

**SYSTEM 100 TO 300
SERIES (M-I)**

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AOC P/N 033-0008



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

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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、抵抗が最小の電流経路が確保され、感電の危険を減らすこととなります。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 court-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 dysfonctionnement 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 Vorsichtsmaßnahmen 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 in der Lage, 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 Schlags. 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 Computer Organ. You have acquired the most advanced electronic organ ever built, one which harnesses a modern computer to the creation and control of beautiful organ tone.

Familiarize yourself with the instrument by reading through this booklet. We call your attention particularly to sections on the Alterable Voices, Transposer, and Capture Action 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 future reference. These subjects are actually large ones, fully worthy of treatment in a separate volume. Because the new Computer Organ offers limitless tonal possibilities, plus absolutely authentic tone quality, these subjects can now be more readily explored than ever before.

- I Stop Description
- II Registrations
- III Alterable Voices -- Percussions, Chimes
- IV Transposer
- V Capture Action
- VI Installation, Voicing, Care of the Organ

ALLEN ORGAN COMPANY
Macungie, Pennsylvania

ALLEN ORGAN COMPANY

For over thirty-five years -- practically the entire history of electronic organs -- Allen's role has been to build the finest organs technology allows.

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, weighed nearly three hundred pounds; with all this, the specification included relatively few stops.

By 1959, Allen replaced vacuum tubes in their oscillator organs with transistors. Hundreds upon hundreds of such instruments were built, including some of the largest, most sophisticated oscillator organs ever built.

Only a radical technological breakthrough could improve upon the fine performance of Allen's solid state oscillator organs. Such a breakthrough came from the U.S. space program in the form of highly advanced digital microcircuits.

Today, the computer in Allen's unique digital tone generation system weighs mere ounces, yet produces more than three dozen stops. Like squeezing an acre into a square inch, tiny reliable large scale integrated circuits contain the equivalent of thousands of individual electronic components.

The result is an instrument of remarkably advanced tone quality and performance.

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. However, operation of this equipment in a residential area may cause interference. If this equipment does cause interference to radio communications, the user at his own expense will be required to take whatever measures may be required to correct the interference. Whether this equipment actually causes the interference to radio communications can be determined by turning the equipment off and on.

Section I

STOP DESCRIPTION

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. If it sounds an octave higher, it is called 4' or octave pitch. If it sounds two octaves higher, it is called 2' pitch. Likewise, a 16' stop sounds an octave 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 work, and because their footage number always contains a fraction, they are referred to as fractional pitch stops, or mutations, or simply fractionals. These are the Quinte 2-2/3', Nasat 2-2/3', and Terz 1-3/5'. Because they introduce unusual pitch relationships with respect to the fundamental (8') tone, they are most effective when combined with other stops and used in solo passages, thus providing additional tonal possibilities.

TONAL FAMILIES

Organ tones may be grouped into several large categories, with subdivisions, as follows:

Principal Tones	Principals	Characteristic organ tone, non-imitative or orchestral instruments. Usually present at many pitch levels, as well as all divisions.
	Diapasons	
	Octaves	
	Super Octaves	
	Quintes	
	Mixtures	
Flute Tones	Open Types:	Tones of lesser harmonic development than Principals. Open types sometimes imitative; Stopped types not. Present at all pitch levels including fractionals.
	Harmonic Flute, Melodia, etc.;	
	Flute Mutation Stops	
	Stopped Types: Gedackts, Bourdons, Quintadenas, Rohrflötes, etc.	
Strings	Salicionals	Mildly imitative voices of brighter than Principal harmonic development. Appear usually at 8' pitch; *Celestes involve two ranks of string tones, one slightly sharp of the other, producing a shimmering effect.
	Violas	
	Dulcianas	
	*String Celestes	

	Chorus or Ensemble Types Trumpets, Bombardes, Clairons, etc.	Tones of great harmonic development; some imitative, others not. Limited in general to 16', 8', and 4' pitches.
Reeds	Solo Reeds Oboe, Clarinet, Krummhorn, etc.	

The Allen Computer Organ provides authentic examples of every type of tone listed above. Certain of these tones are the subject of copyrights owned by the Allen Organ Company. The tones are embodied in memory devices, each such device having affixed to it a copyright notice, © 1981 AOCO, pursuant to Title 17 of the United States Code, Section 101 et seq. A discussion of the individual stops and how they are generally used follows.

SWELL ORGAN

Salizional 8'	-- Full bodied string tone.
**Salizional II 8'	-- Additional String tone which provides a stereo effect when used with the other Salizional and Voix stops.
*Voix Celeste 8'	-- String Celeste companion to Salizional.
Gemshorn 8'	-- Gentle String tone of lesser harmonic development, closer in tone to Principal family. Useful accompanimental voice.
Gedeckt 8'	-- Stopped Flute tone of moderate harmonic development.
Spitzprinzipal 4'	-- Bright Principal tone.
Koppelflöte 4'	-- Distinctive Stopped Flute voice, which balances equally with 8' Flute or String tones.
Nasat 2-2/3'	-- Stopped Flute mutation at the twelfth. Always used with other stops (usually 8') for coloration.
Blockflöte 2'	-- Open Flute tone at the 2' pitch level. Stop combines with other Flutes effectively, as well as other tones.
****Terz 1-3/5'	-- Open Flute mutation stop at the 17th, roughly corresponding to the fifth harmonic of an 8' stop. Always used in combination with other stops, either Flute, String, or Reed.
Sifflöte 1'	-- Highest pitched Flute stop, open type tone. Octave sounding.

- Mixtur III -- A compound stop of Principal tone. One key produces three distinct pitches, at octave and fifth relationship to the key being pressed. Mixture "breaks" as it ascends the keyboard, shifting to the next lower octave or fifth in the series. Mixtures are never used without other lower pitched stops. Typically the Mixture is added to Reed Choruses 16', 8', 4', or to Diapason and Flute ensembles.
- Contra Fagotto 16' -- Chorus Reed tone at the 16' pitch level. Designed to supplement and undergird the other chorus reeds. Also usable as a distinctive solo Reed tone.
- Hautbois 8' -- Solo Reed voice imitative of the oboe.
- Trompette 8' -- Chorus Reed stop reminiscent of the trumpet. A voice of rich harmonic development.
- Clairon 4' -- The Chorus Reed at the 4' level. Combines with the Contra Fagotto 16' and Trompette 8' to form full Reed Chorus. Also usable as a solo voice.
- Alterable Voice 1)
Alterable Voice 2) -- See separate section on Alterable Voices.
- Chiff -- Upper harmonic transient imitative of "Chiff" phenomenon exhibited by low pressure, unnicked organ pipe voicing. Useful aid to more authentic rendition of classic organ literature. Does not couple to Great.
- Tremulant -- Affects all stops of the Swell division.

GREAT ORGAN

- Quintaden 16' -- Stopped Flute tone characterized by extremely strong third harmonic, which, at the 16' level, corresponds closely to the fifth above an 8' stop, hence the name Quintaden. Designed to be used with full Great organ without unduly muddying the sound,
- Prinzipal 8' -- Foundation stop of Great manual Principal chorus.
- Dulciana 8' -- Soft accompanimental voice, actually a small scaled Principal.
- *Dulciana Celeste 8' -- Celeste companion to the Dulciana 8'. Useful as accompanimental stop for Swell solo voices.

- Hohlflöte 8' -- Full bodied Open Flute tone.
- **Flute Dolce -- Soft accompaniment stop. Blends well with Dulciana.
- Oktav 4' -- Second stop in the Great Principal Chorus.
- Spitzflöte 4' -- Bright Open Flute tone designed to balance with Great 8' stops.
- Quinte 2-2/3' -- Principal tone at the twelfth, softer than Oktav and Doublette ranks. Generally not used without the Doublette 2'.
- Doublette 2' -- 2' Principal tone, which combines with Oktav 4', Principal 8', and occasionally the Quinte 2-2/3' to comprise the basic Great Principal Chorus without Mixture.
- Waldflöte 2' -- Open Flute tone at 2' pitch level.
- Mixtur IV -- A compound stop of Principal tone. Four notes, in octaves and fifth relationship, sound 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 to the entire compass.
- Schalmei 8' -- Classic Reed voice of the so-called short length resonator variety - meaning bright in harmonic development, with little fundamental present.
- ***Krummhorn 8' -- Another classic Reed tone quality reminiscent of the clarinet, but with considerably greater harmonic development.
- Alterable Voice 3 }
Alterable Voice 4 } -- See separate section on Alterable Voices.
- Percussion -- Produces percussive attack and release dimension appropriate to percussion type voices.
- Swell to Great -- Intermanual coupler connecting all Swell stops to the Great manual.
- Tremulant -- Affects all stops in the Great division.

PEDAL ORGAN

*Contra Bass 32'	-- Principal tone at the deep 32' pitch. The foundation of the Pedal Principal Chorus.
*Contre Bourdon 32'	-- Flute tone at the 32' pitch level, softer than Contra Bass. Used when 32' pitch line is required in softer passages.
Prinzipal 16'	-- Major 16' stop in Pedal division.
Bourdon 16'	-- Stopped Flute tone of weight and solidity.
Lieblich Gedeckt 16'	-- Softer Stopped Flute voice of delicacy and definition. Useful where soft 16' pitch is required.
Octave 8'	-- Principal tone, part of the Pedal Principal Chorus.
Gedecktfloöte 8'	-- Stopped Flute tone at the 8' pitch, useful with either Bourdon 16' or Lieblich Gedeckt 16' for Pedal lines.
Choralbass 4'	-- Pedal 4' Principal tone.
****Flute Ouverte 4'	-- Open Flute tone at the 4' pitch.
**Fagotto 4'	-- Reed tone at 4' pitch. Adds clarity to Pedal line.
Mixtur II	-- Compound stop of Principal tone, at the 2-2/3' and 2' pitch levels; comprises the crown of Pedal Principal Chorus beginning at the 32' (or 16') level and progressing upward,
Posaune 16'	-- The German word for Trombone. A powerful, well developed Chorus Reed tone at the 16' pitch.
Trompete 8'	-- Trumpet Chorus Reed at the 8' pitch level.
Great to Pedal	-- Coupler
Swell to Pedal	-- Coupler

GENERAL

Sharp Attack Great	-- Increases the speed of Great manual speech. Useful when Reeds predominate the ensemble.
Sharp Attack Swell	-- Increases the speed at which Swell stops speak. Useful when Reeds predominate the ensemble.

- Random Motion Off -- The 120 Series organs, plus the Systems 201, 202, and 301 instruments feature random activity, normally on at all times. This simulates the natural movement found in the notes of windblown pipe instruments, and is aesthetically desirable in almost all musical situations. Where it is less effective -- in percussion effects, for example -- this control, when depressed, eliminates the random motion in all divisions.
- Speech Articulation Off -- A phenomenon found in windblown pipe instruments, the slight indefiniteness of pitch at the moment a note begins, has been incorporated into the 120 Series organs, plus the Systems 201 and 301 instruments. This control, when depressed, eliminates this effect.

EXPRESSION PEDAL

One Master Expression Pedal, affects all divisions.

*CRESCENDO PEDAL

One Master Crescendo, for all divisions, gradually adds stops as Pedal is opened. Indicator Lights show relative position of Pedal. Indiscriminate use of this Pedal, in lieu of careful registration, should be avoided.

* On 301, 301-3 Only

** Available Only on -3 Specification

***Replaced by Flute Dolce 8' on -3 Specification

****Replaced by Salicional II on -3 Specification

*****Replaced by Fagotto 4' on -3 Specification

STOP LIST FOR INSTRUMENTS CONVERTED TO "-3" SPECIFICATIONS
AFFECTS MODELS 120, 121, 122, 123, 201, 202 and 301

PEDAL

*Contra Bass	32'
*Contre Bourdon	32'
Prinzipal	16'
Bourdon	16'
Lieblich Gedeckt	16'
Octave	8'
Gedecktflöte	8'
Choralbass	4'
Mixtur II	
Posaune	16'
Trompete	8'
Fagotto	4'
Great to Pedal	
Swell to Pedal	

SWELL

Salizional	8'
Salizional II	8'
*Voix Celeste	8'
Gemshorn	8'
Gedeckt	8'
Spitzprinzipal	4'
Koppelflöte	4'
Nasat	2-2/3'
Blockflöte	2'
Siffelöte	1'
Mixtur III	
Contra Fagotto	16'
Hautbois	8'
Trompette	8'
Clairon	4'
**Alterable 1	
**Alterable 2	
Chiff	
Tremulant	

GREAT

Quintaden	16'
Prinzipal	8'
Dulciana	8'
*Dulciana Celeste	8'
Hohlflöte	8'
Flute Dolce	8'
Oktav	4'
Spitzflöte	4'
Quinte	2-2/3'
Doublette	2'
Waldflöte	2'
Mixtur IV	
Schalmei	8'
**Alterable 3	
**Alterable 4	
Percussion	
Swell to Great	
Tremulant	

*301 Only

**122, 123 and 301 Only

Section II

ARTISTIC REGISTRATION

Organ registration falls into two broad categories: Solo Combinations and Ensembles.

Since solo combinations are easy to produce, let us consider them first. What is required, of course, is a solo voice and an accompaniment and pedal. Almost any stop or combination of stops will sound well as a solo voice. Remember to choose, whenever possible, a contrasting tone quality for the accompaniment, and be sure the accompaniment is softer than the solo voice.

All 8' reed tones make interesting, usually excellent solo tones. The addition of a 4' Flute, or flute mutations (Nasat, Terz), colors the sound further and increases its volume slightly. Combinations of flutes also sound well as solo tones.

For accompaniment, the softest voices are the Great Dulciana, the Swell Salizional, Gemshorn, or Gedeckt, and the Celestes* on either keyboard. The correct choice depends on the volume of the solo tone (a soft solo voice requires the softest accompanimental stop) and the element of contrast. 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 combination can then be expressed as a whole with the expression pedal.

SOME TYPICAL SOLO REGISTRATIONS

OBOE SOLO

Swell: Hautbois 8' (Trem. optional)
Great: Dulciana 8' (Dul. Cel. 8' optional)
Pedal: Lieblich Gedeckt 16', Great to Pedal

Play solo on Swell. For more color add Koppelflöte 4' to Hautbois.

KRUMMHORN SOLO

Swell: Gedeckt 8'
Great: Krummhorn 8'
Pedal: Lieblich Gedeckt 16', Swell to Pedal

Play solo on Great. For more color add Spitzflöte 4' or Quinte 2-2/3'.

SWELL SOLO COMBINATION TONE

Swell: Gedeckt 8', Koppelflöte 4', Blockflöte 2', Terz 1-3/5'
Great: Dulciana 8', Dulciana Celeste 8', Hohlflöte 8' (Trem. optional)
Pedal: Lieblich Gedeckt 16' (Contre Bourdon 32' optional)

Play solo on Swell.

FLUTE SOLO

Swell: Gedeckt 8' (Trem. optional)
Great: Dulciana 8'
Pedal: Lieblich Gedeckt 16', Great to Pedal

These few combinations demonstrate the basic techniques of solo registration. In making some of your own, remember these two simple rules:

1. Seek tonal contrast between solo and accompaniment.
2. Be sure the solo is louder than the accompaniment.

TRUMPET SOLO

Swell: Trompette 8'
Great: Hohlflöte 8', Spitzflöte 4'
Pedal: Lieblich Gedeckt 16', Gedeckt 8'

ENSEMBLE REGISTRATIONS

Ensemble registrations are groups of stops being played together, usually, but not always, with both hands on one keyboard. They are characterized by homogeneity of tone, clarity, and on occasion, power. These are the types of registrations used in hymn singing, choir accompaniments, and a large part of the contrapuntal literature.

Volumes have been written on the subject of ensemble registration so that it would be presumptuous of us to do more here than just touch the highlights.

Ensembles are created by combining stops. Two factors are always to be considered: The tone quality, and the 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 proliferating, with representation in all divisions of the organ, and at every pitch from 32' (Contra Bass) to high mixtures. Principal choruses are sometimes called the narrow scale flue chorus, a pipe reference to the relative thinness of Principal tone 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 comprised of less harmonically developed tones, and is smoother and of lesser volume than the Principal chorus. The Flute chorus is sometimes called the wide scaled 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. A French Horn, for example, is strictly a solo effect. The various Trumpets, Posaunes, Contra Fagottos, etc., are ensemble voices and add brilliance, power, and incisiveness to the sound.

In classic registration, the wide and narrow flue choruses were rarely combined in ensembles. Generally, it would be one or the other because of wind supply problems. As the last principals were drawn into the ensemble, the first reeds would be added. In many typical ensembles, particularly full bodied contrapuntal ones, the first reed to appear would be drawn in the Pedal, usually the 16'.

The Swell reed chorus of 16' Contra Fagotto, 8' Trompette, 4' Clairon (frequently the Mixtur III is added as well) represents an entity important to French organ music and the full ensemble of the organ. These stops create a "blaze" of rich harmonic sound, a "crown" over both "flue" choruses.

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

On the Great

1. Prinzipal 8' alone
2. Prinzipal 8', Spitzflöte 4'
3. Prinzipal 8', Oktav 4'
4. Prinzipal 8', Hohlfloete 8', Oktav 4'
5. Prinzipal 8', Hohlfloete 8', Oktav 4', Spitzflöte 4'
6. Prinzipal 8', Hohlfloete 8', Oktav 4', Spitzflöte 4', Waldflöte 2'
7. Prinzipal 8', Hohlfloete 8', Oktav 4', Spitzflöte 4', Waldflöte 2', Doublette 2'
8. Prinzipal 8', Hohlfloete 8', Oktav 4', Spitzflöte 4', Doublette 2', Waldflöte 2', Mixtur IV

On the Swell

1. Gemshorn 8'
2. Gemshorn 8', Koppelflöte 4'
3. Salizional 8', Gemshorn 8', Koppelflöte 4'
4. Salizional 8', Gemshorn 8', Gedeckt 8', Spitzprinzipal 4', Koppelflöte 4'
5. Salizional 8', Gemshorn 8', Gedeckt 8', Spitzprinzipal 4', Koppelflöte 4', Blockflöte 2', Siffloete 1'
6. Salizional 8', Gemshorn 8', Gedeckt 8', Spitzprinzipal 4', Koppelflöte 4', Blockflöte 2', Siffloete 1', Mixtur III, Trompette 8'

Of course, the use of the Swell to Great coupler allows these separate ensembles to be combined in the Great manual.

The procedure for building the Pedal ensemble is much the same as with the Swell and Great, except that it must be balanced volumewise to the particular manual it is to be played under.

Please notice that the softest stops, flute mutations, and celestes are normally not used with ensembles.

IMPORTANT:

The Computer Organ provides more independent stops than any electronic organ in its price class or even those selling at substantially higher prices. Yet certain factors should be kept in mind as follows:

"TUTTI" OR "FULL ORGAN"

The Computer Organ produces the effect of 38 stops, plus alterables. Such comprehensive performance is possible only because the capability of the heart of the instrument - the digital computer - is enormous. Even a high-speed computer has its limitations, however. This means that if all stops and couplers are drawn at one time, a distortion of sound can result.

This limitation also extends to the Alterable Stops. For instance, the addition of a HEAVY REED to an already very full combination could create distortion. Removal of one or two lesser 8' stops, hardly noticeable in the ensemble would quickly correct this phenomenon.

The Cornet is a compound stop, of French origin, used profusely in Baroque French music. It is created by using the following Swell stops: Gedeckt 8', Koppelflöte 4', Nasat 2-2/3', Blockflöte 2', and Terz 1-3/5'.

This short treatment barely scratches the surface of a highly interesting subject. Your Allen Computer Organ, however, has the tonal potential to pursue the subject to its limits. For those interested in gaining further insight into this vital area of organ playing, we recommend the following texts:

Dictionary of Pipe Organ Stops, 1962
Stevens Irwin
G. Schirmer, Inc. New York, New York

Section III

ALTERABLE VOICES - PERCUSSIONS, CHIMES

The Alterable Voice stop tabs constitute a totally new development in organ design, permitting the organist to add stops or adjust specifications to suit a variety of musical situations. A brilliant Harmonic Trumpet, for example, could be programmed for special festive occasions. A classic Flute or Reed voice especially suited for a certain piece can be programmed. Any number of "percussion" type voices, including chimes, bells, harp, etc., can be used as desired.

To "load" Alterable Voice stop tabs, first move the selector knob to the appropriate stop tab. There are four positions for this knob: Swell 1, 2; Great 3, 4. In "loading" a voice, it is not required that the stop tab be down. Insert the stop computer card with printed side up, arrow pointing toward the slot. Insert card into slot. Stop feeding when resistance is felt (about one inch of the card remains outside the slot). Card may then be removed and returned to safe storage place.

To load three other stops, repeat the above sequence, switching the control knob to each of the three remaining positions. Note that even if the same card is to be repeated in different Alterable Voices the card must be completely removed and reinserted each time.

To change an alterable voice to a new tone, simply insert the new card. Old voice is automatically erased.

If a particular stop of special loudness is needed, the extra volume can be obtained by programming the stop on two Alterable Voices. By then using both tablets, the voice will have a volume greater than either one by itself. The organist should listen carefully, however, to the total sound produced when Alterables are added to the regular stops of the organ. It is possible that the combined sound could go beyond the distortion-free performance of the system. If any distortion is encountered, remove one or two of the stops that contribute practically nothing to the ensemble. With any large organ, pipe or electronic, the best ensemble sound is not necessarily achieved by putting down every stop on the organ.

NOTE: Alterable Voice information is stored in special access memory units which retain this information only so long as the organ is ON. Alterable voices will, therefore, be erased when organ is switched OFF. However, if on occasion some information remains, this should not be considered to be a malfunction.

You will find the Alterable Voices one of the most interesting developments in the history of organ playing. The unprecedented flexibility they offer brings new excitement to organ registration, and a built-in protection against obsolescence.

PERCUSSION VOICES

In the 100, 200 and 300 Series instruments, percussion tones are programmed into the great division alterable stops. The card reader provides the "window" through which these effects may be added. The "Percussion" stop tab, of course, must also be used with percussion voices, to obtain the "attack and decay" characteristics appropriate to sounds of this type.

CHIMES

The Tubular Chime, Chime, and Carillon alterable voice cards may be used wherever chime effects are called for. Sixty-one notes are provided. In general, however, these stops should be played one octave lower than written.

For additional volume, better sound, and increased sustain length time, these tones should be programmed into both alterable stops.

For maximum authenticity, adjust voicing controls to full mellow.

CHRYSOGLOTT, BELLS, ETC.

The Chrysoglott (Greek for "Golden Bell") has a silvery, glockenspiel type quality, and may be programmed either once or twice, as circumstances require. It is of 8' pitch, and passages using this stop may be played as written.

Other bell stops provide related and similar effects. In each case, their volume -- and sustain length -- may be increased by "double" programming.

A NOTE ABOUT IMITATIVE ORCHESTRAL VOICES

Many true orchestral tones are available for the Computer Organ in Alterable Voice card form. In most instances, these voices have been obtained directly from the instrument involved. In using them, one should keep in mind the normal range of the particular instrument. The Oboe, for example, has Middle "C" as its lowest note. Its natural range extends upwards about two and a quarter octaves. When you program this voice into the Computer Organ, however, you have a five octave compass. It will sound most authentic when played in its natural range. Played toward the ends of the keyboard, either extremely low or high, the tone will sound less authentic, since the Oboe is incapable of producing these notes.

The general rule for using imitative orchestral stops is to adhere as closely as possible to the natural compass of these instruments.

Section IV

TRANSPOSER

The vast capability of the computer makes it possible to perform the sometimes difficult task of transposing within the system so that the organist merely plays the notes as written.

Operation of the transposer is controlled by the Transposer knob. Neutral (no transposition) position for this knob is marked "N."

To shift the music to a higher key, move the knob upward one or more 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 downward from N. It can be lowered a total of seven half steps.

A RED LIGHT COMES ON WHENEVER TRANSPOSER KNOB IS MOVED FROM "N" POSITION.

WHY TRANSCOPE?

Because the range of a given song will not always suit the vocal range of a particular singer, by adjusting the key upward or downward, whichever is appropriate, it can be sung more effectively.

Because some instruments are non-concert pitch. A Trumpet in Bb, for example, can read the same music as the organist, if the Transposer knob is set two half steps lower.

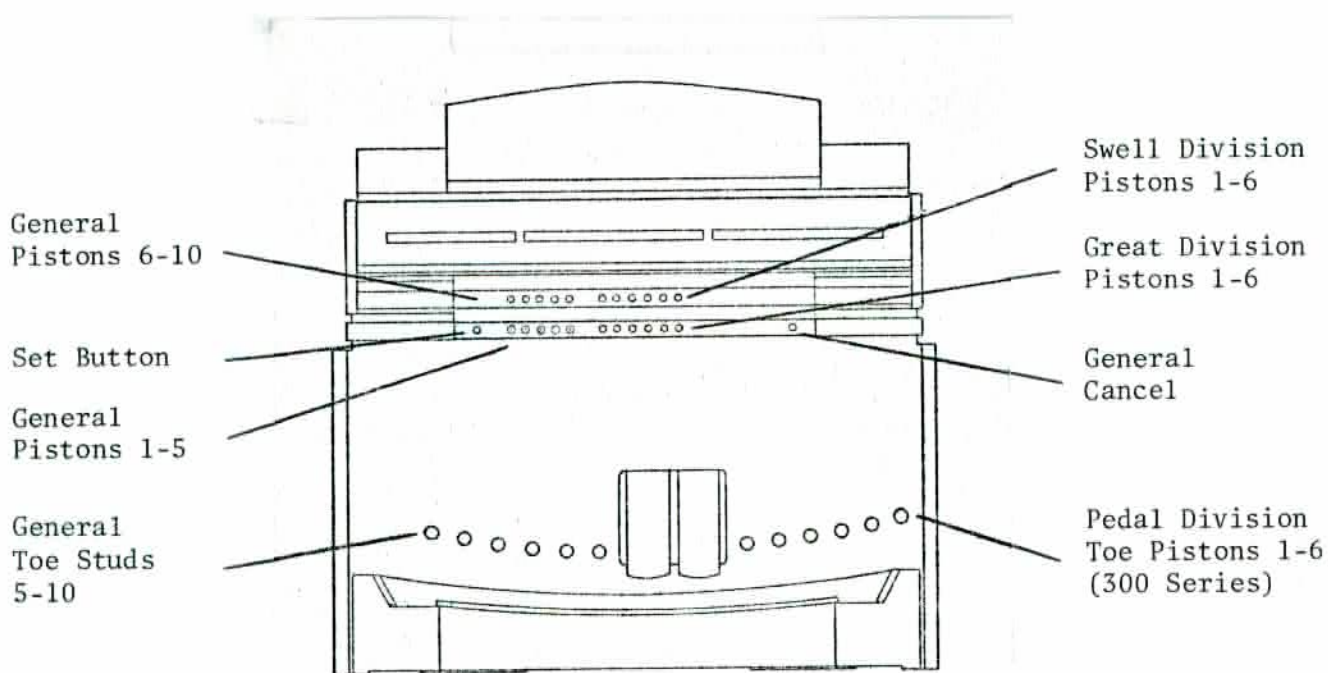
Because hymn singing can sometimes be improved by a more favorable key selection.

Section V

CAPTURE COMBINATION ACTION

Organs equipped with Allen's Double Memory Capture Action offer the ultimate in registration control and convenience. Twin memories provide a total of 56 separate registrations. Memory "B" is accessible only through special key lock switch, thus preventing unauthorized "tampering" with these combinations.

CONSOLE CONTROLS AND PISTON LOCATION



THINGS TO REMEMBER

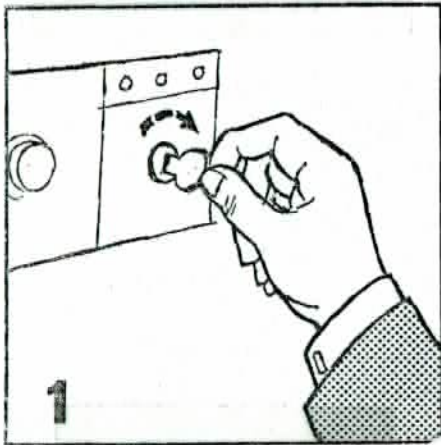
General Pistons (duplicated by toe pistons on some models) affect all stops.

Swell, Great, and Pedal Pistons affect only stops in their division.

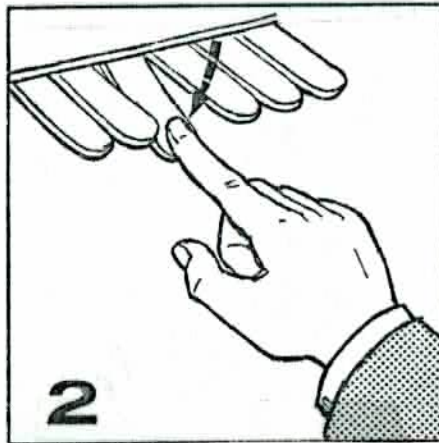
Pedal Pistons are toe operated only in the 300 Series. On 100 and 200 Series organs, Pedal Pistons are on the left side under the Great Manual.

All pistons operate independently from each other.

HOW TO SET A PISTON COMBINATION



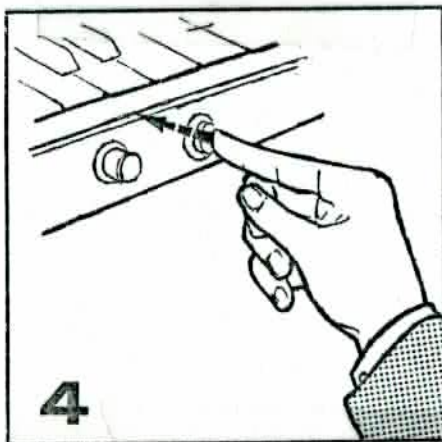
Select Memory "A" or "B." Key can be removed in "A" position only.



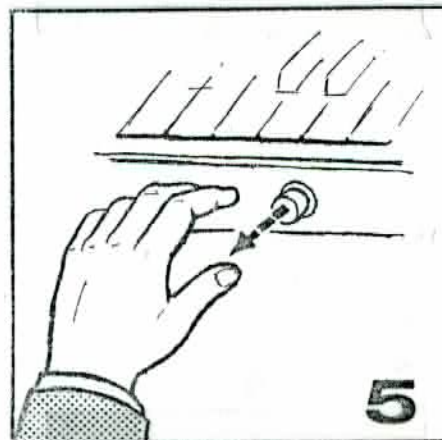
Select Registration.



Press and HOLD Set Button.



Press and Release Piston on which Registration is to be retained.



RELEASE Set Button.

IMPORTANT

THE CAPTURE ACTION MEMORY IS DEPENDENT UPON ELECTRICAL POWER (A TINY AMOUNT) BEING AVAILABLE AT ALL TIMES. THOUGH THE ORGAN IS SWITCHED ON AND OFF AS DESIRED, THE MEMORY PORTION OF THE COMBINATION ACTION ALWAYS REMAINS ENERGIZED.

In order to prevent memory loss, the organ must remain plugged in at all times, and the AC power to this outlet maintained.

Where the possibility exists for routine unplugging of the console AC, steps must be taken to prevent this. A screw-type yoke, holding the power cord in its outlet, is recommended.

Where circuit breakers are shut off between services, etc., that circuit breaker affecting the organ console AC power should have a guard installed to prevent its being accidentally switched off.

The microcircuit capture action is equipped with a rechargeable battery which serves to hold the memory during momentary power interruptions. In the event of an extended power interruption, however, the battery will eventually exhaust itself. Stop combinations will be lost and must be reset when power is restored. The battery system will automatically recharge with the return of AC power, and hold itself in readiness for any subsequent power interruption.

PRESET PISTONS
SYSTEMS 120, 120-3, 122, 122-3, 202 and 202-3

Preset pistons are permanently built into the instrument and cannot be changed. Since they do not move stops when operated, a digital readout indicates when (and which) preset piston is in effect.

Individual stops may be added to piston combinations manually whenever desired. Of course, if stop is already in piston registration, depressing the stop manually will not add anything to the sound.

To cancel a piston, merely press the Cancel button.

Registrations for the pistons are as follows:

	<u>Swell</u>	<u>Great</u>	<u>Pedal</u>
Piston 1	Salizional 8'	Hohlflöte 8' Spitzflöte 4'	Lieblich Gedeckt 16'
Piston 2	Gedeckt 8'	Schalmei 8' Spitzflöte 4'	Bourdon 16'
Piston 3	Gemshorn 8'	Prinzival 8' Hohlflöte 8'	Lieblich Gedeckt 16' Swell to Pedal 8'
Piston 4	Gemshorn 8' Gedeckt 8'	Prinzival 8' Dulciana 8' Hohlflöte 8' Oktav 4' Spitzflöte 4'	Bourdon 16' Swell to Pedal 8'
Piston 5	Salizional 8' Gemshorn 8' Gedeckt 8' Koppelflöte 4'	Prinzival 8' Dulciana 8' Hohlflöte 8' Oktav 4' Spitzflöte 4' Doublette 2' Waldflöte 2'	Prinzival 16' Lieblich Gedeckt 16' Gedecktflöte 8'

Section VI

INSTALLATION, VOICING, AND CARE OF THE ORGAN

INSTALLATION

Your Allen representative is well qualified to guide you in planning for the most successful installation, or answer any questions which may arise. In church installations, good planning is not merely advisable, but essential, since there are a number of needs to be served.

Home installations are usually less complex:

The self-contained 100 Series organs are, of course, simplest of all. No special precautions need be observed regarding placement. It is best, however, to locate the console away from excessive heat and out of extremely damp conditions.

With organs having external speakers (100 Series to 300 Series), careful placement of the speakers will greatly improve the sound distribution. In general, avoid "pointing" the speaker cabinet directly at the listener. Speakers should be at least a few feet from the console. The stereo effect increases with greater separation. Do not, however, place the cabinets in a separate room, unless there is no alternative.

CAUTION

Do not plug the instrument into any current source other than 110-120 volts, 60 cycle alternating current (AC). To do so may involve costly repairs. If you are in doubt about the current in your home, consult your local power company office.

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

VOICING

Your Computer Organ has flawless voicing and scaling of every note and stop. This musical breakthrough is an inherent part of the engineering design of the instrument. Very little further voicing is required, other than adjustment of volume.

The "Voicing" knob in the console key cheekblock reduces or intensifies the treble or high frequencies, and therefore, permits balancing of these frequencies to suit personal taste or room acoustics.

Adjustment of the bass frequency spectrum is accomplished through bass boost controls within the console, and is best left to a service technician. Adjusting these frequencies is a part of installation, and once done, should not require readjustment unless the instrument is moved to a new location.

It should also be remembered, with respect to bass frequency projection, that speaker placement often has a profound effect. Where poor bass response is experienced, a shift in console placement with self-contained instrument can sometimes eliminate the deficiency without ever touching the bass control. Where external cabinets are used, greater experimentation with placement is usually possible, and should be done before adjusting console bass boost controls. The best procedure is first to determine which console/speaker location yields the deepest bass response, then if additional bass is deemed necessary, adjust the bass boost control accordingly.

Extreme care in making adjustments to the overall volume of the instrument should be taken so that the tonal balance between Flute and Main channels remains correct. Check by comparing the Hohlflöte 8' and the Prinzipal 8'. Though differing in tone quality, these tones should be approximately equal in volume.

CARE OF THE ORGAN

Your 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.

Celeste stops of the 300 Series organs, which are conventional oscillators, may require occasional tuning touch up. Beyond this, however, the Computer Organ requires no tuning.

Reasonable care will keep the instrument looking beautiful for years to come. If desired, polish the wood portions with a high grade furniture wax. Do not use abrasive type polishes, cleaners, or waxes containing silicone.

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 immediately polish with the dry cloth. Do not use soap or detergent on keys or stop tablets.

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Part II of this acclaimed series introduces the student to the art of selecting stops appropriate to a wide variety of organ literature from various historical periods and traditions.

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