

Owner's Guide

CAMBRIDGE 220/850

RODGERS
ORGAN
COMPANY

OWNER'S MANUAL

Rodgers Cambridge 220

RODGERS ORGAN COMPANY
Hillsboro, Oregon

RODGERS CAMBRIDGE 220 OWNER'S GUIDE

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RODGERS CAMBRIDGE 220

The tonal design and mechanical layout of the Cambridge 220 provides a very complete two-manual classical instrument capable of meeting the needs for every type of worship service, as well as supplying the necessary resources for concert work. All elements that are essential for practice and teaching work are incorporated in the organ's design, which expands the usefulness of the Cambridge 220 to include educational institutions and private instructors.

This booklet is a guide to the resources of the Rodgers Cambridge 220, but is far from exhausting the complete tonal range and color available in this fine organ. There are many practical suggestions offered in this booklet which may be altered to fit personal taste and need by you, the organist. If further information is desired or any assistance is needed, please call on your local Rodgers Organ Dealer who will be happy to assist you, and also give you names of competent organ instructors in your area, if desired. Remember that your dealer is always available to help you use, to the best advantage, the musical resources available to you from Rodgers Organs.

RODGERS CAMBRIDGE 220

THE TWO-MANUAL CONSOLE

As the art of organ building has evolved over the centuries, certain features of the instrument have become more or less standard as organists, by a process of elimination, have gradually culled out "innovations" that served no practical purpose.

The modern console is a miracle of convenience and practicality. The combination of two 61-note beveled and tilted keyboards and the 32-note concave and radiating pedalboard gives the organist the necessary console flexibility to perform organ music as written, without compromise. In addition, the various tone colors are conveniently available, distributed into divisions according to usual organ design. The Cambridge 220 and all Rodgers Institutional Organs adhere rigidly to the specifications for console standardization developed by the American Guild of Organists.

GREAT ORGAN - Lower Keyboard

This division is the backbone and main substance of the organ, characterized by the Principal, or Diapason Chorus as the major sound. The Chorus is backed by a softer Flute Chorus. Together they constitute the principal sound used to lead congregational singing. The sounds of the Swell Organ are playable on the Great manual by the inter-manual couplers.

SWELL ORGAN - Upper Keyboard

This division was the first organ division to be placed in a box with venetian blind-like shades on the front, giving it the ability to swell in volume.

The Romantic organ sounds (strings and celestes) are located in this division, in addition to the secondary Principal chorus, a complete Flute chorus, and the major Reed Chorus.

PEDAL ORGAN

The Pedal Organ (Pedal Clavier) contains the lowest pitched voices which provide the foundation for the tonal mass of the organ. The stops are mostly Principals and Flutes which provide the necessary firm foundation, and the Pedal Reeds which add the power and color. The manual divisions couple to the pedal for additional reinforcement and clarity.

SUPPLEMENTS

Organ music very often has registrations calling for a third manual, the Choir. This division is accompanimental, and for this purpose contains light Principals and Flutes. The light Flutes provide articulate sounds associated with the Positiv Division of the Baroque Organ. On the Cambridge 220, characteristic sounds of the Choir Division are divided among the Swell and Great Divisions.

ENSEMBLE

The most important factor in the sound of an organ is ENSEMBLE. Basically, ensemble refers to the manner in which the various stops complement each other, and especially how large combinations sound collectively. No one stop should overpower the basic ensemble, but each stop should add its own color and quality to the overall sound.

To further explain ensemble, we will explain CHORUS as it applies to organ sound. A Chorus is constructed by combining stops of the same tone quality (family) at successive unison pitches (16', 8', 4', 2'), generally avoiding the non-unison pitches (2-2/3' and 1-3/5'). By constructing the chorus, the full spectrum of the family's tone quality sounds at the playing of a single chord.

To further explain the tonal design of the Cambridge 220, we will analyze the major tone families of the organ, their location and reasons for their placement.

THE MUSICAL RESOURCES OF THE CAMBRIDGE 220

The Voice Families of the Organ (Diapasons, Flutes, Strings, and Reeds)

THE PRINCIPAL, OR DIAPASON FAMILY

The Principal family is the foundation tone of the organ, being completely unique to the instrument and not having any orchestral origin. The importance of the Principals can be further expounded by the word "Principal", which frequently appears on the stop which denotes the basic pitch level of a division. The boldest and best developed Principal Chorus is in the Great Division. On the Cambridge 220, the Principal Chorus on the Great consists of the 8' Principal, 4' Octave, 2' Fifteenth, and Fourniture III Mixture. The 8' Principal denotes the basic pitch level of the division with the other names showing the pitch relationship to the Principal. The 8', 4', and 2' are voiced to blend in a clean and brilliant ensemble, which is topped with the Fourniture III.

The secondary Principal Chorus is located in the Swell Division, and on the Cambridge 220 has an 8', 4', and Plain Jeu III Mixture. The 8' Viola Pomposa is brighter and softer than the Great 8' Principal, with the 4' Octave voiced to complement the Viola Pomposa. The Plain Jeu III has a double function, one being the topping of the Swell foundations and also the topping of the Full Swell (with Reeds). The Swell Foundations must also blend with the Great Principal and Flute Choruses.

The Pedal Principals are bold and construct the bottom foundation for the entire organ. On the Cambridge 220, the Pedal Principals are at 16', 8', and 4', giving the essential support to the 16', with the Mixture III to give additional clarity to the Pedal line.

To construct an ascending Principal Chorus, depress the following stops in order, while holding a chord on the Great keyboard:

Swell to Great 8' On
Swell Viola Pomposa
Great Principal 8'
Swell Octave 4'
Great Octave 4'
Great Fifteenth 2'
Swell Plein Jeu III
Great Fourniture III
Add appropriate Pedal note
Pedal 16' Principal
Pedal Octave 8'
Pedal Choralbass 4'

THE FLUTE FAMILY

The basic tone of the Flute family is derived from the orchestral Flute, and in the organ has some variations. Originally, the flute in a pipe organ imitated the modern flute's predecessor, the recorder, which has a bright and hollow quality to its tone. Due to the construction of the flute pipe, these flutes are called "Stopped Flutes." The Great Flutes are of this character.

The Great Flute Chorus is the 16' Flute Conique, 8' Bourdon, 4' Spillflote, and 2' Blockflote. This Chorus supports the Great Principal Chorus, and the individual stops can be used as solo stops for moderately soft passages. The 1-1/3' Lari-got is a very useful stop for adding color to lighter combinations. The Flute Celeste II is on the Great to give a Romantic soft sound for accompanimental work.

The Swell Organ has Flutes of a slightly different character, being broader and fuller than the Great Flutes. The Swell Flutes are 8' Hohl Flute, 4' Flute Harmonique, 2' Piccolo, and 1' Fife. The 2-2/3' and 1-3/5' are mutation stops (non-unison), used for adding color to combinations. The 8' and 4' are especially useful as soft solo stops or as soft accompaniment for Great and Solo stops.

The Pedal has two 16' Flutes of distinct volume differences. The 16' Bourdon is a powerful Flute that supplements the 16' Principal, while the 16' Lieblich Gedeckt is very soft for supplying a soft foundation under delicate manual combinations. The 8' Flute supports the 16' Subbass for clarity and definition of pitch.

Another feature of the Cambridge 220 is the Swell Flute Chiff control. This control, when actuated, puts a harmonic attack on the Flute, giving the characteristic attack of classically voiced Flutes.

THE STRING FAMILY

The String sound is a relative newcomer to the organ, being developed to its current status in the Romantic Period. The String tone is closely related to the Diapason, except thinner and more transparent in quality and generally much softer. The Strings are most often located in the Swell Division with their Celeste. A Celeste is created by two identical ranks of pipes, with one set tuned slightly sharper than the other, causing a tremolo effect when played simultaneously. The result is a mystical and ethereal sound which was a favorite of many Romantic organ composers. The Viola Pomposa and Viola Celeste are the Swell Strings.

The Gambe 8' (Great) is useful for a MP Foundation tone, and adds richness when used with the Great Flutes.

The Violone in the Pedal Division tends to imitate the String Bass, and is more abundant in harmonics than the Pedal Principal. It is found at 32' and 16'. The 32' Violone gives the depth of pitch, but is lightweight so it does not become ponderous and can be used in very light combinations as well as full combinations. The 16' Violone gives a mezzo forte foundation to the Pedal Organ, and is very useful when an orchestral Pedal sound is desired.

In pipe organs, all of the above tone qualities (Principals, Flutes, and Strings) are derived from a pipe sound caused by a vibrating column of air set in motion by the action of a sheet of wind impinging on a knife-like edge on the upper lip of the pipe mouth. These pipes and their resulting sounds are classed collectively under the name of Flue Stops.

THE REED FAMILY

The Reed derives its categorical name from the manner of sound production in a pipe organ. The produce a sound, a brass reed tongue vibrates against a slotted metal tube (shallot) with the vibrations being affected by the length, width, and thickness of the resonator which is directly attached to the top of the shallot.

The Reed family is the most colorful of all the organ families, and is sub-divided into two divisions, Chorus Reeds and Solo Reeds. Chorus Reeds are generally of a trumpet quality, and are located in the Swell Division. Solo Reeds can be placed on any manual. The Krummhorn, located in the Great Division, is imitative of the Krummhorn that was the Baroque and Renaissance predecessor of the Clarinet. It can be colored by the addition of the Great 4' Spillflöte.

The Cambridge 220 has the Chorus Reeds on the Swell and also in the Pedal. The 16' Contre Trompette, 8' Trompette, and 4' Clairon add the fire and snarl needed as the final topping to the entire organ ensemble. The 8' Trompette is also a powerful stop for solo passages. The 8' and 4' Reeds are also available on the Pedal with an independent 16' Bombarde.

When properly used, the Reeds can sing a lyric melody or breathe the fire that finalizes the excitement of the magnificent sound of the Cambridge 220.

PERCUSSIONS

The Percussions found on the Cambridge 220 are located on the Great Manual, where they can be used to their best advantage. The Harp is typical of the type of organ harp introduced in the late Romantic Period, and the Carillon is of English character, which is usable against any chords played on the organ. The Carillon can also be played through an outdoor speaker system, if desired.

COUPLERS

A full complement of couplers is provided on the Cambridge 220. They are as follows:

- Swell to Great 16', 8', 4'
- Swell to Swell 16', Unison Off, 4'
- Swell to Pedal 8', 4'
- Great to Pedal 8', 4'
- Great to Great 4'

The Swell couplers are the most versatile, coupling the Swell to any division on the organ. The Great Division couples to the Pedal for added clarity when needed.

SPEAKING STOPS OF THE CAMBRIDGE 220

| <u>TONE FAMILY</u> | <u>GREAT MANUAL</u> | <u>SWELL MANUAL</u> | <u>PEDAL CLAVIER</u> |
|--------------------|---|--|--|
| DIAPASONS | 8' Principal 4' Octave 2' Fifteenth Fourniture III | 8' Geigen Diapason 4' Octave Plein Jeu III | 16' Principal 8' Octave 4' Choralbass Mixture III |
| FLUTES | 16' Flute Conique 8' Bourdon 8' Flute Celeste II 4' Spilflöte 2' Blockflöte 1-1/3' Larigot | 8' Hohl Flute 4' Flute Harmonique 2-2/3' Nazard 2' Flautino 1-3/5' Tierce 1' Fife | 16' Bourdon 16' Lieblich Gedeckt 8' Flute |
| STRINGS | 8' Gambe | 8' Viola Pomposa 8' Viola Celeste | 32' Contra Violone 16' Violone |
| CHORUS REEDS | | 16' Contre Trompette 8' Trompette 4' Clairon | 16' Bombarde 8' Trompette (sw) 4' Clairon (sw) |
| SOLO REEDS | 8' Krummhorn | | |
| PERCUSSIONS | Harp Carillon | | |

TREMULANTS

There are two tremulants on the Cambridge 220 that electronically affect the speaking voices. These are the Main Tremulant and The Swell Tremulant. The Main Tremulant affects the entire organ, while the Swell Tremulant affects only the Swell Division.

There are two additional tremulant controls which control the rotor speed and on/off switch of an optional Leslie speaker cabinet. (The Leslie output is a standard feature on the Cambridge 220.) The Diapason/Flute Chorus tab allows the Principals and Flutes of the Cambridge 220 to sound from the Leslie with the rotor moving at the slow speed. The amount of Flute and Diapason fed to the Leslie is adjustable by family voice per division on the output board inside the console. The Flute Tremulant Full tab cuts off the Diapason and turns the rotor on fast speed.

EXPRESSION PEDALS

There are two pedals which directly affect the volume level of the organ. The Swell Pedal affects all of the speaking voices of the Swell Division. The Great and Pedal expression pedal affects collectively the rest of the organ. The register Crescendo Pedal (located to the right and slightly above the expression pedals) affects the volume of the organ in a different manner, by progressively adding stops in a predetermined order. This device does not affect the stops already set up on the organ, but merely adds to them. The inartistic use of these devices is to be guarded against. "Pumping" of the Expression and Crescendo Pedals results in a sound that quickly tires the listener.

TUTTI PISTON

The button marked "Tutti", located on the Great Manual Piston Rail, brings on the full organ instantaneously when depressed. Pressing the button again reverses this action. The toe stud on the far right of the kneeboard (upper row) accomplishes the same thing. An indicator light (FF) shows when this mechanism is on.

GREAT TO PEDAL REVERSIBLE

This console accessory operates mechanically in the same manner as the Tutti Piston, in that the piston or toe stud can turn the Great to Pedal 8' Coupler on or off.

COMBINATION ACTION

The standard combination action is a six-piston PRE-SET system, with the pistons arranged in ascending order of volume. These presets do not affect any couplers.

By using a double-touch piston, the combination system's usefulness is expanded. First touch will add the piston to any hand set registration or to the previous piston used. Second touch will cancel any combination (manually set or otherwise), allowing only the stops of that specific piston to sound. There is an illuminated indicator to let the organist know which piston(s) is engaged.

The Stoprail On button will add the manually set stops to a piston if depressed to First Touch, and will cancel the preset completely, allowing only the stops on the Stoprail to sound, when completely depressed to Second Touch.

COMPUTER MEMORY COMBINATION ACTION

This system provides six general pistons (affecting the entire instrument) that are completely independent of the individual manual pistons, and are fully adjustable. This type of action operates as follows: (1) the stops are set by hand to produce the registration that is to be retained; (2) the piston marked SET (left end of the Great Piston Rail) is depressed; (3) while holding the SET Piston in, the piston on which that combination of stops is to be retained is pressed also; (4) the piston on which the stops are to be set is released; (5) the SET Piston is released. The new combination is now programmed into the magnetic memory of the combination action, and will remain there until removed by setting of a new combination.

This action can also be operated in a "hold-and-set" fashion, if it is desired to change just one or two stops in a combination. This is done by depressing the piston on which the combination is set. You will notice that there is a cycling process occurring while you hold the piston in, indicated

by the slight recurrent movement of the stop controls. To change individual stops, it is only necessary to move them by hand (while holding the piston in) and hold them in the new position for one complete cycle of the action (about a second). The memory of the action will then re-program itself to accommodate the new positions of the stops. A locking lighted switch prevents unauthorized changing of the combination without your knowledge.

TOWER SPEAKER SYSTEM

As standard equipment, the Cambridge 220 is prepared for the use of the Rodgers Outdoor Tower Speaker System. This system is operated by the locking key switch on the right side of the console, and permits the organist to play the Great Percussion stops (particularly the Carillon) from a special high-power, weatherproof speaker system. The Percussions, as played through this system, are independent of the expression system of the organ, and therefore play at an adjustable constant volume.

SOME ADDITIONAL DESIGN ELEMENTS OF THE RODGERS

CONSOLE SPECIFICATIONS

All of the console dimensions conform to the specifications set by the American Guild of Organists. The two 61-note overhanging manuals are precisely placed, both in relation to each other and in relation to the pedalboard. The pedalboard is a standard A.G.O. 32-note, concave and radiating clavier, with the expression pedals placed as per A.G.O. specifications.

LEVELING GLIDES

To assure optimum performance and life of the moving parts in the console, it should always be "square." Uneven floors tend to distort the case over a period of time, and extreme stresses will damage the casework and equipment. The leveling glides are under each corner of the console and bench, and are mounted on heavy threaded pins. These may be adjusted as much as 1-1/3" to compensate for irregularities in the floor. A simple spirit level can assure the most accurate settings.

THE RODGERS CONSOLE IS COMPLETELY TRANSISTORIZED

Each note of each organ set of voices is produced separately by an individual, solid-state voice generator. It is this independence of voices that is largely responsible for the wide acceptance of the Rodgers tone quality. In addition, stop switching, coupling, and keying are all accomplished through the use of solid-state switches which eliminate literally hundreds of contacts and moving parts.

The amplifiers of your Rodgers Organ are located in the speaker cabinets themselves, eliminating the need for running hazardous voltages over long distances. The amplifiers are of a 100-watt power transistor type, requiring neither a warm-up time or the periodic replacement of tubes, two problems common to tube-type amplifiers.

ACTIVITY AND AIR SOUND

The Cambridge 220 is provided with devices to insure that each note on the organ has the necessary wind-blown quality, rather than a sterile "electronic" sound. Hold a note on the 8' Great Principal, and notice first of all that a slight amount of "breathiness" is present. This is similar in nature to the sound of the turbulence that occurs at the mouth of a speaking pipe. This same turbulence, however, gives rise to another phenomenon. The upper harmonics in the sound of an individual pipe are actively varying as the pipe responds to the action of a never-too-stable wind supply. The fundamental pitch of the pipe, however, remains almost rock-steady. This type of activity is also incorporated in the tone production system of the Cambridge 220. Both the Activity and Air Sound are completely adjustable, and are controlled by a small switch under the right side of the Great Manual.

CAMBRIDGE 220

PRESET COMBINATIONS

| | SWELL | GREAT | PEDAL |
|----------|---|---|--|
| Preset 1 | 8' Viola Pomposa 8' Viola Celeste | 8' Flute Celeste II 4' Great to Great | 16' Violone 16' Lieblich Gedeckt |
| Preset 2 | 8' Viola Pomposa 8' Hohlflöte 4' Flûte Harmonique 2' Piccolo | 8' Principal 8' Bourdon 4' Spillflöte | 16' Bourdon 8' Flute |
| Preset 3 | 8' Viola Pomposa 8' Hohlflöte 4' Octave 2' Piccolo | 8' Principal 4' Octave 4' Spillflöte 2' Blockflöte | 16' Bourdon 16' Violone 8' Flute |
| Preset 4 | 8' Viola Pomposa 8' Hohlflöte 4' Octave 4' Flûte Harmonique 2' Piccolo 1' Fife | 8' Principal 4' Octave 4' Spillflöte 2' Fifteenth 2' Blockflöte | 16' Bourdon 16' Violone 8' Octave 4' Choralbass |
| Preset 5 | 8' Viola Pomposa 4' Octave 4' Flûte Harmonique 2' Piccolo Plein Jeu III 16' Contre Trompette | 16' Flûte Conique 8' Principal 8' Bourdon 4' Octave 4' Spillflöte 2' Fifteenth Fourniture III | 32' Contra Violone 16' Principal 16' Lieblich Gedeckt 8' Octave 4' Choralbass Mixture III |

SOME REGISTRATION SUGGESTIONS FOR RODGERS CAMBRIDGE 220

The following guides to stop selection include manual by manual suggestions as to basic combinations of organ voices, as well as a reference guide for interpreting the stop suggestions of published organ music. The latter is especially important because most organ music is published with only general suggestions for registration. This is because every organ is different in some way from the organ that the composer of the music had at his disposal. Therefore, names of some stops would be meaningless on some instruments. The way to get to know the organ is to experiment freely with the sounds of the instrument, and the following basic guide will help you achieve good classic registration skills. At the end of this section will be found several registration sets that involve the entire organ, given as the basis for certain specific styles and periods of musical culture.

PEDAL DIVISION

The term "Appropriate Pedal" often appears on suggested registrations. The suggestion seems obvious at first, but Pedal stop selection is as much of an art as manual selection. In most organ playing, the Pedal is used to provide the foundation (bass) for manual work. The use of 16' voices provides the subharmonics necessary to under-gird the manual tonal structure.

PUBLISHED SUGGESTION

SUGGESTED INTERPRETATION

| | |
|--------------------------------|--|
| 1. Light 16' Pedal | 16' Lieblich Gedeckt |
| 2. Soft Foundations 16' & 8' P | 16' Lieblich Gedeckt or 16' Violone 8' Flute |
| 3. Foundations 16' & 8' MP | 16' Bourdon 8' Flute |
| 4. Foundations 16' & 8' MF | 16' Bourdon 16' Violone 8' Octave 8' Flute |
| 5. Foundations 16' & 8' F | 16' Principal 16' Bourdon 16' Violone 8' Octave 8' Flute |
| 6. Pedal F | 32' Contra Violone 16' Principal 16' Bourdon 16' Violone 8' Octave 8' Flute 4' Choralbass Mixture III 8' Trompette |
| 7. Pedal FF (Full Pedal) | All Pedal Stops |

If additional support for upperwork in the Pedal is needed, the Great to Pedal Coupler is generally used. The Swell to Pedal is used either to place the soft Swell voices on the Pedal or the Full Swell on the Pedal.

GREAT DIVISION

| <u>PUBLISHED SUGGESTION</u> | <u>SUGGESTED INTERPRETATION</u> |
|---------------------------------|--|
| 1. Flutes 8' | 8' Bourdon |
| 2. Flutes 8' & 4' | 8' Bourdon 4' Spillflöte |
| 3. Foundations MP | 8' Gambe 8' Bourdon |
| 4. Broad Foundations MF | 8' Principal 8' Bourdon |
| 5. Foundations 8' & 4' MF | 8' Principal 8' Bourdon 4' Octave 4' Flute |
| 6. Light Foundations 8', 4', 2' | 8' Principal 4' Octave 2' Blockflöte |
| 7. Basic Foundation Chorus | 8' Principal 4' Octave 2' Fifteenth |
| 8. Full Great without Mixtures | 8' Principal 8' Bourdon 4' Octave 4' Spillflöte 2' Fifteenth 2' Piccolo |
| 9. Full Great to Mixtures | Add Furniture III to above |
| 10. Full Great plus 16' | Add 16' Flute Conique to above |

SWELL ORGAN

PUBLISHED SUGGESTION

SUGGESTED INTERPRETATION

| | |
|----------------------------|--|
| 1. Strings 8' | 8' Viola Pomposa |
| 2. String Celeste | 8' Viola Pomposa 8' Viola Celeste |
| 3. Celeste Chorus | 8' Viola Pomposa 8' Viola Celeste 16' Swell to Swell 4' Swell to Swell |
| 4. Flute 8' | 8' Hohl Flöte |
| 5. Solo Flute(s) | 8' Hohl Flöte 4' Flute Harmonique Tremulant (Optional) |
| 6. Foundations 8' | 8' Viola Pomposa 8' Hohl Flöte |
| 7. Foundations MP | 8' Viola Pomposa 8' Hohl Flöte 4' Flute Harmonique |
| 8. Foundations MF | 8' Viola Pomposa 8' Hohl Flöte 4' Octave 4' Flute Harmonique 2' Piccolo |
| 9. Reeds 8' & 4' | 8' Trompette 4' Clairon |
| 10. Reed Chorus | 16' Contre Trompette 8' Trompette 4' Clairon |
| 11. Full Swell to Mixtures | 8' Viola Pomposa 4' Octave 2' Piccolo Plein Jeu III 8' Trompette 4' Clairon |
| 12. Full Swell plus 16' | Add 16' Contre Trompette to above |

CHOIR ORGAN

Use Stops on the Great manual or Swell Manual as indicated

PUBLISHED REGISTRATION

- | | |
|----------------------------|---|
| 1. Choir Strings | Great: 8' Gambe |
| 2. Choir Flute | Great: 8' Bourdon |
| 3. Choir soft Celeste | Great: 8' Flute Celeste II |
| 4. Choir Foundation Chorus | Swell: 8' Viola Pomposa 8' Hohlflöte 4' Flute Harmonique 2' Piccolo 1' Fife |
| 5. Solo Reed | Great: 8' Krummhorn |
| 6. Second Solo Reed | Great: 8' Krummhorn 4' Spillflöte |

CHOIR POSITIV

The following are Baroque registrations and require the Swell Flute Chiff in the "ON" position. These combinations are best for contrapuntal music as opposed to harmonic (chordal) music.

PUBLISHED SUGGESTION

SUGGESTED INTERPRETATION

| | |
|---|--|
| 1. Positiv Flute 8' | Swell Chiff "ON" 8' Hohl Flöte |
| 2. Positiv Flutes 8' & 4' | 8' Hohl Flöte 4' Flute Harmonique |
| 3. Foundations | 8' Hohl Flöte 4' Octave 4' Flute Harmonique 2' Piccolo |
| 5. Solo Combinations without mutations | 8' Hohl Flöte 4' Flute Harmonique 1' Fife 8' Hohl Flöte 2' Piccolo 8' Hohl Flöte 1' Fife |
| 6. Solo Combinations with mutations | |
| A. Classic French Cornet | 8' Hohl Flöte |
| B. For German Cornet change 4' Flute Harmonique to 4' Octave | 4' Flute Harmonique 2-2/3' Nazard 2' Piccolo 1-3/5' Tierce |
| 7. Other Combinations with mutations | 8' Hohl Flöte 4' Flute Harmonique 2-2/3' Nazard 1' Sifflöte 8' Hohl Flöte 2-2/3' Nazard 1-3/5' Tierce (optional) |

FULL ORGAN SUGGESTIONS

BAROQUE ENSEMBLES

1. Soft
SWELL: 8' Hohl Flöte, 4' Flute Harmonique
GREAT: 8' Bourdon, 4' Spillflöte , 2' Blockflöte
PEDAL: 16' Lieblich Gedeckt, Swell to Pedal
(SWELL Flute Chiff "ON")
2. Trio Sonata
SWELL: 8' Hohl Flöte, 2-2/3' Nazard, 1' Fife
GREAT: 8' Bourdon, 4' Octave, 2' Blockflöte
PEDAL: 8' Flute, 4' Choralbass
3. Chorale Prelude
(Melody in Pedal)
SWELL: 8' Hohl Flöte, 4' Flute Harmonique
GREAT: 8' Flute Celeste II
PEDAL: 4' Choralbass or 4' Clairon
4. MP & MF
SWELL: 8' Hohl Flöte, 4' Flute Harmonique, 1' Fife
GREAT: 8' Principal, 4' Octave, 4' Spillflöte, 2'
Fifteenth
PEDAL: 16' Violone, 16' Lieblich Gedeckt, 8' Octave,
4' Choralbass
5. F
SWELL: 8' Viola Pomposa, 8' Hohl Flöte, 4' Octave,
4' Flute Harmonique, 2' Piccolo, 1' Fife,
Plein Jeu III
GREAT: 8' Principal, 8' Bourdon, 4' Octave, 4' Spillflöte
2' Fifteenth, 2' Blockflöte, Furniture III
PEDAL: 16' Bourdon, 16' Violone, 8' Octave, 8' Flute,
4' Choralbass, Mixture III

ROMANTIC ENSEMBLES

1. Soft with Solo voice on Great:
SWELL: 8' Viola Pomposa, 8' Viola Celeste
GREAT: 8' Krummhorn, 4' Spillflöte
PEDAL: 16' Bourdon, Main Tremulant
2. Etherial Solo with harp
accompaniment:
SWELL: 8' Viola Pomposa, 8' Viola Celeste, 4' Flute
Harmonique, 2' Piccolo, Swell Tremulant
GREAT: 8' Flute Celeste II, Harp
PEDAL: 16' Bourdon, 16' Violone

ROMANTIC ENSEMBLES (cont'd)

3. Grand Celeste Chorus
- SWELL: 8' Viola Pomposa, Viola Celeste, Swell to Swell 16' and 4'.
GREAT: Flute Celeste II, 8' Gambe, Great to Great 4' Swell to Great 16', 8', 4'
PEDAL: 32' Contra Violone, 16' Violone, 8' Flute, Swell to Pedal, Main Tremulant, Flute/Diapason Chorus
4. Soft to Medium Full Accompaniment
- SWELL: 8' Viola Pomposa, Viola Celeste, 8' Hohl Flöte, 4' Flute Harmonique
GREAT: 8' Gambe, 8' Bourdon, 4' Spillflöte, Swell to Great 8'
PEDAL: 16' Violone, 16' Bourdon, 8' Flute, Swell to Pedal, Flute/Diapason Chorus

HYMN REGISTRATIONS

1. MP-MF
- SWELL: 8' Viola Pomposa, 8' Hohl Flöte 4' Flute Harmonique
GREAT: 8' Principal, 4' Octave, 4' Spillflöte, Swell to Great 8'
PEDAL: 16' Violone, 16' Bourdon, 8' Octave, Swell to Pedal 8'
2. MF-F
- SWELL: Same as above and add 4' Octave, 2' Piccolo
GREAT: Same as above and add 8' Bourdon, 2' Blockflöte, 2' Fifteenth
PEDAL: 16' Bourdon, 16' Violone, 8' Octave, 4' Choralbass, Swell to Pedal 8'
3. F (with English Reed Chorus)
for use on grandiose Hymns
- SWELL: 8' Viola Pomposa, 4' Octave, Plein Jeu III 16' Contre Trompette
GREAT: 8' Principal, 8' Bourdon, 4' Octave 4' Spillflöte, 2' Fifteenth, 2' Blockflöte, Swell to Great 8'
PEDAL: 16' Principal, 16' Bourdon, 8' Octave 8' Flute, 4' Choralbass, Swell to Pedal 8'
4. F with Full Reeds (on Swell)
and complete Great Principal
Chorus:
- SWELL: Add 8' Trompette to the above scheme
GREAT: Add the Fourniture to the above scheme
PEDAL: Add the 32' Contra Violone To the above scheme.

The above registration schemes are arranged to give ample variety during the playing of a hymn by simply changing manuals with each verse. It is advisable to play the introductory

Romantic Ensembles (cont'd)

verse on the medium loud (Swell manual) setting of the above registrations, with the first and last verses played on the Great manual. For middle verses, couplers may be added or subtracted and the 16' Flute Conique on the Great may be added to give added body when playing on the Great and not using the Pedals.

FULL ORGAN

This scheme is included to demonstrate the fact that the "Full Organ" indication does not merely mean to pull all the stops on the organ. Certain stops, because of the heaviness of solo tendencies, should be omitted in interest of keeping the "Full Organ" clean and fiery. If additional registers are needed, the "TUTTI" piston can be used.

SWELL: 8' Viola Pomposa, 4' Octave, 2' Piccolo,
1' Fife, Plein Jeu III, 16' Contre Trompette,
8' Trompette, 4' Clairon
GREAT: 16' Flute Conique, 8' Principal, 4' Bourdon,
4' Octave, 4' Spillflöte, 4' - 2' Fifteenth, 2'
Blockflöte, Fourniture III, Swell to Great 8'
PEDAL: 32' Contra Violone, 16' Principal, 16'
Bourdon, 8' Octave, 8' Flute, 4' Choralbass,
Mixture III, 16' Bombarde, 8' Trompette,
4' Clairon, Great to Pedal and Swell to Pedal 8'

RODGERS TRANSPOSER

The Transposer is available on all Rodgers Organs. It will raise or lower the pitch of the organ a full four Semitones (half steps) in either direction. The Transposer is controlled by eight pistons and a neutral position piston on the right Swell piston rail. There is also a corresponding light panel to inform the organist of the position of the Transposer, which avoids any confusion.

The Transposer is especially useful for accompanying, eliminating the need to mentally transpose music on the printed sheet into a different key. Many singers need a key change to accommodate their voice range, sometimes as far as a major third in either direction. The Transposer accomplishes these key changes with the touch of a piston.

Another feature of the Transposer is the circuit that returns the setting to normal pitch (0 piston) automatically when the organ is shut off, avoiding any problem if the organ is used again under hurried circumstances.

PRACTICE PANEL

The Practice Panel is a standard feature on the Cambridge 220. It allows you to play "silently", through the use of high-fidelity STEREO HEADPHONES which faithfully reproduce the full tonal spectrum of the organ. Thus you can practice in complete privacy, without distracting others.

The Practice Panel also provides the luxury of REVERBERATION, giving you the depth and dimension of Concert Hall sound, even when the organ is installed in a small room.

You may RECORD on tape, with or without reverberation, and then PLAY BACK your music through the organ speaker system, for your own evaluation, or for others. Tapes may be saved indefinitely.

You may also "play along" with your own (or someone else's) recordings for instruction or just for fun.

Once you become familiar with its many functions, you will undoubtedly find additional ways the Rodgers Practice Panel can enlarge your musical pleasure and progress.

OPERATING INSTRUCTIONS

The Practice Panel chassis is mounted within the organ console, on the upper right corner of the kneeboard.

Stereo headphones may be plugged into either of the jacks marked HEADPHONES. The remaining jack will accommodate a second set of headphones.

The REVERB knob is used to turn the organ speakers on or off. Pull the knob out when you wish to practice using headphones only, or for listening to a tape playback using the headphones only. Turning the REVERB knob clockwise increases reverberation.

The TAPE LEVEL knob is pulled out to record from the organ. Leads are plugged into the two top phono jacks (RCA type) labeled "To" (Left-Right). The other ends of the leads are plugged into the recorder input jacks. The expression pedal of the organ is used to regulate the recording levels to the

tape deck. (The TAPE LEVEL knob does NOT control the recording levels.) The REVERB knob may be pulled out to record in silence.

To play the tape recording back through the organ, the leads are moved to the two bottom phone plugs "From" (Left-Right), and the other ends of the leads switched to the recorder output for playback volume.

THE CARE AND MAINTENANCE OF THE RODGERS CAMBRIDGE 220

As with any fine musical instrument, reasonable care is necessary to protect your investment in the Cambridge 220. Normally, you should experience no difficulties with the organ. It has been carefully designed, and only the finest component parts used in its manufacture. Even the finest equipment, however, is subject to occasional malfunctions and failures. Your Rodgers Service Representative is fully equipped and qualified to handle any service problems which may arise.

Your new Cambridge 220 is not only a fine musical instrument, but also a fine piece of custom-made furniture, finished to hold its attractiveness through generations of use. Only the best woods are used, carefully checked for uniformity of grain and intensity of figure, and carefully hand-assembled. As each finish coat is applied, it is thoroughly dried and hand-rubbed before the next coat is applied. This hand rubbing results in a finish that is lasting and easy to keep looking beautiful. Here are a few tips on caring for the Rodgers.

CONSOLE AND PEDALBOARD

A frequent dusting with a soft, clean cloth is usually all that is required. A small amount of Guardsman Cream Polish on the cloth will keep the organ smudge-free and help remove fingerprints. Waxes, Oils, or silicone-base polishes should not be used. Always wipe the surfaces with the grain, using straight, even strokes.

KEYBOARDS AND STOP TABS

Keyboards and stop tabs should be cleaned with a soft cloth dampened with water and a mild soap. DO NOT USE SOLVENTS (Alcohol, gasoline, carbon tetrachloride, etc.).

Since extreme cold, heat, or exposure to sunlight may injure the finish of any fine piece of furniture, neither the console nor finished speaker cabinets should be placed over a heat register or near an open window.

SPEAKER SYSTEMS

The Cambridge 220 is available only with external tone cabinets. There are six output channels: 1) Great Diapason; 2) Great Flute; 3) Swell Flues; 4) Swell Reeds and Celeste; 5) Pedal. The Leslie output plug accommodates a Rodgers L2-100 Leslie or a Leslie 147 can be used with an adaptor. Main Off and Echo On stop tablets are standard, and echo speakers may be connected with the addition of an Echo Adaptor.

RODGERS LIMITED WARRANTY

Rodgers Organ Company agrees to provide free parts for the repair or replacement of any defective assemblies by an authorized serviceman for a period of five years, beginning on the date of delivery of the organ to the retail purchaser.

Full Warranty details are available in your warranty certificate. Should you experience any malfunction with your instrument, you must contact the Rodgers Dealer from whom you purchased the product, or the nearest Rodgers Dealer.