MultiLevel Capture System

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Operation Guide

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Introduction

This booklet guides you through the operation of the Solid State Organ Systems MultiLevel Capture System.

All SSOS products are designed to be as easy to use as possible, and because of this it is certainly possible to start using the system immediately. However we recommend you read through the relevant sections of this book at least once as you may find features hidden in the system that are not apparent from a first glance.

There are as many different arrangements of the MultiLevel Capture System as there are organs. Some of the features described may not be available on the organ you are sitting at today, but it is worth reading quickly through as with several thousand systems installed world-wide you may well experience them on other instruments.

This is a guide for the operation of Solid State Organ Systems MultiLevel Capture systems. Several versions (formats) of these systems are available, depending upon the requirements of a particular organ. Instructions for all functions on each format are given in this manual, although some functions may not be provided for this particular system.

We have designed these systems for production in four formats (A, B, C, and D), which are briefly described as follows:

- Format A is the simplest form, containing 8 Memory- levels, and eight General Special functions (Tuttis, etc.);

- Format B is the same as format A, but with the addition of an adjustable Crescendo-pedal facility and 8 General Special functions, having 8 Memory-levels selected on a Control-panel;

- Format C provides the facilities of Format B plus additional Memory-levels up to 256 and all other functions available on the system.

- Format D adds the option of a disk backup system called Total Recall to the Format C.

Each Memory-level has a complete and independent set of piston memories. When specified, the adjustable Crescendo-pedal function has one STANDARD (fixed) and three (A, B & C) settings which may be adjusted by the organist to his own requirements. When commissioning the system, your organ builder will usually set fixed functions, such as Tutti (full organ), Ventils, Cancellers, etc. into the system, but these may be altered on each Memory-level to your own setting as described later. When a Memory-level is CLEARed, however, these settings will revert back to those set by the organ builder.

Firstly you will need to recognise the type of system you have in front of you. A, B, C, or D. If you are installing the system, this information is available on the title page of the installation guide. If you are sitting at the system for the first time then you will need to identify the essential parts.

Format A Systems

The 8 Memory-levels are usually selected by the use of a rotary switch, although your organ builder may have used alternative- type switches for this purpose. With any method used, the Memory-level in use at any time is indicated either by the switch position or by a lighted lamp. Other available functions are Selective Cancels (blind or face-value), Tuttis, Reversers, etc., up to a total of 8.

Tuttis
There are one or more Tuttis available, which can have independent settings on each Memory-level. To reset a Tutti, press the button marked BLIND CHECK (if provided), when its lamp will light. In this mode, the Tutti piston will cause the stops to move as with a normal piston. Now select the stops required on the Tutti, hold SET and press the Tutti piston. Now press the BLIND CHECK button, when its lamp will extinguish and the Tutti will operate normally. Any Tutti setting may be checked while in the BLIND CHECK mode.

Settable Cancels

There are up to eight settable Cancels (General Special function) with this format. The setting procedure is exactly the same as for the Tuttis described above. The Cancel operates over the whole organ and cancels by moving all stops set into it to the OFF position and ignoring all other stop positions. This may, therefore be used as "Octave Couplers Off", "Doubles Off", "Reeds Off", "Celestes Off", etc. Also available are eight "General Inhibits", which can be set to cancel a group of stops without moving the stops (Ventils). A lamp output is provided to indicate when these are in use.

All adjustable piston settings on any Memory-level may be cancelled by holding the SET and CLEAR buttons together when provided. The settings of both the Tutti and Cancels will then revert to those set into the system by your organ builder.

Locking

Any Memory-level may be locked independently of all others, when no settings on that level may be changed. A "locked" level will behave quite normally in every other respect. A "CLEAR" level cannot be Locked.

To lock a level, select the required level, twist the lock key and release. A lamp adjacent to the Memory selector-switch is often installed, which will light when a locked Memory-level is selected. To unlock a level, repeat the above. When independent selection of Divisional and General Memories is provided, each Memory-level of Divisional and General pistons may be locked independently.

Systems with Control Panels

All format B, C and D systems normally have one or more Control-panels. The first Control-panel is for the digital indication of the Memory-level in use and for resetting the Crescendo- pedal function. The second Control-panel is for the programming and recalling of General piston sequences when provided.

Main Control Panel

Memory-level selection is made by pressing the buttons marked with arrows pointing UP and DOWN. When one of these buttons is pressed and released, the Memory-level will move to the next or previous one, which will be indicated in the Digital display. If an UP or DOWN button is held ON, the level number will move to the next, then after a short pause, will "roll-over" to the highest level or that reached upon release of the button.

If the LED* of the CLEAR button lights when a Memory-level is selected, this indicates that no piston settings are stored in the memory of that level.

LED means Light-Emitting Diode, a small solid-state lamp.

Locking

Each Memory-level may be LOCKED independently of all others to prevent the accidental or unauthorised alteration of settings.

To lock a particular level, select that level, twist the key and release it, when the legend "Locked" will appear in the display-panel. This legend will also appear when any Locked Memory-level is selected. To unlock a level, twist the key and release.

Setting of All Functions

All setting is carried out in the conventional way: select the stops, hold the SET button and press the piston, then release both. If the correct procedure is followed, the legend "Setting" will appear in the display-panel momentarily to confirm that the setting has been completed successfully.

The same procedure applies to the setting of all other functions as listed below.

Crescendo Selection

The facility of four Crescendo-pedal settings is provided when specified. These are designated "STANDARD", "A", "B" and "C". The "STANDARD" setting is entered by the organ builder when commissioning the system and cannot be changed by the organist. The settings of Crescendos A, B & C may be set by the following procedure:

- Hold the SET button and press "CRESCendo ADJUST", when its LED will light.

- Release both buttons.

- The LED in the "BLIND CHECK" button may also light.

If it Blind lights , then you have a choice…When adding a new crescendo from blank memory it is best to use Blind Check On, but if you are making large changes and you don't want the stops to move each time you select the next crescendo then press Blind Check to extinguish the LED.

- Now hold SET and press "CLEAR". With the Crescendo-pedal closed, the digital display on the Control-panel will read the stage number, now 00.

- Press the UP (arrow pointing upwards) button, when the stage number will move to 01. Draw the stops required on that stage and press SET.

- Press the UP button again to set stage 02, etc.   Note that stops may be added or removed on each stage as required. Upon reaching the last stage (30 or 60), you may check each stage by pressing the DOWN and UP buttons as required and amending any stage settings desired. Do not stop before the end or the remaining memories.

An aid to setting the Crescendo, "Autostep" can be initiated if desired which will cause the Crescendo automatically to move to the next step each time the SET button is pressed when in the CRESCendo ADJUST mode. Please consult your organ builder.

When all is correct, press the "CRESCendo ADJUST" button, when its LED will extinguish and the digital display will revert to indicating the Memory-level. The Crescendo-pedal will now operate the stops in the same order without moving the drawknobs and operate its position-indicator if provided.

Copying a Crescendo

It is possible to copy a crescendo. For example if you wish to copy from A to B then follow this example.

- Set up a crescendo in A and then choose Crescendo B.

- Push Set and Crescendo Adjust for Crescendo B.

- Push and hold the Memory Up button and also push Crescendo Adjust again. Release the Memory Up button.

- Crescendo A memory has now been copied to Crescendo B.

- Copying from B to C is the same procedure. It is also possible to copy from B to A and C to B using the same procedure with the Memory Down button.

Engraved Functions

We have given this name to fixed pistons that often have their function engraved i.e. Tutti, Doubles Off, Ventils, etc. These are usually set into the system by the organ builder, but they may be changed on any Memory-level as required:
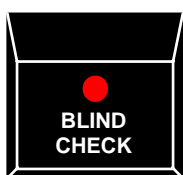
Some engraved functions will operate "Blind", their function will be apparent as in the case of a tutti but nothing will be indicated on the console. This is fine for normal operation but if you should wish to change the settings it will be necessary to discover which stops are in use. For this use the Blind Check Button.

If you press the blind check switch, a lamp will light to indicate it is selected. Now press a tutti, if there is anything set in the tutti the stops will now move. If nothing moves it could be because nothing has been set in the tutti memory.

Setting Tuttis and other functions.
To set a tutti, first the system must be in blind check. Now the tutti pistons operate in the same way as a general piston.

1. Select the stops you wish to use for the one tutti.

2. Press and Hold to Set switch.

3. Press and release the Tutti you wish to set.

4. Release the Set switch.

Press the Blind check again to release the Blind Check system.

Doubles Off and other Cancels.
To set a cancel, first the system must be in blind check. Now the pistons operate in the same way as a general piston.

1. Select the stops you wish to cancel. (The stops that are on will cancel)

2. (yes it works backwards!)

3. Press and Hold to Set switch.

4. Press and release the cancel you wish to set.

5. Release the Set switch.

Press the Blind check again to release the Blind Check system.

Notes
Tutti (full-organ) pistons may be inclusive or exclusive of the stops already drawn. Please consult your organ builder if the alternative to that provided is required.

VENTILS (General or Divisional) are the electronic equivalent of the wind Ventil of French tradition and have the effect of silencing a group of stops without moving their drawstops. As these functions are "blind", it is normal to light an indicator lamp to show when these are in use. When setting, follow the above procedures - drawing the required stops to be silenced to the ON position when in the "BLIND CHECK" mode.

Selective ON and OFF controls are sometimes specified. This enables a group of stops to be programmed ON or OFF without affecting any other stops. We have defined this (and the Ventil functions) as "OFF (or ON) d/c" (d/c means "don't care"!). That General and Divisional

Cancellers are not adjustable and none of the above operations may be performed when the Memory-level is "LOCKED".

An extra feature "AUTOSET" is available in format A, B and C systems. This operates in the same way as with some early "Capture" systems, whereby the piston to be reset is held. After about 1 second, the "Setting" display lights, when stops required on or off it are moved to their ON or OFF positions, when the piston is released and those stops are set. This feature may be used in the absence of a "SET" button or used in conjunction with one, when a combination requires only a minor amendment (a SET button is required, of course to initiate CLEAR, CRES ADJUST, and to set the Crescendo, etc.).

Clear
All piston settings in a Memory-level may be cleared by holding the SET button and pressing the "CLEAR" button, when its LED will light.

If your organ builder has followed our recommendations for the commissioning of the system, all "Engraved functions" will now revert to their original settings if they have been changed on the selected Memory-level.

Store and Retrieve
An optional feature adds two pistons to the console to copy pistons between memory levels. The feature works like copy and paste for entire memory levels.

1. Select a memory level that you wish to copy.

2. While holding the setter piston push the Store piston. The setting indicator will flash.

3. Select the memory level you wish to update. Remember all the piston memories in this new level will be destroyed!

4. While holding the setter piston push the Retrieve piston. The setting indicator will flash.

The new level will now contain all the piston memories from the old level.

List Control Panel

The SSOS List System enables general pistons to be activated in a preset order by a single piston called 'NEXT'. There are up to 40 (with an option of 64) general pistons available on each level with a List System. Although they may not all actually have a physical piston, they can all be accessed from the control panel. The list is a sequence of numbered steps representing the order in which the general pistons will activate. A different list may be created for each level.

The control panel contains a dual display. The left side of the display shows the current step number (1-99) and the right side shows the current general piston (1-40). Whenever a general piston is pressed, the right hand display will show the number of that piston. Pressing general cancel will blank the right hand display.

To Use the List Facility

First press the button marked "LIST IN USE"; its LED will light, and the left hand display will light up showing 00. To fire a general piston from the control panel select the desired piston by use of the "UP/DOWN" arrow buttons above and below the "PISTON" display.

The button in the top left corner marked "PISTON" will activate the number of the general piston selected when pushed. General pistons may be also set with this button. Select the general piston to be set with the "UP/DOWN" arrow buttons for the "PISTON" display, select the required stops, hold "SET" and press the button marked "PISTON".

To use the List System, a list of pistons needs to be created. To create a list, hold the "SET" button and press "LIST IN USE". The "ADJUST" legend will light indicating that a list is now ready to be stored. The left-hand display will show 01 and the "CLEAR" legend will light indicating that no list exists on this level. Each memory level will have to have its own list. The LED on the "AUTO STEP" button will light indicating that the list is ready to be created.

If "AUTO STEP" does not light up then there is already a list set for that level, and you can either edit the list or clear the list and start again.

To Create a List
To create the list press the general pistons in the required order, up to 99 steps if needed. After each piston is pressed, the system will automatically move to the next step.

Once the list has been created, press the "LIST IN USE" button. The "ADJUST" legend will extinguish. Pressing the button twice more will take you out of list, and re-enter it with "STEP" at 00 on the display. The list can now be used. By pressing the "NEXT" piston, the generals will be executed in the order they are programmed into the list. If the "NEXT" piston is pressed too many times, pressing "PREVIOUS" will move backwards through the list. (The "NEXT" and "PREVIOUS" buttons might alternately be engraved with arrows.)

To Edit a List
To change a piston on a particular step the "LIST IN USE" LED must be lit, hold "SET" and press "LIST IN USE". The "ADJUST" legend will light. Use the STEP "UP/DOWN" arrow buttons to select the step where the piston is to be changed.

To change the piston at the step selected, use the PISTON "UP/DOWN" arrow buttons to select the correct general piston. By changing the display the piston is set in the memory automatically.

To insert or remove a general piston in the list, the system must be in the "ADJUST" mode. Move to the step where the new piston is to be inserted and press "INSERT STEP". The piston display will go blank and at the same time all the pistons set on all steps including the current step will move up one position. Select the piston to be inserted by using the PISTON "UP/DOWN" arrow buttons. The piston you have selected is now in memory. To remove a piston from the list, move to the step to be removed and press the "DELETE STEP" button. The piston on that step will be deleted and all of the pistons on the steps above that one will move down one step or as many times as you press "DELETE STEP". Once the list has been corrected, press the "LIST IN USE" button extinguishing the "ADJUST" legend.

To Clear a List
To clear a list, enter "LIST ADJUST" mode and press "CLEAR" on the main control panel while holding "SET". This will only clear the list sequence; stop settings on pistons (including those without actual buttons) will remain unchanged.

It is not possible to enter "LIST ADJUST" if the memory level in use is "CLEAR" or "LOCKED", or if the system is in the "CRESCENDO ADJUST" mode.

The "STEP" and "PISTON" displays may be scanned up and down in the same way as the Memory Level Display of the main control panel by pressing and holding the appropriate "UP/DOWN" arrow button.

If the "LIST IN USE" button is pressed whilst in the "LIST ADJUST" mode, the "LIST ADJUST" will be disabled, but it will remain in the "LIST IN USE" mode

Note: It is not possible to enter "LIST ADJUST" if the Memory-level in use is "CLEAR", "LOCKED" or the system is in the "CRESCENDO ADJUST" mode.

Simple (Natural Order) Sequencer

An alternative to the LIST system described above is the "Simple Sequencer". This operates the General Pistons in their natural order, moving to the next Memory-level after the highest-numbered General piston has been operated.

If not used in conjunction with the List System above, a digital display is often provided with this function to indicate the number of the last General piston operated (by the Sequencer or by pressing the actual General piston). The display can be read in conjunction with the Memory-level display to easily determine the position of the sequence at any time.

Systems manufactured from mid 2001 and those that have been upgraded have new features:

1. All Pistons Next. The console may be fitted with a piston called "All Pistons Next" which when selected switches all of the General and Divisional pistons to Next pistons which will operate both the Natural Order Sequencer and the List system.

2. Auto switch to All Pistons Next. Optionally the system can be made to switch all pistons to Next pistons when the List in Use light is on. This feature does not work on the Natural Order Sequencer and is also cancelled in List Adjust mode to allow you to set the list.

3.   Restore. A new piston called restore may also be available. Restore will return the console to the current sequence position. If you make manual changes to the registration but then want to restore the sequencer position, pushing this piston will get you back. Restore works in both List System and Natural Order Sequencer modes.

Independent Sequencer

The Independent Sequencer allows up to 4,000 piston sequencer memories to be set. This system can be used in conjunction with the Natural Order Sequencer but not the List System.

If your console is fitted with a Natural Order Sequencer please refer to the separate manual for operation instructions. A manual may be downloaded from our website at http://www.ssosystems.com/pages/Downloads.htm

Total Recall

Total Recall is a floppy based disk back-up and restore system for the entire console and also allows for an additional 32 levels of memory per disk independent of the memory in the system. For more information on operation please consult the special manual for this unit. A copy is available on our website at http://www.ssosystems.com/pages/Downloads.htm

The CapKard

This facility makes provision for retaining an unlimited amount of Memory on small cards approximately the size of a normal Credit-card, but slightly thicker. A Slot is provided on the console for the insertion of a card, when an LED will light to confirm that the CapKard function is in operation. Up to 32 Memory-levels of piston settings may be retained on a card and recalled by simply inserting that card into the Slot. Any number of cards may be programmed, so that an unlimited library of piston settings may be built up, or each organist may save his own settings. Apart from Divisional and General pistons settings, Tuttis and any other piston settings, together with Crescendo "A" may be retained on each card. When a card is removed from the Slot, the Memory contained within the Capture-system comes into operation again.

In Conclusion

We hope that the foregoing explains clearly to you how to operate the system and that it will prove to be a real asset to the instrument and to your own performance. If there are any points that you should wish to clarify, or make any alterations to the functions provided, please consult your organ builder, who will communicate with us at Solid State Organ Systems if necessary.