories:			
Couplers	3	3	6
Tremulants	3	3	4
Chorus	●	●	●
MB = Manual Bass	●	●	●
CF = Cantus Firmus	●	●	●
FA = Fix Accessories	●	●	●
RO = Reeds Off	●	●	●
0 = Cancel	●	●	●
S/S = All swells to swell	option	option	option
Temperaments:			
Equal	●	●	●
Werckmeister III	●	●	●
Meantone	●	●	●
External connections:			
MIDI In-Mod-Seq	●	●	●
Headphone Stereo up to 2kΩ	●	●	●
External Reverb 470Ω/300mV	●	●	●
Aux In1kΩ/70mV (stereo)	●	●	●
Aux Out 470Ω/300mV (stereo)	●	●	●
Loudspeaker Outputs 8Ω	option	option	option

Technical specifications Cabinet

	Sweelinck 10 AGO	Sweelinck 20 AGO	Sweelinck 30 AGO
Furniture:			
Dark oak or Light Oak	●	●	●
Other Colors or kind of wood	option	option	option
Wooden roll cover	●	●	●
Wooden expression pedals	●	●	●
Pedal lights	●	●	●
Bench with storage space	●	●	●
Bench with lid	option	option	option
Bank with adjustable height	option	option	option
Dimensions:			
Height (without music rack)	117 cm	117 cm	124 cm
Height (with music rack)	139 cm	139 cm	146 cm
Width	145 cm	145 cm	145 cm
Depth (without pedalboard)	63 cm	63 cm	76 cm
Depth (with 32 note AGO pedal)	100 cm	100 cm	100 cm

MIDI Implementation charts

JOHANNUS Organ — Date: Feb. 1999
SWEELINCK 10 AGO — **MIDI Implementation Chart** — Version 3.00

Functions		Transmitted	Recognized	Remarks
Basic Default **Channel** Changes		1, 2, 3, 12 1 - 16 [1]	1, 2, 3, 12 N	1 = Great 2 = Swell 3 = Pedal 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 11 100/101/6 100/101/6	Y Y Y Y	Y Y N N	General volume Expression pedals Pitch Transposer
Program Change	:True#	0 - 127 [1] * * * * * * * *	0 - 68 [2] 0 - 68 [2]	0 - 9 Stops Pedal 14 - 27 Stops Swell 32 - 45 Stops Great 48 - 52 Accessories [3] 56 - 60 Accessories [4] 64 - 68 Spec. Voices
System Exclusive		Y	Y	All stops off
Common	:Song Pos :Song Sel :Tune	N N N	N N N	
System Real Time	:Clock :Commands	N N	N N	
Aux	:Reset All Controller :Local On/OFF :All Notes OFF :Active Sense :Reset	N N N N N	N N Y N N	
Notes		[1] By meant of the programmable MIDI-stops [2] Except 10-13, 28-31, 46-47, 53-55 and 61-63 [3] Couplers and Tremulants [4] Midi's,Chorus and Intonation 2		

Mode 1: OMNY ON, POLY — **Mode 2**: OMNY ON, MONO — Y = YES
Mode 3: OMNY OFF, POLY — **Mode 4**: OMNY OFF, MONO — N = NO

JOHANNUS Organ
SWEELINCK 20 AGO

MIDI Implementation Chart

Date: Feb. 1999
Version 3.00

Functions		Transmitted	Recognized	Remarks
Basic Default **Channel** Changes		1, 2, 3, 12 1 - 16 [1]	1, 2, 3, 12 N	1 = Great 2 = Swell 3 = Pedal 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 11 100/101/6 100/101/6	Y Y Y Y	Y Y N N	General volume Expression pedals Pitch Transposer
Program Change	:True#	0 - 127 [1] * * * * * * * *	0 - 68 [2] 0 - 68 [2]	0 - 11 Stops Pedal 13 - 31 Stops Swell 32 - 47 Stops Great 56 - 60 Accessories [3] 64 - 68 Accessories [4] 72 - 76 Spec. Voices
System Exclusive		Y	Y	All stops off
Common	:Song Pos :Song Sel :Tune	N N N	N N N	
System Real Time	:Clock :Commands	N N	N N	
Aux	:Reset All Controller :Local On/OFF :All Notes OFF :Active Sense :Reset	N N N N N	N N Y N N	
Notes		[1] By meant of the programmable MIDI-stops [2] Except 12, 48-55, 61-63 and 69-71 [3] Couplers and Tremulants [4] Midi's, Chorus and Intonation 2		

Mode 1: OMNY ON, POLY
Mode 2: OMNY ON, MONO
Mode 3: OMNY OFF, POLY
Mode 4: OMNY OFF, MONO

Y = YES
N = NO

MIDI Implementation Chart

Functions		Transmitted	Recognized	Remarks
Basic	Default	1, 2, 3, 4, 12	1, 2, 3, 4, 12	1 = Choir 2 = Great 3 = Swell 4 = Pedal 12 = Stops
Channel	Changes	1 - 16 [1]	N	
Mode	Default	Mode 3	Mode 3	
	Messages	N	N	
	Altered	* * * * * * * *	N	
Note		36 - 96	36 - 96	
Number	True voice	* * * * * * * *	36 - 96	
Velocity	Note ON	9nH (v=64)	9nH v=1 - 127	
	Note OFF	9nH (v=0)	9nH v=0, 8nH v=*	*=irrelevant
After	Keys	N	N	
Touch	Channels	N	N	
Pitch Bend		N	N	
Control	7	Y	Y	General volume
	11	Y	Y	Expression pedals
Change	100/101/6	Y	N	Pitch
	100/101/6	Y	N	Transposer
Program		0 - 127 [1]	0 - 92 [2]	0 - 5 Accessories [3] 8 - 13 Stops Pedal 16 - 21 Stops Pedal 24 - 44 Stops Swell 46 - 62 Stops Great 64 - 74 Stops Choir 80 - 85 Accessories [4] 88 - 92 Spec. Voices
Change	:True#	* * * * * * * *	0 - 92 [2]	
System Exclusive		Y	Y	All stops off
Common	:Song Pos	N	N	
	:Song Sel	N	N	
	:Tune	N	N	
System	:Clock	N	N	
Real Time	:Commands	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] By meant of the programmable MIDI-stops [2] Except 6-7, 14-15, 22-23, 45, 63, 75-79 and 86-87 [3] Couplers [4] Midi's, Chorus and Intonation 2		

Mode 1: OMNY ON, POLY **Mode 2**: OMNY ON, MONO Y = YES
Mode 3: OMNY OFF, POLY **Mode 4**: OMNY OFF, MONO N = NO

Registration examples

Registration examples Sweelinck 10 AGO

			ppp	*pp*	*p*	*mf*	*f*	*ff*	*t*	Solo on Great	Solo on Swell	Trio 1	Trio 2	Romantic	Plenum
PEDAL															
Principal		16'	○	○	○	○	●	●	●	○	○	○	○	○	●
Subbass		16'	●	●	●	●	●	●	●	●	●	●	●	●	●
Octave		8'	○	○	○	●	●	●	●	○	○	●	●	○	●
Gedackt	8'	○	○	●	●	●	●	●	●	●	○	○	○	○	
Choralbass		4'	○	○	○	○	○	●	●	○	○	○	○	○	●
Nachthorn		2'	○	○	○	○	○	○	●	○	○	○	○	○	●
Rauschpfeife		IV	○	○	○	○	○	○	●	○	○	○	○	○	○
Contra Trumpet		16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Clarion		4'	○	○	○	○	○	○	●	○	○	○	○	○	○
SWELL															
Principal		8'	○	○	○	●	●	●	●	●	○	○	○	○	●
Rohrflute		8'	○	○	●	●	●	●	●	●	●	●	●	●	○
Viola di Gamba		8'	●	●	●	●	●	●	●	●	○	○	●	●	○
Vox Celeste		8'	○	●	●	○	○	○	○	●	○	○	○	●	○
Octave		4'	○	○	○	●	●	●	●	●	○	○	○	○	●
Koppelflute		4'	○	○	●	●	●	●	●	●	●	●	○	○	○
Flute Twelfth		$2^2/_3$'	○	○	○	●	●	●	●	●	●	○	○	○	○
Waldflute		2'	○	○	○	○	●	●	●	○	○	○	○	○	●
Nazard		$1^1/_3$'	○	○	○	○	○	●	●	○	○	●	○	○	●
Sesquialter		II	○	○	○	○	○	○	○	○	●	○	○	○	○
Scharff		III	○	○	○	○	●	●	●	○	○	○	○	○	●
Fagotto		16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Cromorne		8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Oboe		8'	○	○	○	○	○	○	●	○	○	○	○	○	○
GREAT															
Bourdon	16'	○	○	○	○	○	●	●	○	○	○	○	○	○	
Principal		8'	○	○	○	●	●	●	●	●	○	○	●	○	●
Stopped Flute		8'	●	●	●	●	●	●	●	●	●	●	○	●	○
Flute Celeste		8'	○	●	●	○	○	○	○	○	○	○	○	●	○
Gamba		8'	○	○	●	●	●	●	●	○	●	○	○	○	○
Octave		4'	○	○	○	○	●	●	●	○	○	○	○	○	●
Open Flute		4'	○	○	○	●	●	●	●	●	●	○	○	○	○
Twelfth		$2^2/_3$'	○	○	○	○	●	●	●	●	○	○	○	○	●
Superoctave		2'	○	○	○	○	○	●	●	○	○	○	○	○	●
Conical Flute		2'	○	○	○	○	●	●	●	○	○	●	○	○	○
Cornet		IV	○	○	○	○	○	○	○	●	○	○	○	○	○
Mixture		V	○	○	○	○	○	●	●	○	○	○	○	○	●
Trumpet		8'	○	○	○	○	○	○	●	○	○	○	○	○	○
Vox Humana		8'	○	○	○	○	●	●	●	○	○	○	○	○	○
ACCESSORIES															
Swell-Great			●	●	●	●	●	●	●	●	○	○	○	●	●
Great-Pedal			●	●	●	●	●	●	●	○	●	○	○	●	●
Swell-Pedal			●	●	●	●	●	●	●	●	○	○	○	●	●
Tremulant Great			○	○	○	○	○	○	○	●	○	○	○	●	○
Tremulant Swell			○	○	○	○	○	○	○	●	○	○	○	●	○
Chorus			○	○	○	○	○	○	○	●	○	○	○	●	○

Personal registrations Sweelinck 10 AGO

PEDAL															
Principal		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Subbass		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Gedackt	8'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Choralbass		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nachthorn		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rauschpfeife		IV	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Clarion		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
SWELL															
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rohrflute		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Viola di Gamba		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Vox Celeste		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Koppelflute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute Twelfth		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Waldflute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nazard		$1^1/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Sesquialter		II	○	○	○	○	○	○	○	○	○	○	○	○	○
Scharff		III	○	○	○	○	○	○	○	○	○	○	○	○	○
Fagotto		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Cromorne		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Oboe		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
GREAT															
Bourdon	16'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Stopped Flute		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute Celeste		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Gamba		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Open Flute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Twelfth		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Superoctave		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Conical Flute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Cornet		IV	○	○	○	○	○	○	○	○	○	○	○	○	○
Mixture		V	○	○	○	○	○	○	○	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Vox Humana		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
ACCESSORIES															
Swell-Great			○	○	○	○	○	○	○	○	○	○	○	○	○
Great-Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Swell -Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Great			○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Swell			○	○	○	○	○	○	○	○	○	○	○	○	○
Chorus			○	○	○	○	○	○	○	○	○	○	○	○	○

Registration examples Sweelinck 20 AGO

		ppp	*pp*	*p*	*mf*	*f*	*ff*	*t*	Solo on Great	Solo on Swell	Trio 1	Trio 2	Romantic	Plenum
PEDAL														
Principal	16'	○	○	○	○	○	●	●	○	○	○	○	○	●
Subbass	16'	●	●	●	●	●	●	●	●	●	●	○	●	●
Octave	8'	○	○	○	○	●	●	●	○	○	●	●	○	●
Gedackt	8' ○	○	●	●	●	●	●	●	●	○	○	●	○	
Choralbass	4'	○	○	○	○	○	●	●	○	○	○	●	○	●
Bassflute	4'	○	○	○	○	●	●	●	○	○	○	○	○	○
Nachthorn	2'	○	○	○	○	○	●	●	○	○	○	○	○	●
Rauschpfeife	IV	○	○	○	○	○	○	●	○	○	○	○	○	●
Bombarde	32'	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Trumpet	8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Clarion	4'	○	○	○	○	○	○	●	○	○	○	○	○	○
SWELL														
Quintaton	16'	○	○	○	○	●	●	●	○	○	○	○	○	○
Principal	8'	○	○	○	●	●	●	●	●	○	○	○	○	●
Rohrflute	8'	○	○	●	●	●	●	●	●	●	●	●	●	○
Viola di Gamba	8'	●	●	●	●	●	●	●	●	○	○	○	●	○
Vox Celeste	8'	○	●	●	○	○	○	○	●	○	○	○	●	○
Octave	4'	○	○	○	○	●	●	●	○	○	○	○	○	●
Koppelflute	4'	○	○	○	●	●	●	●	●	○	○	○	●	○
Salicional	4'	○	○	○	●	●	●	●	○	○	○	○	○	○
Flute Twelfth	$2^2/_3$'	○	○	○	○	●	●	●	●	●	○	●	●	○
Octave	2'	○	○	○	○	●	●	●	○	○	●	○	○	●
Waldflute	2'	○	○	○	○	●	●	●	○	○	○	○	○	○
Nazard	$1^1/_3$'	○	○	○	○	○	●	●	○	○	●	○	○	●
Octave	1'	○	○	○	○	○	○	●	○	○	○	●	○	●
Sesquialter	II	○	○	○	○	○	○	○	○	●	○	○	○	○
Scharff	III	○	○	○	○	○	○	●	○	○	○	○	○	●
Fagotto	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Festival Trumpet	8' ○	○	○	○	○	○	○	○	○	○	○	○	○	
Cromorne	8'	○	○	○	○	●	●	●	○	○	○	○	○	○
Oboe	8'	○	○	○	○	○	●	●	○	○	○	○	○	○
GREAT														
Bourdon	16' ○	○	○	○	○	●	●	○	○	○	○	○	○	
Principal	8'	○	○	○	○	●	●	●	●	○	○	●	○	●
Diapason	8'	○	○	○	●	●	●	●	○	○	○	○	●	○
Stopped Flute	8'	○	●	●	●	●	●	●	○	●	●	○	●	○
Flute Celeste	8'	○	○	●	○	○	○	○	○	○	○	○	●	○
Gamba	8'	●	●	●	●	●	●	●	○	●	○	○	●	○
Octave	4'	○	○	○	○	●	●	●	●	○	○	○	○	●
Open Flute	4'	○	○	○	●	●	●	●	●	○	○	○	○	○
Twelfth	$2^2/_3$'	○	○	○	○	●	●	●	●	○	●	○	○	●
Superoctave	2'	○	○	○	○	○	●	●	○	○	○	●	○	●
Conical Flute	2'	○	○	○	○	●	●	●	○	○	○	○	○	○
Cornet	IV	○	○	○	○	○	○	○	●	○	○	○	○	○
Mixture	VII	○	○	○	○	○	●	●	○	○	○	○	○	●
Contra Trumpet	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Trumpet	8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Vox Humana	8'	○	○	○	○	●	●	●	○	○	○	○	○	○
ACCESSORIES														
Swell-Great		●	●	●	●	●	●	●	●	○	○	○	●	●
Great-Pedal		●	●	●	●	●	●	●	○	●	○	○	●	●
Swell -Pedal		●	●	●	●	●	●	●	●	○	○	○	●	●
Tremulant Great		○	○	○	○	○	○	○	●	○	○	○	●	○
Tremulant Swell		○	○	○	○	○	○	○	●	○	○	○	●	○
Chorus		○	○	○	○	○	○	○	●	○	○	○	●	○

Personal registrations Sweelinck 20 AGO

PEDAL															
Principal		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Subbass		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Gedackt	8'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Choralbass		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nachthorn		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rauschpfeife		IV	○	○	○	○	○	○	○	○	○	○	○	○	○
Bombarde		32'	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Clarion		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
SWELL															
Quintaton		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rohrflute		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Viola di Gamba		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Vox Celeste		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Koppelflute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Salicional		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute Twelfth		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Waldflute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nazard		$1^1/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		1'	○	○	○	○	○	○	○	○	○	○	○	○	○
Sesquialter		II	○	○	○	○	○	○	○	○	○	○	○	○	○
Scharff		III	○	○	○	○	○	○	○	○	○	○	○	○	○
Fagotto		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Festival Trumpet	8'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Cromorne		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Oboe		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
GREAT															
Bourdon	16'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Diapason		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Stopped flute		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute Celeste		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Gamba		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Open Flute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Twelfth		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Superoctave		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Conical Flute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Cornet		IV	○	○	○	○	○	○	○	○	○	○	○	○	○
Mixture		VII	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Vox Humana		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
ACCESSORIES															
Swell-Great			○	○	○	○	○	○	○	○	○	○	○	○	○
Great-Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Swell -Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Great			○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Swell			○	○	○	○	○	○	○	○	○	○	○	○	○
Chorus			○	○	○	○	○	○	○	○	○	○	○	○	○

Registration examples Sweelinck 30 AGO

		ppp	pp	p	mf	f	ff	t	Solo on Great	Solo on Swell	Trio 1	Trio 2	Romantic	Plenum
PEDAL														
Principal	16'	○	○	○	○	●	●	●	○	○	○	○	○	●
Subbass	16'	●	●	●	●	●	●	●	●	●	●	○	●	●
Octave	8'	○	○	○	●	●	●	●	●	○	●	●	○	●
Gedackt	8' ○	○	●	●	●	●	●	●	●	○	●	●	○	
Choralbass	4'	○	○	○	○	●	●	●	○	○	○	○	○	●
Bassflute	4'	○	○	○	○	○	●	●	○	○	○	○	○	○
Nachthorn	2'	○	○	○	○	○	●	●	○	○	○	○	○	●
Rauschpfeife	IV	○	○	○	○	○	○	●	○	○	○	○	○	●
Bombarde	32'	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Trumpet	8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Clarion	4'	○	○	○	○	○	○	●	○	○	○	○	○	○
SWELL														
Quintaton	16'	○	○	○	○	●	●	●	○	○	○	○	○	○
Principal	8'	○	○	○	●	●	●	●	●	●	○	●	○	●
Rohrflute	8'	○	○	●	●	●	●	●	●	●	●	○	●	○
Viola di Gamba	8'	●	●	●	●	●	●	●	●	○	○	○	●	○
Vox Celeste	8'	○	●	●	○	○	○	○	●	○	○	○	●	○
Octave	4'	○	○	○	○	●	●	●	●	○	○	○	○	●
Koppelflute	4'	○	○	○	●	●	●	●	●	●	●	○	●	○
Salicional	4'	○	○	○	○	●	●	●	●	○	○	○	○	○
Flute Twelfth	$2^2/_3$'	○	○	○	○	●	●	●	●	●	○	●	●	○
Octave	2'	○	○	○	○	○	●	●	○	○	○	○	○	●
Waldflute	2'	○	○	○	○	●	●	●	○	○	○	○	○	○
Nazard	$1^1/_3$'	○	○	○	○	○	●	●	○	○	●	○	○	●
Octave	1'	○	○	○	○	○	○	●	○	○	○	●	○	●
Sesquialter	II	○	○	○	○	○	○	○	○	●	○	○	○	○
Scharff	III	○	○	○	○	○	●	●	○	○	○	○	○	●
Fagotto	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Festival Trumpet	8' ○	○	○	○	○	○	○	○	○	○	○	○	○	
Cromorne	8'	○	○	○	○	●	●	●	○	○	○	○	○	○
Oboe	8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Schalmei	4'	○	○	○	○	○	○	●	○	○	○	○	○	○
Tremulant Swell		○	○	○	○	○	○	○	●	○	○	○	●	○
GREAT														
Principal	16'	○	○	○	○	○	●	●	○	○	○	○	○	○
Principal	8'	○	○	○	●	●	●	●	●	○	○	●	○	●
Diapason	8'	○	○	●	●	●	●	●	○	○	○	○	●	●
Stopped Flute	8'	○	●	●	●	●	●	●	●	●	●	○	●	○
Flute Celeste	8'	○	○	●	○	○	○	○	○	○	○	○	●	○
Gamba	8'	●	●	●	●	●	●	●	○	●	○	○	●	○
Octave	4'	○	○	○	○	●	●	●	●	○	○	○	○	●
Open Flute	4'	○	○	○	●	●	●	●	●	●	○	○	●	○
Twelfth	$2^2/_3$'	○	○	○	○	○	●	●	●	○	●	○	○	●
Superoctave	2'	○	○	○	○	○	●	●	○	○	○	○	○	●
Conical Flute	2'	○	○	○	○	●	●	●	○	○	○	●	○	○
Cornet	IV	○	○	○	○	○	○	○	●	○	○	○	○	○
Mixture	VII	○	○	○	○	○	●	●	○	○	○	○	○	●
Contra Trumpet	16'	○	○	○	○	○	○	●	○	○	○	○	○	○
Trumpet	8'	○	○	○	○	○	●	●	○	○	○	○	○	○
Vox Humana	8'	○	○	○	○	●	●	●	○	○	○	○	○	○
Tremulant Great		○	○	○	○	○	○	○	●	○	○	○	●	○
CHOIR														
Principal	8'	○	○	●	●	●	●	●	○	○	○	●	○	●
Bourdon	8' ●	●	●	●	●	●	●	●	●	●	○	●	○	
Octave	4'	○	○	○	●	●	●	●	○	○	○	○	○	●
Flute	4'	○	○	●	●	●	●	●	●	●	○	○	●	○
Nazard	$2^2/_3$'	○	○	○	○	○	●	●	○	○	○	○	○	○
Flute	2'	○	○	○	○	●	●	●	○	○	●	●	○	●
Tierce	$1^3/_5$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave	1'	○	○	○	○	○	●	●	○	○	○	○	○	●
Cymbale	III	○	○	○	○	○	○	●	○	○	○	○	○	●
Regal	8'	○	○	○	○	○	○	●	○	○	○	○	○	○
Tremulant Choir		○	○	○	○	○	○	○	●	○	○	○	●	○
ACCESSORIES														
Choir-Great		○	○	●	●	●	●	●	●	●	○	○	●	●
Swell -Great		○	●	●	●	●	●	●	●	○	○	○	●	●
Swell -Choirf		○	○	●	●	●	●	●	●	○	○	○	●	●
Choir-Pedal		○	●	●	●	●	●	●	●	●	○	○	●	●
Great-Pedal		○	○	○	●	●	●	●	○	○	○	○	●	●
Swell-Pedal		○	○	●	●	●	●	●	●	○	○	○	●	●
Chorus		○	○	○	○	○	○	○	●	○	○	○	●	○

Personal registrations Sweelinck 30 AGO

PEDAL															
Principal		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Subbass		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Gedackt	8'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Choralbass		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Bassflute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nachthorn		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rauschpfeife		IV	○	○	○	○	○	○	○	○	○	○	○	○	○
Bombarde		32'	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Clarion		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
SWELL															
Quintaton		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Rohrflute		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Viola di Gamba		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Vox Celeste		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Koppelflute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Salicional		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute Twelfth		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Waldflute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nazard		$1^1/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		1'	○	○	○	○	○	○	○	○	○	○	○	○	○
Sesquialter		II	○	○	○	○	○	○	○	○	○	○	○	○	○
Scharff		III	○	○	○	○	○	○	○	○	○	○	○	○	○
Fagotto		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Festival Trumpet	8'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Cromorne		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Oboe		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Schalmei		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Swell			○	○	○	○	○	○	○	○	○	○	○	○	○
GREAT															
Principal		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Diapason		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Stopped Flute		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute Celeste		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Gamba		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Open Flute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Twelfth		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Superoctave		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Conical Flute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Cornet		IV	○	○	○	○	○	○	○	○	○	○	○	○	○
Mixture		VII	○	○	○	○	○	○	○	○	○	○	○	○	○
Contra Trumpet		16'	○	○	○	○	○	○	○	○	○	○	○	○	○
Trumpet		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Vox Humana		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Great			○	○	○	○	○	○	○	○	○	○	○	○	○
CHOIR															
Principal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Bourdon	8'	○	○	○	○	○	○	○	○	○	○	○	○	○	
Octave		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute		4'	○	○	○	○	○	○	○	○	○	○	○	○	○
Nazard		$2^2/_3$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Flute		2'	○	○	○	○	○	○	○	○	○	○	○	○	○
Tierce		$1^3/_5$'	○	○	○	○	○	○	○	○	○	○	○	○	○
Octave		1'	○	○	○	○	○	○	○	○	○	○	○	○	○
Cymbale		III	○	○	○	○	○	○	○	○	○	○	○	○	○
Regal		8'	○	○	○	○	○	○	○	○	○	○	○	○	○
Tremulant Choir			○	○	○	○	○	○	○	○	○	○	○	○	○
ACCESSORIES															
Choir-Great			○	○	○	○	○	○	○	○	○	○	○	○	○
Swell-Great			○	○	○	○	○	○	○	○	○	○	○	○	○
Swell-Choir			○	○	○	○	○	○	○	○	○	○	○	○	○
Choir-Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Great-Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Swell-Pedal			○	○	○	○	○	○	○	○	○	○	○	○	○
Chorus			○	○	○	○	○	○	○	○	○	○	○	○	○