Organist Version

Operation Manual

Traditional Display Build

www.opustwoics.com

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Introduction

Welcome to the Opus-Two Instrument Control System, the most flexible user-programmable control system available today. The Opus-Two hardware can control instruments ranging from no keyboards (MIDI only) to over eight keyboards, with a virtually unlimited number of combinations in between. The system is designed to be extremely easy for the organist and organ builder to use, and will provide years of reliable service if properly installed.

No technical background or expertise is required for the organist to use the system. Interface with the organist is most commonly through a Multi-Line Display, controlled by several labeled buttons. The first section of this document explains how to access and use the user features.

Organist Operation

System Features (At a Glance)

- 250 Level Combination Action
- Each memory level features individual ranges/masks
- Fully Programmable MIDI In & Out Jacks
- High Resolution Internal Record/Playback Sequencer

Interacting With The Display

The Opus Two Display is designed to give at quick glance a snapshot of the current status of the features commonly used by the organist, including Transposer, Memory Level Selector, and Crescendo Status.

There are 6 buttons located in proximity to the display that are used to control it:

Up	Transpose	Track	Play	Record	Down

The features described below are part of all systems and are enabled by default. Any functions that are controlled externally with dedicated up/down pistons and/or LED displays may not appear in the menu window. Some functions may be configured to only appear on the display when they are active such as transposer, crescendo readout, and sequencer.

Default Display
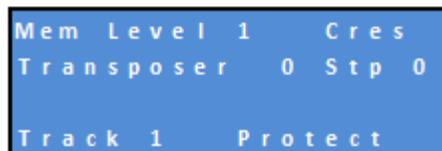
```
Mem  Level  1        Cres
Transposer     0  Stp  0


Track  1        Protect
```

If not configured to be different, the default display is shown above. In the configuration of the system, transposer, crescendo, and Record/Playback can all be hidden (or hidden unless they are in use).

Normally hidden unless active is the third line, which shows Recording and Playing in progress.

Memory Level Selection

A memory level is an individual set of pistons, designed to be used together. Each piston can contain different contents for each level. Often organists are assigned one or more levels for their specific use. The Opus-Two system Next Generation systems feature 250 memory levels by default. Under normal circumstances, the system is in Memory Level mode, where the up/down pistons change the memory level. See "Piston Management" for more information.

Transposer

The transposer allows the organist to shift keying up or down one semitone at a time, allowing a piece to be played in its original key, but sound in a different key. This is often used when accompanying instruments that have a different center of tuning (such as most b flat orchestral instruments).

To use the transposer, simply press the "transpose" button and the up/down pistons will then control the transposer. To release control of the transposer, press transposer again; this will release the up/down pistons to control memory levels. Pressing general cancel will also release the transposer control.

Piston Tracking (Optional)
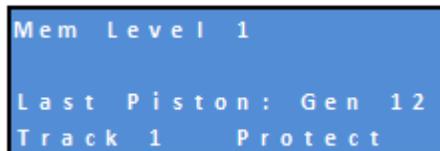
```
Mem  Level  1

Last  Piston:  Gen  12
Track  1       Protect
```

The piston tracking displays the last piston pressed. This can be helpful for a variety of reasons and also functions during the piston sequencer. The display will continue to show the last piston button pressed regardless of changes made to the physical stop controls. This line will clear when general cancel is pressed.

Crescendo

The crescendo allows stops to be added blindly (stop tabs do not move), gradually building the organ to a near full organ sound. Each stage is individually programmable in the menu. The current stage is shown on the display.

Setting the Crescendo

To access the *crescendo set* mode of the display:

1) Press Track + Transpose at the same time to enter Common-Memory mode.
2) Press Track + Record at the same time to enter Piston Range mode.
3) Press Transpose to enter Crescendo Setup.

To create/modify a crescendo program:

1) Once in Crescendo Setup mode, press the up and down pistons to select a particular step. Once on that step, pressing the Play button will display what is on that step. Pressing the record button will save what is on the tab rail to that step and advance to the next step.
2) Once on the next stage, the user can press the Play button to view the contents of the step or simply add a few stops and save again.
3) After making all changes, press the "Transpose" button repeatedly until back to a normal display to exit.

Note: The crescendo is permanently saved step-by-step as it is created. Therefore, if overwriting an existing crescendo, the existing data is overwritten a little more each time the Record button is pressed.

Sforzando/Tutti

The sforzando/tutti allows stops to be added blindly (stop tabs do not move), typically providing a full organ sound. Each sforzando is individually programmable in the menu.

Setting the Tutti

To access the *Tutti Set* mode of the display:

1) Press Track + Transpose at the same time to enter Common-Memory mode.
2) Press Track + Record at the same time to enter Piston Range mode.
3) Press Transpose to enter Crescendo Setup. Press again to enter Tutti Setup.
4) Once in Tutti Setup mode, press the up and down pistons to select a particular tutti (most organs only use Sforz1, the first option). Once on the desired tutti, pressing the Play button will display what is saved in that tutti. Pressing the record button will save what is on the tab rail to that tutti.
5) One can easily navigate to the next step, add a few stops, and save again.
6) After making all changes, press the "Transpose" button repeatedly until back to a normal display to exit.

Combination Action & Piston Management

A Word About Pistons

There are two factors that come into play with pistons, the range and the actual contents. The range determines what stops the piston can control. Just because a piston is labeled general or divisional does not mean that it is limited to that capacity. Each and every piston can control just one division, several divisions, all divisions, some features, etc. This can be controlled and changed by the organist relatively easily. The contents that are stored in each piston are which stops within the range are on or off. For example, if an organist desires more general pistons and does not use divisional pistons, they can be re-assigned to control all stops. Each memory level has its own customizable ranges. For example, an organist may choose to have a piston that can act as a "Reeds Off" ventil. This piston would have its Range set to include all the reeds, and the contents of the piston would be empty. Therefore, while playing, when an organist presses that piston, it only turns off the reeds, because that is all its range allows it to control.

Setting the Range

This is typically only done by the builder when initially setting up an instrument or by an organist after the fact who desires to re-range pistons. See "Setting a Piston" for normal combination action use. To view or change the current range on an individual piston:

1) Press Transpose + Track at the same time to enter Common-Memory mode.
2) Press Track + Record at the same time to enter Piston Range mode.
3) Once in Piston Range mode, hold Play while pressing a piston to view its current range.
4) To change or set a piston range, turn on all stops or couplers that should be in the range. Hold Record and press the piston to store the range to that piston. It is not necessary to release Record between multiple piston range settings.
5) After making all changes, press the "Transpose" button repeatedly until back to a normal display to exit.

Setting a Piston

This is the normal piston/saving procedure to use on a daily basis. To save currently selected stops to an individual piston:

1) Press and hold the [SET] piston.
2) Momentarily press the piston in question.
3) Release the [SET] piston.
4) The stops that are on have now been saved to that piston.

Tripper Set (Optional)

Tripper style set allows an organist to hold a piston and after 2 seconds, the system goes into "tripper set mode." As long as the piston is held down, any changes made to the stop rails will be re-set into the piston. This saves a lot of time when making small/quick changes to pistons. Please note that this feature requires solid state pistons with reliable contact mechanisms to work properly.

Piston Sequencer (optional)

The piston sequencer allows an organist to "step through" the existing general pistons in order. The piston sequencer is configured by the organ builder to know which pistons are generals and will typically include all of them. The piston sequencer can have an enable button or can be active all the time. Dedicated "Next" and "Previous" buttons (sometimes marked + and -) on the console will control the sequencer. Typically, when the sequencer reaches the last piston on a memory level, it will automatically advance to the next level and begin sequencing through the pistons on the next level.

It is important to understand that the sequencer uses existing general pistons and does not have a "dedicated memory bank" of separate pistons as some other manufacturers do.

General Piston Shift (optional)

The General Piston Shift takes advantage of the fact that Opus-Two has a large amount of memory and can store more pistons on a level than actual controls that physically exist. If an instrument has 20 general pistons, and the General Piston Shift is enabled, those generals will now function as 21-40, effectively doubling the capacity of the level from a piston sequencing perspective. This feature is quite useful in historic restorations where the client does not desire to have a different number of pistons than existing originally, but desires some degree of flexibility.

General Piston Shift can be layered for additional flexibility. Layers would typically be labelled as "General Piston Shift A" through "General Piston Shift D" (or as many layers are created). This allows even more generals to be in a single memory level, all accessible within a single memory level.

This chart is shows how a console with only 5 general pistons can have 20 generals worth of space on each memory level.

	General Shift A	General Shift B	General Shift C	General Shift D
General Piston #1	1	6	11	16
General Piston #2	2	7	12	17
General Piston #3	3	8	13	18
General Piston #4	4	9	14	19
General Piston #5	5	10	15	20

Built In Performance Sequencer

Introduction to the Sequencer

The built in sequencer is one of the most popular Opus-Two features. The sequencer allows a number of songs to be recorded into the organ for playback later. Organists often record postludes, preludes, or even anthems (freeing them to direct the choir). These songs are recorded individually, or in groups.

Tracks

The name "Track" could be interchanged with "song." Because of the large amount of memory available to the Opus-Two system, a large number of tracks are available. Organists will sometimes record several pieces onto one track with a small pause between them if they are to be played back together (such as two preludes).

Selecting a Track

The system defaults to track 1 on startup. Holding the Track piston while pressing the up/down pistons will change the current track.

Unlocking a Track

By default, all tracks are protected and cannot be overwritten. To unlock a selected track, simple hold the track piston and touch Record. The display will update change from "Track x protected" to "Track x enabled." Please be warned, this is the only step stopping the user from accidentally deleting a track. **Be sure you want to erase/rewrite the contents of a track BEFORE you unlock it.**

Recording a Track

When the track is enabled (unprotected), simply press the Record piston to start recording. A timer will show that the system is recording. Pressing Record will immediately erase anything on that track and start recording from the beginning.

Playing a Track

To play the selected track, simply press the Play button. Press Track during playback to pause/resume. Press Play again to stop the playback. Make sure no stops are selected on the console and that the expression shoes are closed for most accurate results.

Technical Troubleshooting

Common Memory

Description

The common memory series of menus is a feature unique to Opus-Two and allow any user to view the contents of any memory buffer in real time. This allows anyone, including an organist, to verify whether keys are wired in order, contacts are working, etc.

Accessing Common Memory

While on the home screen, hold the set button and quickly press cancel. Alternately, hold the Track button and quickly press Transpose. The display will show "Cmn-Mem" and the buffer currently being displayed. A list of available data buffers is below:

1) Acc	17) Temp W2	33) RLE DEC 2	49) Temp Work
2) Great	18) Temp W3	34) RLE State 0	50) Coding Wrk
3) Solo	19) Temp W4	35) RLE State 1	51) Cnsole Wrk
4) Choir	20) Tabs 1	36) RLE State 2	52) SM Wrk
5) Great2	21) Tabs 2	37) RLE State 3	53) Rec Dat Blk
6) Bombrd	22) Tab Mask	38) Midi Inputs	54) SCT Buff
7) Pedals	23) Work State	39) Midi Outs	55) CA Info
8) Pistons	24) Next State	40) Card Outs	56) Dwr State 2
9) Cresc Roller	25) Cresc Area	41) SCT buffer	57) Display In
10) Expression	26) SC In	42) Rec Buf 0	58) SC Chain
11) Drawer	27) Analog	43) Rec Buf 1	59) PZ Timers
12) Drwr State	28) SC Pedals	44) SC Toggles	60) RT Timers
13) Indic Bits	29) Data Block	45) Saved Tabs	61) Input Card
14) Midi RX	30) Data Blck B	46) Coils 1	
15) Midi TX	31) RLE DEC 0	47) Coils 2	
16) Temp W1	32) RLE DEC 1	48) Coils 3	

Getting Service/Help

First Things First

Call your pipe organ technician. They should always be your first resource for troubleshooting problems.

Then What?

Go to www.opustwoics.com and look for a link to the Support Helpdesk. There you can put in a "trouble ticket" and get a personal reply from a technician (often within a few minutes, always within 24 hours).