Konsole Kapers

by Shirley Hannum Keiter

BUILDING A MUSICAL FOUNDATION — BLOCK BY BLOCK

In past columns, we've discussed several facets of theatre organ playing including an overview of registration, percussions and their use, families of tone and the use of the expression pedals. In a continuing effort to help you become more proficient in mastering your instrument, we began a discussion on theory in the last issue, which concludes here. In this article, we'll show you a formula to finding any chord you need (excepting 9th, 11th, and 13th chords, for the moment).

Last time we talked about finding a scale — any scale — using a series of whole and half tones, the first step in locating new chords. For the sake of simplicity, let's use the C scale. After finding the scale, the next step is to place numbers underneath the letters. The scale should now look like this:

C	D	E	F	G	A	B	C
1	2	3	4	5	6	7	8

Below is listed the formula for finding most chords you'll come across in popular theatre organ music. It will work for any scale.

Major	— 1 3 5 (C = C E G)
Minor	— 1 b3 5 (Cm = C Eb G)
Augmented	— 1 3 #5 (C+ or C aug. = C E G#)
Diminished	— 1 b3 b5 (C dim. or C° or C^{o} = C Eb Gb)
Dominant 7th	— 1 3 5 b7 (C7 = C E G Bb)
Major 7th	— 1 3 5 7 (C maj. 7= C E G B)

The final step is to invert the chord into playing position. In other words, place the bottom note on top (or top one on the bottom) and repeat this process until the chord is between the two F's surrounding middle C. This will ensure smooth chording. (Ex.: C E G = G C E)

There are some shortcuts to aid you in finding 7th chords. For example, for a dominant 7th (C7), add one whole step below the root (name of chord). And for a major 7th (Cmaj.7), and one half step below the root. You might also wish to remove the root and play it in the pedal (G B E, with a C pedal).

Many times, a diminished chord with sixth can be substituted for the sometimes dreary diminished chord. There are only three of these: F Ab B D, Gb A C Eb, G Bb Db E. Each one represents four different chords, depending on which one of the four is played by the pedal. (Ex.: C^{o} = Gb A C Eb, with a C pedal)

Another chord you'll often encounter is one with a flatted fifth (C7-5). Play a dominant 7th chord here, but with a flatted 5th instead of a natural 5th. (Ex. C7-5 = Gb Bb C E, C pedal)

Now that you've built that new chord, how will you remember it for next time? Finding it by way of the scale will help. But be sure to write the notes in the music to serve as a reminder for a while; and look at the formation of the chord, the placement of your fingers on the keys. Also, play from the chord and pedal preceeding the new chord through the chord and pedal following. Take note, again, of which finger moves where. Practice the progression for a while, and you should have it.

These two articles by no means "say it all" in the foundation of music, but we hope they will give you some insight into the endless possibilities of musical discovery. □

THE ACOUSTICAL CONSULTANT

(Answers to Acoustiquiz on page 22)

by R. J. Weisenberger

1.) **False.** Raising the cut-ups will *lower* harmonic development at a *given* pressure. The pressure must be raised by the square of the change in the mouth cut-ups to maintain the same degree of harmonic development.

2.) **True.** The output capability is related to the height of the mouth cut-up as a 4th power function, therefore, a modest change in the mouth will bring about a tremendous change in the output capability of the pipework.

3.) **True.** Although smaller scales do not have the output capabilities of larger scales (with given mouths), they do have greater degrees of harmonic development.

4.) **False.** With a *given* flue, the output capabilities will increase with the *square* of the increase in pressure.

5.) **False.** With the exception of harmonic pipework, all open pipes radiate *perpendicular* to the axis.

6.) **False.** This is one of the biggest myths originated by early critics of the theatre organ. Clarity and smoothness are *not* functions of operating pressure, but of small scale pipework, prominence of upperwork, and careful voicing. Most tonal colors of low pressure pipework can be duplicated by identically-scaled high pressure pipework with higher mouth cut-ups. The main difference being a large increase in dynamics.

Most theatre organs used large scaled pipework, had an abundance of 8' stops, and were mass-produced.

7.) **False.** Raising the cut-ups raises the operating pressure needed to achieve a given degree of harmonic development, and also raises the pitch, necessitating the building of one or more new bass pipes to reestablish low C in the rank. For such reasons, revoicing should never be attempted by anyone but a professional.

8.) **False.** A closed pipe is not merely a stubby version of an open pipe. Closed pipes differ altogether in tonal quality from open pipes in that they cannot radiate the even order harmonics, thereby possessing a mellower tone. □