MDS-60

AOC P/N 033-0075

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CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

All warning and safety instructions pertain to the organ and the amp rack (if required).

Explanation of Graphical Symbols:

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the instrument's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the instrument.

Warning: To reduce the risk of fire or electrical shock, do not expose this instrument to rain or moisture. Do not plug the instrument into any current source other than 105-128 volts, 50/60 Hertz alternating current (AC). A certified grounded outlet is essential to proper operation and protection of the instrument. Proper polarity should be checked with an AC circuit analyzer before connecting the instrument.

To reduce the risk of electrical shock, match the wide blade of the instrument AC cord power plug to the wide slot in the receptacle and fully insert the plug into the receptacle.

Do not change the cable plug or remove the ground pin or connect with a two-pole adapter.

If you are in doubt about your electrical connection, consult your local electrician or power company.

For safety reasons, make sure any equipment or accessories connected to this instrument bear the UL listing symbol.

Read and comply with all instructions and labels that may be attached to the instrument.

In churches where circuit breakers are turned off between worship services, the circuit breaker affecting the organ console AC power should have a guard installed to prevent its being accidentally switched off.

IMPORTANT SAFETY INSTRUCTIONS

These safety instructions are provided to reduce the risk of fire, electric shock and injury. *WARNING* -- When using electric products, basic precautions should always be followed, including the following:

1. Read and understand all instructions and warnings.
2. This product may be equipped with a polarized line plug (one blade wider than other). This is a safety feature. If you are unable to insert plug into outlet, contact an electrician to replace obsolete outlet. Do not defeat the safety purpose of the plug.
3. Do not overload wall outlets and extension cords. This can increase the risk of fire or electric shock.
4. Do not allow anything to rest on the power cord.
5. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
6. Unplug the organ from the wall outlet and consult qualified service personnel in any of the following situations.
   - The power supply cord is frayed or damaged.
   - Liquid has been spilled into the product.
   - The product has been exposed to water.
   - The product does not appear to operate normally or exhibits a marked change in performance.
   - The product has been dropped, or the enclosure damaged.
7. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
8. Do not attempt to service the product beyond that described in the owners manual. All other servicing should be referred to qualified service personnel.

Grounding instructions - This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER -- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

SAVE THESE INSTRUCTIONS

ALL WARNING AND SAFETY INSTRUCTIONS PERTAIN
TO THE ORGAN AND THE AMP RACK (IF REQUIRED)

重要な安全上の注意

この安全上の注意書は火災・感電・傷害の危険を避けるためのものです。

警告ーー電気製品を使用する際は、以下の基本的な注意を常に守って下さい：

1. 取扱説明書と注意書きに全て目を通して下さい。
2. この製品には極性プラグ（一方の刃がもう一方よりも幅広いもの）が取り付けられています。これは安全を確保するためのものです。コンセントに電源プラグを差し込めない場合は、電気技術者に連絡をとり、旧型のコンセントを新しいものに取り替えて下さい。極性プラグの安全目的を妨げないようにして下さい。
3. コンセントと延長コードに負荷をかけ過ぎないで下さい。火災と感電の危険があります。
4. 電源コードの上には何も置かないで下さい。
5. 内部に、物を落としたり液体をこぼしたりしないよう、注意してください。
6. 次の場合にはコンセントからオルガンの電源コードを抜き、専門のサービスマンに相談して下さい。
   - 電源コードがすり切れたり痛んでいる。
   - 製品の中に液体をこぼした。
   - 製品を水に濡らした。
   - 製品が正常に動作しない、性能に著しい変化が見られる。
   - 製品を落としてしまった、外装が破損した。
7. この製品は、単独でも、あるいはアンプやヘッドフォンやスピーカーと組み合わせることによって、慢性的な難聴の原因となる程の音量を出すことが出来ます。大きなボリューム・レベルや、不快なレベルで、長時間使用しないで下さい。少しでも難聴や耳鳴りを感じたら、専門医に相談して下さい。
8. オーナーズ・マニュアルに書かれた内容以外に製品の修理をしようとしないで下さい。その他の調整・修理は専門のサービスマンにおまかせ下さい。

*接地（アース）に関する指示*ーこの製品は必ずアースを取らなくてはなりません。誤動作や故障が生じた際、アースしておくことで、感電の危険を減らすことになります。この製品の電源コードにはアース線と接地プラグがついています。電源プラグは、関連法規に従って正しく取り付けられアース付きコンセントに差し込まなくてはなりません。

危険ーーアース線の取り方を誤ると、感電する危険があります。もし製品が正しくアースされているかどうか疑わしい時は、専門の電気技術者かサービスマンに点検を依頼して下さい。製品に付いている電源プラグを変更しないで下さい。もしコンセントに合わないような場合は、専門の電気技術者に正しいコンセントを取り付けてもらって下さい。

以上の指示をお守り下さい

CONSIGNES DE SECURITE IMPORTANTES

Les consignes de sécurité ci-dessous sont destinées à réduire les risques de feu, de court-circuit et de blessure.

ATTENTION : En utilisant des produits électriques, les précautions de base doivent toujours être prises, y compris les suivantes :

1. Lire et respecter toutes les instructions et les avertissements,
2. Ce produit est équipé d'une prise d'alimentation où les polarités sont repérées (les plots de connexion ne peuvent pas être inversés). Ceci est une mesure de sécurité. Si vous ne pouvez pas connecter la prise d'alimentation de l'instrument à votre prise murale, contactez un électricien pour la remise en conformité de votre prise. Ne supprimez jamais la terre de la prise d'alimentation.
3. Ne surchargez pas les prises murales et les rallonges. Ceci pourrait accroître les risques d'incendie ou de cout-circuit.
4. Ne rien poser sur le câble d'alimentation.
5. Il convient de faire attention à ce que des objets et des liquides ne soient pas renversés dans la console par les ouvertures.
6. Débranchez l'orgue et consultez un technicien Allen dans tous les cas suivants :
   - le cordon d'alimentation est détérioré,
   - du liquide a été renversé dans l'instrument,
   - l'instrument a été exposé à l'eau,
   - l'orgue ne parait pas fonctionner normalement ou montre des performances altérées.
   - l'instrument est tombé et la console est abîmée.
7. Cet instrument, seul ou en combinaison avec un amplificateur et un casque ou des haut-parleurs, est capable de produire des niveaux de sons qui pourraient causer une perte permanente d'audition. Ne travaillez pas pendant une longue durée à un volume élevé ou à un volume inapproprié. Si vous constatez une perte auditive ou des bourdonnements, consultez un spécialiste.
8. Ne pas intervenir dans l'appareil au-delà de ce qui est indiqué dans le manuel de l'utilisateur. Toutes les autres interventions doivent être confiées à un technicien Allen.

Instructions de base :

L'instrument doit être équipé d'une prise de terre. Dans le cas d'un disfonctionnement ou d'une panne, la mise à la terre fournit un chemin de moindre résistance au courant électrique pour réduire le risque de court-circuit.

Cet orgue est équipé d'un câble ayant un fil de terre et une prise de terre. La prise doit être branchée dans une prise adéquate correctement installée et équipée de la terre conformément à toutes les normes en vigueur.

DANGER :

Une connexion impropre du fil de terre peut provoquer un court-circuit. Si vous avez un doute, vérifiez avec un électricien qualifié que le produit est correctement relié à la terre.

Ne modifiez pas la prise fournie avec le produit. Si elle ne se connecte pas avec la prise d'alimentation murale, faites installer une prise murale correcte par un électricien qualifié.

RESPECTEZ CES INSTRUCTIONS

Wichtige Sicherheitsvorschriften

Diese Sicherheitsvorschriften sollen die Feuer-, Kurzschluß- und Verletzungsrisiken herabsetzen.

Warnung: Während des Gebrauchs von elektrischen Geräten sollten Sie grundsätzlich immer Vorsichtsmaßregeln beachten, einschließlich der folgenden:

1. Lesen Sie immer alle Beschreibungen und Warnungshinweise.
2. Dieses Gerät wurde mit einem eindeutigen Netzstecker versehen (Ein Kontakt ist größer als der andere). Dies ist eine Sicherheitsmaßnahme. Wenn der Stecker nicht in die Steckdose paßt, beauftragen Sie einen Elektriker mit der Änderung der Steckdose. Beseitigen Sie keinesfalls die Sicherheitsfunktion des Steckers.
3. Überlasten Sie nicht Wandsteckdosen und Kabel. Dies erhöht die Brand- und Kurzschlußgefahr.
4. Lassen Sie keine Gegenstände auf den Leitungen liegen.
5. Verhindern Sie, daß Gegenstände in die geöffnete Anlage fallen oder Nässe eindringt.
6. Trennen Sie die Orgel von der Steckdose und beauftragen Sie Fachpersonal in folgenden Fällen:
   - das Netzkabel ist gerissen oder beschädigt
   - Feuchtigkeit ist in das Gerät eingedrungen
   - Das Gerät wurde dem Wasser ausgesetzt
   - Das Gerät arbeitet nicht normal oder zeigt Fehler im Betriebszustand
   - Das Gerät ist gefallen oder das Gehäuse wurde beschädigt
7. Dieses Gerät, ob alleine oder in Verbindung mit extemen Verstärker und Lautsprecher oder Kopfhörer benutzt, ist imstande, extreme Lautstärken zu erzeugen, was bei langzeitigem Gebrauch Hörschäden hervorrufen kann.
8. Versuchen Sie nicht das Gerät zu reparieren oder abzuändem, beachten Sie die Betriebsanleitung. Service und Reparaturen obliegen ausschließlich qualifiziertem Personal.

Grundsätzliche Instruktionen:

Dieses Gerät muß geerdet werden. Ist die Erdung nicht vorhanden oder unterbrochen, hat dies eine Minderung des elektrischen Schutzes vor Kurzschluß zur Folge. Dieses Gerät ist mit einem dreipoligen (Phase, Neutral und Erde) Stecker ausgestattet. Der Stecker muß an eine zugelassene, sorgfältig installierte und geerdete Steckdose angeschlossen werden, in Übereinstimmung mit den örtlichen gesetzlichen Bestimmungen.

Gefahr !! eine unvorschriftsmäßige Erdung und Anschluß erhöht die Gefahr eines elektrischen Schlages. Falls Sie Zweifel haben, ob Ihr elektrischer Anschluß richtig geerdet ist, lassen Sie ihn von einem Elektriker überprüfen. Nehmen Sie niemals Änderungen an dem Netzstecker des Gerätes vor - wenn er nicht paßt, beauftragen Sie einen qualifizierten Elektriker mit der Installation eines vorschriftsmäßigen Anschlusses.

Bewahren Sie diese Instruktionen sorgfältig auf

ALLEN ORGAN COMPANY

For more than fifty years--practically the entire history of electronic organs--the Allen Organ Company has sought to build the finest organs that technology would allow.

In 1939, Allen built and marketed the world's first purely electronic oscillator organ. The tone generators for this first instrument used two hundred forty-four vacuum tubes, contained about five thousand components, and weighed nearly three hundred pounds. Even with all this equipment, the specification included relatively few stops.

By 1959, Allen had replaced vacuum tubes in the oscillator organs with transistors. Thousands of transistorized instruments were built, including some of the largest, most sophisticated oscillator organs.

Only a radical technological breakthrough could improve upon the fine performance of Allen's solid-state oscillator organs. Such a breakthrough came in conjunction with the U.S. Space Program in the form of highly advanced digital microcircuits.

Your MDS organ is the product of years of refinement in digital techniques by Allen engineers. It represents the apex of computer technology applied to exacting musical tasks. The result is an instrument of remarkably advanced tone quality and performance.

Congratulations on the purchase of your new Allen Digital Computer Organ! You have acquired the most advanced electronic organ ever built, one that harnesses a modern computer to create and control beautiful organ tones.

Familiarize yourself with the instrument by reading through this booklet. The sections on stop description and organ registration are intended for immediate use as well as for future reference

Contents

DESCRIPTION OF STOPS

PITCH FOOTAGE

The number appearing on each stop along with its name indicates the "pitch" or "register" of the particular stop. It is characteristic of the organ that notes of different pitches may be sounded from a single playing key. When this sound corresponds to the actual pitch of the playing key, the note (or stop) is referred to as being of 8' pitch; therefore, when an 8' stop is selected and Middle C is depressed, the pitch heard will be Middle C. If it sounds an octave higher, it is called 4' or octave pitch. If it sounds two octaves higher, it is called 2' pitch, while a stop sounding three octaves higher is at 1' pitch. Likewise, a 16' stop sounds an octave lower, and a 32' stop sounds two octaves lower.

Stops of 16', 8', 4', 2', and 1' pitch all have octave relationships, that is, these "even numbered" stops all sound octaves of whatever key is depressed. Pitches other than octaves are also used in organ playing. Their footage number always contains a fraction, and they are referred to as mutations. Among these are the Nasard and Quinte 2-2/3', Tierce 1-3/5', and Quintflöte 1-1/3'. Because they introduce unusual pitch relationships with respect to the fundamental (8') tone, they are most effective when combined with other stops, and are used either in solo passages or in small ensembles of flutes (see explanation of Cornet in Section II).

TONAL FAMILIES

Organ tones divide into two main categories: flues and reeds. In a pipe organ, flue pipes are those in which the sound is set in motion by wind striking directly on the edge of the mouth of the pipe. Flues include principal tones, flute tones, and string tones. Compound stops and hybrid stops are "variations" within these three families.

The term "imitative" means that the organ stop imitates the sound of the corresponding orchestral instrument; for example, an imitative "Viola 8" would be a stop voiced to sound like an orchestral viola.

Principal Voices Principal Diapason Octave Superoctave Quinte	Characteristic organ tone, not imitative of orchestral instruments. Usually present at many pitch levels, as well as in all divisions. Rich, warm, and harmonically well developed.

Flute Voices ***Open:*** Harmonic Flute Melodia flute mutation stops ***Stopped:*** Gedackt Bourdon Quintadena Rohrflöte	Voices of lesser harmonic development than Principal. Open flutes somewhat imitative; stopped flutes not. Present at all pitch levels and in all divisions.
String Voices Salicional Viola Voix céleste	Mildly imitative voices of brighter harmonic development than Principal. Usually appear at 8' pitch.
Compound Voices Mixture Cornet	Voices produced by more than one rank sounding simultaneously.
Hybrid Voices Gemshorn Erzähler Spitzflöte	Voices that combine the tonal characteristic of two families of sound, e.g., flutes and principals, or strings and principals.

In *reed* pipes, a metal tongue vibrates against an opening in the side of a metal tube called a shallot. The characteristic sounds of different reeds are produced through resonators of different shapes. The family of reeds subdivides as follows:

Reed Voices ***Chorus or Ensemble:*** Trumpet Posaune Clairon ***Solo:*** Hautbois Clarinet Krummhorn	Voices of great harmonic development; some imitative, others not.

The Allen Digital Computer Organ provides authentic examples of various types of voices as listed above. Some of these are protected by copyrights owned by the Allen Organ Company. The voices are stored in memory devices, each having affixed to it a copyright notice; e.g., © 1992 AOCO, © 1993 AOCO, etc., pursuant to Title 17 of the United States Code, Section 101 et seq.

MDS-60 STOPLIST

Following is a discussion of individual stops and how they are generally used. Please note that slight variations in specifications may be encountered.

PEDAL ORGAN:

Contre Violone 32'	Rich string tone at the bottom of the Pedal division.
Diapason 16'	The 16' member of the Pedal principal chorus. Strongest Pedal flue stop.
Bourdon 16'	Stopped flute tone of weight and solidity.
Gemshorn 16'	Useful hybrid stop that blends well with all tone families of the organ.
Lieblichgedackt 16'	Softer stopped flute of delicacy and definition. Useful where a soft 16' pitch is required.
Octave 8'	8' member of the Pedal principal chorus.
Gedacktflöte 8'	Stopped flute tone of 8' pitch, useful in adding clarity to a pedal line in combination with the Bourdon 16' or Lieblichgedackt 16'.
Choralbass 4'	Pedal 4' principal tone.
Flûte ouverte 4'	Open Flute tone at 4' pitch.
Mixture IV	Compound stop of principal tones. One pedal produces four distinct pitches at octave and fifth relationships to the pedal being pressed. Used to crown the Pedal principal chorus.
Contre Bombarde 32'	A robust French reed that lends strength and "snarl" to the Pedal line. Used with large combinations.
Bombarde 16'	A strong Pedal reed that lends strength and "snarl" to the Pedal line.
Trompete 8'	Clear Pedal reed useful in adding defintion to a full pedal combination, or as a solo Pedal trumpet.

Schalmei 4'	A bright 4' pungent reed, usually used as a solo voice.

SWELL ORGAN:

Bourdon doux 16'	Soft flute voice of delicacy and definition. Useful where soft 16' pitch is required.
Flûte bouchée 8'	Chiffing stopped flute tone of moderate harmonic develpoment. Provides the 8' member of the Swell Flute chorus and is useful by itself or with other flutes and mutations in creating solo voices.
Flûte celéste II (8')	Two soft flute tones, one slightly detuned from the other, that create a warm celeste. Celestes are created by using two sounds, one tuned slightly sharp or flat of the other, creating a warm, undulating, "celestial" effect.
Salicional 8'	Full-bodied string tone.
Voix céleste 8'	String tone, slightly detuned, used with the Salicional 8' to create a warm celeste.
Principal conique	Bright Principal tone.
Flûte á fusea 4'	Distinctive chiffing flute voice that works well in ensembles of flutes or strings, or as a solo voice.
Nasard 2-2/3'	Flute mutation that sounds one octave and a fifth above the keys played. Always used with other stops (usually beginning with 8') for coloration.
Flûte à bec 2'	A delicate, clear open flute at 2' pitch.
Tierce 1-3/5'	Flute mutation that causes the pitch to sound a seventeenth (two octaves and a third) higher than played. Used with 8' stops or flute ensembles.
Fourniture IV	Compound stop, or mixture comprised of principal tones. Each note played produces four distinct pitches at octave and fifth relationships to the key being pressed. The Fourniture IV should

never be used without stops of lower pitches. The Fourniture IV is typically added to diapason or flute ensembles, or to a reed chorus.

Basson 16' — Chorus reed tone at the 16' pitch level, designed to supplement the other chorus reeds. Also usable as a distinctive solo reed.

Trompette 8' — Chorus reed stop of rich harmonic develpoment. Can also be used as a solo voice.

Hautbois 8' — Solo reed with the pungent nasal timbre of an Oboe.

Clairon 4' — A bright 4' chorus reed. Combines with the Basson 16' and Trompette 8' to form the Swell reed chorus. Particularly useful as a solo voice.

Tremulant — Use of this stop provides a vibrato effect, natural in the human voice and wind instruments, when used with the stops in the Swell division.

Solo Organ Voices — See separate section on Solo Voices and Second Voices.

GREAT ORGAN:

Gemshorn 16' — Hybrid stop that combines tonal characteristics of the string and flute families, resulting in a light Diapason quality. Useful as an accompaniment voice.

Diapason 8' — Foundation stop of the Great principal chorus, which consists of the Diapason 8', Octave 4', and Superoctave 2'.

Rohrflöte 8' — Full-bodied, partially stopped flute tone.

Harmonic Flute 8' — Open flute, very full-bodied. Excellent solo flute.

Gambe 8' — Full-bodied string tone. Rounds out the Great Unison chorus.

Octave 4' — The 4' member of the Great principal chorus.

Spitzflöte 4' — Partially stopped flute tone.

Quinte 2-2/3' — Principal mutation that sounds an octave and a fifth above the

	keys played. Used with other stops (usually beginning with 8') for coloration.
Superoctave 2'	An open metal stop that produces foundation tone at the 2' pitch level.
Waldflöte 2'	Open flute tone at 2' pitch level.
Mixture IV	A compound stop of principal tones. Four notes in octave and fifth relationships sound together when a single key is depressed. As pitches progress upward, they "break" back to the next lower octave or fifth. Used to cap the Great principal chorus, adding brilliance and pitch definition throughout the entire compass.
Cymbale III	Compound stop of principal tones. One key produces three distinct pitches at octave and fifth relationships to the key being pressed. The Cymbale III should never be used without stops of lower pitches. It is typically added to Diapason or Flute ensembles after the Mixture IV.
Double Trumpet 16'	Rich sounding chorus reed that provides a solid base for the Great Reed chorus.
Trumpet 8'	Chorus reed stop of rich harmonic development. Can also be used as a solo voice.
Chimes	Typical Tubular Chimes.
Tremulant	Same as Tremulant in Swell, but affects stops in the Great and Pedal, except for the bottom octave in both divisions.
Classic Voicing	See separate section on Second Voicing.
Great-Pedal Unenclosed	When used, the expression for the Great and Pedal divisions is disabled, i.e., the Great and Pedal stops will sound at full volume regardless of the position of the Great-Choir-Pedal expression pedal. The Choir division will continue to be under expression using the Great-Choir-Pedal expression pedal.

Great-Choir Manual Transfer	Transposes stops in the Great and Choir divisions so that the stops from the Great division are played from the bottom manual and the stops from the Choir division are played from the second manual.

CHOIR ORGAN

Hohlflöte 8'	An open wood flute with pronounced chiff. Excellent for Baroque and Classical music.
Erzähler 8'	Hybrid stop that combines the tonal characteristics of the string and flute families, resulting in a small-scale Gemshorn. Useful accompanimental voice.
Erzähler Celeste 8'	Stop used in combination with the Erzähler 8' to create a warm celeste.
Prinzipal 4'	Bright classical Principal.
Traversflöte 4'	An open wood flute intended to simulate the full fluid sound of the orchestral instrument.
Erzähler Celeste II (4')	Two soft hybrid tones, one slightly detuned from the other to create a warm celeste.
Oktav 2'	An open metal stop that produces foundation tone at the 2' pitch.
Quintflöte 1-1/3'	Open flute mutation that causes the pitch to sound a nineteenth (two octaves and a fifth) higher than played. Used with 8' stops or flute ensembles.
Sifflöte 1'	An open metal flute stop. The highest pitched stop in the Positiv division.

Scharf III	Compound stop of principal tones. One key produces three distinct pitches at octave and fifth relationships to the key being pressed. The Scharf should never be used without stops of lower pitch.
Rankett 16'	A nasal-sounding reed stop of considerable harmonic development. The Rankett carries very little fundamental and adds character both as a solo and ensemble stop.
Festival Trumpet 8'	Large, powerful solo reed. Becomes a quieter chorus reed when other Positiv stops are added.
Krummhorn 8'	The tone quality of the shawm, a medieval ancestor of the clarinet, is the basis for this light, brights, nasal reed. It can be used alone as a solo or combined with light flues for a somewhat rounder reed solo effect.
Tremulant	Use of this stop provides a vibrato effect, natural in the human voice and wind instruments, when used with the stops in the Choir division.
Percussion Voices	See separate section on Second Voices.

COUPLERS

Great to Pedal	Connects all Great stops to the Pedal.
Swell to Pedal	Connects all Swell stops to the Pedal.
Choir to Pedal	Connects all Choir stops to the Pedal.
Swell to Great	Intermanual coupler connecting all Swell stops to the Great.
Choir to Great	Intermanual coupler connecting all Choir stops to the Great.
Swell to Choir	Intermanual coupler connecting all Swell stops to the Choir.

MIDI

Swell	Opens MIDI channel to the Swell.
Great	Opens MIDI channel to the Great.
Choir	Opens MIDI channel to the Choir.
Pedal	Opens MIDI channel to the Pedal.

GENERALS

Choir Uneneclosed	When used, the expression for the Choir division is disabled, i.e., the Choir stops will sound at full volume regardless of the position of the Great-Choir- Pedal expression shoe. The Great and Pedal divisions will continue to be under expression using the Great-Choir-Pedal expression shoe.
Bass Coupler	When this coupler is used, the lowest note played on the Great manual will automatically key the appropriate Pedal note, playing those stops that have been drawn in the Pedal division as well as those in the Great division.
Melody Coupler Ch-Gt	When used, with an appropriate Choir stop, such as the Festival Trumpet or Krummhorn, this feature will automatically key the high note played on the Great, allowing accentuation of the melody.
Alternate Tuning On	When activated, the organ's tuning will change to the alternate tuning selected from the Console Controller™. See Section II.A.. of the Console Controller™ and MIDI Guide in this manual for more information about alternate tunings.
Tremulants Full	When activated along with one or more of the organ's tremulants, this control causes the tremulants to become much deeper in their oscillation than normal classical tremulants. Useful for Gospel music, etc. Also known as "Vibrato."
Reverb	Engages reverberation system. (Activated using toggle switch in Console Controller™ drawer.)
Swell Main Off & Gt-Ch-Pd Main Off	Used in conjunction with the Swell to Antiphonal and Gt-Ch-Pd to Antiphonal tablets. These controls disable the Main speakers.

Swell to Antiphonal & Gt-Ch-Pd to Antiphonal	Causes the organ to speak from the Antiphonal speakers. The organ will speak from both Antiphonal and Main divisions unless the Main Off controls are also added.

EXPRESSION PEDALS

There are three expression pedals on the MDS-60. The one on the far right is the Crescendo pedal (see below). The pedal on the left expresses the Great, Choir, and Pedal divisions, while the center expression affects the Swell.

CRESCENDO PEDAL

One master Crescendo, for all divisions, gradually adds stops as this pedal is opened. Indicator lights show the relative position of the pedal. Crescendo B is a secondary Crescendo that can be programmed by the organist. Indiscriminate use of the Crescendo pedal, in lieu of careful registration, should be avoided.

TUTTI I & II

The Tutti I and II are settings of full organ registration. Tutti II is a fuller registration than Tutti I. The Tuttis are turned on by using manual pistons located beneath the Swell manual directly above the Cancel button. The pistons are reversible, meaning that pressing them will turn the corresponding Tutti on or off. The Cancel button will also turn off the Tuttis. Red signal lights, appropriately labeled and located on the right side of the console to the left of the expression indicators, turn on when Tutti I or II is in operation. A second set of Tuttis can be programmed by the organist. Like the Crescendo, indiscriminate use of these devices should be avoided.

SOLO VOICES AND SECOND VOICES

SOLO ORGAN VOICES

In addition to the comprehensive stop specification of the MDS-60, there are a variety of stops that can be accessed from the Swell manual using the **Solo Organ Voices**. These second voices are accessed from drawknobs in the Swell division. The stopnames are printed on the drawknobs in red superscript as follows: French Horn, Open Flute, Clarinet, and Cor Anglais. The **Solo Organ Voices** are activated by first drawing the Solo Organ Voices drawknob and then drawing the desired stop in the Swell division.

SWELL

French Horn 8'	A mellow Brass tone of 8' pitch.
Open Flute 8'	An open wood or metal Flute of 8' manual pitch.
Clarinet 8'	An imitative reed stop of 8' pitch.
Cor Anglais 8'	An imitative reed stop of 8' pitch sounding like its orchestral counterpart.

CLASSIC SECOND VOICES

The characteristics of several stops in the Great and Pedal divisions can be changed using the **Classical Voicing Gt-Pd** control. As in the Swell division, the second voices in the Great and Pedal divisions are accessed from drawknobs. The **Classical Second Voices** are accessed by first drawing the **Classical Voicing Gt-Pd** drawknob and then drawing the desired stops in the Great and Pedal divisions.

GREAT

Quintadena 16'	A stopped metal flute of 16' pitch.
Prinzipal 8'	Foundation stop of 8' pitch.
Holzgedackt 8'	Soft flute tone of 8' pitch.
Flute 4'	A 4' Flute of metal or wood construction.
Carillon	Suggests the sounding of small bells.

PEDAL

Subbass 16'	Principal stopped Bass of the organ.
Quintadena 16'	A stopped metal flute of 16' pitch.

There are several percussion voices available from the Choir division. The percussion stopnames are printed on the drawknobs in red as follows: **Handbells, Celesta,** and **Harp.** The percussion voices are activated by first drawing the "Percussion Voices" drawknob and then the desired percussion stop in the Choir division.

ARTISTIC REGISTRATION

Organ registrations fall into two broad categories: solo combinations and ensembles.

A solo combination is one in which a melody is played on one keyboard, the accompaniment on another keyboard, and the pedal often provides a light bass line. Almost any stop or combination of stops will sound good as a solo voice. A contrasting tone quality should be chosen for the accompaniment, so that the accompaniment is softer than the solo voice. The Pedal stops must provide a foundation for the sound without covering it.

Most 8' reed stops make interesting solo voices. The addition of a 4' flute or a flute mutation (e.g., Nasat or Terz) to a reed, such as the Trompette, colors the sound further and increases its volume slightly. Adding an 8' flute to a reed will add body to the sound.

Flutes can be used alone or in combinations as solo voices. One special combination of flutes that creates an appealing and historically significant solo combination is the Cornet (pronounced kor-NAY). The Cornet is created by using the following Swell stops: Gedackt 8', Koppelflöte 4', Nasat 2-2/3', Blockflöte 2', and Terz 1-3/5'. This solo combination was used widely in Baroque organ music, but it is just as appropriate for some modern music. Useful variations of the Cornet may be achieved by eliminating the 4', the 2', or both.

When choosing stops for a solo voice, it is not always necessary to include an 8' stop; for example, since the 4' flute has a tone quality different from that of the 8' flute, the 4' flute can be used as an independent solo voice. By playing the solo an octave lower than written, the notes will sound at the correct pitch. In similar fashion, a 16' stop can be selected and the notes played an octave higher than written. Tonal variety will be gained, because each stop has its own tone color.

For accompaniment, the most desirable voices are the 8' flutes or strings on each manual. Celestes often make effective accompaniments. The correct choice depends on the volume of the solo tone (a soft solo voice requires the softest accompanimental stop), the element of contrast, and the location of the solo stop. A bright, harmonically rich solo reed, for example, can be accompanied by either a string or flute, but the flute will often contribute greater interest because of its greater contrast.

Try to seek a "natural" balance of volume between solo and accompaniment. This will be especially easy to accomplish since the solo and accompaniment are under separate expression.

SUGGESTED SOLO REGISTRATIONS

CHIMES SOLO

Swell: Flûte céleste II (8'); or Flûte bouchée 8', Salicional 8', Voix céleste 8'
Great: Chimes
Choir: Erzähler 8', Erzähler Celeste 8'
Pedal: Lieblichgedackt 16', Swell to Pedal
Play solo on Great and accompaniment on Swell or Choir.

SWELL SOLO COMBINATION

Swell: Flûte bouchée 8', Flûte à fuseau 4', Nasard 2-2/3', Flûte à bec 2', Tierce 1-3/5'
Great: Rohrflöte 8'; or Gambe 8'
Choir: Hohlflöte 8'
Pedal: Lieblichgedackt 16', Gedacktflöte 8'
Play solo on Swell and accompaniment on Great or Choir.

FLUTE SOLO

Swell: Salicional 8', Voix céleste 8'; or Flûte céleste II (8')
Great: Harmonic Flute 8'
Choir: Erzähler 8', Erzähler Celeste 8'
Pedal: Lieblichgedackt 16', Swell to Pedal
Play solo on Great and accompaniment on Swell or Choir.

TRUMPET SOLO

Swell: Flûte bouchée 8', Flûte à fuseau 4', Flûte à bec 2', Fourniture IV, Swell Unison Off
Great: Diapason 8', Octave 4', Superoctave 2', Swell to Great, Classic Voicing Gt-Pd
Choir: Festival Trumpet 8'
Pedal: Diapason 16', Octave 8', Choralbass 4', Mixture IV
Play solo on Swell and accompaniment on Great.

These few combinations demonstrate basic techniques of solo registration. In creating registrations of your own, remember these three simple rules:

1. Seek tonal contrast between solo and accompaniment.
2. Be sure the solo is louder than the accompaniment.
3. Choose a solo whose character is appropriate to the specific piece.

ENSEMBLE REGISTRATIONS

Ensemble registrations involve groups of stops that are played together, usually, but not always, with both hands on one keyboard. They are characterized by compatibility of tone, clarity, and occasionally power. Such registrations are used in hymn singing, choir accompaniments, and much of the contrapuntal organ literature.

Volumes have been written on the subject of ensemble registration. Following is a summary of the major points.

Ensembles are created by combining stops. Two factors are always to be considered: tone quality and pitch. Ensembles begin with a few stops at the 8' and/or 4' pitch and expand "outward" in pitch as they build up. New pitches are usually added in preference to another 8' stop.

Ensembles are generally divided into three tonal groupings or "choruses":

> The Principal chorus is the most fully developed with representation in various divisions of the organ and at every pitch from 16' (Diapason) to high mixtures. The Principal chorus is sometimes called the narrow-scale flue chorus, a reference to the relative thinness of Principal pipes in relation to their length.
>
> The Flute chorus is also well represented with a diversity of stops at various pitches. Generally speaking, the Flute chorus is composed of less harmonically developed tones, and is smoother and of lesser volume than the Principal chorus. The Flute chorus is sometimes called the wide-scale flue chorus, owing to the generally "fatter" look of flute pipes as compared to principals.
>
> The Reed chorus includes those reed tones designed to be used in the ensemble buildup. Not all reed voices are ensemble tones. An Hautbois, for example, is usually a solo stop. The various Trumpets, Clairons, Bassons, etc., are usually ensemble voices that add brilliance, power, and incisiveness to the sound. If you have questions as to whether a specific reed is a solo or ensemble stop, refer to the stoplist in Section I.

The Swell Reed chorus of Basson 16' and Trompette 8' represents an entity important to French organ music and the full ensemble of the organ. These stops create a "blaze" of richly harmonic sounds that top off both flue choruses.

Another special ensemble combination important in French music is the Cornet, which was discussed in the section on Solo Registration. This combination can be used with the chorus reeds and mutations to create the "Grand Jeu." The Cornet is also useful in Romantic ensembles to add weight and thickness to the sound.

Here are typical ensemble combinations for the Swell and Great manuals:

Great

1. Rohrflöte 8', Spitzflöte 4'
2. Rohrflöte 8', Spitzflöte 4', Waldflöte 2'
3. Diapason 8', Octave 4'
4. Diapason 8', Octave 4', Superoctave 2'
5. Diapason 8', Octave 4', Superoctave 2', Mixture IV
6. Diapason 8', Rohrflöte 8', Octave 4', Superoctave 2', Trompete 8', Mixture IV

Swell

1. Flûte bouchée 8', Salicional 8'
2. Flûte bouchée 8', Salicional 8', Flûte à fuseau 4'
3. Flûte bouchée 8', Salicional 8', Flûte à fuseau 4', Flûte à bec 2'
4. Flûte bouchée 8', Salicional 8', Principal conique 4' Flûte à fuseau 4', Flûte à bec 2'
5. Flûte bouchée 8', Salicional 8', Principal conique 4', Flûte à fuseau 4', Flûte à bec 2', Fourniture IV
6. Flûte bouchée 8', Salicional 8', Principal Conique 4', Flûte à fuseau 4', Flûte à bec 2', Fourniture IV, Trompette 8'

Choir

1. Hohlflöte 8', Erähler 8'
2. Hohlflöte 8', Traversflöte 4'
3. Hohlflöte 8', Traversflöte 4', Prinzipal 4'
4. Hohlflöte 8', Traversflöte 4', Prinzipal 4', Oktav 2'
5. Hohlflöte 8', Traversflöte 4', Prinzipal 4', Oktav 2', Scharf III
6. Hohlflöte 8', Traversflöte 4', Prinzipal 4', Oktav 2', Scharf III, Quintflöte 1-1/3'

The use of the Swell to Great coupler allows these separate ensembles to be combined on the Great manual. For example, the #5 Great and #3 Swell registrations coupled together and played on the Great form a nice round hymn combination.

The Pedal ensemble is created in much the same way as the manual ensembles, starting at 16' pitch instead of 8'. Be careful that the volume of the pedals is not greater than that of the manuals. Although the manual to pedal couplers are useful in bringing clarity to the pedal line, especially on softer registrations, avoid the temptation to rely constantly on one or two 16' stops and a coupler. Please note that the softest stops and flute mutations are normally not used with ensembles.

FULL ORGAN

Due to the immense capabilities of the Allen Digital Computer Organ, every stop and coupler on the instrument could be used simultaneously without distortion, if the organ is adjusted properly. In good registration practice, however, the organist would not haphazardly put on every stop on the instrument. For best results, listen and include only those stops that really contribute to the fullness and brilliance of the ensemble. Eliminate soft stops and solo stops that make no purposeful contribution.

This short treatment barely scratches the surface of the fascinating subject of organ registration. For those interested in gaining further insight into this vital area of organ playing, we recommend the following texts:

Audsley, George Ashdown. *Organ Stops and their Artistic Registration.* Hialeah, FL: C.P.P. Belwin, 1985.

Irwin, Stevens. *Dictionary of Pipe Organ Stops.* 2nd ed. New York: Macmillan Books, 1983.

TRANSPOSER

Vast computer capability makes it possible to perform the sometimes difficult task of transposing, while allowing the organist to play in the notated key. Operation of the Transposer is controlled by the Transposer knob, found inside the Console Controller™ drawer. Neutral (no transposition) position for the knob is marked "●." To shift the music to a higher key, move the knob counter-clockwise. The key can be raised a maximum of five half-steps. To shift to a lower key, move the Transposer knob clockwise from "●." The key can be lowered a total of seven half-steps. A RED INDICATOR LIGHT COMES ON WHENEVER THE TRANSPOSER KNOB IS MOVED FROM THE "●" POSITION.

WHY TRANSPOSE?

1. Because the range of a song will not always suit the vocal range of a particular singer. By adjusting the transposer, the piece can be sung more comfortably and effectively.

2. Because some instruments are non-concert pitch. A trumpet in B^{b}, for example, can play the same music as the organist, if the Transposer knob is set two half-steps lower.

3. Because hymn singing can sometimes be improved by a more favorable key selection. Hymn singing can also be enhanced by playing the hymn in its original key, and then playing a short modulation at the end of the stanza that leads into the key one-half step above the key in which the hymn is written. If the hymn is already in a fairly high key, it may be preferable to play the first few stanzas with the Transposer set *down* one-half or one whole step, then modulate up to the original key for the final stanza.

INSTALLATION, VOICING, AND CARE OF THE ORGAN

INSTALLATION

Wherever your MDS organ may be situated, careful installation is a prerequisite to successful results. Your Allen representative is well qualified to guide you in planning for this.

Factory assistance in planning the installation is also available and may, in fact, be sought by your Allen Organ representative.

VOICING

The MDS organ enjoys unprecedented accuracy in the scaling and voicing of each note of every stop. This musical breakthrough is an inherent part of the engineering design of the instrument. Final adjustments in scaling and voicing involve controls within the console and are best left to an expert. These adjustments are normally a part of installation and, once done, should not require changes, unless the instrument is moved to a new location.

Bass frequency projection is strongly affected by tone cabinet location. Although none of the tone cabinets should be moved once the installation has been completed, extra care should be exercised to prevent inadvertent movement of the bass tone cabinets.

REVERBERATION

The Digital Reverberation System provides the spatial ambiance of a large reverberant auditorium. Although most effective in poor acoustic environments, it even enhances the tones in optimal acoustic settings. The Digital Reverb is on all the time.

Adjustments to the Digital Reverberation System must be made by your service technician or sales representative.

BATTERY BACKUP SYSTEM

The memory for the capture system on your MDS organ is sustained by a Lithium battery. This allows capture settings and related items to be retained in memory when the organ is switched off or unplugged. Under normal circumstances, the Lithium battery should last for several years. A built-in warning system will alert you when the battery becomes weak and needs to be replaced. The green power light will flash for about ten seconds after the organ is switched on if the battery is in need of replacement.

Should the battery in your MDS organ require replacement, contact your local Allen authorized service representative.

CARE OF THE ORGAN

Your Allen Digital Computer Organ constitutes a major advance in long-term maintenance-free operation. There are no regular maintenance procedures required and, therefore, no periodic maintenance schedules to be observed.

Reasonable care will keep the instrument looking beautiful for years to come. The wood surfaces may be cleaned using a soft cloth dampened with lukewarm water. A mild solution of lukewarm water and dish detergent may be used to remove fingerprints, etc. Polish dry with a soft cloth.

Do not use wax, sprays or oils on the finish. Satin finished surfaces will take on a semi-gloss appearance when waxed and will eventually become yellowed.

Keys and stop tablets should be cleaned in the following manner: Use two clean cloths. Immerse one in clear, lukewarm water and wring it thoroughly damp dry. Loosen the dirt with this cloth, then polish immediately with the dry cloth. Do not use soap or detergent on keys or stop tablets.

You have purchased a remarkable organ that not only faithfully reproduces the organ traditions of the past but also anticipates the innovations of the future. Should you have questions that are not addressed in this manual, please do not hesitate to contact your local Allen Organ representative. Welcome to the family of satisfied Allen Organ owners!

USA ONLY

CAUTION

Do not plug the instrument into any current source other than 105-128 volts, 50/60 Hertz alternating current (AC). A verified grounded outlet is essential to proper operation and protection of the instrument. Proper polarity should be checked with an AC circuit analyzer before connecting the organ.

Do not change the cable plug or remove the ground pin or connect with a two-pole adapter.

If you are in doubt about your electrical connection, consult your local electrician or power company.

In churches where circuit breakers are turned off between worship services, the circuit breaker affecting the organ console AC power should have a guard installed to prevent its being accidentally switched off.

Read and comply with all instructions and labels that may be attached to the instrument.

Warning: This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been type tested and found to comply with the limits for a Class B Computing Device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. Should this equipment cause interference to radio communications, the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Whether this equipment actually causes the interference to radio communications can be determined by turning the equipment off and on. The user is encouraged to attempt to correct the interference by one or more of the following measures:

Reorient the receiving antenna.
Relocate the organ with respect to the receiver.
Move the organ away from the receiver.
Plug the organ into a different electrical outlet, so that the organ and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio technician for additional suggestions.

CE mark shows compliance with the EMC Directive.

INTERNATIONAL ONLY

CAUTION

Do not plug the instrument into any current source other than that stated by the selling dealer. Proper polarity should be checked with an AC circuit analyzer before connecting the organ.

Do not change the cable plug or remove the ground pin (if applicable).

If you are in doubt about your electrical connection, consult your local electrician or power company.

In churches where circuit breakers are turned off between worship services, the circuit breaker affecting the organ console AC power should have a guard installed to prevent its being accidentally switched off.

Read and comply with all instructions and labels that may be attached to the instrument.