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ICS-4000[TM]
Pipe Organ Control System
Organ Builder's Supplement Manual
Revised July 1, 2014

peterson ICS-4000™

USERS' INSTRUCTION MANUAL
Organ Builder's Menu Supplement

Last Update July 1, 2014

THE ORGAN BUILDER MENU; AN INTRODUCTION

An ICS-4000 software revision developed in late 2004 incorporates a new menu section called the "Organ Builder Menu".   This section, selectable from the Main Menu List, is similar to the Supervisor Mode but access is restricted to persons having a special "Builder's Password."

The Organ Builder Menu contains some provisions that an organ builder may want to protect from tampering with by even a holder of the Supervisor Password. For convenience, entering the correct password for the Organ Builder Menu also provides access to the Supervisor Menu without separately entering the Supervisor Password.

The Organ Builder Menu List includes the following selections:

Lock-Unlock Crescendo
Lock-Unlock Tutti
Adjust Reiteration Frequency and Duty Cycle
Adjust Pizzicato Duration
*Change Supervisor Password
Change Builder's Password
System Program Mode
        Customize Features Selectable from the Main Menu
        Download Utility
        Calibrate Crescendo and Analog Expression Shoes
*Save All CA Data
*Restore All CA Data
Clear-Copy
Save System Data

All selections marked with an asterisk (*) duplicate selections in the Supervisor Menu.

This instruction supplement for the Organ Builder Menu is supplied as a separate document so that it may be retained by the organ builder rather than left at the job site if desired.

THE ORGAN BUILDER MENU; ACCESSING THE "ORGAN BUILDER MENU LIST"

From the Home Screen…

1. Press the MENU button.

2. Turn the knob to select ">Organ builder menu," then press the ENTER button.

3. Turn the knob to select the first character of the organ builder password, then press the RIGHT button.

4. Repeat step 3 until all four characters of the organ builder password have been entered, then press the DONE button. This will display the Organ Builder Menu List, from which several "restricted" functions can be accessed.

LOCKING (OR UNLOCKING) A CRESCENDO MEMORY LEVEL

From the Organ Builder Menu List…

1. Turn the knob to select ">Lock-Unlock Cres," then press the ENTER button.

2. Turn the knob to select which crescendo memory level you wish to lock (or unlock), then press the button labeled LOCK (or UNLOCK). A padlock icon will appear on this screen next to the crescendo memory level number when it is locked.

3. Press the BACK button to return to the Organ Builder Menu List.

An advisory message will appear on the CDU when users attempt to change the settings within a crescendo level that is locked by the organ builder.

LOCKING (OR UNLOCKING) A TUTTI PISTON OR TUTTI MEMORY LEVEL

This allows the organ builder to prevent unauthorized changes to any one or more of the tutti memory levels selectable from the optional Tutti Select Panel or to any tutti piston that has only one memory level associated with it. However, if the organ is configured to have separate tutti memory for each level within each Organist Folder, tuttis are not lockable from the Organ Builder Menu.

From the Organ Builder Menu List…

1. Turn the knob to select ">Lock-Unlock Tutti," then press the ENTER button.

2. Press the Tutti Select Panel button or Tutti piston to be locked. The corresponding tutti number will then appear on the screen.

3. Press the LOCK (or UNLOCK) button. A padlock icon will appear next to the tutti number when that tutti is locked. The button label will change between LOCK or UNLOCK to indicate what will happen when you press it.

4. Press the BACK button to return to the Organ Builder Menu List.

An advisory message will appear on the CDU when users attempt to change the settings within a tutti level that is locked by the organ builder.

ADJUSTING REITERATION FREQUENCY AND DUTY CYCLE

From the Organ Builder Menu List…

1. Turn the knob to select ">Adjust Reiteration," then press the ENTER button. A list of the ranks/ traps to which reiteration applies, along with their associated keyboards, will appear.

2. Turn the knob to select the rank/ trap and keyboard you wish to adjust, then press the ADJUST button.

3. Read the on-screen instruction, then press the OK button.

4. Press a key on the keyboard you've selected to display its current reiteration frequency value, then turn the knob to adjust it as desired. Repeat for other keys. *Note: Values will disappear from the screen when two or more notes are on at once. Be sure to release one note before playing the next.*

5. To change the duty cycle (on-time percentage) values for reiteration, press the DUTY button and then follow the same procedure as above.

6. Press the DONE button after all adjustments have been made.

The corresponding notes on all keyboards of any rank or trap will assume the same reiteration frequency and duty cycle value. Thus, if a value for middle C on the Great keyboard is changed, it will automatically be changed on the Solo and Accompaniment keyboards also.

ADJUSTING PIZZICATO DURATION

From the Organ Builder Menu List…

1. Turn the knob to select ">Adjust Pizzicato," then press the ENTER button.   A list of the ranks/ traps to which pizzicato applies, and their associated keyboards, will appear.

2. Turn the knob to select the rank/ trap and keyboard you wish to adjust, then press the ADJUST button.

3. Read the on-screen instruction, then press the OK button.

4. Press a key on the keyboard you've selected to display its current pizzicato duration value, then turn the knob to adjust it as desired. Repeat for other keys. *Note: Values will disappear from the screen when two or more notes are on at once. Be sure to release one note before playing the next.*

5. Press the DONE button after all adjustments have been made.

The corresponding notes on all keyboards of any rank or trap will assume the same pizzicato duration. Thus, if a value for middle C on the Great keyboard is changed, it will automatically be changed on the Solo and Accompaniment keyboards also.

CHANGING THE SUPERVISOR PASSWORD

From the "Organ Builder's Menu List" screen…

1. Turn the knob to select ">Chng Supervisor PWD," then press the ENTER button.

2. Turn the knob to select the first character of the supervisor password, then press the RIGHT button. Repeat until all four characters of the new supervisor password have been entered, then press the DONE button.

3. Press the OK button to confirm that the new password has been entered correctly. Press the QUIT button if you decide to abort the change and keep the old supervisor password.

CHANGING THE ORGAN BUILDER'S PASSWORD

From the Organ Builder Menu List:

1. Turn the knob to select ">Chng Builder's PWD," then press the ENTER button.

2. Turn the knob to change the first character of the existing Builder's Password, then use the button labeled RIGHT to move the curser to each subsequent position so the other characters can be changed. Note that the factory default password is "BLDR." Press the DONE button when finished.

3. Enter the new password in the same manner.

4. Press the OK button when you are satisfied with the new password you have entered. To abort the change and keep the current password, press the QUIT button instead.

CUSTOMIZING FEATURES: ENABLING/ DISABLING ACCESS TO MENUS

Certain menu selections or features can be hidden by the organ builder via the Organ Builder's Menu so they are not accessible by (or visible to) organists, even when they have been included in that instrument's original configuration. This applies to the Piston Sequencer, MIDI menu, Piston Compassing, and Transposer. Each of these may be hidden, or made accessible again, in the same manner as follows:

From the Organ Builder Menu List:

1. Turn the knob to select ">System Program Mode," then press the ENTER button.

2. Select ">Download Utility," then press the ENTER button.

3. Use the knob to select the feature of interest, then press the OMIT button to turn off an active feature, or the ADD button to turn on an inactive feature. Note that a "+" sign appears next to each feature that will be included on the Main Menu List. In this example we will use "Piston Sequencer."

4. Press the BACK button when you are finished selecting features.

LOADING NEW "APPLICATION" SOFTWARE-GETTING STARTED

The sub-menu under the Organ Builder Menu called "Download Utility" allows organ builders to load "application" (operating system) software updates provided by Peterson via a 3.5" floppy disk inserted into the ICS-4000's Floppy Drive Unit or via a USB flash drive inserted into the USB Port Panel. Software update files may be sent from Peterson as attachments to email messages to any online desktop or laptop computer, then saved by the recipient to a floppy disk or USB flash drive on that computer for transfer over to the pipe organ.

Application software of type 340 refers to the code run by the ICS-4000's Main Microprocessor Board. Application software of type 104 or labeled "floppy unit" refers to the code run by the ICS-4000's microprocessor located in the Floppy Drive Unit (on systems equipped with a Floppy Drive).

IMPORTANT NOTE: Loading new type 340 software will, under most circumstances, automatically clear all data stored in parts of the system's EEPROM memory, including piston, crescendo, tutti, piston sequencer, organist folder, and MIDI piston settings among others. This automatic clearing of data is intentional and necessary to assure compatibility between old and new application software. Fortunately, a simple procedure can be followed BEFORE loading new type 340 software to safely transfer all of this data to a floppy disk or USB flash drive so that it may be restored back into the system's memory after the new application is loaded. For details, see the sections in this manual called "SAVE (BACK UP) ALL COMBINATION ACTION DATA FOR THE ORGAN" and "RESTORE ALL COMBINATION ACTION DATA FOR THE ORGAN FROM DISK". ***Always follow all instructions in this manual and the printed or emailed instructions provided by Peterson with any new software file to prevent inadvertent loss of important settings!***

DOWNLOAD UTILITY: LOADING APPLICATION SOFTWARE UPDATES

*(Important: User settings such as piston registrations will be **PERMANENTLY LOST** when new application software is loaded. We strongly recommend that you make a complete backup onto a disk or flash drive stick before continuing. See the section of this manual entitled "SAVE (BACK UP) ALL COMBINATION ACTION DATA FOR THE ORGAN".*

From the Organ Builder Menu List:

1. Turn the knob to select ">System Program Mode." Press the ENTER button.

2. Turn the knob to select ">Download Utility." Press the ENTER button.

3. Insert a floppy disk or USB flash drive containing the software file to be downloaded into the ICS-4000's Floppy Drive Unit or USB port.

4. Select the application software type that you intend to load. Press ENTER.

5. The disk or USB flash drive will be searched for all files of the type (file name extension) you have selected, and all relevant file names will be displayed. Turn the knob to select the one you wish to load, then press the LOAD button. Loading from the floppy will typically take about 12 minutes (much less for a USB flash drive). **Do NOT turn off the organ power or press any CDU, Floppy Drive Unit, or Record/Button Panel buttons while the file is loading**, because doing so may abort the download.   The download process would then need to be restarted at the beginning.

CALIBRATING THE CRESCENDO SHOE/ ANALOG EXPRESSION SHOES

After the mechanical linkage from a crescendo shoe or any analog (potentiometer-encoded) expression shoe is adjusted, a software adjustment of the shoe positions where the first and last stages turn on may be made.

From the Organ Builder Menu List:

1. Turn the knob to select ">Calibrate A-D shoes," then press the ENTER button.

2. Turn the knob to select which shoe you wish to calibrate, then press the ADJUST button.

3. Use the knob to select ">CLOSE adjustment." Move the shoe to the position where you want the ICS-4000 to turn on the first stage, then press the SAVE button.

4. Use the knob to select ">OPEN adjustment." Move the shoe to the position that will activate the final crescendo or expression stage, then press the SAVE button.   Note that an advisory message will appear if the potentiometer travel between the fully closed and fully open positions is not enough for proper operation.

5. Press the BACK button when you are finished.
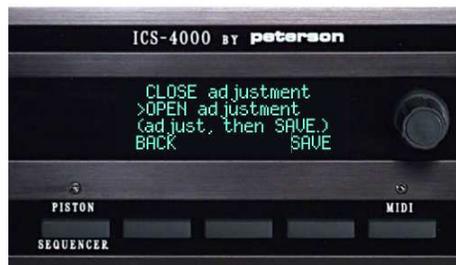
SAVE (BACK UP) ALL COMBINATION ACTION DATA FOR THE ORGAN

From the "Supervisor Menu List" screen with a disk in the Floppy Drive or USB flash drive in the USB port…

1.Turn the knob to select ">Save All CA Data," then press the ENTER button. This will either display a list of any backup files that already exist on the disk/flash drive or the message "No files of type ALL." Turn the knob to select an existing file name, then press the SAVE button, or press the NEW button to enter a new filename.

2. If you are entering a new file name for your backup file, turn the knob to select each letter or number, then press the RIGHT button. When finished, press the DONE button.

3. Informational messages will be displayed to let you know how far along the saving of Pistons, Crescendos, Tuttis, and Organist Records has progressed. The process may take a few minutes. The menu list will be displayed when all saving has been completed.

RESTORE ALL COMBINATION ACTION DATA FOR THE ORGAN FROM FLOPPY DISK OR USB FLASH DRIVE

From the "Supervisor Menu List" screen with a disk in the Floppy Drive or a USB flash drive in the USB port…

1. Turn the knob to select ">Restore All CA Data," then press the ENTER button. This will display a list of all backup files with the filename extension ".ALL" that are on the disk or flash drive. Turn the knob to select the file name, then press the RESTORE button.

2. Informational messages will be displayed to let you know how far along the restoring of Pistons, Crescendos, Tuttis, and Organist Records has progressed. The process may take a few minutes. The menu list will be displayed when all saving has been completed

CLEARING OR COPYING ONE MEMORY LEVEL OF C/A, CRESCENDO, OR TUTTI: GETTING STARTED

The "Clear-Copy" functions, which are selectable from the Main Menu List, allow organists to do the following:

*Clear all previous registrations from the pistons on one memory level at a time within any unlocked organist folder.

*Clear the crescendo series from one crescendo memory level at a time.

*Clear one tutti piston or tutti memory level at a time.

*Clear ALL piston, crescendo, and tutti registrations (be careful with this one!)

*Copy all piston registrations from one memory level in an organist folder to a different memory level and/or a different organist folder, as long as the destination organist folder is unlocked.

*Copy the crescendo series from one crescendo memory level to another.

*Copy a tutti registration on one tutti piston or tutti memory level to another, assuming that more than one tutti piston or level is provided on the organ.

Note that only the destination organist folder or level needs to be unlocked, not the source. In other words, you can copy settings out of a locked folder into any unlocked folder.

The details of using Clear-Copy functions are described on the following pages.

CLEARING ONE MEMORY LEVEL IN AN ORGANIST FOLDER

From the Home Screen, with the organist folder unlocked…

1. Press the MENU button, then turn the knob to scroll to ">Clear-Copy." Press the ENTER button.

2. Press the CLEAR button, then turn the knob to select ">COMB." Press the OK button.

3. Turn the knob to select the memory level number within the displayed organist folder. If you want to work in a different organist folder, press the ORGNST button and then turn the knob to select the organist folder name you want.

4. Press the OK button, then confirm by pressing the OK button again. A message stating "OPERATION UNDER WAY" will be displayed while registrations are being cleared.

CLEARING ONE CRESCENDO OR TUTTI LEVEL

From the Home Screen …

1. Press the MENU button, then turn the knob to scroll to ">Clear-Copy." Press the ENTER button.

2. Press the CLEAR button, then turn the knob to select ">CRES" or ">TUTTI." Press the OK button.

3. Turn the knob to select the crescendo or tutti level number that you want to clear. The number of memory levels you can choose from will vary depending on how your organ is configured. Press the OK button.

4. Confirm by pressing the OK button again. A message stating "OPERATION UNDER WAY" will be displayed while registrations are being cleared.

COPYING ONE MEMORY LEVEL OF PISTONS IN AN ORGANIST FOLDER TO ANOTHER MEMORY LEVEL

From the Home Screen, with the organist folder unlocked…

1. Press the MENU button, then turn the knob to scroll to ">Clear-Copy." Press the ENTER button.

2. Press the COPY button, then turn the knob to select ">COMB." Press the OK button.

3. Turn the knob to select the memory level number within the displayed organist folder that you want to copy *from*. If you want to copy from a different organist folder, press the ORGNST button and then turn the knob to select the organist folder name you want. Press the OK button when the correct source is displayed.

4. Turn the knob to select the memory level number that you want to copy *to*.   If you want to copy to a different organist folder, press the ORGNST button and turn the knob to select the folder name. Press the OK button, then press the OK button on the next screen to confirm. The words "Operation Under Way" will be displayed momentarily while data is being copied.

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Knob select memory
then press OK
>GUEST B   12
BACK   LEVEL   OK

PISTON   MIDI
SEQUENCER

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Select destination
then press OK
MICHELLE>   1
BACK   ORGNST   OK

PISTON   MIDI
SEQUENCER

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Copy PISTON DATA
From GUEST B : 12
To   MICHELLE: 1
HOME   CANCEL   OK

PISTON   MIDI
SEQUENCER

ICS-4000 BY peterson

Copy PISTON DATA
From GUEST B : 12
To   MICHELLE: 1
OPERATION UNDER WAY

PISTON   MIDI
SEQUENCER

COPYING ONE CRESCENDO OR TUTTI MEMORY LEVEL TO ANOTHER

From the Home Screen…

1. Press the MENU button, then turn the knob to scroll to ">Clear-Copy." Press the ENTER button.

2. Press the COPY button, then turn the knob to select ">CRES" OR ">TUTTI." Press the OK button.

3. Turn the knob to select the memory level number that you want to copy *from,* then press the OK button.

4. Turn the knob to select the memory level number that you want to copy *to.* Press the OK button, then press the OK button on the next screen to confirm.