**OWNER'S MANUAL
COMPUTER ORGANS
SYSTEMS
100 TO 300 SERIES**

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 reli-
able 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.

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.

ALLEN ORGAN COMPANY
Macungie, Pennsylvania

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 Diapasons Octaves Super Octaves Quintes Mixtures	Characteristic organ tone, non-imitative or orchestral instruments. Usually present at many pitch levels, as well as all divisions.

Flute Tones	Open Types:
	  Harmonic Flute,
	  Melodia, etc.;
	  Flute Mutation Stops
	Stopped Types:
	  Gedackts, Bourdons,
	  Quintadenas,
	  Rohrflötes, etc.
		Tones of lesser harmonic development than Principals. Open types sometimes imitative; Stopped types not. Present at all pitch levels including fractionals.

Strings	Salicionals Violas Dulcianas *String Celestes	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.

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

The Allen Computer Organ provides authentic examples of every type of tone listed above. 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.

Gedecktflöte 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.

Great Tuning Sharp   -- Places Great Tuning sharp in respect to other
                            Divisions thus improving ensemble. (Use wisely)

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, elimi-
                              nates 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'
Sifflöte	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

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', Hohlflöte 8', Oktav 4'
5. Prinzipal 8', Hohlflöte 8', Oktav 4', Spitzflöte 4'
6. Prinzipal 8', Hohlflöte 8', Oktav 4', Spitzflöte 4', Waldflöte 2'
7. Prinzipal 8', Hohlflöte 8', Oktav 4', Spitzflöte 4', Waldflöte 2', Doublette 2'
8. Prinzipal 8', Hohlflöte 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', Sifflöte 1'
6. Salizional 8', Gemshorn 8', Gedeckt 8', Spitzprinzipal 4', Koppelflöte 4'. Blockflöte 2', Sifflöte 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.

<u>IMPORTANT</u>:

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:

<div align="center"><u>"TUTTI" OR "FULL ORGAN"</u></div>

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 <u>Cornet</u> 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:

<u>Dictionary of Pipe Organ Stops, 1962</u>
Stevens Irwin
G. Schirmer, Inc. New York, New York

<u>Pipe Organ Registration, 1964</u>
Jack C. Goode
Abingdon Press, Nashville, Tennessee

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 positins 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.

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.

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.

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 - 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.

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 TRANSPOSE?

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.

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

General
Pistons 6-10

Set Button

General
Pistons 1-5

General
Toe Studs
5-10

Swell Division
Pistons 1-6

Great Division
Pistons 1-6

General
Cancel

Pedal Division
Toe Pistons 1-6
(300 Series)
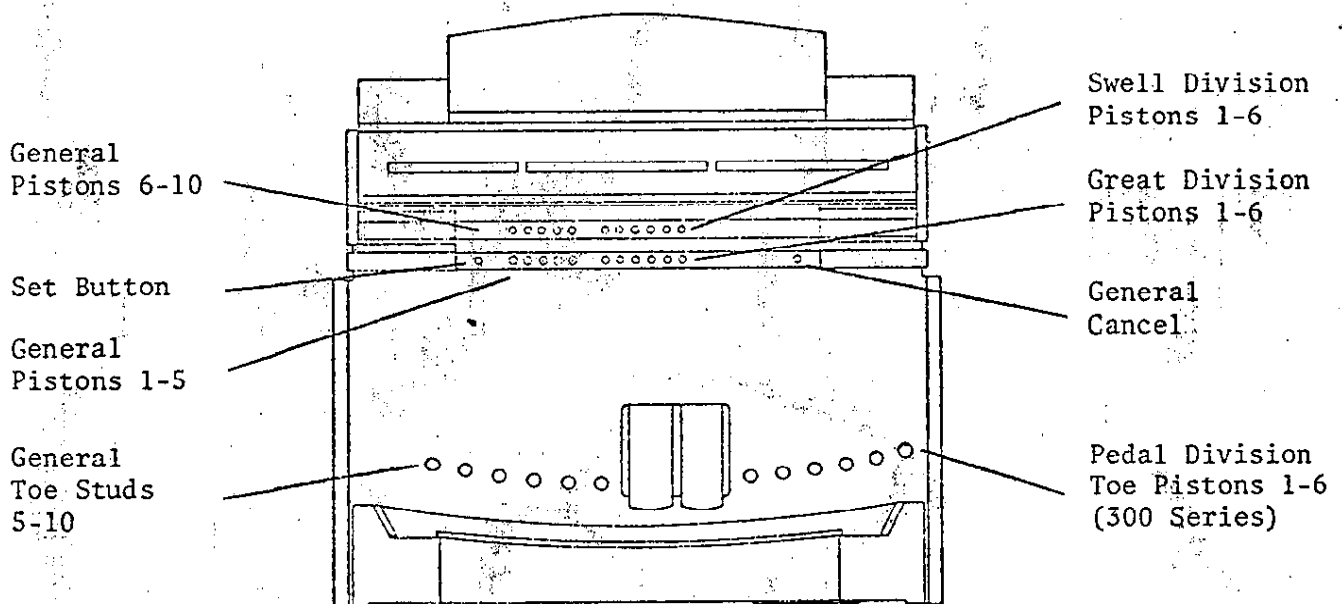
THINGS TO REMEMBER

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.

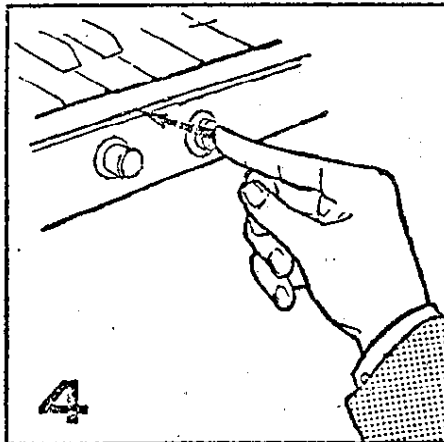## HOW TO SET A PISTON COMBINATION
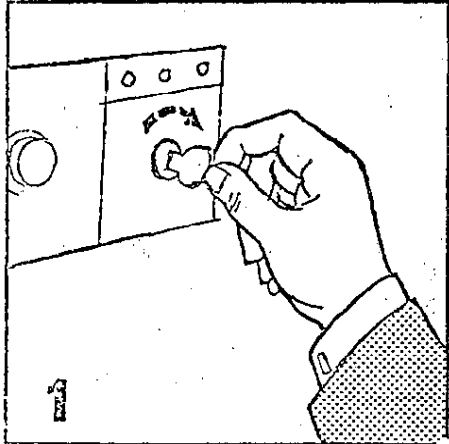
Select Memory "A"
or "B." Key can
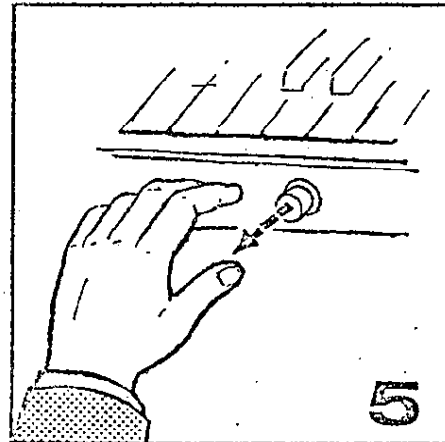be removed in "A"
position only.
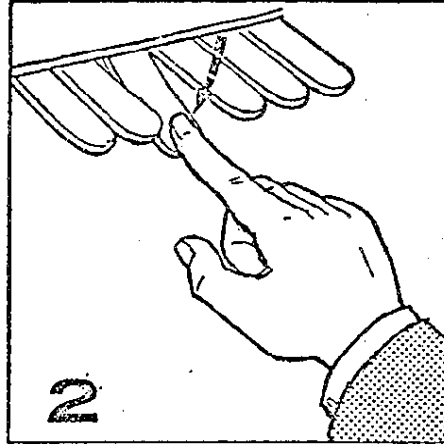
Select Registration.
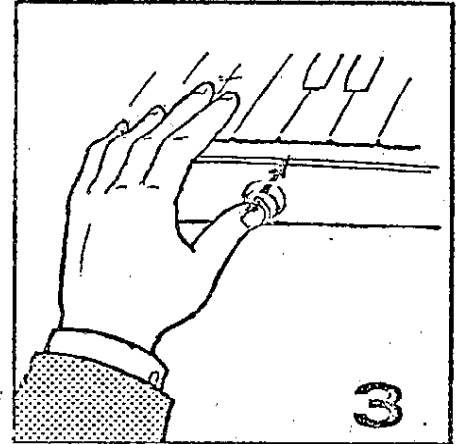
Press and HOLD
Set Button.

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

RELEASE Set Button.

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, hold-
ing 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 combi-
nations 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.

PLEASE NOTE.

The above stated memory loss applies only to the "Volatile" Capture
Action Memory. It in no way influences the EPROM programmable memory
banks or the standard specification memory banks used to store the
actual data for the voicing and attack and decay characteristics; as
has been implied by psuedo technical experts and competitors who
feel they cannot compete without "getting the man instead of the ball"
THE MEMORY BANKS FOR THESE VOICES ARE PERMANENT EVEN WHEN THE POWER IS
OFF.

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:

	Swell	Great	Pedal
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'	Prinzipal 8' Hohlflöte 8'	Lieblich Gedeckt 16' Swell to Pedal 8'
Piston 4	Gemshorn 8' Gedeckt 8'	Prinzipal 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'	Prinzipal 8' Dulciana 8' Hohlflöte 8' Oktav 4' Spitzflöte 4' Doublette 2' Waldflöte 2'	Prinzipal 16' Lieblich Gedeckt 16' Gedecktflöte 8'

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.
AUSTRALIAN INSTRUMENTS ARE PREPARED FOR 250VOLTS 50Hz USAGE.

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 adjust-
ment of volume.

The "Voicing" knob in the console key cheekblock reduces or intensifies the
treble or high frequencies, and therefore, permits balancing of these fre-
quencies 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 there-fore, 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.

Allen organs