MDS-317
And 317EX

AOC P/N 033-0089

Rev 9-99

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――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傷んでいる。
   ・ 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――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、感電の危険が最小の電流経路が確保され、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――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 externen 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 abzuändern, 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

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. We call your attention particularly to sections on Transposer, Console Controller™, Second Voicing, and MIDI Guide, since these elements are important to realizing the full potential of the instrument.

The sections on stop description and organ registration are intended for immediate use as well as for future reference. Because the Allen Digital Computer Organ offers limitless tonal possibilities, plus authentic tone quality, these subjects can now be more readily explored than ever before.

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 32', 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. 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.

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 tonal 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
Diaphone
Octave

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.

Open Flute Voices:

Harmonic Flute
Melodia
Flute mutation stops

Stopped Flute Voices:

Tibia
Tibia Clausa

Voices of lesser harmonic development than Principals. Open flutes somewhat imitative; stopped flutes not as much. May be present at all pitch levels and in all divisions.

String Voices

Salicional
Cello
Violin

Mildly imitative voices of brighter harmonic development than Principals. Usually appearing at the 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:
- Tuba
- Tuba Horn
- Trumpet
- Saxophone

Voices of great harmonic development; some imitative, others not.

Solo:
- Vox Humana
- Oboe
- Kinura
- Clarinet

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.

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

MDS-317 and 317-EX STOPLIST

PEDAL ORGAN

Contre Violone 32'	Rich string tone at the bottom of the Pedal division.
Tuba Profunda 16'	A solid, powerful, solo or ensemble reed of considerable harmonic development. Biggest stop at 16' pitch level.
Diaphone 16'	Principal sound of less harmonic development than the Diapason. It provides weight and roundness to the Pedal division.
Tibia Clausa 16'	Stopped wooden flute tone with strong fundamental and mild development of the third harmonic.
Violone 16'	16' string tone that is useful for accompaniment.
Posthorn 8'	A bright, brassy reed stop with a buzzy and incisive sound. Use with full organ.
Trumpet 8' (1)	Clear Pedal reed useful in adding definition to a full Pedal combination, or as a solo Pedal trumpet.
Tuba Horn 8'	A mellow solo reed that is also useful in providing ensemble development without being over-powering.
Open Diapason 8'	Foundation stop that adds fullness to a combination.
Tibia Clausa 8'	A stopped wooden flute with strong fundamental.
Clarinet 8'	Imitative solo reed that can also be used as an ensemble stop.
Concert Flute 8'	A delicate flue stop that is useful for accompaniment.
Bass Drum	Typical
Cymbal	Typical

SOLO ORGAN

Post Horn 16'	Bright, brassy reed stop. Biggest stop at 16' pitch.
Trumpet 16'	Solo reed at 16' pitch level.
Tuba Horn 16' (2)	A darker, rounder solo reed of considerable harmonic development.
Tibia Clausa 16'	Stopped wooden flute with strong fundamental and mild development of the third harmonic.
Saxophone 16'	More developed version of the Vox Humana that works well when used in combination with Tibia stops.
Strings III 16' (1) String Celeste III 16' (2)	Three string tones slightly detuned from each other, giving the sound a shimmering quality.
Vox Humana 16'	A solo stop intended to imitate the human singing voice. Works well when added to strings or flutes.
Post Horn 8'	Bright, brassy reed stop at 8' pitch.
Trumpet 8'	Useful as a smooth solo voice or chorus reed.
Tuba Horn 8'	A mellow solo reed that is also useful in providing ensemble development without being over-powering.
Tibia Clausa 8'	A stopped wooden flute with strong fundamental.
Kinura 8'	Bright, buzzy solo reed that can be used for comic effects.
Orchestral Oboe 8'	Solo reed with a pungent nasal timbre.
Clarinet 8'	Imitative solo reed that is useful as an ensemble stop.
Saxophone 8'	More developed version of the Vox Humana that works well when used with Tibia stops.
Strings III 8' (1) String Celeste III 8' (2)	Three string tones, slightly detuned, that create a shimmering quality in the sound.
Oboe Horn 8' (2)	Reed stop with tone quality sounding with both the oboe and horn qualities.

SOLO ORGAN continued

Vox Humana 8'	Solo voice intended to imitate the human singing voice.
Piccolo 4'	Bright flute sound.
Twelfth 2-2/3'	Tibia mutation that sounds one octave and a fifth above the 8' note played. Always used with other stops (usually beginning with 8') for color.
Piccolo 2'	A bright, high pitched flute stop.
Tierce 1-3/5' (2)	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.
Glockenspiel	Percussion stop of tuned bells.
Xylophone	Percussion stop imitative of its orchestral counterpart.
Wood Harp	Percussion stop of Marimba tone quality.
Chimes	Typical tubular chimes.

ACCOMPANIMENT ORGAN

Post Horn 8'	Buzzy, incisive reed stop.
Trumpet 8'	Useful as a smooth solo voice or chorus reed.
Tuba Horn 8'	A mellow solo reed that's also useful in ensemble development without being overpowering.
Diapason 8'	Foundation stop that adds fullness to the ensemble.
Tibia Clausa 8'	A stopped wooden flute with strong fundamental.
Clarinet 8'	Imitative solo reed that is also usable as an ensemble stop.
Solo String 8' (2)	One rank string stop for violin, viola melody lines.
Strings III 8' (1)	Three-ranks of strings. Each rank slightly detuned from one another to create a shimmering quality.

ACCOMPANIMENT ORGAN continued

Violin Celeste II 8' (2)	Two-ranks of strings with one rank slightly detuned to create a shimmering quality.
Oboe Horn 8'	Reed stop with tone quality containing both oboe and horn characteristics.
Quintadena 8'	Stopped flute tone characterized by an extremely strong third harmonic that sounds an octave and a fifth above the note played.
Concert Flute 8'	Open wooden flute intended to resemble the orchestral flute.
Vox Humana 8'	Solo voice intended to imitate the human singing voice.
Octave 4'	Foundation stop of the Diapason tone.
Piccolo 4'	Flute stop harmonically full with a smooth tone that is useful in many ensembles of flue stops.
Viole 4'	String tone at 4' pitch level.
Lieblich Flute 4'	Soft, sweet flute tone at 4' pitch level.
Chrysoglott	Percussion stop of bell like qualities.
Wood Harp	Precussion stop of Marimba tone quality.
Snare Drum	Typical
Tambourine	Typical
Wood Block	Typical
Tom Tom	Typical
High Hat	Typical
Cymbal	Typical

GREAT ORGAN

Post Horn 16'	Bright, brassy reed stop.
Trumpet 16'	Solo reed at 16' pitch level.

GREAT ORGAN continued

Tuba Horn 16'	Mellow solo reed.
Open Diapason 16'	Principal stop at 16' pitch level.
Tibia Clausa 16'	Stopped wooden flute tone with strong fundamental and mild development of the third harmonic.
Saxophone 16'	Solo reed at 16' pitch level that is imitative of the band instrument at the deeper pitch.
Musette 16' (2)	A moderately soft reed with a nasal quality.
Solo String 16' (2)	One 16' rank string stop. Useful for cello or viola type melody lines.
Violin Celeste II 16' (2)	Two rank string stop with one rank slightly detuned from the other to create a celeste quality.
Strings III 16' (1)	A three rank string sound with each rank slightly detuned from the other to create a shimmering celeste quality.
Vox Humana 16'	A reed stop with bright intense overtones intended to imitate a distant human singing voice. Works well when added to strings or flutes.
Post Horn 8'	Buzzy, incisive reed stop.
Trumpet 8'	Useful as a smooth solo voice or chorus reed.
Tuba Horn 8'	A mellow solo reed that is also useful in providing ensemble development without being over-powering.
Open Diapason 8'	Foundation stop that adds fullness to a combination.
Tibia Clausa 8'	Strong fundamental flute tone with mild third harmonic development.
Kinura 8' (2)	Reed stop with many inharmonic and harmonic partial overtones. Much like "a bee in a bottle".
Orchestral Oboe 8'	Solo reed with a pungent nasal timbre.

GREAT ORGAN continued

Clarinet 8'	Imitative solo reed that is also usable as an ensemble stop.
Saxophone 8'	More developed version of the Vox Humana that works well when used in combination with Tibia stops.
Solo String 8' (2)	One rank string stop. Useful when playing violin or viola type melody lines.
Strings III 8' (1)	A three-rank string sound with each rank slightly detuned from the other to create a shimmering quality.
Violin Celeste II 8' (2)	Two rank string stop with one rank slightly detuned from the other to create a celeste quality.
Quintadena 8'	Stopped flute tone characterized by an extremely strong third harmonic that sounds an octave and a fifth above the note played.
Concert Flute 8'	Open wooden flute intended to resemble the orchestral flute.
Vox Humana 8'	Solo voice intended to imitate the human singing voice.
Tibia Quint 5-1/3'	Based on the 16' overtone series, this flute tone stop sounds an octave plus a fifth above the note played. May be combined with a 16' stop.
Octave 4'	4' member of the principal chorus.
Piccolo 4'	Bright flute sound.
Viole 4'	Full bodied string stop at the 4' pitch level.
Lieblich Flute 4'	Soft and sweet flute tone at 4' pitch level.
Twelfth 2-2/3'	Tibia mutation that sounds one octave and a fifth above the note played. Always used with other stops (usually beginning with 8') for coloration.
Fifteenth 2' (2)	2' member of the principal chorus.

GREAT ORGAN continued

Piccolo 2'	A high, bright flute stop.
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.
Fife 1'	Clear, imitative flute sound. It is the highest pitched flute on the organ.
Glockenspiel	Percussion stop of tuned bells.
Xylophone	Percussion stop imitative of its orchestral counterpart.

COUPLERS

Accompaniment to Pedal	Intermanual coupler connecting all active Accompaniment division stops to the Pedal.
Solo to Accompaniment 2nd T	Intermanual coupler connecting all active Solo division stops to the Accompaniment 2nd Touch.
Solo to Great	Intermanual coupler connecting all active Solo division stops to the Great manual.
MIDI on Pedal	Opens MIDI channel to the Pedal. Enables Pedal Manual to transmit MIDI note on/off information.
MIDI on Accompaniment	Opens MIDI channel to the Accompaniment. Enables Accompaniment manual to transmit MIDI note on/off information.
MIDI on Acc. 2nd Touch	Opens MIDI channel to the Accompaniment 2nd Touch. Enables Accompaniment 2nd touch to transmit MIDI note on/off information.
MIDI on Great	Opens MIDI channel to the Great. Enables Great Manual to transmit MIDI note on/off information.
MIDI on Solo	Opens MIDI channel to the Solo. Enables Solo Manual to transmit MIDI note on/off information.

GENERAL STOP CONTROLS

Solo String Off (1)	Turns off one rank of the String III rank celeste stop making the sound smaller and less movement.
Bass Coupler	When engaged, the lowest note played on the Accompaniment 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 Accompaniment division.
Melody Coupler	When used with an appropriate solo stop, such as a Solo reed, this feature will automatically key the highest note played on the Great keyboard allowing accentuation of the melody.
Tibia/Vox Tremulant	Turns on tremulants for all Tibias, Vox Humanas, and Saxophones.
Main Tremulant	Turns on tremulants for all Main voices.
Solo Tremulant	Turns on tremulant for all Solo voices.
Second Voicing	See separate section on Second Voices, page 12
Master Expression	Couples Main expression to Solo expression.
Reverberation	Toggle switch engages reverberation system.

(1) pertains to stops included on the MDS-317
(2) pertains to stops included on the MDS-317 EX

EXPRESSION PEDALS

There are two expression pedals and a Crescendo pedal on the MDS-317 and MDS-317-EX.

Main Expression Pedal enables volume changes to the Main voices.
Solo Expression Pedal enables volume changes to the Solo voices.
Crescendo Pedal allows ranks to be engaged and disengaged with its opening and closing. Enables registration changes by varying its position.

SECOND VOICING

In addition to the comprehensive list of theatre organ sounds on the MDS-317 and MDS-317 EX, there are many classical organ stops that can be accessed with the **Second Voicing** control.

SOLO ORGAN SECOND VOICES

Flute 4' (Post Horn 16')	High, bright flute sound.
Viola 8' (Tibia Clausa 16')	Soft string tone.
Trompette 8' (Strings III 16')	Chorus reed stop of rich harmonic development. Can be used as a solo voice.
Viola Celeste II 8' (Vox Humana 16')	String tone, slightly detuned, used with the Viola 8' to create a warm string celeste.
Cymbale III (Orchestral Oboe 8')	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.
Flute Celeste II 8' (Strings III 8')	Two soft flute tones, one slightly detuned from the other, that create a warm celeste.
Prinzipal 4' (Vox Humana 8')	Diapason tone at the 4' pitch level.

ACCOMPANIMENT SECOND VOICES

Flute 16' (Post Horn 8')	Deep full-bodied flute tone.
Rohrflöte 8' (Open Diapason 8')	Full bodied partially stopped flute tone.
Flute Celeste II 8' (Strings III 8')	Two soft flute tones, one slightly detuned from the other, that create a warm celeste.
Principal 8' (Concert Flute 8')	Diapason tone at 8' pitch level.

ACCOMPANIMENT SECOND VOICES continued

Octave 4' (Quintadena 8')	The 4' member of the Great Principal Chorus, consisting of the Diapason 8', Octave 4', and Superoctave 2'.
Principal 4' (Vox Humana 8')	Diapason tone at 4' pitch level.

GREAT ORGAN SECOND VOICES

Flute 16' (Post Horn 16')	Deep full-bodied flute tone.
Viola 8' (Tibia Clausa 16')	Soft accompaniment string tone.
Trompette 8 (Strings III 16')	Chorus reed stop of rich harmonic development. Can also be used as a solo voice.
Voix Celeste 8' (Vox Humana 16')	A string stop of undulating tone, at 8' pitch.
Rohrflöte 8' (Open Diapason 8')	Full bodied partially stopped flute tone.
Cymbal III (Orchestral Oboe 8')	Compound stop of principal tones. One key produces three distinct pitches at octave and fifth relationships to the key being pressed. The Cymbal III should never be used without stops of lower pitches. It is typically added to diapason or flute ensembles after the Mixture IV.
Flute Celeste II 8' (Strings III 8')	Two soft flute tones, one slightly detuned from the other that create a warm celeste.
Octave 4' (Quintadena 8')	The 4' member of the principal chorus, which consists of the Diapason 8', Octave 4' and Superoctave 2'.
Principal 8' (Concert Flute 8')	Diapason tone at 8' pitch level.
Prinzipal 4' (Vox Humana 8')	Diapason tone at 4' pitch level.
Flute 4' (Tibia Quint 5-1/3')	High, bright flute sound.
Superoctave 2' (Octave 4')	An open metal stop that produces foundation tone at the 2' pitch level.

GREAT ORGAN SECOND VOICES continued

Waldflöte 2' (Viole 4')	Open flute tone at 2' pitch level.
Mixture IV (Lieblich Flute 4')	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 organ.
Fourniture IV (Fife 1')	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 mixture 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.

PEDAL SECOND VOICES continued

Clairon 4' (Violone 16')	A bright 4' chorus reed. Can also be used as a solo voice.
Flute 16' (Post Horn 8')	Deep full-bodied flute tone.
Rohrflöte 8' (Diapason 8')	Full bodied, partially stopped flute tone.
Principal 8' (Concert Flute 8')	Diapason tone at 8' pitch level.

SECOND TOUCH

A division of stops or couplers that sound by depressing the keys on the Accompaniment manual all the way down. They must be pressed harder than what is normal playing style. This feature is useful for counter-melodies or accents and can be found only on Theatre organs.

ARTISTIC REGISTRATION

Organ registrations fall into two broad categories: solo combination registrations and ensemble combination registrations.

A solo combination is one in which a melody is played on one keyboard, the accompaniment played 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. Selected Pedal voices must provide a foundation for the sound without covering it. Caution is advised when the solo part involves chords, since some stops do not blend well in close harmony. Avoid fractionally pitched (mutated) stops and pungent sounding reeds unless they produce the effect you are seeking.

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

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. 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.

ENSEMBLE REGISTRATIONS continued

Combining stops creates ensembles. 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 Flute chorus is the most fully developed with representation in various divisions of the organ and at every pitch from 16' (Tibia) through 1' (Fife). The Flute chorus is sometimes called the wide-scale flue chorus, a reference to the generally "fatter" look of flute pipes as compared to principals.
>
> The Principal chorus is also well represented with a diversity of stops at various pitches. Generally speaking, the Principal chorus is composed of more harmonically developed tones, and is smoother and of lesser volume than the Flute chorus. The Principal chorus is sometimes called the narrow-scale flue chorus, a pipe reference to the relative thinness of principal pipes in relation to their length.
>
> The Reed chorus includes those reed tones, which are designed to be used when building an ensemble. Not all reed voices are ensemble tones. An Oboe, for example, is usually a solo stop. The various Trumpets, Horns, and Vox Humanas 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 stop glossary in the preceding section.

The Pedal ensemble is created in much the same way as the manual ensembles, with the Pedal 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:

Theatre Organ Registration:

Strony, Walter. *Theatre Organ Registration*
P. O. Box 3532, Carefree, AZ 85377-3532

Classical/General Organ Registration:

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.

Beginning Organist's Video:

Cherrington, Dr. Sally. *A Church Organist's Primer. Volumes I, II, & III.*
Allen Organ Company. Video Materials, 1996/1997.
AOC Part Numbers: 031-0047, 031-0065, and 031-0112.

CAPTURE COMBINATION ACTION

The MDS-317 & MDS-317 EX organs are equipped with Allen's Quad Memory Capture Action, which offer the ultimate in registration control and convenience. Quad Memories provide a total of 160 separate combinations. The organist can set registration combinations on any memory and then lock the memory. This prevents unwanted tampering with capture combinations.

TRAPS (TI & T2)

The MDS-317 & MDS-317 EX are equipped with two pistons known as Traps (TI & T2) and they are used to register any non-tonal percussion stop combination such as Bass Drum, Tom-Tom, and Snare Drum.

THINGS TO REMEMBER

The "R" Piston, when activated, will recall the last combination set prior to using any general or divisional piston. General pistons (all of which are duplicated by toe studs) affect all stops. Solo, Accompaniment, Great, and Pedal pistons affect only the stops in their respective divisions. Interdivisional couplers (Solo to Great, Accompaniment to Pedal, Solo to Accompaniment) operate from the general pistons only, not from divisional pistons.

Pedal division pistons are available only on toe studs. All pistons operate independently from each other. Tutti I and II are reversible (i.e., pressing once will activate either Tutti; pressing again will deactivate). The capture action is not fully operable until approximately six seconds after the organ is turned on. There are many details pertaining to pistons, registration, Tutti I, Tutti II, Crescendo "B", re-configuring pistons, returning the factory settings and much more that are covered in the booklet "Console Controller and MIDI Guide". The Allen Organ Company also offers a videocassette describing the operation of the organ's Console Controller. The part number for the Version 22 video is #031-1001.

AUTOMATIC RHYTHMS

The MDS-317 & MDS-317 EX are equipped with a rhythm and special effects unit. It is located in a drawer to the left side of the console under the Accompaniment manual. Inside the drawer are several rows of white buttons, which, when depressed, will be marked by a small amber LED.

The buttons in the top row activate the "effects" section of the unit. The special effect sounds are labeled: **Sound Effect 1** (a police whistle), **Sound Effect 2** (Siren), **Bass Drum**, **Cymbal**, **Snare Drum**, **Tom-Tom**, **Wood Block**, and **High Hat**. Unlike the rhythm sounds, special effects are not continuous. Each effect will sound once every time its button is depressed.

The second and third rows of buttons control the various rhythms. Each button provides access to both an "A" and "B" rhythm. For example, the first button in the second row will activate either a **Samba** or **Mambo** rhythm, depending upon the position of the "B Rhythms" button in the bottom row.

To access an "A" rhythm, simply press the button under the desired rhythm and then press the "Start/Stop" button in the bottom row. To access a "B" rhythm, press the "B Rhythms" button in the bottom row. Then press the desired rhythm button. Finally, press the "Start/Stop" button in the bottom row.

The rhythm and special effects unit's volume control buttons are located in the bottom row. Pressing and holding the "Volume Down" or "Volume Up" buttons will lower or raise the volume of the rhythm or sound effect. Tempo can be adjusted faster or slower by pressing and holding the "Tempo Up" or "Tempo Down" buttons located in the bottom row.

The rhythm patterns can be started in three different ways. Pressing the "Start/Stop" button once will start the rhythm. Pressing it again will stop the rhythm. When pressed, the "Solo Intro" button will play a two-measure introduction pattern appropriate to the selected rhythm and then play the rhythm pattern itself. Depressing the "Pedal Start" button will start the rhythm pattern as soon as the first pedal note is played. This is useful when playing a musical selection that uses an introduction where no rhythm is required.

NOTE: The rhythm will continue for one measure following the cessation of pedal notes.

AUTOMATIC RHYTHMS continued

The digital display on the right side of the rhythm and special effects unit shows a number corresponding to the metronome setting. It indicates the beats-per-minute at which the rhythms will play. The unit can be set to a tempo marking in a musical selection by pressing the "Tempo Up" or "Tempo Down" buttons.

Each rhythm pattern is a 1, 2, 4, or 8-measure repetitive pattern. When the unit is playing a rhythm pattern, the digital display will show two single-digit numbers. The first number indicates which measure of the pattern is being played. The second number indicates which beat of the measure is being played. By noting the measure and beat numbers, it is easy to find the downbeat or first beat of a measure.

TRANSPOSER

The vast capability of the computer 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 to the right of the "POWER ON" switch. Neutral (no transposition) position or the knob is marked "●." To shift the music to a higher key, move the knob counter-clockwise one or more half steps. The key can be raised a maximum of five half steps, in half-step increments. 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.

INSTALLATION, VOICING, AND CARE OF THE ORGAN

INSTALLATION

Wherever your MDS-317 or MDS-317 EX 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 representative, in order that optimal results may be achieved.

VOICING

The MDS-317 and MDS-317 EX organs enjoy 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 instruments. Final adjustments in scaling and voicing involve controls within the console and are best left to your local Allen Organ representative. 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 ambience of a large reverberant auditorium. Although most effective in poor acoustic environments, it even enhances the tones in an ideal acoustic setting.

It is turned "ON" and "OFF" with a toggle switch. A toggle switch is located in the Console Controller™ drawer of the MDS-317. The "ON" and "OFF" switch is under the Accompaniment manual's upper octave of the MDS-317 EX. The Reverb is not affected by the capture system.

Your service technician or local Allen Organ representative must make adjustments to the organ's Digital Reverberation System.

BATTERY BACKUP SYSTEM

A Lithium battery sustains the memory for the capture system on your MDS organ. 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.

When the battery requires replacement the LCD display of the Console Controller™, will flash a warning message for a few seconds during power-up. The display will read as follows:

WARNING!!
Replace Battery

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 mild 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, drawknobs, and rocker 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, and 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!

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.