

SYNDYNE CORPORATION
MS8400 QUICK START GUIDE

Section A: Getting Started

1 - About This Guide

This guide was designed to help organ builders set up the MS8400 system step by step. We strongly suggest reading the entire Quickstart Guide BEFORE starting your installation and reference it throughout the install process. The proper order can significantly reduce installation time and prevent costly mistakes.

2 - About the Installation and Configuration Manual

This guide makes reference to the MS8400 Configuration and Installation manuals. Please have this documentation on hand during the installation. These manuals are included with the system. Replacement documentation can be downloaded at www.syn-dyne.com.

3 - Unboxing and Inspecting

Upon receiving your order, please be sure to thoroughly compare its contents with the packing list to avoid discarding small parts in the packing materials. This will also help insure the arrival of all necessary parts. Carefully inspect each part for shipping damage before starting the installation. If you have any questions or concerns regarding your order contact Syndyne at (360) 256-8466 as soon as possible.

Section B: Installation

1 - Setting Card Address DIP Switches

Each card in the MS8400 system has an on-board address DIP switch. For ease of access, we recommend setting these DIP switches before mounting or wiring any hardware. It is important that each card within a card type (Piston card, stop card, chamber driver, etc.) has a unique address. See the Installation Manual for more details.

2 - Setting Console Number DIP Switch

The MS8400 can accommodate up to 4 consoles. Each console requires an MS8401 general controller card with a unique Console Number set via on-board DIP switch. Set the first console's MS8401 console DIP switch to zero.

3 - Setting Input Sense Polarities (via jumpers)

Stops, pistons and keys will not work until the "INPUT FEED" jumpers are set correctly. All stop cards (MS8402), piston cards (MS8403), and key cards (MS8404), have an input feed jumper. For detailed information see the Installation Manual.

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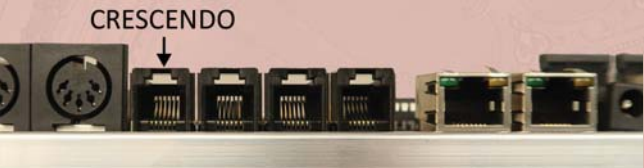
4 - Mounting MS8400 Equipment

The MS8400 system comes in a self-contained metal chassis. Before installing the control system chassis, mount any and all console components such as shoes, pots, digital readouts, stop controls, pistons, etc. Then install the control system chassis.

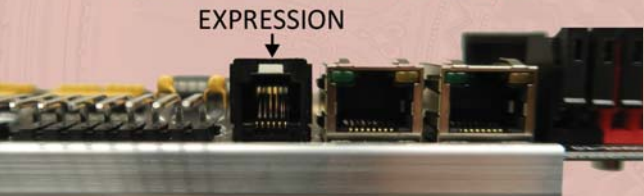
5 - Wiring Crescendo and Expression

Each expression cable should be connected to the connector labeled "EXPRESSION" on its corresponding MS8404 Keying Controller Card. Crescendo 1 should be connected to the connector labeled "POT 1" on the MS8401 General Controller Card.

MS8401 GENERAL CONTROLLER CARD



MS8404 KEYING INPUT CARD



6 - Wiring System Power

We receive many support calls due to issues with bad power. It is *vital* important to use properly rated, reliable, well regulated, clean 12-24VDC power supplies. We also strongly recommend using a commercially rated AC power conditioner. See the Installation Manual for more information regarding power wiring and safety concerns.

7 - Routing and Connecting Data Cables

Route and install all data cables, termination resistors, and display jumpers. There should never be an empty data or display connector. At this time, we recommend temporarily using an additional termination resistor in the console instead of the data cable leading to the chamber relay. This simplifies the initial power up and verification process by isolating the console from the chamber.

8 - Wiring and Harnessing the System

Using sufficiently gauged wire, connect all stop controls, pistons, keys, chest magnets, stop lines, etc to their respective system boards. Please double check that all commons (feeds and returns) are properly connected and fused where required. For detailed information see the Installation Manual.

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9 - MIDI Cables

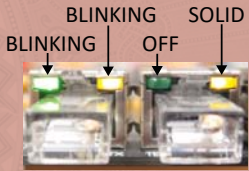
Connect any MIDI cables to their corresponding MIDI ports. The MIDI In, Out, and Thru connectors on the MS8401 can be used to control the MS8400 system via a laptop, MIDI Keyboard, or other MIDI devices. Each MIDI sound module is connected to an MS8410 MIDI sound module board, not the MS8401. See the Installation Manual for more details.

Section C: Startup / Verification

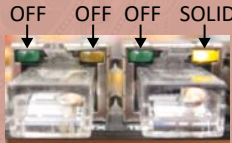
1 - Turning on the Console

Power up the console and confirm that all PWR (power) LEDs are glowing solid amber. Confirm that the green RX (data receive) LEDs on each board are blinking rapidly to indicate proper BUSS activity. Verify the MS8405 Touch Screen Display is powered on, and is functioning. It is normal for the TX (data transmit) LED to blink on some boards.

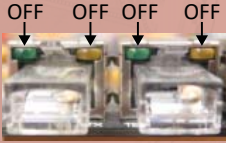
CORRECT CONSOLE STATUS



BAD DATA CONNECTION



NO POWER



2 - Logging in as a Builder

Once the system is powered up, log in to the MS8405 as a builder. Remember that the default builder access code is "1234."

3 - Testing your Installation

Before configuring, it is vital that all components are installed, connected and working correctly. To insure this, from the Main Menu go to Test and Diagnose. Run the utilities in the following order:

1. Address Conflicts
2. Stop Control
3. View Piston Config
4. Keyboards

After running each utility, be sure to correct any and all installation issues before continuing to the next utility. See the Test and Diagnose Menu section in the MS8405 Configuration Manual for more detailed instructions on running each of these utilities.

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4 - Connecting and turning on the Relay

Once the console has been successfully verified and any issues have been resolved, remove the temporary termination resistor from the end of the console and replace it with the relay data cable. Place the termination resistor at the end of the relay data chain. Power up the chamber relay and confirm that all PWR (power) LEDs are glowing solid amber. Confirm that all green RX (data receive) LEDs are blinking rapidly to indicate proper BUS activity. Boards in the chamber relay will not typically have blinking TX (data transmit) LEDs.

Section D: Console Configuration

Each of the following configuration steps have a corresponding button in the system configuration menu. The button name is shown in parenthesis. The system configuration menu can be accessed from the main menu if you are logged in as a builder.

1 - Clear All Piston Controller Cards (Clear Cards <then> Clear All Piston Cards)

Always be sure to clear all piston controller cards BEFORE configuration occurs. Failure to do so may cause difficulty when configuring the system. This process only needs to be performed once when the system is first powered on and after all address conflicts have been resolved. Please note that when you clear any card, it defaults to console 0.

2 - Multiple Console Configuration (Multiple Consoles)

If you are configuring any console with a console number other than zero (set via DIP Switch on the MS8401), you must go through the Multiple Console Configuration Screens before continuing the configuration of this console. Even if you only have 1 console and have chosen to set it to console number 1 rather than 0. See the Multiple Consoles section in the MS8405 Configuration Manual.

3 - Name Divisions and Create Floating Divisions (Name Divisions)

We highly recommend naming each division next because this gives you real names like Great or Swell as opposed to division numbers. This will improve speed and accuracy during configuration especially when configuring couplers and chamber drivers. If applicable, you can also create floating divisions and name them at this time.

---Turn Page Over To Continue---



4 - Configure All Pistons that are not Generals or Divisionals (Special Pistons)

Special Pistons include every piston that is not a General or Divisional such as, Set, General Cancel, Reversibles, and Duplicated Pistons. Before proceeding with this step, it is essential that all pistons and stop controls are functioning correctly. This menu also includes some features that may not typically be associated with a piston such as manual transfer, melody couplers, autopedal, and memory level up/down. See the Special Pistons section in the MS8405 Configuration Manual for more details.

5 - Configure General and Divisional Pistons (General / Div Pistons)

Follow the screens to associate stops with the desired general and divisional pistons. See the General and Divisional Pistons section in the MS8405 Configuration Manual for more details.

6 - Configure Couplers (Coupler Config)

The MS8400 has a large variety of couplers and can even configure custom couplers. This menu also includes some features not typical considered a coupler such as manual transfer, expression coupling, sustain, and console control swap. See the Coupler Configuration section in the MS8405 Configuration Manual for more details.

8 - Configure Crescendo, MIDI Volume, and MIDI Pitch POTs (Analog Inputs)

This screen only configures the “POT 1”, “POT 2”, “POT 3”, and “POT 4” connectors on the MS8401 including calibration. This is NOT used to configure expression. See the Analog Inputs section in the MS8405 Configuration Manual for more details.

9 - Calibrate the Expression POTs (Expression Calibration)

This screen calibrates any pots connected to MS8404 keying card expression inputs. It is NOT used to configure expression outputs. See the Expression Calibration section in the MS8405 Configuration Manual for more details.

10 - Configure Performance Screen Buttons and Bar Graphs (Performance Screen Button)

The performance screen is where the organ is typically played. There are 5 configurable buttons on the performance screen and up to 6 bar graphs that can be configured using these screens. Please note the bar graphs can be named, and arranged using this screen. Bar graphs are configured from left to right in numerical order. See the Performance Screen sections in the MS8405 Configuration Manual for more details.

11 - Configure Rotary Switches for Chime Volume, Memory Level, and Transposer Control (Rotary Selectors)

This step is only necessary if rotary switches are being used. The Rotary Selectors screen defines the function of any rotary switches. It does not configure the Chime Driver and Transposer settings. See the Rotary Selectors section in the MS8405 Configuration Manual for more details.

12 - Setting General Cancel at Power Up (Gen Cancel @ Pwr Up)

By default the system will not perform a general cancel at powerup. See the General Cancel at Power Up section in the MS8405 Configuration Manual for more details.

13 - Configure How the Transposer Operates (Transposer Config Button)

Configure whether the transposer turns on/off with a reversible piston, the transposer goes to zero with general cancel, and the transposer wraps in the treble or bass. By default these are all disabled or set to off. See the Transposer Configuration section in the MS8405 Configuration Manual for more details.

14 - Configure External Crescendo or Expression LED Bar Graphs (LED Displays)

These are an optional add on displays. Please skip this step if you do not have one. See the LED Displays section in the MS8405 Configuration Manual for more details.

Section E: Chamber Configuration

1 - Configuring Chest Pipe Drivers (Driver Stop Config)

This is where unit ranks and chest primaries are configured to play. This is not where stop line outputs are configured. See the Driver Stop Configuration section in the MS8405 Configuration Manual for more details.

2 - Configure Stop Lines, Trap Lines, Tremelo, and Zymbelstern (Stop/Trap Lines)

This screen allows a single driver output to turn on and off with a single stop control. See the Stop \ Trap Ling section in the MS8405 Configuration Manual for more details.

3 - Configure Power Control (Power Config)

Requires an optional MS8409 power sequencer. The MS8409 has 4 configurable relays that can be controlled through the system data stream. Here you can name these relays, configure how they operate, and set a on/off delay times. See the Power Configuration section in the MS8405 Configuration Manual for more details.

4 - Configuring Expression Output Stages (Expression Driver)

This is where expression outputs are configured. Expression pots are not calibrated in this screen. See the Expression Driver section in the MS8405 Configuration Manual for more details.

5 - Configuring Output Stages for AC Chime Volume (AC Chime Volume)

The MS8416 AC chime driver has up to 7 volume control outputs to select from a mult-tap transformer. The AC Chime Volume screens allow these outputs to be controlled by either the MS8405 touchscreen or a rotary switch connected to the MS8401. See the AC Chime Volume section in the MS8405 Configuration Manual for more details.

Section F: Organist Configuration

Each console has two default organists, the BUILDER and the GUEST. First, login as the BUILDER and setup the BUILDER’s crescendo and tutti. Second, login as the GUEST, copy the builder’s crescendo to the GUEST, and set the GUEST’s tutti. Third, set which buttons the GUEST will have access to using the access levels button from the system config menu. Fourth, add any additional organists to the system. Please note that when creating a new organist, the crescendo and tutti are automatically copied from the BUILDER. The new organist will automatically be given the same button access as the GUEST. The crescendo, tutti, and button access can be changed on an organist basis. There are several sections covering Organists in the MS8405 Configuration Manual with more details.

Section G: MIDI Configuration

1 - Difference between MS8401 and MS8410 MIDI Ports

There are no configurable options on the MS8401 general controller card. The MS8410 MIDI sound module cards can be configured using the MIDI Module and MIDI Stops buttons on the Main Menu.

2 - MIDI Module Menu (Main Menu>MIDI Module)

The MIDI Module is intended for builders and organists who are comfortable with MIDI and technology. Some configuration must be completed in this module before an organist can use a standard editable MIDI Stop. See the MIDI Module section in the MS8405 Configuration Manual for more details.

3 - Editable MIDI Stop Controls (Main Menu>MIDI Stops)

Before using this screen, at least one stop control must be configured as an “Unlocked” MIDI stop control using the Advanced MIDI Stops button from the MIDI Module Menu. This screen allows organists to easily change the sound (voice) of an unlocked MIDI stop control. See the MIDI Stops section in the MS8400 User Manual for more details.

Section H: Backing Up System

Once the system is fully up and operational we recommend doing a full system backup, storing the organ’s configuration safely on a USB drive. It is a good idea to copy this backup to an offsite location. See the System Backup / Restore / Firmware Overview section in the MS8405 Configuration Manual for more details.

