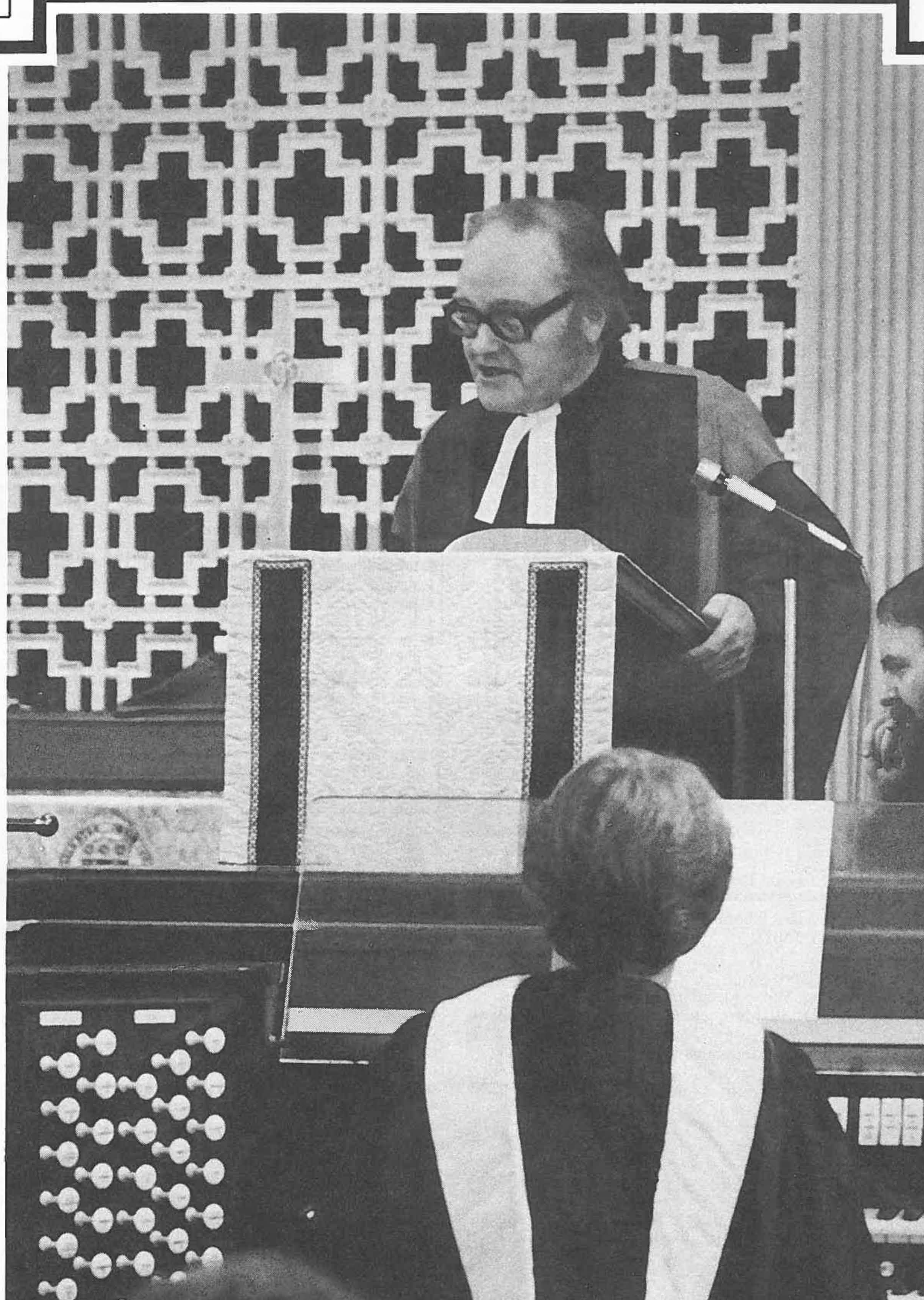
THE DIAPASON

March 1983



Dr. Eric Routley (1918-1982)

(See Page 3)

IMPORTANT NOTICE

Effective immediately, the closing date for all materials to be published in THE DIAPASON is the first (1st) day of the preceding month, for the next month's issue (April 1st for the May issue, etc.).

Our earlier closing date is applicable to all materials, advertisements and news items, and has been established in order to allow us sufficient time in which to produce each issue of this magazine.

THE DIAPASON

1983 Summer Institutes, Workshops and Conferences

Association of Anglican Musicians, 18th Annual Conference.
June 6-10. Trinity College, Toronto, Ontario, Canada.
Episcopal, Anglican music and liturgy. With Louis Weil, Mary Berry, Hugh McLean, Derek Holman, John Tuttle, Giles Bryant, Robert Bell.
Contact: Robert Bell, Trinity College, 6 Hoskin Ave., Toronto, Ontario, Canada M5S 1H8

North Texas State University, Summer Workshop.
June 6-10. North Texas State University, Denton, TX.
Workshop conducted by Russell Saunders on the music of Franck, Hindemith and Bach, and work of the participants' choice. Recitals and lectures to be given by resident organ and harpsichord faculty, Charles S. Brown, Lenora McCroskey, and Dale Peters. Graduate and undergraduate credit available.
Contact: Charles S. Brown, School of Music, North Texas State University, Denton, TX 76203

6th International Festival Orgelkunst
June 6-September 16. St. Augustin-Church, Vienna, Austria.
A series of weekly Friday organ recitals and concerts. Daniel Chorzempa, Martin Haselböck, Jean Gillou and others.
Verein Orgelkunst, 1090 Wien, Brünnlbadg. 14, Austria.

Boxhill Music Festival
June 10-12. Cleveland Lodge, Dorking, Surrey, England.
Recitals and concerts. Lady Susi Jeans, chamber consort.
Contact: Secretary, Cleveland Lodge, Dorking, Surrey, England, RH5 6BT.

Oregon Harpsichord Week. Summer Workshop.
July 10-15. Oregon Episcopal School, Portland, OR.
Master classes, lectures, lessons, recitals and practice for beginning and experienced harpsichordists. Clinicians: Laurette Goldberg, Lisa Crawford, Kathleen McIntosh.
Sponsored by Early Music Guild of Oregon.
Contact: Nancy Metzger, 909 S.W. Vincent Place, Portland, OR 97201. (503) 245-7518

Kretzmann Memorial Conference on Church Music
July 21-23. Concordia College, Bronxville, NY.
Workshops on organ, choral and handbells. Gillian Weir, Fritz Noack, Richard Westenburg, Rose Marie Wildman.
Contact: Richard Heschke, Music Department, Concordia College, Bronxville, NY 10708.

20th Flanders Festival Bruges
July 29-August 13. Bruges, Belgium.
Competitions, lectures, exhibitions, recitals. Kenneth Gilbert, Christopher Hogwood, Gustav Leonhardt, and others.
Contact: Tourist Office, Markt 7, B-8000, Bruges, Belgium.

Saratoga-Potsdam Choral Institute
August 8-26. Saratoga Springs, NY.
Choral concerts, courses. Brock McElheran, Erich Leinsdorf, Robert Shaw, Franz Allers.
Contact: The Director, Saratoga Potsdam Choral Institute, State University College of Arts and Sciences, Potsdam, NY 13676.

Summer School of Organ Music. England.
August 8-13. Cleveland Lodge, Dorking, Surrey, England.
Lectures, recitals. Marilyn Mason, Davitt Moroney, Alan Smith, Guy Oldham, Lady Susi Jeans, and others.
Contact: Secretary, Cleveland Lodge, Dorking, Surrey, England, RH5 6BT.

Colby Institute of Church Music
August 14-20, Waterville, ME.
Organ workshop with Robert Glasgow.
Contact: Colby College, Waterville, ME 04901

Incorporated Association of Organists, 1983 Congress.
August 15-19. Nottingham, England.
Conference titled "Heaven, Hell and The Sun King." Features lectures, performances, and more. Personalities include Gillian Weir, Graham Barber, Kenneth Beard, Roger Bryan, Lionel Dakers, James Drake, Frank Fowler and the Lord Mayor of Nottingham, John Scott.
Contact: Robert Bishton, 15th Floor, Kennedy Tower, St. Chad's Queensway, Birmingham, England, B4 6JG

Academy of Italian Organ Music
August 19-31. Pistoia, Italy.
Italian organ history, literature, interpretation. Also recitals and special tours. Directed by Umberto Pineschi and Luigi Tagliavini.
Contact: Accademia di Musica Italian per Organo, Casella Postale 246, 51100 Pistoia, Italy.

Additional Summer events will be listed in the April issue of THE DIAPASON.

THE DIAPASON

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An International Monthly Devoted to the Organ, the Harpsichord and Church Music
Official Journal of the American Institute of Organbuilders

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Editor DAVID McCAIN

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JAMES McCRAY *Choral Music*

BRUCE GUSTAFSON *Musicology*

MARGO HALSTED *Carillon*

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Routine items for publication must be received not later than the 1st of the month to assure insertion in the issue for the next month. For advertising copy, the closing date is the 5th. Prospective contributors of articles should request a style sheet. Unsolicited reviews cannot be accepted.

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Letters to the Editor

437-446 at 63-78°F.

I cannot help but be highly amused at my new, young, extremely competent tuner who drives himself up a wall making sure the thermostat is right on the mark, and the angle of the sun on the organ chamber is "just so" when setting his temperament, etc.

Recalling my early days as an apprentice organbuilder, whenever we made an appointment to tune in a church, the janitor would throw a shovel of coal in the furnace. If it got too hot we just opened the windows! Somehow God made allowances for our ignorance and the old organs sounded pretty good.

I wonder if Honeywell built a thermostat for Franck at St. Clotilde?

William F. Brame,
Organist
Kinston, NC

Women's Choirs

Accolades to your James McCray for his review in support of Women's Choirs! (Oct. 1982).

For nearly twenty years in professional positions at several churches, I remained locked in on the idea that *the choir* must necessarily be S.A.T.B.

In most situations I faced similar frustrations. Never was the number nor quality of male singers sufficient to balance with the women available; nor were the men as reliable in attendance; further, the men's general music reading ability was so below that of the women that a rehearsal frequently amounted to having the women sit quietly while I taught the notes of an anthem to the one or two men who happened to have shown up that evening.

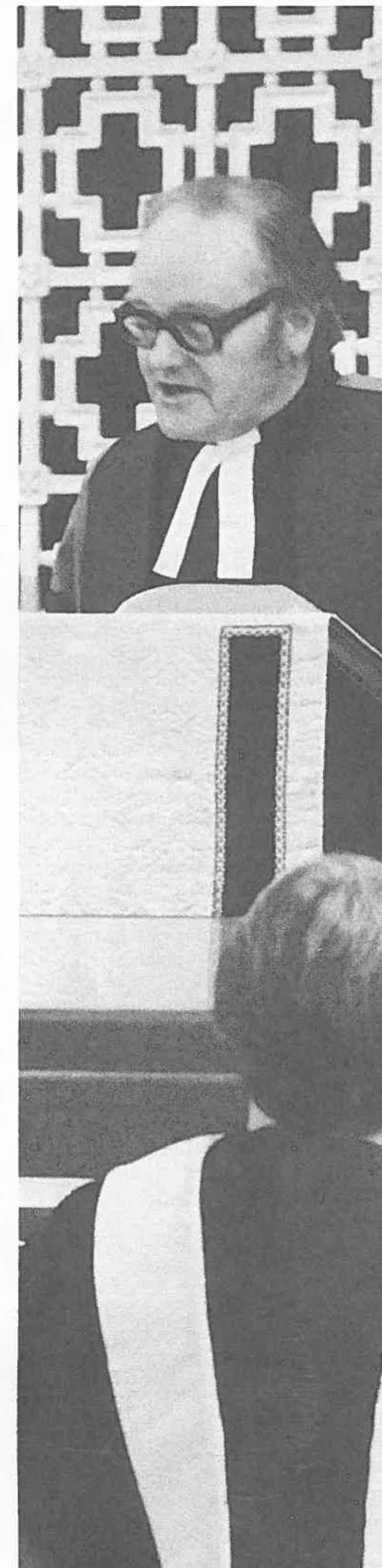
Last year I decided to begin experimentation with the concept of an adult female choir. At long last, with the founding of our Parish Women's Choir at St. Matthew's, I feel the women are getting a fair shake at being challenged and at having a chance fully to use their abilities. A special joy for me has been the opportunity to begin using the extraordinary "bass female" voice which, like its counterpart—the male alto—has largely been neglected. I now gladly admit to the choir women who previously had never sung in a church choir due to their inability to sing in the "normal" alto range!

Incidentally, repertoire for female choral ensembles does abound, and much of it in original arrangement. For those who are as fortunate as I to have women singers who are musically keen and open to sophisticated challenge, I would particularly commend the Oxford University Press volume, *Anthems for Choirs 3*, edited by Philip Ledger. For further repertoire ideas, one might also write to Smith College for their publication of an extensive bibliography of music for women's choirs.

Philip Keil
San Mateo, CA

Erik Routley: A Tribute

Gordon and Helen Betenbaugh



There are, in every profession, people who are truly giants on the face of the earth; filled with such brilliance and creativity and with such an incredible sense of uniqueness about them that one knows they are truly irreplaceable. Such a giant lived in our generation in the person of Erik Routley.

Pastor, theologian, scholar, teacher, hymnologist, church musician, lecturer, composer, organist, writer, chaplain, administrator: on and on the list goes. It staggers even one used to the Routley genius to ponder each of these areas, realize what they demanded, and how well he met those demands. We all were in awe of his knowledge of hymns; it can almost be said that what he didn't know wasn't worth knowing. His knowledge of the Bible was equally awesome, particularly as that knowledge provided the background for decisions in contemporary church life: lay, pastoral, or musical.

He had strong beliefs and convictions, spoke and defended them eloquently, and cared little upon whose toes he might tread in the process. What was important to him—and should be to us all, he believed—was the pursuit of Truth and Beauty, especially in corporate worship.

There was a side to Erik Routley what many knew and were blessed by, and yet was unknown or unsuspected by many more. His humor was so obvious, so engaging, and so all-pervasive that it was impossible to read anything he'd written and not catch the "Routley flavor." Deeper, though, lay a gentleness, a humility, a caring for friends and colleagues that was touching.

The first hymn Erik ever wrote was in 1976 for festivities associated with the dedication of a new organ in the parish we were serving. Always humble, he asked repeatedly during the planning stages why we had such confidence in him, and expressed his gratitude at receiving the commission. The hymn and tune that resulted from his pen were used regularly, and the tune was also the basis for an organ composition for the dedication of the instrument commissioned from Myron Roberts.

Routley arrived at midnight the night before the dedication after a long day of lecturing at a workshop in another state. We spoke personally for a time, went over plans for the next day's activities, and went to bed. Next morning, not long after dawn, he spent time in solitude preparing for the services. Except for a brief meeting with the choirs, he sought solitude again between services. He preached two of the most dynamic sermons we have ever heard—two *different* sermons—because "English barbarian that I am, *I* couldn't stand the same sermon twice, much less make you poor people and your singers sit through it!" Even more incredible were his sensitivity to the pacing of liturgy and a split-second sense of timing that literally raised the hair on the back of one's neck in excitement. Tapes of those services are now personal and professional treasures.

Luncheon, festival concert and reception, a frantic dash to the airport over, we returned home late in the day and found a note to our small daughters, both of whom had stayed in the home of a choir member to somewhat lessen the confusion of Routley's whirlwind arrival and departure. "My Dear Children, I don't even know your names yet—but I do know what nice people you must be because you have let me sleep in your bedroom! . . ." and went on to thank them. A more personal, touching gesture at that hectic time he couldn't have made.

He was greatly troubled by the present state of church music; specifically by minister-musician relationships and the working conditions of church musicians, along with the quality of what passes for sacred music in many places. He said over and over in speeches delivered far and wide in the last months of his life that he was dedicating his energies to speaking out on and improving those matters. Dangerous though generalizations can be, he had the knowledge and the experience to make them, if anyone did. His refreshingly ungrammatical conclusion was that he would concentrate his efforts among church musicians "because I've found there's more spiritual in most church musicians than there is aesthetic in most clergymen." He said a few months ago that he'd "given up on my fellow clergymen."

He was that rare breed—a bona fide, certifiable clergyman who, in these days of extreme tensions, championed the cause of the church musician; not carte blanche, not without insistence upon scholarship, musicianship, integrity and taste; but full steam ahead when those qualifications were met.

A prompt and prolific correspondent, he wrote often and at length to commend, to support, to cheer, to encourage, to share ideas. One of the last letters Erik Routley wrote came to us dated 24 September, 1982.

> I am afraid there are always people who will support a minister who has the gift of making himself plausible, no matter whether he speaks the truth or not—which is why I myself am always urging people to regard justice & fair-mindedness as the first necessity in the life of any church. It's the very last thing most people want.
>
> But still—that's churches for you: any distinction, any special talent, is resented especially by ministers—and this is because those ministers have been so horrendously trained in the seminaries. Ministerial training nowadays seems to me to consist of a barely adquate professional equipment for the job, plus a thorough grounding in Being the Top Person and Keeping Your Image Bright. I tell you, it sickens me. I know of one Presbyterian Seminary where they try to get things the right way round: and need I say that the President is at this moment having a bad time with his students and trustees?
>
> I don't know where we ought to start. I'd like to give just ONE really suicidal address at Princeton Seminary before I die.

Other spokesmen exist in our midst, other hymnologists, but God surely broke the mold when he made Erik Routley. Refreshingly eccentric, brilliant and witty, incisive, persuasive and pervasive; he took his beliefs and ideals seriously, but never himself. He enriched our lives and our profession in countless ways by his untiring efforts on behalf of us all.

Rest in peace, beloved colleague and friend, and may perpetual light shine upon you.

Editorial

This issue of THE DIAPASON contains two articles that are diametrically opposed, on the issue of electronic instruments. Neither is exhaustive of its respective arguments. Both are subject to abuse through misreading.

Roderick Junor's article, first published in an Australian journal, was brought to our attention by several individuals who felt that it was compatible with the interests of our readers, and in keeping with our editorial position. It was suggested that THE DIAPASON should consider the publication of this article.

We viewed Junor's article as somewhat informative, mildly controversial, but rather problematic as it dealt with an issue which we felt had been adequately addressed, and of which conclusions of opinion had been reached. Furthermore, a significant matter that could not be overlooked was that Mr. Junor's article was a direct attack on the product of a firm whose advertisements frequently appear in THE DIAPASON. On that basis alone we could have dismissed his material for editorial consideration.

Conversely, we were aware that a justification could be achieved in allowing the advertiser, the Allen Organ Company, to express their own opinion concerning their product. To that end, we solicited a responsive article from Lawrence Phelps of the Allen Organ Company, a man known to our readers as an organbuilder whose articles regarding the organ have appeared in these pages.

It should be well-known that our editorial perspective and interests of our readers are more closely aligned with those arguments offered by Mr. Junor, than those espoused by Mr. Phelps. But journalistic integrity requires that we offer an opportunity for rebuttal to those whose opinions we may not embrace. Although Mr. Phelps' article might be seen by some to be "inappropriate" to the pages of an organ journal, our intent is to be informative, not offensive.

We have not overlooked the fact that Mr. Phelps has termed his firm's computer-generated, sound-producing instruments a "third kind" of organ, rejecting the definition "electronic organ." But drawing on our personal background in retail advertising, the coinage of the term "third kind" is clearly seen to be a marketing tool, much in the same manner that "new" and "improved" are used to sell shampoo.

The term "electronic organ" will remain the generic title of any such instrument that resembles an organ, but whose tonalities are produced through the manipulation of electricity, and whose sound dispersion is delivered from loudspeakers. (This would include amplified reed organs that, if considered in Mr. Phelps' method of counting, would assign his instruments to fourth place.)

•

As we go to press with this issue, we have learned that the Allen Organ Company intends to use copies of this issue as a sales tool. For that reason we must remind them, their salesmen, their clients, and all of our readers, that Mr. Phelps' article, "The Third Kind of Organ," is the expressed opionion of its author, and is not endorsed by THE DIAPASON..

—David McCain

BACH AND THE CROSS

by Terry Norman

Some years ago, in studying the so-called "Eighteen Chorales" by J. S. Bach, I was struck by some rather strange numerical symbolism, the significance of which I could not comprehend at the time, but which I now believe I can explain.

As is well known, the so-called "Eighteen Chorales" date from the last few years of Bach's life, and constitute a collection of revisions of earlier chorale preludes, presumably intended for publication. The manuscript as it is now preserved[1], contains the first 17 chorales, followed by the revised version of the Canonic Variations on the Christmas hymn *Vom Himmel hoch, da komm ich her*, followed by a fragment of a revision of the chorale *Wenn wir in höchsten Nöten sein*, but under the alternate and highly appropriate title *Vor deinen Thron'*.

At the time of studying these chorales I spent many fruitless hours contemplating what Bach had intended in the manuscript; did he intend a collection of 17 or 18, or 18 plus the Canonic Variations, or did he originally intend to compose a few more chorales, but was prevented from doing so by his death?

Looking anew at the problem now, I would maintain that it is absurd to think otherwise than that Bach intended everything in the manuscript to be there, in the places in which they are to be found; the only uncertainty being the possibility of his intention to add a few further chorales, had he lived a little longer.

In addressing this problem, I counted all the bars in the pieces involved, with the following results:

Pieces Counted	Total number of bars	Possible factors
1 - 17	1,411	= 17 x 83
1 - 18*	1,456	= 2⁴(16) x 7 x 13
1 - 17 + canonics	1,577	= 83 x 19
1 - 18* + canonics	1,622	= 2 x 811 (which is a prime number)
Canonics alone	166*	= 2 x 83

*Assuming that the completed version of no. 18 would have contained the same number of bars as the "Art of Fugue" version.

*Note also that variations 1, 2, and 5 add up to 83 bars, framing variations 3 and 4 which also add up to 83 bars.[2]

The recurrence of the number 83 (and to a lesser extent 17, which with 83 adds up to 100) appeared to me to be significant, but I could not discover its significance at the time. However, I now believe I have the answer, and propose a solution to the question of the significance of the number 83.

It has been pointed out to me that the Cabalistic numerical equivalent of the letters "ANNA MAGDALENA" is 83.[3] It has also been suggested that Christ (1), plus the twelve, plus the seventy[4] sent out totals 83.

Both of these are of course possible solutions, yet neither is really convincing. They are more like happy coincidences, but surely a greater significance was in Bach's mind.

In the last few years of his life, Bach appears to have become more and more inward looking. His search for fame or recognition, never strong, is now dead, even his desire to help his students which had been so strong, as the title page of the "Orgel-Büchlein" demonstrates, is now weak, and he appears to be composing largely for himself and for God. For example the "Art of Fugue" is written in open score rather than in a performing edition, and Bach has not even bothered to indicate for which instrument it is intended.

In short, Bach, surely realising that death was not far off, would appear to be establishing in his mind a close relationship with God, and from what we can deduce about Bach's nature, it would be surprising if this preoccupation did not manifest itself in his music, particularly in symbolism.

The occurrence of the number 83, is only to be found in Bach's very late works, and not very often even then. I cannot pretend to have done an exhaustive survey, but the only other place I have found the number is in the Art of Fugue, where, significantly, the 14th Contrapunctus (B.A.C.H. = 14) contains 83 bars.

It is my contention that the number 83 symbolizes this close relationship between Bach and God, and that its origin is BACH (14) plus CREUZ (69) which equals 83: Bach and the Cross.

Certainly this is for us an unfamiliar spelling of the German word for cross; we are accustomed to *kreuz*. But in Bach's day, I am informed the letters *c* and *k* were interchangeable, and either spelling was possible.[5] The same person might use both spellings in the same letter. The idea of always spelling a word the same way simply had not arisen in Bach's time. Faced with a choice of "BACH + CREUZ = 83" or "BACH + KREUZ = 90" (or conceivably other possibilities such as CREUTZ or KREUTZ), the fact already referred to above, that ANNA MAGDALENA equals 83, would be enough to sway the balance, and impart a double significance to this number. But I would suggest that the primary significance of the number is the relationship between Bach and God: BACH plus CREUZ.

Another possible reason for Bach's preference for 83, is the fact that 83 is a prime number, and it is at least possible that Bach would have regarded the indivisability of 83, as symbolizing the hoped for indivisability and permanence of his relationship with God, a relationship he had looked forward to all his life, and which in his last days he began to anticipate.

Let us now return to the manuscript of the Leipzig chorales, containing the so called "Eighteen Chorales," a title which we have seen is surely wrong. As I have stated above, it is folly to suggest that the contents of a manuscript laid out in as neat and orderly a fashion as this one is, can be other than as specifically intended by its author. There are good reasons to suggest that Bach was preparing the collection for publication, and would be unlikely to include a revision of the Canonic Variations simply by accident.

Instead, let us ask why he might have included a set of variations in a group of chorale preludes.[6] And here I would like to put forward an explanation suggested by the Radulescu article alluded to at the opening of this article.

The Canonic Variations are not out of place in the collection, but they are unique and different from the remainder of the collection. The traditional exclusion of the Canonics from "The Eighteen" bears witness to their uniqueness and difference within the collection. I would suggest that their inclusion is symbolically significant, and can, with an absolute minimum of extrapolation, be represented diagramatically thus:

	Canonics: 83 x 2 bars
Chorales 1 - 17	Chorale 18 + ?
17 x 83 bars	

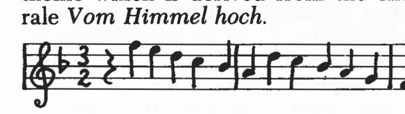
With the Canonic Variations (which contrast so strongly with the rest of the collection) being drawn at right angles to the remainder of the chorales, the collection thus forms a cross.

And if we look right at the end of number 17, right at the centre of the cross, there in the last bar are the notes BACH (in English B flat, A, C, B natural), Bach's signature.[7] And likewise if we look at the end of the third canonic variation, again close to the centre of the cross, there again is Bach's signature.[8]

One would perhaps have expected that the piece of cross above the cross bar would have been a bit longer, and one is disappointed that the number of bars here is not a multiple of 83. But the 18th chorale *(Vor deinen Thron')* is incomplete (tradition has it that its revision took place on Bach's very death bed, the notes being dictated to his son-in-law Altnikol), and it is certainly possible that had Bach had time, he would have added another chorale or two (perhaps between the canonics and *Vor deinen Thron'* since this is such an appropriate ending) to make a total of 83 bars.

One can easily imagine the blind and aged Bach, knowing that death was very near, urgently dictating those bars to Altnikol, in order that even a small part of the cross should appear above the cross bar.

One further piece of evidence to support this thesis is to be found in the "Orgel-Büchlein." In this collection (which of course pre-dates the so-called "Eighteen Chorales" by many years), chorale number twenty-one *Christe, du Lamm Gottes*, which is unquestionably associated with the season of Passion, uses for its accompanimental material a theme which is derived from the chorale *Vom Himmel hoch.*



This theme is derived directly from the last line of the chorale, and is often employed by Bach as a motif associated with Christmas. Its appearance in the great Prelude and Fugue in C major (BWV 547) is well known, and it also appears at the opening of, and forms the basis for, the manual voices in the first variation of the canonics.

However, the appearance of the theme as an accompaniment to a passion chorale is somewhat unexpected, and yet the appearance of the theme is so blatant and obvious, that what we know of Bach's methods of working must surely lead us to dismiss the possibility of coincidence.

It is beyond the scope of this article to pursue fully the relationship which Bach saw between the chorale *Vom Himmel hoch*, and the passion. I only wish to argue on the basis of the foregoing evidence that Bach did see such a relationship and symbolized this relationship musically not only in the "Orgel-Büchlein" setting of *Christe, du Lamm Gottes*, but by his inclusion of the canonic variations on *Vom Himmel hoch* in a group of pieces which, I have argued, constitutes a large scale musical symbol of the cross.

And finally, just as his contemporary Handel was granted his wish to die on Good Friday, so Bach in a symbolically more obstruse way, while working on this musical symbol of the cross, can be said to have "died upon the cross."

Mellers reports that in 1950 a certain Fred Hamel pointed out with regard to the musical notation of BACH that:

"if one draws lines between the 2 middle notes A and C, and the outer ones B and H, the sign of the cross appears."[9]

Mellers continues, the passage referring to the chorale *Vor deinen Thron'*:

"He must also have known that he was the 'brook', the fountain of life, linguistically signified by his name; and the cross and the welling brook are simultaneously manifest in every aspect of his technique. In this last chorale prelude we do not need the gloss of the latent text of the hymn to tell us that 'brook' and Cross are interdependent, that the intellectual love of God transcends, but does not efface human suffering as well as joy."[10] ■

Terry Norman is a graduate of the University of Adelaide, and has also studied organ with the late Anton Heiller in Vienna. He is currently a music lecturer at the Ballarat campus of the Institute of Catholic Education, and is organist and choirmaster at St. Paul's Church, Ballarat, Victoria, Australia.

This article takes as its point of departure the article by Michael Radulescu "On the form of Johann Sebastian Bach's Passacaglia in C minor", published in the 1980 edition of The Organ Yearbook.

NOTES

1. This manuscript is in the German State Library, Berlin, and is Mus. Ms. Bach P 271.
2. This fact was first brought to my attention by the late Anton Heiller.
3. This article assumes that the reader is familiar with the Cabalistic alphabet, in which A is equivalent to 1, B = 2, C = 3, and so on. Both I and J = 9, and both U and V = 20. Bach appears to have been well aware that BACH adds up to 14 and appears to have regarded this number as characteristically his own. J.S. BACH adds up to 41, the reverse of 14.
4. See the Gospel according to St. Luke, Chapter 10, verse 1. However, the number varies; the Revised Standard Version, and the King James Version give 70, while the New English Bible gives 72.
5. This information was supplied to me by Dr. Grawe of the Department of Germanic Studies, in the University of Melbourne. Compare also the use of Clavier and Klavier, a confusion which persists even today, and in the wider sphere the many alternative spellings which survive today as names, e.g. Shepherd, Shephard, Sheppard, and Shepheard.
6. Certain other chorales in the collection are treated more than once. For example *O Lamm Gottes, unschuldig* contains 3 verses, while both *Nun komm, der Heiden Heiland*, and *Allein Gott in der Höh sei Ehr* receive 3 separate settings, but none of these constitutes a set of variations like the canonics.
7. At this point the writing is rather dense having expanded to 6 voices. If we are to name the voices S, A1, A2, T1, T2, and B, then B and A are in the first tenor voice, C and H are in the second alto.
8. Obviously I am using the order of movements of the canonic variations, as they appear in the manuscript, i.e. with the big multiple variation as number 3. Again if we name the voices S1, S2, A, T1, T2, and B, then B and A are in the alto, and C and H are in the second soprano, the whole signature being in the last bar of this variation.
9. Mellers, W. *Bach and the Dance of God.* London: Faber, 1980. p. 304.
10. ibid., p. 304.

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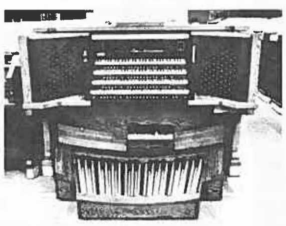

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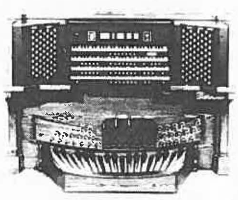

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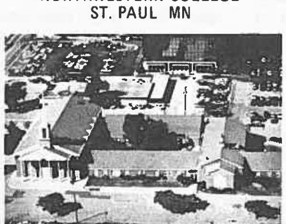
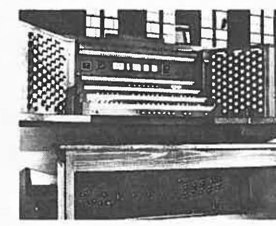
NORTHWESTERN COLLEGE
ST. PAUL MN



CENTRAL PRESBYTERIAN
OKLAHOMA CITY OK.

THE CATHEDRAL of
ST. CATHARINE of SIENA
ALLENTOWN PA.

ST. JOSEPH'S R. C.
MECHANICSBURG PA.



FRIENDLY AVE. BAPTIST
GREENSBORO N.C.

ASBURY METHODIST
ALLENTOWN PA.

OUR LADY of the
MIRACULOUS MEDAL R. C.
RIDGEWOOD N.Y.

WESTMINSTER PRESBYTERIAN
ALBANY N.Y.

FIRST CHRISTIAN CHURCH
CANTON OH.

CHURCH of the BEATITUDES
PHOENIX AZ.

Roderick Junor

THE ELECTRONIC ORGAN

The sounds created by the best electronic organs are accurate enough for us to know what is being copied, but what we hear is certainly not a fine example of a pipe organ. The human ear, capable of distinguishing between a fine organ and an electronic imitation, is also capable of detecting that electronic organ sound is neither an exact copy of pipes, nor very *musical.*

While the arguments presented in this article might not impress a parish finance committee, they should nontheless serve to increase your own conviction in extolling the advantages of the pipe organ.

No matter how esoteric this information may appear, this article should reassure those with technical minds and musical ears that electronic imitations of organs cannot satisfactorily imitate the beautiful sounds of the pipe organ.

As a musician—an organist—I am disturbed by the appearance of electronic organs where only pipe organs should be acceptable. This is not to say that electronic music itself has no worthwhile contribution to make. Electronics can portray the smallest changes in pitch, achieve new tone colours that cannot be produced with other instruments, and give matters of rhythm new impetus through equipment produced with technological skill. However, electronics cannot successfully imitate the sound of *acoustic* instruments. For every facet of musical tone generation that the electronic organ can copy, there is a whole field that it totally ignores.

There is the basic and all-important limitation of the loudspeaker system—a limitation both in fidelity and in sound-dispersion characteristics. Because of this, even the ideal electronic organ could sound no better than the playback of a pipe-organ *recording.* If electronic instruments could produce a perfect imitation of pipes, the sound would still have to suffer degradation in its production from loudspeakers.

The limitation of cost dictates that the *substitute* remain considerably cheaper than the *real thing.* Devices are needed for amplification and production of sound, for tone generation and control (attack and decay transients), and for storage of the enormous amount of required information that defines each individual quality of each pipe in an organ. To obtain the best imitation, the complexity required for these devices would demand the construction of a monster astronomically more expensive than a pipe organ. Electronics cannot reproduce acoustical complexities.

Acoustical Complexities

Much of the design work for electronic instruments is based on mathematical analyses of sound waves, although the sound of an acoustic instrument defies complete mathematical definition. Each cycle of a sound wave is *different,* particularly during attack and decay, while mathematics (Fourier analysis and associated techniques) requires a *steady state,* an exact repetition for each cycle, upon which to base further calculations.

Organ pipes have continually varying amplitudes of their inherent harmonics, i.e. the loudness of the harmonics is always unsteady. This *instability* may be described as slight for open flutes and principals, moderate for gedacts and wide gambas, and extreme for thinner scales (see diagrams, particularly Gamba). Reed instability on this evaluation is negligible. Live sound is *never* absolutely stable or perfectly uniform.

The diagrams clearly show that even when considering instability alone, the waveshape for *each* cycle will be *different.* To elaborate: these graphs represent the loudness (more accurately, the amplitude) of each harmonic for a period of fifty cycles of the fundamental frequency of a pipe. Imagine the graph divided into equal parts by fifty vertical lines. We would see that at each vertical line, the amplitude of each harmonic is different. Since the total waveshape varies if the amplitude of any harmonic changes, it follows that the waveshapes for *each* cycle is different, during both the transient time and the so-called steady-state time.

Another effect that makes the cycles of a soundwave vary continually is *inharmonicity,* i.e. the harmonics are, relative to theoretical harmonics, "out of tune". The *frequencies* of the harmonics generated in an acoustic instrument are not exactly integral multiples of the fundamental (i.e. the fundamental multiplied by 2, 3, 4, 5, etc), as assumed for mathematical definitions, and taught in basic acoustics. For example, a typical piano string having fundamental (i.e. 1st harmonic) pitch of 440Hertz (= 440 cycles/second) has a 2nd harmonic of 881Hz, not 2 x 440 = 880Hz: a 4th harmonic of 1771Hz, not 4 x 440 = 1760Hz: an 8th harmonic of 3606Hz, not 3520Hz.

The harmonics for wind instruments (organ pipes) show a similar tendency to be sharper than the theoretical harmonics of mathematics. (More exactly: bowed or blown musical instruments have less inharmonicity than instruments that are struck. Instruments whose vibrating bodies are irregular, e.g. church bells, have quite extreme inharmonicity.) As the harmonics sound together, they give each cycle of the total soundwave a slightly different shape. The beginnings of each cycle of the fundamental tone are not necessarily matched by a beginning of a cycle among the harmonics, since, for example, 4 cycles of the 4th harmonic are completed *before* the fundamental has finished its cycle. These variations are indetectable from analysis of *one cycle* only of a sound from an acoustic instrument. Fourier analysis uses only *one cycle* which is assumed to repeat itself exactly.

Electronic organs primarily use either 'digital' or 'analogue' circuitry, i.e. they can either digitally synthesize a sound or carefully filter a standard electronically-produced wave in order to approximate the desired sound.

A simple description of a digital-computer organ is that such an instrument is one whose synthesized sound uses the digitally-coded results of analysis. Because the analyses are grossly oversimplified, the re-assembled sound lacks the slight "imperfectness" or "warmth" of natural sound.

Similarly, the basic electronically-produced wave is perfectly sterile. In analogue circuitry the filters make the sound recognizable as being similar to the desired sound, but the filtered wave is only more perfect than that which I have already described as "perfectly sterile".

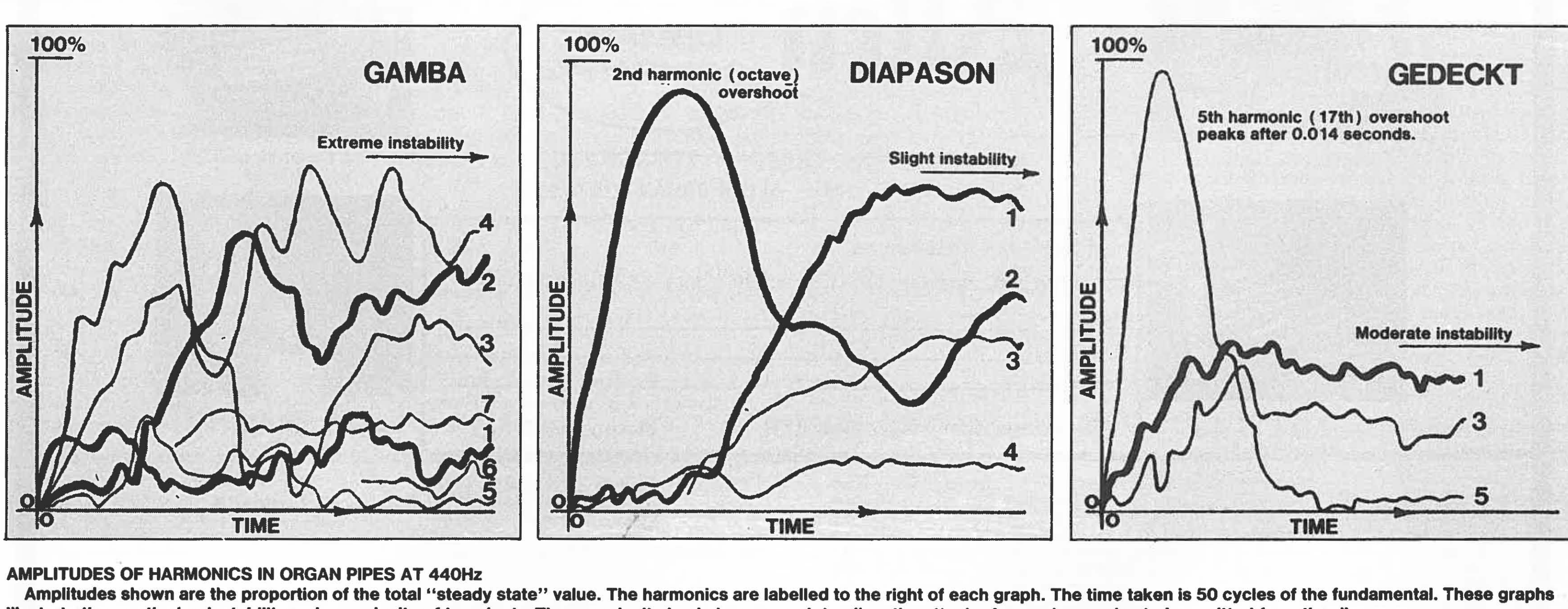
In a pipe organ, as more pipes are sounded together, the complexities of variation from the rigidly repeated perfect wavecycles of the electronic instrument become even greater. Some electronic organs have *several* basic sources of very slightly different and unrelated pitch (in addition to celeste effects), but a real organ has an uncountable number—that of each harmonic in each pipe.

The smallest electronic organs usually have from 1 to 12 basic sources of pitch. *That* is boring!

The largest electronic organs (analogue type) may have one separate oscillator to represent each pipe, for example, in each of the 8′, 4′, and 2′ principals. That totals 183 separately tunable oscillators for these three stops. But, 183 pipes have not merely *183* "oscillators": there are the separate oscillations of each harmonic in each pipe. If we say that a principal has, for example, 8 readily perceivable harmonics (8 is a conservative number; there is certainly a greater number in the larger pipes), we would have *1464* separate sources of pitch within these three ranks alone.

Tuning

Given a number of separate oscillators, how does one establish the *tuning*? In the pipe organ, pipes in pairs are tuned with beatless fundamentals. The loudest beats, which sound between the lowest haromincs of a common frequency, are tuned to zero *e.g.*, when octaves are "in-tune" the second harmonic of a pipe does not beat with the fundamental in a pipe one octave higher. (Inharmoni-



AMPLITUDES OF HARMONICS IN ORGAN PIPES AT 440Hz

Amplitudes shown are the proportion of the total "steady state" value. The harmonics are labelled to the right of each graph. The time taken is 50 cycles of the fundamental. These graphs illustrate the *continuing instability* and *complexity of transients.* The complexity is obvious enough to allow the attack of some harmonics to be omitted from the diagrams.

Sources:

Young, Robert W., "Tuning," *Groves Dictionary of Music and* Musicians, 5th ed., Vol. 8, pp 597-8.

Keeler, J.S., "The Attack Transients of Some Organ Pipes," *IEEE Transactions on Audio & Electroacoustics,* Vol. AU-20, No. 5, Dec. 1972, pp 378-91.

AN EXAMINATION

Roderick Junor holds a degree in Electrical Engineering, but is currently concentrating on a career as a concert organist.

Since 1975, Mr. Junor has performed annually at the Melbourne International Organ Festival and has conducted master classes and presented major recitals at these events. His organ study has been with John O'Donnell.

This article is a revised version of a similar article which first appeared in the June 1981 edition of the Victorian Organ Journal *(Australia.)*

city causes the tuning of all intervals to be a tiny fraction wider than expected for mathematical perfection.)

From rank to rank the pipes, whether in unison or some other "perfect" interval as heard with mutations, are tuned beatless while the higher and mostly softer harmonics remain out-of-tune with each other.

An electronic instrument has a set waveshape which does not continually vary through all the cycles. The harmonics, therefore, are mathematically perfect. In order to obtain some warmth in electronic organs, "mistuning" is introduced between some of the oscillators. The digital organs, although having only a single pitch source, can have built-in mistunings.

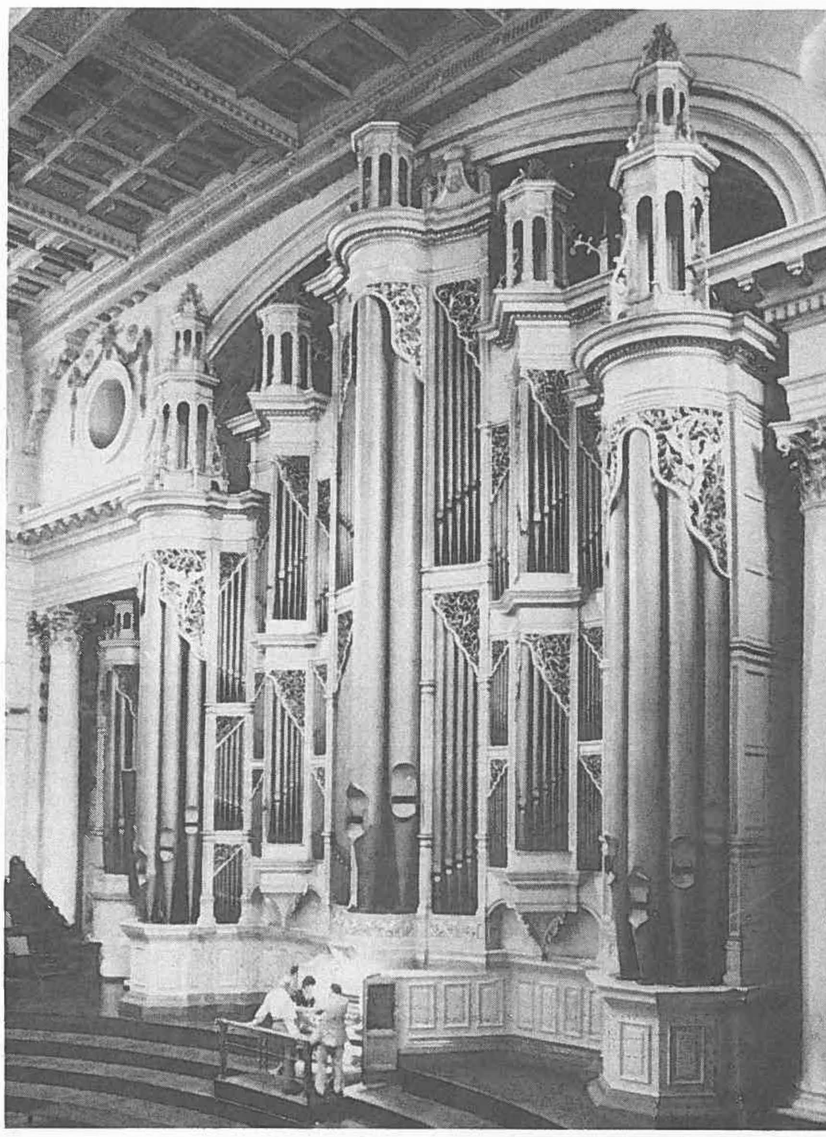
Some electronic organs can continually vary the extent of this mistuning. However, these mistunings among the unisons (or other "perfect" intervals) sound more like slow celestes than the extremely complex sound of interacting resultant tones and beats heard in the higher harmonics of pipes which are tuned with beatless fundamentals. The tuning stability of pipe organs is frequently criticized by electronic organ salesmen, because their product is certainly more stable than any acoustic musical instrument. However, I have discovered some misconceptions which need clarification.

The pitch of organ flue pipes is only audibly changed when air density changes. When air is less dense, the pitch rises: increase in temperature is the greatest factor in reducing density. The change in pitch due to expansion or contraction of pipes (with changes in temperature), is not audible. (If one holds a small pipe, then replaces it in the chest, it will be quite sharp—even though the pipe has expanded. It is sharper, because *air* in the pipe, which doesn't get blown away quickly, is warmed by the pipe.) The pitch of all flues changes *uniformly* with change in temperature. A well-constructed organ does not go out of tune—the pitch of all flues will just rise or fall. Frequent variation in temperature many cause tuning slides, or the pipe itself, to continually move. So the organ—like any other musical instrument—goes out of tune in the *long* term. (Obviously, cone-tuning—where no tuning slides are used—is the most stable tuning.)

The pitch of reeds is determined by the reed tongue—not by air density. Hence, reed pitch varies less than flue pitch. Also, reeds have a slightly less stable tuning method than do flues. Therefore, reeds need to be tuned to the flues. Large organs are usually in large buildings that have slow seasonal changes in temperature, and so their reeds require less attention than those in organs housed in smaller buildings.

Before considering tuning in general, I described the 'imperfection' that exists in each pipe. When a large organ is tuned, it is impossible to make it absolutely perfect, but it is much closer to beatless than the "slow-celeste" effect in a good electronic organ. The 'slight imperfection' is another facet of the *life* in a pipe organ. Well-built organs wander from a good tuning in the long term, and so many need 'tuning throughout' yearly, if slide-tuned, or even less often, if cone-tuned.

I repeat: in the design of electronic organs, mathematical assumptions are used—both in the oscillators and filters of analogue instruments and in the analyses that obtain the information to be stored in the digital instruments. But *real* sound varies greatly from mathematical perfection—which can only be sterile.



The five manual, 141 stop organ in Sydney (Australia) Town Hall is as majestic in sound as it is in appearance. Built by Hill and Sons of London during the period 1886-89, this organ has been recently rebuilt.

Robert Amp, appointed City of Sydney organist in 1978, claims that he continues to discover new sounds of beauty in this organ that he didn't know were there.

Limited Synthesis

A digital computer organ that I examined attempts an accurate synthesis—but only to the 16th theoretical harmonic (32nd in the pedals)—of just half of *one* cycle of only *one* sound for each stop. At concert (A=440) pitch, the computer memory has only enough information stored for the reproduction of a mere .002 seconds worth of music! When the computer's music memory has expired, the same information is regurgitated repeatedly. Inharmonicity in acoustic instruments means that the *16th* theoretical harmonic would be closer in frequency to the *17th* harmonic—approximately a semitone out. The "digital computer" is generating sounds quite different from an acoustic instrument.

The computer organ has stored digital information that enables it to reproduce a sound. This could be likened to the information on a newspaper photograph (where various shades of grey are made up from only tiny black dots), which gives the impression of a scene. For this analogy, we can even assume this information to be *complete* as in a colour photograph. This scene could represent one frame of a movie film, but to make a movie, each frame of the film needs to be different. If all the frames were the same, we would continue to have *still-life*. This is the computer organ's problem. All the frames are the same. Although the best computer organ may have a *few* different frames to replace my suggested *one*, the speed at which these are repeated—in the order of 100 times per second—nevertheless gives an impression of 'still-life'. These "frames" can be fiddled with: the results I describe as a "slow-celeste" effect. Using this analogy, the 'fiddling' (in any type of electronic organ) could be likened to holding a still-life photo and slowly moving it around. Your still-life moves, but does it have life?

Transient Limitations

So far, we have only considered the continuous sound, but there is also a start and a finish. These attack and decay *transients* occur in all musical instruments—in all organ pipes, not only in wildy chiffing flutes and slow-speech basses. What sound is produced when a note is struck? Immediately there is noise, followed almost instantly by gradual build-up of all the harmonics. One or more of the harmonics will rise to a louder sound level than that at which it will settle. They will reach their peaks before the fundamental reaches normal volume (which, as described, may not be quite steady). These transient peaks happen at *different times*, and they have *different amplitudes* for each harmonic (see diagrams).

Electronic circuitry, outside the laboratory, cannot satisfactorily imitate this effect. To reproduce a transient, the electronic organ needs to remember the way in which the amplitude *changes* for *each* harmonic, yet it has enough difficulty attempting to reproduce a simple steady amplitude for each harmonic for the continuous sound.

For transient sound much more built-in information is required than for steady-state sound before accurate synthesis can be attempted. Yet electronic organs have considerably less circuitry for transient production than for steady-state production. Therefore, electronic organs are limited to producing transients of even less accuracy than the continuous sound of which I have already been critical.

In some electronic organs, one can hear attempts at imitating a sound that has a relatively slow-rising fundamental, by delaying the entire sound. Most of the harmonics are made to rise *together*. The harmonics that would, in a pipe, speak more quickly are also delayed, and, with the initial spurious and modulated noise missing, the effect to the ear is that the note is "just plain late," or else appears to be "choking".

To imitate chiff, a pure tone may be added at the start of a note, but this usually sounds as the artificial imitation that it is, and not like the more complicated speech of pipes. I have heard the 3rd harmonic, or the 6th harmonic, added to a gedact when, with a pipe, it is the 5th that overshoots. (Because this treatment is so much simpler than real pipe speech, it may well be that the 3rd or 6th, harmonic sounds better than the 5th when used in this way.)

In a pipe organ, it takes several seconds for the sound in a 16′ principal or large reed to *decay*, completely, in a dry room. Decay times for small pipes would be extremely short, yet they still add to the inimitable complexity of live sound. In addition, the closing pallet produces a fast "fade-out" rather than an immediate "off". Also, the sound ceasing in one pipe does not blur the speech of another pipe. Some electronic organs have artifical reverberation: this seems to blur all the sounds. ▶

In an interest to present a balanced perspective of the issues contained within this article, a separate article, offering an opposing opinion to that given here, will be found in this issue of THE DIAPASON.

These opposing articles are the opinions of their authors, only, and do not represent the views of THE DIAPASON or of its staff.

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Scaling

We are now more aware of the poorly imitated sound, in the elctronic organ, of even just *one* pipe within a rank. This sound, relatively poor though it is, needs to be copied at different pitches to give all the notes on the keyboard. But what of *scaling?* (Pipe scale is a relative measure of width in relation to length: strings are narrower than principals; basses are narrower than trebles—this makes the harmonic structure complex in the bass, and simpler in the treble.) Once again, the electronic instrument can only supply a linear or exponential or some other "perfect" mathematical gradation to vary the sound through the keyboard compass. Pipe construction can both randomly and purposefully vary from a simple scaling formula, while voicing often varies to suit the voicer's taste, the building, and the blend with the rest of the chorus.

Even if a larger electronic organ has provision for volume and tone adjustment on various notes and stops (to suit different situations), this can hardly be equated with voicing.

Basic Tonal Limitations

An organ is a *chorus* structured primarily from *principal* tone—as distinct from a collection of solo voices. I have heard and played the best brands of electronic organ, and have heard recordings of some of the largest models. It is the sound of a Principal that the electronic organ imitates most poorly of all. It produces stridency if it is attempting a tendency to brilliance or stringiness, and "boominess"—an ear-irritating power of fundamental—when attempting flutiness. There is always a necessarily bland sound to which one might want to add extra ranks, were it a pipe organ. On an electronic organ, adding stops makes no improvement because the frequencies present in the different stops are exactly related.

The scaling of the principals is never convincing. This is hardly surprising if one understands that the harmonics present in a low Principal are similar to those present in a high Viol d'Orchestre. The harmonics present in a middle note are practically useless at extremes of the keyboard, while electronic organs build a whole stop from one sound in the middle of a rank.

As the sound of one Principal fails, the (16′), 8′, 4′, and 2′ principals together fail to give any strength or breadth of sound. They have a sameness, more so than an extension pipe organ, since they are all related exactly in terms of harmonic frequencies. Although the stops are separate, and the octaves add in terms of volume, they do not add in terms of new, imperfectly related (and aurally satisfying) frequencies. In an organ, each pipe adds its own set of completely *independent* tones to the other pipes in a chorus—without tuning them like slow celestes!

Electronic organ mixtures are often most disturbing—and how can they not be? The complexity of scaling and voicing associated with the breaks, makes a four-rank mixture even less possible to imitate than four straight ranks. As the sound of one wavecycle, then one 'pipe', then one rank is wrong, a "Mixture" is going to be even farther from the real thing. I am aware that a *few* electronic organs have mixtures that break back, but reproduction of pitch alone is not sufficient.

Electronic organ flutes, when heard singly, are not immediately dissatisfying, although they usually exhibit problems in scaling. When an uncomplicated attack is arranged, the flutes sound imprecise. If chiff is attempted, it usually sounds quite artificial, as previously described. Once again, it is the chorus which suffers most: the Nasard, the Tierce, and the Cornet always sound bland.

Hammond organs (with motor-driven tone generators), which fail miserably to imitate principal chorus sound, can, give some independence to the separately available harmonics (1,2,3,4,5,6, and 8) lending themselves to fluty combinations of some musical value, and finding a place among the many keyboards of adventurous jazz/pop groups.

Reeds, heard singly, gain from the fact that some reed timbres are so distinctive that the vaguest imitation

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New Organs

The M.P. Möller Organ Company has built an organ with mechanical key action and electric stop action for Christ Episcopal Church, Winchester, VA.

GREAT
8′ Principal
8′ Spitzflöte
8′ Dolce (TC)
4′ Octave
4′ Gedacktflöte
2-2/3′ Quinte
2′ Waldflöte
IV-V Mixture (1-1/3′)
8′ Trompete

SWELL
8′ Rohr Gedackt
8′ Gemshorn
8′ Gemshorn Celeste (TC)
4′ Blockflöte
2′ Principal
II Sesquialtera (2-2/3′)
1-1/3′ Quinte
IV Scharf (1′)
8′ Schalmei
Tremulant

PEDAL
16′ Subbass
8′ Octave
8′ Gedackt
4′ Octave
III Mixtur (2′)
16′ Fagott
4′ Klarine

Andover Organ Company of Methuen, MA has installed a new two manual and pedal, mechanical-action organ in Kemper Chapel of Phillips Academy, Andover, MA.

The chapel, situated in what was a previously unused area of the basement of Cochran Chapel was constructed in 1963 and seats 80 to 120 people.

Known as Sylvia Pratt Kemper Chapel, the room is of contemporary design with exposed brick walls, indirect lighting and pre-existing cast concrete structural elements incorporated into the total architectural design. Movable furnishings allow for flexible use of the space, and accommodate the requirements of several groups who hold worship services in the chapel.

The new organ, which replaces a two-manual and pedal reed organ, is used for chamber music and as a practice organ, in addition to its use as a service playing instrument.

The physical design of the organ was by Walter Hawkes, and the tonal design and finishing by Robert J. Reich, both of the Andover Organ Company.

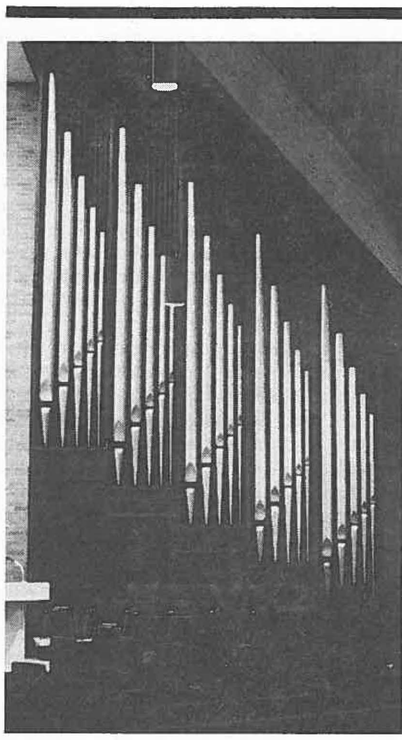
For a related story, regarding the Andover Organ in Cochran Chapel of Phillips Academy, refer to "A New Organ for Phillips Academy" by Donald H. Olson, The Diapason, *May, 1982.*

MANUAL I
8′ Bourdon
4′ Principal
III Mixture
II—I

MANUAL II
8′ Gedeckt
4′ Flute
2′ Principal

PEDAL
16′ Sub Bass°
8′ Octave Bass°
4′ Choral Bass°
I—Pedal
II—Pedal

°Mechanically unified



The Reuter Organ Company of Lawrence, KS has installed their opus 2003 in St. Alphonsus Liguori R.C. Church, Greenwell Springs, LA. The instrument is totally encased in a red oak frame and consists of 10 ranks. Preparations have been made for additions to the organ. Twenty-five Principal pipes are displayed in the five towers of the facade.

The organ is controled by a drawknob console located to the right of the choir seating area. Ten months were required to build and deliver the organ; installation and tonal finishing took approximately four weeks.

GREAT
16′ Gedeckt(A)
8′ Principal (B)
8′ Gedeckt (A)
8′ Gemshorn (C)
4′ Principal (B)
4′ Rohrflote (D)
2′ Principal (B)
III Mixture (E)
8′ Fagotto (F)
Swell to Great 8′
Swell to Great 4′

SWELL
8′ Rohrflote (D)
8′ Gemshorn (C)
8′ Gemshorn Celeste (H)
4′ Spitzprincipal (G)
4′ Gedeckt (A)
2′ Spitzprincipal (G)
2-2/3′ Quinte (A)
1-1/3′ Quinte (A)
16′ Contre Fagotto (F)
8′ Fagotto (F)
Tremolo
Swell to Swell 4′

PEDAL
16′ Principal (B)
16′ Gedeckt (A)
8′ Principal (B)
8′ Gedeckt (A)
4′ Spitzprincipal (G)
4′ Rohrflote (D)
III Mixture (E)
16′ Contre Fagotto
8′ Fagotto
Great to Pedal 8′
Swell to Pedal 8′

ANALYSIS
(A) 16′ Gedeckt, 97 pipes
(B) 16′ Principal, 97 pipes
(C) 8′ Gemshorn, 61 pipes
(D) 4′ Rohrflote, 49 pipes
(E) Mixture, 183 pipes
(F) 16′ Fagotto, 73 pipes
(G) 4′ Spitzprincipal, 73 pipes
(H) 8′ Gemshorn Celeste (TC), 49 pipes

◀ Page 8

makes the attempted timbre recognisable, while a better imitation leaves the mind satisfied for a short time. But, heard in chords, or with other stops, the harmonics seem to add in a way that gives a new sound of *less interest* and perhaps *more stridency;* the particular quality of the stop can even seem lost. If several notes are played, the new sound synthesised may be too "new" and not enough like the same number of *separate* pipes. This effect is greatest in full combinations. The strident brilliance of a larger electronic organ often cannot be attributed particularly to the sound of either reeds or mixtures.

The swell-box and tremulants on a pipe organ also produce effects more complicated than those which the electronic organ can practically imitate. Basically, the swell shutters affect the reeds more than the flues; the higher harmonics more than others. Normally, one perceives the effect of restrained power from the 'full swell, box closed', rather than just a softer sound, as can be heard on some electronic organs. The pipe organ tremulant affects treble more than bass and produces a combination of frequency and amplitude modulations that affect each pipe, and each harmonic, differently.

Reasonable mechanical action can produce clear speech in each note, and at the same time, a smoothness—a continuum of sound. While fine changes in articulation can be shaping a melody, attention is not drawn particularly to the ends of, or the gaps between, notes. However, I have heard electronic organs that sound abrupt or inaccurate when articulating, or disjointed during *prestissimo legato* scales; i.e. when playing techniques draw attention to transients more than the continuous sound. (In fast passages, lower pitched pipes may only just begin to speak the fundamental before they are released.) An additional effect of poor transient imitation is to limit the player's performance ability, whether he is attempting clear, articulate playing, or during fast *legato* passages.

The electronic organ is an unfortunate bastard: it is neither an organ, with an organ's unique sound and as yet unexhausted playing possibilities, nor does it make use of the *creative* impulses of electro-acoustics itself. The electronic organ is *not* an instrument in its own right, if it is trying to copy pipes. If one wants electronics, the logical action would be to set up an electronics studio. (More can be spent here than for a pipe organ.)

The electronic organ should only survive as it becomes more a keyboard-controlled synthesizer. As the electronic market frees itself from the organ charade, I guess that there must be a place in this world for, on the largest scale, an audio circus of special effects; and on the smallest scale, a live muzak machine for the rumpus room.

Serious electronics, with or without keyboards, only becomes valid when it uses its own type of freedom in its own kind of way. Extended to a logical extreme electronics should cease entirely to feebly copy the pipe organ which has its own inimitable charisma. It is most distressing to find that intelligent people actually choose to purchase electronic organs. For the unnecessary purchase of an electronic organ, I suppose that much of the fault could rest with a sincere, though misinformed, person.

"Stubborn Organist"

Some of the fault must lie with "stubborn organists" who are unwilling to allow that a small one-manual organ provides more aural satisfaction than an electronic organ of, say two keyboards and an independent pedal. Neither will they admit that a piano or even a good harmonium would be better than a tiny electronic organ.

The "stubborn organist" could well be a person who has a history of neglecting both the sound of an instrument and the performer's interpretation, while being most concerned with the console. For him, the many aids for registration, and even transposition, of the moderately-priced electronic organ can prove a major attraction. These "stubborn organists" should be chastised for endeavouring to satisfy only their personal requirements. To assume that an organ must have *many* stops is very narrow-minded. Music comes from the composer, the performer, and the sound of each pipe. Larger organs are installed when they can be afforded. Also, I have met people I would describe as "organist-martyrs." Usually, their knowledge is based only on their own experience of trying to make good music on parish organs of the Victorian era—not lush, romantic sounds built into a full-blooded chorus, but a collection of fat, slow-speaking and all-too-quiet colours. Often they have not studied widely; nor have they gained experience with fine organs. Hence, these people may imagine that a good electronic is more satisfying than a small pipe organ. Would their martyrdom be shattered if they accepted a fine pipe organ? Must they convince themselves that every small pipe organ is going to be a squeaky box of whistles? Of course, all pipe organs are not of a uniformly high quality. Prospective buyers must examine the existing instruments of the builders in whom they are interested.

Restored Organs

Fortunately, there has been a return of interest to the restoration, as opposed to the characterless rebuilding, of fine old instruments, and in building fine new instruments (small if necessary). We should find that fewer decrepit organs of little musical value will be rebuilt.

All musicians have to "make do" at times. But with increased knowledge, and an enthusiasm to search for musical instruments, purchasing committees may be able, in the future, to reduce the number of martyrs that are necessary to maintain organ music in the church. "A great artist can create a masterpiece using the barest of raw materials," stated an electronic organ salesmam. But the materials are wood and pipe metal, felt and leather. A good musician can make do with an inferior instrument, but why should the congregation (and or glory to God, if you like) have to suffer mediocrity when other options are available? We often have to temper our ideals with practicality, but there is no need to fall to the lowest common denominator.

Small Organs

To all those with doubts about small instruments, I must point out that there is an increasing awareness of the possible musical value in the voicing of a single rank of pipes. As we learn more every day about techniques for, and attitudes towards, musicality we can, when necessary, sacrifice the number of stops.

When one first studies early works, attention is usually drawn to academic masterpieces. After playing and exploring the repertoire, music can be found to suit many different tastes. There is, for one keyboard, a wealth of music from the Baroque and beyond, a little Classical music, and more of later nineteenth century music—where some harmonium repertoire can be used (the French harmonium was quite inspiring). Additionally, a church with limited means may not be able to afford an organist capable of playing a wide repertoire that is feasible (though of little musical value) on an electronic organ which has more stops than a small pipe organ. An organist, accomplished or otherwise, can play much music, for many tastes, on a small beautifully voiced pipe organ.

In 1979 the Melbourne (Australia) International Festival of Organ and Harpsichord acquired a small portable chamber organ (8′, 4′, 2′, 1′). I am acquainted with this organ both as a performer and a listener, and my admiration for its sound is always shared by those with some musical background. I continue to be pleasantly surprised by the *number* of 'non-specialist members of a congregation' who are fascinated by the beauty and apparent versatility of the few stop combinations (8 possibilities with 8′ foundation, etc). I am now reassured that many congregations would be thrilled with the sound of a small pipe organ. A new craftsman-built organ such as this will appreciate in value. The effects of long-term use and the need for mechanical adjustment on this small-type instrument are virtually non-existent.

(*The specification of the above described organ was designed primarily for solo use. For more solid accompaniment, the 1′ rank could be replaced with a 2-2/3′ or a 1-1/3′, at least in the middle and treble.*)

A small pipe organ requires imagination. A larger electronic does not—nor does it stimulate musical interest. It merely allows the notes to be played for a larger repertoire while providing a sound that is quite distinct from that of a fine organ. I would not expect to hear a symphony orchestra in a chamber. Similarly, I would not expect to hear a large organ in a small church where an *imitation* of a large type of organ would be equally inappropriate.

We can be quite satisfied to hear a string quartet in a room that is larger than a chamber. Hence, why should anyone other than a "stubborn organist" be dissatisfied with a small organ, if finance dictates that choice? An organist with some imagination can be readily stimulated by a small pipe organ. Such an instrument is ideal for compositions that might otherwise be overshadowed in a concert, a large room or on a large organ.

Artificial Consideration

There are some who genuinely feel a need to consider pipes versus electronics. Why? If people were really tone-deaf, had no genuine interest in music or simply wanted to obtain the cheapest product without consideration to its use or its aesthetic effect as a musical instrument, then the question would not require an answer.

When those seriously considering the purchase of an electronic instrument are asked if they can discern the difference between a pipe organ and electronic substitute, the immediate answer from many laymen would be "no!" Asked further, if those responding negatively had made a personal, aural examination of a fine pipe organ (particularly a smaller one), in comparison to an electronic organ, in almost every case the answer would also be, "no."

A few people seem to turn pro-electronic after some occasion where they heard an 'organ' playing, but didn't realize at first that it was an electronic organ. I can only imagine this happening in a large space, where you expect the organ to be without particular character, or to be buried around a corner, or where the organist is playing unfamiliar or feeble music. But merely because of this, one shouldn't be misled into thinking that the electric organ can copy pipes. When you hear a fine organ, there is absolutely no doubt that it *is* a pipe organ. A fine organ could never be mistaken for an electronic substitute.

Where there is any possibility that a pipe organ can be installed, the opportunity should be taken to *hear* a fine pipe organ being enthusiastically and competently demonstrated as are electronic organs. Unfortunately, there are few pipe organ salesmen, a fact which places the obligation of locating good organs and their builders on the organist, the organ committee, or a consultant.

"Better" Imitation?

A few electronic organ salesmen have pointed out to me that their product can attempt a "better" imitation of orchestral instruments than can pipes. Not all salesmen are that silly, but there is a need to consider organ stops and orchestral counterparts.

Was (any) stop an attempted copy of an instrument—or was the stop named after the pipes were built? One thing is clear: the pipes are voiced primarily to suit the chorus of the organ.

Take, for example, the cremona (Ger. krumhorn, Fr. cromorne). The German and the French pipes are both cylindrical, but sound entirely different (narrow and regal-like, wide and trumpet-like, respectively). Neither rank sounds like the original instrument, but each rank suits the style of organ. Throughout the evolution of organ tone, orchestral names of period instruments were used for convenience. Attempts at true orchestral imitation rose to a maximum only with the cinema organ, and its influence. Here we enter a realm quite apart from my discussion. The cinema organ is based around a requirement for solo with accompaniment arrangements, and the need for an extremely diverse range of tonal colours, using some orchestral imitations. (Has anyone been misled by some chapters in the works of G.A. Audsley—published 1905? Despite instruction in acoustics from Cavaille-Coll, he had a predilection for orchestral imitation at the expense of good chorus-building.) The organ with which I deal is based on a chorus of Principal (or Diapason) tone, with some extra tonal colour added. French organs have a great variety of colour, but within a set of chorus rules of their own.

The electronic organ copies orchestral instruments with the same approximations that are used to copy organ pipes. Organ craftsmen choose to continue building organs rather than orchestral instruments.

Extravagant Claims

Claims made by electronic organ salesmen and advertisers have become increasingly extravagant. For example, the Australian distributor of Allen has said (*Sydney Organ Journal*, Oct. 1981), "We have never claimed the Allen to be a Pipe Organ's equivalent. . . .". Just as well! But in the *Victorian Organ Journal* (Aug. 1981), we read: "At Allen we have the special expertise for making organs that *sound like organs*" (emphasis mine). Allen's expertise cannot be questioned. However, the obvious implication that I have emphasised must be questioned. Otherwise, why continue building pipe organs? From the *Sydney Organ Journal* (Nov. 1981) we read that the resulting sound is "in some respects better than might be obtained with a pipe organ . . . an even better speaking effect." While Allen shows that they did not write this nonsense, they nevertheless choose to publish it. Additionally, from Skyline (published by North American Rockwell Corporation, who produced the technology for Allen): Pipe organs are "expensive . . . to maintain. They are cumbersome and inflexible. Tuning them,alone, is virtually, a never-ending full-time job." Even if this referred to a particularly idiosyncratic Baroque organ, it would still be far from the truth.

Allen, and other manufacturers, have not *said* that the electronic organ is a pipe organ's equivalent or superior, but their implications are clear. Those who have not given themselves the opportunity to hear a fine pipe organ, particularly a fine small pipe organ, would easily be led astray by this pretension.

But, some salesman justify their selling of second-rate alternatives by claiming that laymen can't tell the difference between pipes and electronics. I recently found a large organ committee who had been trying for two months to decide whether Allen or Rodgers provided the best for them. They had listened to tapes of many electronic models ranging from small to the most extravagant and impressive. I took the M.I.F.O.H. chamber organ (previously described) to their chapel where it was played for 10 minutes, after which a member of the committee helped to load the organ for its return (another ten

minutes). When she rejoined the committee meeting she found that a motion to purchase a similar instrument had been passed. The entire committee were laymen. Who can say that laymen can't tell the difference?

There are people who will buy in ignorance, or maybe even prefer to buy electronic organs, anyway. But it is most dishonest to assume that the "people in the pew" are tone deaf, or just couldn't care less what they listened to.

Salesmen sometimes use motor vehicle analogies as another aid to help justify the existence of their less-than-ideal copies: "Not everyone can afford a Jaguar; I am quite happy with my Ford." My interpretation of the vehicle analogy is that if an organ equals a car, then an electronic organ *does not* equal a car (maybe a harmonium equals a motorbike).

"Jaguar" (and "Rolls Royce")-type of organs are appropriate in our large concert halls and organists would not expect them to be installed in an ordinary parish church. But the fact remains that a small pipe organ can be purchased for the price of only one Jaguar car—and we are talking about a purchase by a group of people. Of the "Ford"-type of organ, I have no special criticism. They are often quite acceptable..

A salesman might say, "to talk in plain economics. . .", then will follow a *Gospel according to the Check Book.* But economics is financial planning, as opposed to a mere comparison of figures.

Economic Considerations

People usually part with their money in proportion to their impression of the value of the project. The same applies to their efforts put into fund-raising activity. Just as a building is more than a roof over one's head, a fine pipe organ produces more than a fabrication of notes. It sounds beautiful and can command attention to its beauty. It can also look exquisite.

No electronic organ can give the aural, mechanical, and visual satisfaction that even a small, beautifully voiced pipe organ will give. If finance is a short-term problem, you can be sure that even a self-contained quality chamber organ can lead a hundred voices; it can be as easy to relocate as a solid upright piano and most definitely will not depreciate in value. Another point to consider if you buy an electronic organ is: who are you supporting? Certainly not craftsmen who still have a sense for the connection between art and technology—but big business. The essential elements of the electronic organ, electrical and electronic components, are very big business indeed. Here, the primary aim is to find the dollar market, even if electronic organ salesman have convinced themselves that they have artistic motives.

As at-home sales reach a saturation point and sales begin to drop, competitive American and European electronic organ firms are exporting their products in order to capitalize on foreign markets. Less competitive firms find that they have to cease production and close their businesses.

Life Expectancy

Determining the lifespan of an instrument is obviously asking for an argument; however, some points do need to be made. The best electronic organs produced today may last a long time, but I am sure that the best pipe organs will last even longer. There are examples of pipe organs standing, in original condition, from every century since the year 1400.

Though some churches may have spent money making unnecessary, though not necessarily inartistic, changes throughout their organ's life, there *are* old instruments remaining unaltered. Electronic organ salesmen simply cannot make knowledgable statements about the life-span of their instruments. Electronic organs just haven't been around long enough.

Deterioration in electronic organs *does* occur by trying to keep up with the latest sophisticated advances in technology. Each new model becomes "better" than the last. While a company may boast about the availability of continuing service to all their models, each new model is going out of date as it is wheeled in the door. Too much modern technology produces the same effect as in the automobile industry: perpetual improvement renders previous models *outmoded.* It continually reduces their resale value and gradually unveils their intrinsic worthlessness. Unlike pipe organs, "veteran" electronic organs have no useful period value for music, but they may find a place as science museum curios.

The maintenance of one of the better electronic organs may be cheaper than that of a pipe organ. However, to maintain a good pipe organ, in perfect order, costs little (particularly an organ with mechanical action), and in exchange one finds an instrument that gives immensely greater satisfaction to both player and listener.

Conclusion

Perhaps the largest electronic organs have some possible use in an emergency situation, where a more imaginative and surely a more musical alternative could not be arranged. For example: to accompany in a large cathedral—where the sound of a chamber organ may be lost; or to play a big organ part with a symphony orchestra. I would try to arrange in the first instance: other *musical* instruments; and in the second: other music for another instrument—such as a chamber organ. As far as practice instruments in the home are concerned it must be an anachronism to have a "cathedral organ" in a relatively small room. And, the advantages of at least practising on mechanical action are becoming more widely accepted. Some of my friends have electronic organs in their homes. At most these people have practice in mind. They are not inflicting those sounds on public ears. But why not look to the masters—whether eighteenth or nineteenth century—for home practice methods? The only twentieth century aid to a modern organist's practising that I can accept is the automobile.

In any permanent situation where *music* is to be *performed* 'publicly', I would like to see only *musical* instruments installed, whether they be large or small, organs or otherwise. What repertoire of *original* music is there for the electronic organ? ■

Here & There

Baroque Venetian music was featured in November concerts by groups in Atlanta and New York. The Georgia State Festival Choir, directed by John Haberlen, the Candler Choir, directed by Carlton Young, and the Georgia State Brass Ensemble, directed by David Mackenzie, collaborated in a concert at Emory University on Nov. 16. Organist Timothy Albrecht also assisted.

Works by Willaert, Giovanni Gabrieli, Monteverdi, and Schütz were performed in the *cori spezzati* (multiple choirs) style. Groups were positioned in the balconies and on the main floor of Emory's Cannon Chapel.

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On Nov. 18 and 20 the Waverly Consort appeared in Alice Tully Hall, New York City. Directed by Michael Jaffee, the group performed a variety of sacred and secular Venetian music.

The Consort consists of baroque violins, violone, viola da gamba, recorders, lute, theorbo, harpsichord, organ, and singers. Street songs, scenes from operas, madrigals and instrumental solos were heard as was Monteverdi's *Beatus vir*.

This was the first in a series of four programs by the Consort featuring music of famous Italian cities.

●

Music for a special Christmas Vesper was performed at Central Presbyterian Church, New York City, on December 15th, 1982. The Clarion Music Society, under the direction of Newell Jenkins, featured the *Vespero delli Cinque Laudate*, a composite work of Monteverdi, Cavalli, Lotti, Usper, Rovetta, and other 17th-century Venetian composers, originally written for performance in the private chapel of the Venetian Doge.

Consisting of five Vesper psalms and assembled in 1663, the service uses *cori spezzati*, soloists, and instrumentalists. The December performance was the first in more than 200 years of this work.

William Mathias' anthem "Except the Lord build the house" was given its premiere performance on Nov. 11 at Memorial Church, Harvard University, Cambridge, MA. John Ferris conducted. With a text from the King James version of several Psalms, the piece is scored for choir, organ, trumpets, and percussion. A version by the composer for choir and organ is also available.

●

A "double premiere" of Richard Slater's "Advent Song" for choir, clarinet and organ was presented at two California churches on December 19th, 1982.

The text combines the familiar *Veni Emmanuel* lines along with the words of a new Advent hymn written by The Rev. James Furman. The new work was commissioned by Sts. Peter and Paul Church, El Centro, CA, where Father Furman is rector and was presented there as well as at the Church of the Ascension, Sierra Madre, CA where Mr. Slater is organist and choirmaster.

Nunc Dimittis

Charles Shatto, composer, organist and teacher in California died January 1, 1983.

Born in 1908, he studied theory and composition with French composer and theorist, Charles Koechlin, and undertook further study in composition with Elsa Barraine during 1951 when he also studied with Jean Langlais.

Mr. Shatto was the Dean of the San Diego Chapter of the American Guild of Organists during 1936-37 and for a time served as the Civic Organist of San Diego where he appeared for several seasons at the Spreckles Organ Pavillion in Balboa Park.

The last church position held by Mr. Shatto was at Notre Dame des Victoires in San Francisco, an appointment which he held for over twenty years.

From 1975 until his death, Mr. Shatto was a laureate of the Miller Foundation, receiving honoraria as well as editorial and manuscript-preparation assistance.

The Miller Foundation is making Charles Shatto's compositions available to those who would be interested in performing or recording them. Information regarding these works, prepared in clear manuscript facsimile under the direction of the Foundation may be obtained from Clinton B. Meadway, Trustee, The Miller Foundation, 17524 Bothell Way N.E., Bothell, WA 98011, or you may telephone (206) 485-8545.

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Elsie Strum Hutchison of Jacksonville, FL died on December 30, 1982 after a lengthy illness.

Mrs. Hutchison was a 1944 graduate of Cornell University where she had studied organ with George Daland. Her primary occupation was as a Junior High School teacher, from which she retired in 1979 having taught for 23 years.

Mrs. Hutchison also spent 23 years as the organist at the Community Presbyterian Church of Atlantic Beach, FL., and was the accompanist for the Riverside Women's Club Chorus until the time of her final illness.

Over 400 people attended a memorial service held in honor of Mrs. Hutchison at the Community Presbyterian Church.

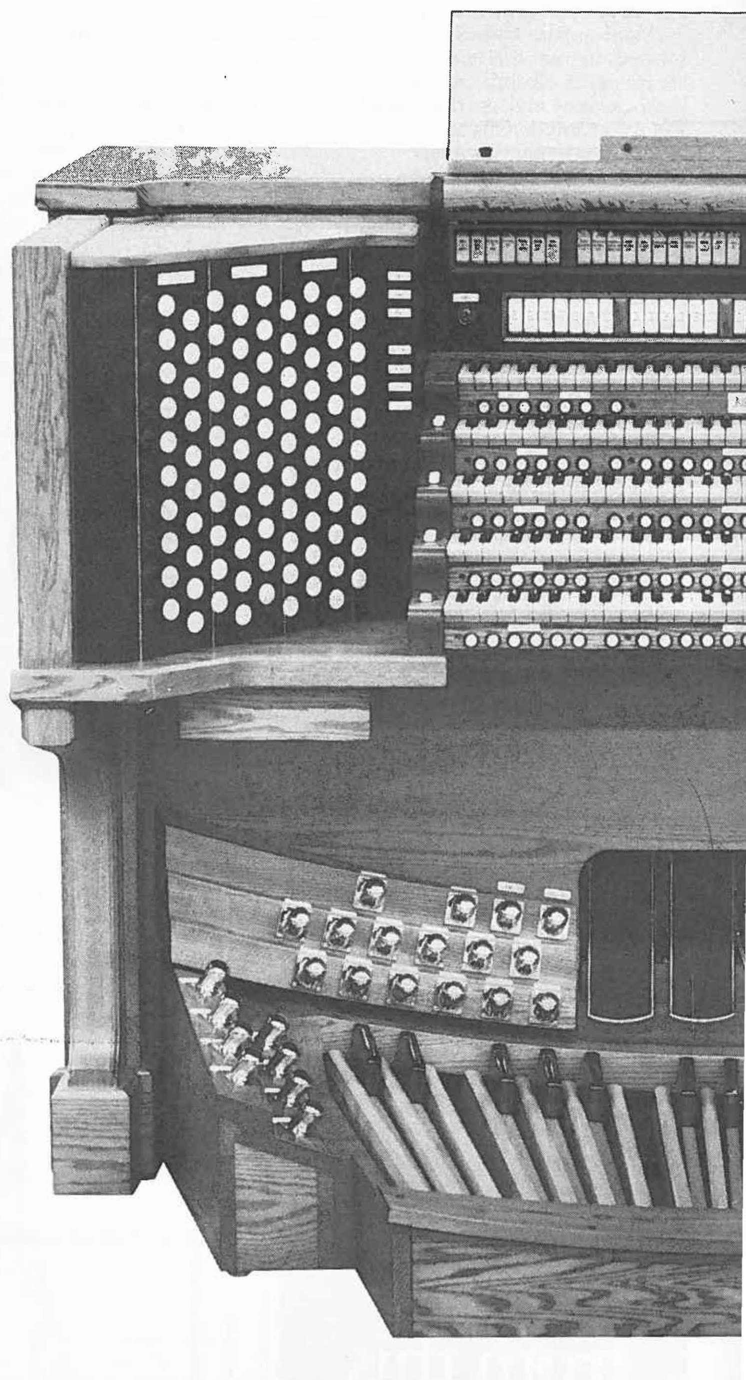
Survivors include her husband, Robert L. Hutchison, Jr., a daughter, two sons and three grandchildren.

Lawrence Phelps explains

THE THIRD KIND OF ORGAN

In order to clarify the advantages of digital technique and to explain adequately why the Allen Organ Company turned so wholeheartedly to this system eleven years ago, thus inaugurating the third kind of organ, I must first explain briefly the system that preceded it.

I tuned in to the electronic organ scene in 1955. The pipe organ projects I had worked on for nearly four years for the First Church of Christ, Scientist, in Boston were completed in October 1953, and by 1955 I had accumulated a backlog of consulting projects. Allen had just announced the completion of the first large-scale electronic organ (more than 30 ranks of oscillators) and one of my clients, a large church in Springfield, Massachusetts, asked me if I could design an organ for them that Allen could build. I repeated the question in a letter to the Allen Organ Company, and by return mail I was invited to the plant to find out.



When I arrived, I found that another large organ was in the works—this one arranged on trim chassis, each containing all the notes of similar name in a stop with tuning and voicing controls on the front. This equipment was used to demonstrate to me the wide range of its tonal possibilities and the flexibility of the voicing system. I heard the beginnings of diapason tone, and of mixtures that worked, that exceeded my expectations. Also I was much impressed with the obviously sincere determination of the firm's founder, Jerome Markowitz, to carry this work through to its ultimate conclusion—wherever that might lead him.

As a result of this visit and the impresive demonstration of the capabilities of this system, I began to work with the firm to assist in development work. My goal was to bring the sound of the instrument as close as possible to that of a good pipe organ. Countless hours and much midnight oil were consumed in the refinement of existing wave-shaping circuits and the development of new ones.

The real breakthrough came when we worked out ways of making circuits that were electrically analogous to the way pipes work. This gave us more control of actual harmonic content than the older technique of clipping and cutting standard waveforms, used even today by the manufacturers of oscillator organs. But these pipe analogies required lots of components for each note, and some of these components were quite expensive. A good example was the tone circuit developed to produce the strong octave tone typical of good principal pipes. Each note of principal tone, whether in a single or multi-rank stop, contained a toroidal center-tapped transformer. Other tone circuits contained several resonant elements, often with two toroidal coils for each note. The purpose of all this, of course, was to attempt to control individual harmonics separately in order to get the same balance between harmonics as occurred in organ pipes. I have never heard of any constructor of individual oscillator organs who went to such great lengths for harmonic control as we did at that time, and certainly none is doing so today.

The '50's was a period of awakening in America to the benefits of articulate speech in organ sound. The value of characteristic articulation as a means of establishing more credible realism was actually grasped more readily by my colleagues at the Allen Organ Company than it was, as an essential in an effective pipe organ, by those with whom I worked later in building pipe organs.

In my early days with Allen I voiced several sets of pipes to serve as standards for our circuit development. For this I used a small three-rank electro-pneumatic wind chest. We eventually wired this to our three-manual showroom organ that served both as our development laboratory and as a means for demonstrating our progress to visitors. With the wind chest also connected to the console, we could make direct comparison with pipes in actual playing conditions. For a period of several months I invited everyone who visited our custom organ project to compare a full rank of principal pipes I had voiced with our new oscillator Principal. The results were immediately rewarding, the consensus being that while the pipes were detectable because of the attack and wind sounds, the tonal differences were acceptable. Then one day by accident one of our visitors got one of the rows of empty holes on the wind chest turned on with the Allen Principal and immediately assumed that this was the real pipe sound.

After that we included this combination in our listening tests. We asked anyone who was willing to participate to tell us which of the three sounds was the pipes. A large majority chose the Allen with exaggerated wind sound. It was clear that unquestioned realism consists of many tonal elements. The faithful simulation of steady state pipe sound was only one of these. This theme was to be the preoccupation for the next few years, but experimentation did not at that time offer workable electronic solutions.

I took part in the design of a number of large Allen Organs and supervised the construction and plant voicing of one of the largest vacuum-tube oscillator organs ever built, the Allen for the extraordinary new First Presbyterian Church building in Stamford, Connecticut. That organ, finished in 1958, made remarkable strides forward and was very well received. The late Dr. William Harrison Barnes of Chicago, a self-styled "dyed-in-the-wool pipe organ enthusiast," spoke of it in glowing terms in these pages in the April 1, 1958 issue. However, Allen engineers had done their job so well that not only was the Stamford organ an outstanding first; in a very real sense, it was also a last. It was a technical climax in its field, the production of organs using tone circuits driven by individual oscillators, that has yet to be outdone. In a way I worked myself out of a job, too, for then as now, I was a musical problem solver and not production oriented.

It was clear to us at Allen that we could not get beyond the level of perfection achieved with the tone circuits at Stamford without a means of controlling individual harmonics separately. A dozen years would pass before the technology breakthrough occurred which marked the dawning of this new era of complete harmonic control. Of course, none of us then imagined that some of our colleagues at other companies would eventually become so frustrated that they would throw in the sponge and resort to pipes—but I'm getting ahead of the story.

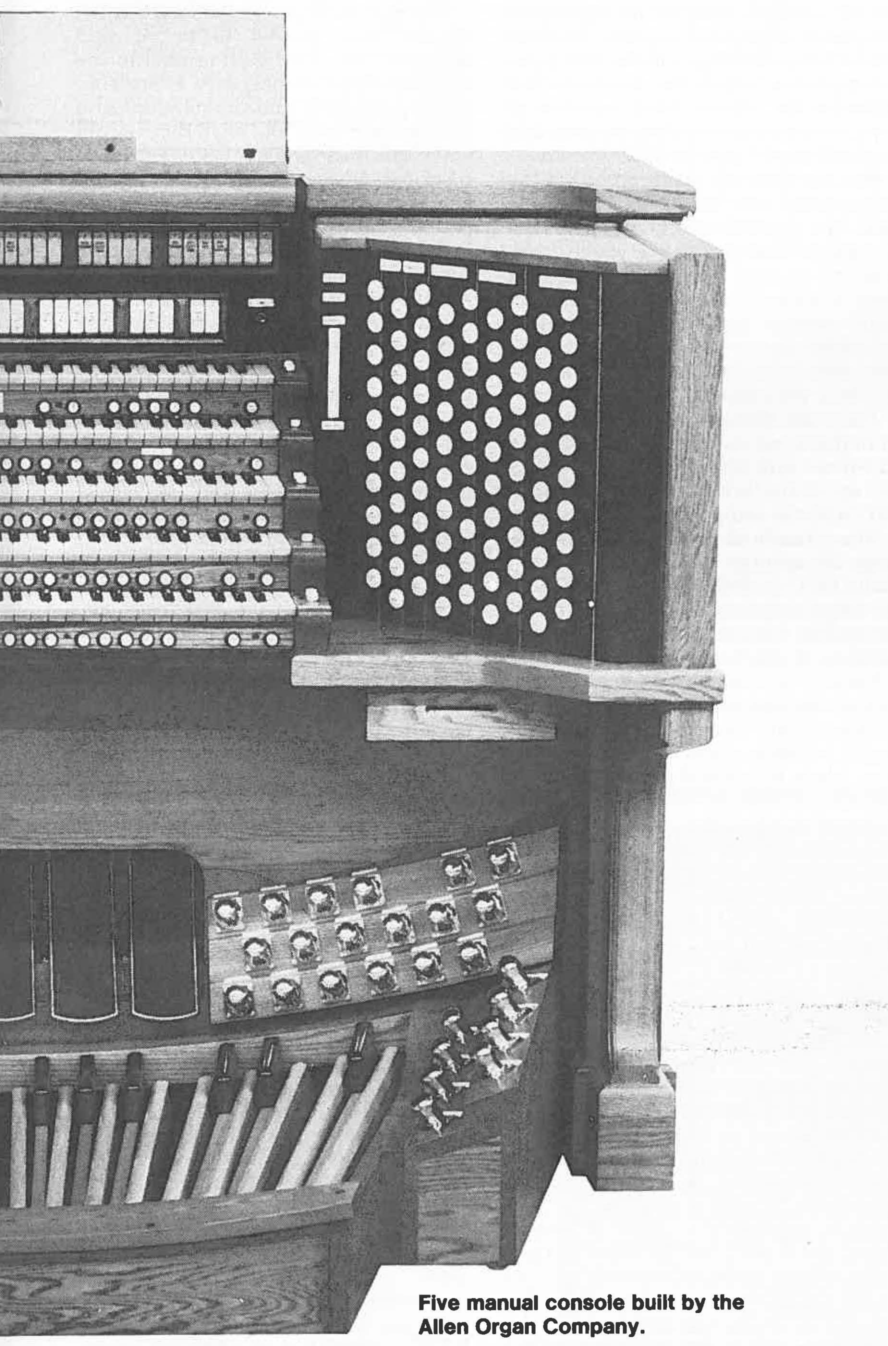
By 1957 we had adequately demonstrated that the pipe tones our new circuits produced were generally acceptable, but, as I mentioned above, they were taken to be more real when accompanied with attack and random wind sounds. This was interesting information to have, but very difficult to do anything about in those days. As the construction of the Stamford organ drew to a close in the plant in 1957, it was obvious to me that we could advance no further with the technology available. With development work becalmed, I decided to go back to pipe organ building. Beginning at Casavant in 1958, I built several hundred organs.

In fact, things moved faster at Allen than anticipated. Transistors replaced vacuum tubes in oscillator organs in 1959, and random motion electronic "whind" and chiff followed rapidly in 1960. These were the finishing touches. While their invention was a notable achievement, it also marked the end of the road. That was as far as the second kind of organ, the analog oscillator organ, could progress. Fundamentally it could not improve.

The next ten years saw a number of refinements but no further development of the tone producing aspects of the technology. A number of manufacturers chased themselves down blind alleys with peripheral add-ons, such as speaker resonators that looked like organ pipes; and as I mentioned before more than one actually added speaking pipes. Also, with mounting costs, tone circuits were generally simplified, and some manufacturers seemed to have completely abandoned the quest for tonal realism.

But at Allen enthusiasm for complete harmonic control never waned. Experimentation continued even to the extent of using sixteen separate oscillators to produce the harmonics of a single note. Having reached this state in the search for individual harmonic control, Allen's engineers were certainly ripe for the next step in the development of the

ITS EVOLUTION AND PROMISE



Five manual console built by the Allen Organ Company.

pipeless organ.

The most promising idea "in the wind" was a concept proposed by the North American Rockwell (NAR) Corporation (now Rockwell International) based on a musically-dedicated digital computer, programmed to produce the effect of the resonant formats of organ pipes, adjustable harmonic by harmonic. Although the feasibility of the idea had not yet been proved, the end of the heavy-handed approximations typical of the oscillator approach was in sight. A new era, in which characteristic attack, steady tone, and decay of all types of traditional organ sound could be approached with almost infinite finesse, seemed just around the corner. In spite of a healthy skepticism, Allen Organ Company became a participant with NAR Corporation in the development work to bring about the first Digital Computer Organ. In 1971 Allen produced a line of digital instruments ranging in price from $5,000 to $35,000. These were an instant success and the plant continued to grow until today the facility is over 300,000 square feet.

Allen's collaborative effort with NAR continued for a while, but early after the introduction of the Computer Organ Allen acquired all rights to the system and has continued all development work on its own.

The sincerity with which the Allen Organ Company launched this project is clearly demonstrated by the fact that in effect the firm risked a properous business to introduce a completely different product. It took much confidence and courage to lay aside so much in the interest of gaining complete harmonic control. The immediate and most obvious effect was a much wider variety of tone which produced clear contrasts between the divisions of the organ.

The misunderstanding of such words as "microprocessor" and "digital circuitry," in descriptions of digitally controlled console accessories now beginning to be used rather generally throughout the trade, has caused some to believe there is more than one computer organ on the market. There is not. There is only one. What then is a Digital Computer Organ? How does it work? What does digital mean? How is harmonic control achieved?

●

Digits are the single characters we use to compose nmbers. A digital computer is a device for storing and processing numbers according to programs either stored in the device, also in numerical form, or inserted from an external numerical source. The elements used in the memory and processing equipment are switch-like devices that have only two positions or conditions which are designated "zero" and "one." A binary number system is used that needs only these two digits to represent and deal with conventional decimal numbers. Binary numbers increase in value from right to left just like decimal numbers, but instead of each place having a uniform maximum value, such as 9 in the decimal system, the value of each place in a binary number is double that of the place to its right. Thus:

	Binary Number		Decimal Number
	0 0 0 0 0 0 0 1	=	1
	0 0 0 0 0 0 1 0	=	2
	0 0 0 0 0 1 0 0	=	4
	0 0 0 0 1 0 0 0	=	8
	0 0 0 1 0 0 0 0	=	16
	0 0 1 0 0 0 0 0	=	32
	0 1 0 0 0 0 0 0	=	64
	1 0 0 0 0 0 0 0	=	128
	1 1 1 1 1 1 1 1	=	255
also:	0 1 0 1 0 1 0 1	=	85
and:	1 0 1 0 1 0 1 0	=	170

The music making potential of the computer organ depends on the accuracy of information (binary numbers) stored in its memories for each note to be produced. It requires both a table of musical pitches defining all the notes on its keyboards and also a file of harmonic patterns for the tone of each stop in its total scheme.

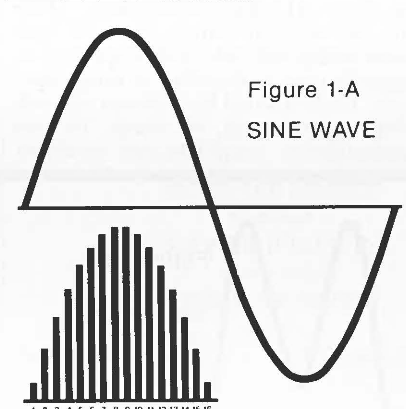


Figure 1-A
SINE WAVE

Figure 1-B
Bar Graph

The digital representation of complex acoustic waveforms is possible because at any moment the total sound present can be described by a single amplitude value which can be stored in a computer memory in the form of a binary number. However, since sound is in motion it takes a large number of such summarizing amplitude samples to capture adequately a single cycle of a complex waveform.

For example, in Figure 1A we have a sine wave. In terms of tone, this describes a pure fundamental with no harmonics—a super flutey flute. The momentary amplitude measured at sixteen equal intervals during its first half cycle is depicted graphically in Figure 1B as sixteen vertical lines. These are converted into binary numbers in Figure 1C. By reading these numbers first in one direction and then as negative numbers in the opposite direction, the computer has the recipe for a complete cycle of this waveform.

SINE WAVE

Values:	32	16	8	4	2	1	Totals
Binary Numbers:	0 +	0 +	0 +	1 +	0 +	1 =	5
	0 +	0 +	1 +	1 +	1 +	1 =	15
	0 +	1 +	1 +	0 +	0 +	0 =	24
	1 +	0 +	0 +	0 +	0 +	0 =	32
	1 +	0 +	0 +	1 +	1 +	1 =	39
	1 +	0 +	1 +	1 +	0 +	0 =	44
	1 +	1 +	0 +	0 +	0 +	0 =	48
	1 +	1 +	0 +	0 +	1 +	0 =	50
	1 +	1 +	0 +	0 +	1 +	0 =	50
	1 +	1 +	0 +	0 +	0 +	0 =	48
	1 +	0 +	1 +	1 +	0 +	0 =	44
	1 +	0 +	0 +	1 +	1 +	1 =	39
	1 +	0 +	0 +	0 +	0 +	0 =	32
	0 +	1 +	1 +	0 +	0 +	0 =	24
	0 +	0 +	1 +	1 +	1 +	1 =	15
	0 +	0 +	0 +	1 +	0 +	1 =	5

Figure 1-C

In Figure 2A we see the same sine wave with its octave or first harmonic shown as a simultaneous separate sine wave but at an amplitude of only 40% of the fundamental. However, when

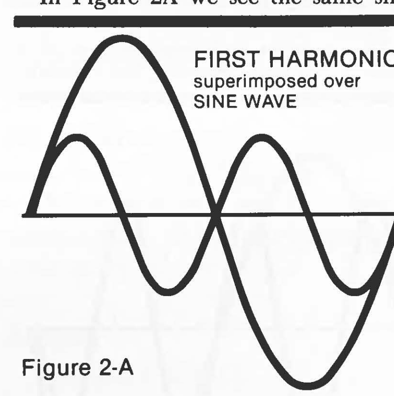


Figure 2-A

In an interest to present a balanced perspective of the issues contained within this article, a separate article, offering an opposing opinion to that given here, will be found in this issue of THE DIAPASON.

These opposing articles are the opinions of their authors, only, and *do not* represent the views of THE DIAPASON or of its staff.

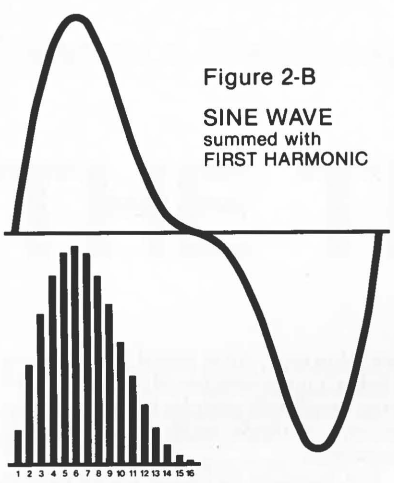


Figure 2-B
SINE WAVE
summed with
FIRST HARMONIC

Figure 2-C
Bar Graph

sounded simultaneously these produce a single combined waveform as in 2B. Figure 2C shows graphically the momentary value of sixteen sample points in the first half cycle. The binary num-

SINE WAVE + FIRST HARMONIC

Values:	32	16	8	4	2	1	Totals
Binary Numbers:	0 +	0 +	1 +	0 +	0 +	1 =	9
	0 +	1 +	1 +	0 +	1 +	1 =	27
	1 +	0 +	1 +	0 +	1 +	0 =	42
	1 +	1 +	0 +	1 +	1 +	0 =	54
	1 +	1 +	1 +	1 +	0 +	1 =	61
	1 +	1 +	1 +	1 +	1 +	1 =	63
	1 +	1 +	1 +	1 +	0 +	1 =	61
	1 +	1 +	0 +	1 +	1 +	0 =	54
	1 +	0 +	1 +	1 +	0 +	1 =	45
	1 +	0 +	0 +	0 +	1 +	1 =	35
	0 +	1 +	1 +	0 +	0 +	1 =	25
	0 +	1 +	0 +	0 +	0 +	1 =	17
	0 +	0 +	1 +	0 +	1 +	0 =	10
	0 +	0 +	0 +	1 +	0 +	1 =	5
	0 +	0 +	0 +	0 +	1 +	0 =	2
	0 +	0 +	0 +	0 +	0 +	1 =	1

Figure 2-D

ber for this fundamental together with its 40% second harmonic are in Figure 2D.

Already this simple digital recipe represents infinitely more control than can be achieved with tone oscillators.

The sequence in Figures 3A and 3B is another example showing the combin-

SECOND HARMONIC
superimposed over
SINE WAVE

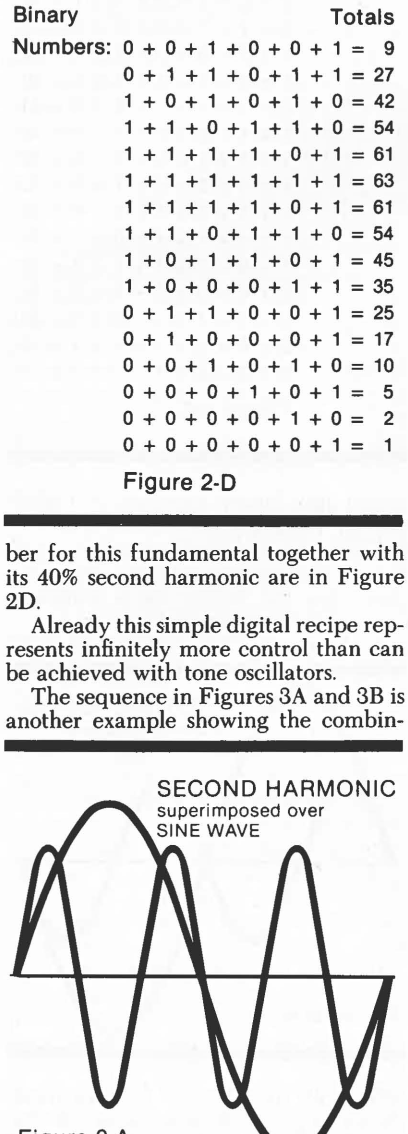


Figure 3-A

ing of a fundamental with a 70% second harmonic (quint). The graphic values and binary numbers representing a half cycle of this combined waveform are Figures 3C and 3D.

These two composite waveforms, Figure 2B and 3B, simple as they are, begin to describe the two main classes of flue pipe tone, open and stopped. Every type and shape of pipe, and there are countless possibilities, has its characteristic harmonic pattern. All these differences, these virtually infinite variations, are completely under control once one has mastered the technique of using numbers to depict musical tone. There is a number, or sequence of numbers, that represents every conceivable nuance of harmonic balance, and the slightest change in any harmonic creates a new number. Through knowing what that number is, every harmonic component of any musical sound can be specified and controlled.

As an organ builder, controlling the essentials of organ tone by numbers does not shock me at all, as it may some readers. Through the years I have described in numbers every pipe in the nearly eight hundred organs I have designed. To my pipe makers and voicers these numbers described physical dimensions. To me they outlined specific aspects of sounds. The often noted uniformity among my organs of similar style is sufficient indication that the numbers do prevail and in themselves impart the creative idea. I have often thought of putting all this information in a computer to reduce the countless hours that just the scaling of so many organs (over a million and a half pipes) consumed. I now still want to put it all in computers, but in a different way. The time is not far off when statistics and information about every conceivable type of pipe will be quickly available and with an end result more genuinely specific and musically controlled than heretofore imagined. But again, I am way ahead of my story.

It all had to begin in a practical form somehow. Once a dedicated computer was developed for producing musical sound, it remained only to store sound directly from pipes in its memories to have a working organ. Thus for the first time a non-pipe instrument that produced realistic pipe sounds became available. As previously mentioned it was an immediate success, and although it was not without its critics, it was obviously pipe-like enough in effect to force one of its competitors to turn to adding actual pipes to unified oscillator organs in an attempt to hold its share of the market.

The basic tonal building block of the Allen Computer Organ is a computer on a single circuit board using large-cale integrated (LSI) devices containing the pipe waveforms of thirty-eight stops in permanent memory. The facility exists for adding others, temporarily programmable by "tone cards" from the firm's library of over three hundred alternate voices. The thirty-eight stops are usually divided into three groups equivalent to the three wind chests of a two-manual pipe organ. Each of these groups can be played separately by two keyboards and a pedalboard, and in effect they can be coupled together at unison pitch as usual in organs. Thus a single computer provides a complete two-manual instrument as in the basic Allen Model 124 that begins the line of Computer Organs at about $11,000 domestically. There are two separate output channels from each computer, and the stops are assigned to one or the other of these channels. Each channel has balance and volume controls and, of course, its own audio system (amplifiers and speakers). Multiple audio systems provide better sound dispersion and a spatial "feeling."

The next step up is to place the speakers at some distance from the console and perhaps double their number. The spaciousness and warmth is further enhanced by using a second computer to double some of the voices and provide an independent source for additional sound dispersion.

In addition to its basic waveform memory and the alterable tone card section, each computer allows several stops to be stored in easily changed memories that can be revoiced to the purchaser's wishes. With two computers the number of changes possible is significant compared to the total stop list. Thus the Allen Computer Organ is the first pipeless organ in which the customer can influence the choice of a number of stops, or even mixture compositions, in a standard model instrument.

Because there are traditions about the composition of Mixtures—how the ranks are pitched, and how they break or repeat—that require a whole computer to present adequately, the next step is a separate computer with its own audio systems just for Mixtures. This completes the series of two-manual instruments with the Model 705 containing three computers.

There are three-manual models built up in this same way, beginning with the fifty-three stop 805 with three computers, up to the seventy-two stop Model 1405 with six computers.

The standard Computer Organs range in average price per stop from about $270 to $900. All are built with the same components, and each meets the specific requirements of a particular category of purchaser and price range.

Price is seldom discussed in articles such as this and very rarely in the pages of the world's organ journals. This is partly because prices necessarily vary from place to place due to the various costs of distribution. Also, we musicians prefer to dwell in the realms of quality and ideals and, perhaps, historical facts, and dislike being reminded of the high cost of realizing the things of which we dream. If musical considerations were all that influenced the purchase of organs, we would all have fine tracker encased instruments, and I might still be making them myself.

Dwelling on how closely a pipeless organ sounds like pipes is an academic exercise (interesting though this may be to a shrinking segment of the population that happens to include you and me). It is almost irrelevant unless weighted heavily in terms of musical effectiveness versus cost. It also avoids the fact that there is a growing number of church goers who have heard nothing in their entire church experience except an electronic organ, and to whom the pipe organ is no longer the standard.

Each model of the Allen Computer Organ is designed to produce the maximum variety of pipe organ effect for its price range, and the consensus is overwhelmingly that, dollar for dollar, it exceeds what a collection of pipes can do at equal cost, or even at double the cost. Contributing to this are various cost conscious measures; for example, using standard stoplists and selecting twelve as the maximum number of keys that will address a computer at one time.

Standard models do not, of course, meet everyone's expectations. This is especially true as the ever-increasing cost of pipe organs and the addition to the Allen line of large models have attracted the attention of purchasers who would formerly have considered only a specially designed pipe organ.

The specifications of the larger Allen Organs have proven to be so well designed that, after getting used to the idea that they cannot specify every stop, many purchasers find the standard stop lists include most of what they would have specified anyway. So the really special requirements often resolve to a few solo voices, a Solo division, some potent Chorus Reeds in the Great and Pedal, or perhaps separated expression controls. In the very special Allen touring organs purchased by Virgil Fox and Carlo Curley, these needs were met by using additional standard computers programmed to contain the required pipe sounds. An early such custom-built four-manual Allen Computer Organ, for Luther Memorial Church in Erie, contained twelve computers. However, to answer this need more specifically there has evolved a second system—SDDS, as it is called (meaning, so far as I can find out, "superduper digital system," which is certainly appropriate to its performance). It has as its basic element a single computer and can produce on call two completely separate stops, each with its own attack and tone characteristics; for instance, a Montre 8′ on one "side" and a Quintadena 8′ on the other, or perhaps a Trumpet and a Krummhorn. This system is completely flexible. A Mixture IV 1-1/3′, for example, may be composed by two computers each producing one rank on each side, each rank with its separate audio system and adjustable break by break and rank by rank. A very effective Cornet V can be produced. The system gives astonishing results when producing stops that have very special attack and release characteristics such as an En Chamade Trompette or a Pedal 32′ Contre Bombarde, or such diverse things as a Harpsichord or Orchestral Bells.

Of course, in answer to the question you were about to ask, the Allen SDDS system can be used to build an organ "from the ground up," rank by rank, according to your own specification. However, unless you do not require many strings or soft stops, it is much more cost effective to add SDDS to a standard large model. For example, to build an English style organ for accompanying an elaborate choral service, a straight SDDS scheme could be disproportionately expensive. It would be a more effective use of funds to begin with one of the large standard models and use the SDDS for Mixtures and Reed Choruses and possibly a separate Solo or Positive, or maybe both. Such an instrument with both Solo and Positive could cost as little as $1,100 a stop. On the other hand, for a less dramatic musical service, a straight SDDS organ might be the best answer. While the cost per stop may be higher, the total cost will be lower. A twenty-stop straight SDDS organ can cost less than a 5 rank unit pipe organ and a well worked out thirty-stop scheme of forty SDDS ranks can be realized at a surprisingly agreeable price. Speaking generally, a straight SDDS organ has a cost per stop less than half that of a comparable straight scheme by one of the lower priced pipe organ builders.

With separate sound systems for each SDDS rank, the spatial effect builds up rapidly. Also, with SDDS it is possible to capture the specific sound of a complete

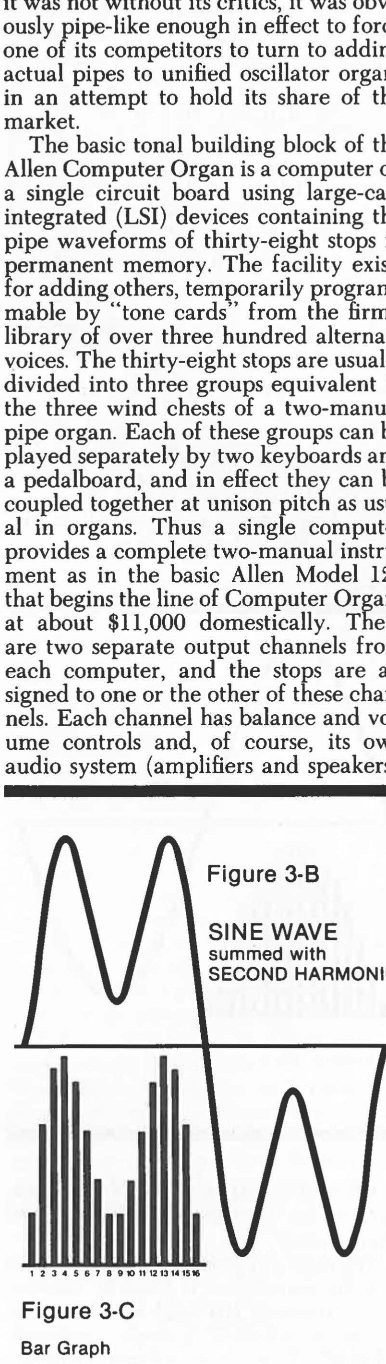


Figure 3-B
SINE WAVE
summed with
SECOND HARMONIC

Figure 3-C
Bar Graph

SINE WAVE + SECOND HARMONIC

Values:	32	16	8	4	2	1	Totals
Binary Numbers:	0 +	0 +	1 +	1 +	1 +	1 =	15
	1 +	0 +	1 +	0 +	1 +	0 =	42
	1 +	1 +	1 +	0 +	1 +	1 =	59
	1 +	1 +	1 +	1 +	1 +	1 =	63
	1 +	1 +	0 +	1 +	1 +	1 =	55
	1 +	0 +	1 +	0 +	0 +	0 =	40
	0 +	1 +	1 +	0 +	0 +	1 =	25
	0 +	0 +	1 +	1 +	1 +	1 =	15
	0 +	0 +	1 +	1 +	1 +	1 =	15
	0 +	1 +	1 +	0 +	0 +	1 =	25
	1 +	0 +	1 +	0 +	0 +	0 =	40
	1 +	1 +	0 +	1 +	1 +	1 =	55
	1 +	1 +	1 +	1 +	1 +	1 =	63
	1 +	1 +	1 +	0 +	1 +	1 =	59
	1 +	0 +	1 +	0 +	1 +	0 =	42
	0 +	0 +	1 +	1 +	1 +	1 =	15

Figure 3-D

existing pipe organ, stop by stop, to preserve it if desired. This might be the case of an old organ that is tonally satisfactory to a congregation but can no longer be kept working except at large rebuilding expense.

As for the twelve-note keying capacity, there are available a number of options at additional cost for increasing the capacity when it is really essential to do so, but they have not been found necessary even for the touring organs.

I must confess that all my pipe organs, including the biggest, have built-in "anti-Ligeti devices" (as I call them) that shut the organ down if anyone plays more notes than is possible with both hands and feet unaided. At Oral Roberts University, because the seventy-stop mechanical organ was projected for unspecified concert use which could include the whole bag of dirty tricks including forearms on the manuals and sticks on the pedalboard, we included an "anti-anti-Ligeti" switch which, when engaged, will keep the power on even if the wind drops precipitously. However, if one tries to play more than about thirty notes at once on that organ, holding them for more than a few seconds, the mechanical self-regulation floating actions shut all the pallets until the culprit goes away.

In the Computer Organ there are no notes just sitting there waiting to be played as in a pipe or oscillator organ; notes literally do not exist until the computer is instructed by the player through the keyboard to produce them. But the information channels from the keyboard to the computer do exist, as does the signal processing equipment, and twelve channels cost much less than sixty-one. So the economic logic behind the Allen twelve-note capacity is that the purchasers should not have to pay for a lot of equipment that is called on to work so rarely.

Questions concerning how closely the Computer Organ sounds like pipes now seem to center more on details such as the nature of attack and release, bass to treble differences (or samenesses), random events such as are caused by unsteadiness in the wind, and touch sensitive attack control. Such questions generally concede the point that the overall resemblance to the effect of pipes is no longer an issue. Also, the point sometimes arises that using a single waveform per stop gives excellent results in the middle of the keyboard (I wonder why it's assumed that the waveform is always from the center of a stop), but theoretically should not be so satisfactory for the bass or treble. In fact, however, the results with a single waveform with individually controlled authentic harmonics are generally excellent and a giant step ahead of the uncontrolled harmonics of oscillator organs.

Indeed, using a single waveform is quite in line with the general effort through the ages to achieve "an actually 'normal' scale [progression] with the same timbre and intensity from bass to treble," as one writer puts it. Indeed, during the transition from the classical to the romantic organ in the late 1700's and early 1800's, tonal uniformity by means of pipe scaling became a compulsive preoccupation. Johann Gottlob Töpfer, the influential organ theorist, in his prophetic work for the art in the 19th century wrote, in 1833, "I found that the ratio of $1:\sqrt{8}$ [the ratio of the cross-sectional area of the octaves] corresponded to a perfectly even penetration and resonance [intensity and tone color]." His "perfectly even" scale became known as "Normalmensur" in Germany. It was widely used in Romantic organs throughout Europe and became the standard and the point of departure for the twentieth-century organ reform movement. The various self-serving statements by oscillator organ manufacturers attempting to justify and normalize bass to treble differences are clearly contrary to the larger lessons and trends of pipe scaling history. Of course, tonal and intensity differences within a stop have their place in some special cases, such as in the Cavaillé-Coll Flute Harmonique, but they are the exceptions rather than the rule and must be minimized in instruments expected to play a wide repertoire.

The SDDS system is, of course, the answer to all these questions where funds are available to expand the detail of an instrument. The SDDS computer can produce attacks specifically characteristic of a given type of pipe and can vary both the attack and harmonic content throughout the range, and there is an astonishingly orchestral attack response evident in some SDDS stops.

Technically, there are no limits. Practically, the problem is to develop the digital techniques that create an affordable package compatible with all that has been done before. The potential and flexibility of the Allen computer system for making organs is too vast to be described easily or to attempt to keep the organ world informed. So one cannot know what is possible until one asks. As director of the advanced custom work, I have yet to ask digital technique to do something common to organs that it has not been able to do, and some things it does much better than conventional pipe organ systems and methods.

There are those, however who continue to pontificate about the musical superiority of pipes, virtually any pipes. They seem to have forgotten completely that before there were electronic organs, all of the world's bad organs had pipes. The organs against which Albert Schweitzer fulminated at the turn of the century all had pipes. The "Deutsche Orgelbewegung" and the now virtually universal reform it generated, was a reform movement against musically useless organs that all had pipes. Just why some people are so emotionally involved with organs, and especially pipes, is a psychological enigma that may never be solved. Once bitten by the "pipe bug," even some engineering and scientific people who are otherwise quite rational seem to lose perspective. If pipes are in themselves so inherently musical, then what made all those unmusical organs against which thoughtful musicians so vehemently rebelled, and what makes so many of the instruments made with pipes even today so very unmusical? Even when the sound of its individual pipes are quite acceptable an organ can still fail as a musical instrument, and many do.

What makes musicality in an organ is not pipe sound alone, as so many commentators imply, but rather it is what is done with the sound to create the only thing that really counts: — balance! It is balance between treble and bass, balance between stops within a division, and balance between the divisions, that makes an organ work musically. Balance makes it capable of projecting musical ideas, and thus a responsive vehicle for reflecting the essential musicality of the performer. If the pipes also have lovely, harmonically developed, and well integrated sounds, so much the better; the organ might prove to be a great masterpiece. However, a well balanced instrument will work musically even with rather indifferent individual pipe tone.

Often pipes do naturally some rather unpleasant things. They frequently "scratch" or "sizzle" or "bark" or "cough" or "chirp" or "chiff" excessively, and sometimes all at once, or so it seems. We who have spent most of our lives dealing with them have often wished for more control. The voicer's job is to find the sound that a pipe's construction produces naturally. The ►

leeway is really very narrow and to exceed it (as many do to make their pipes more tractable or to attempt to obtain a pre-conceived sound for which they were not designed) is to flirt with tonal disaster. To suggest, as some do, that the Computer Organ should slavishly emulate all the antics of pipes, without questioning their value, is the height of irresponsibility. There is no substitute for good taste, and no one can flourish long in any art without it; it is more than an ever present guide; it is a relentless master.

Good musical judgment and a deep understanding of organ building principles keep us from assuming that all that pipes do and all that is done with pipes is good and right. In my article, "Effects of Windchest Design on the Speech of Organ Pipes" for the "Organ Institute Quarterly" in 1953, I referred to a common pipe speech defect. I had observed this in organ pipes that were forced to speak quickly without the benefit of an expansion chamber between the key-valve and the pipe-foot. I called it a "gulp" and noted that it could be eliminated completely by proper wind chest design.

I later found that this gulpy attack prevails in Holland and North Germany in old pipes whose languids have sagged, but which antiquarians have accepted as having good tone simply because they are old. And so this gulp has been slavishly copied in the work of a number of this century's reformed builders. This is an excellent demonstration of the truism: "We only copy what we do not understand." Lacking the musical insight to declare that this characteristic is an unacceptable defect, a whole generation of experts and builders have repeated it. This gulp is evident in the principals of a number of North German made organs in North America. It is not present in the tone of any of the principals I have produced whether with pipes or computers.

I am certain that the old pipes were not originally voiced with this gulpy attack. It is not heard in the work of the more musical builders of our time such as that of my viola playing North German old friend, the late Alfred Fuehrer of Wilhemshaven. Nor is it heard in the always musical, always tasteful work of the modern Danes or Swiss, and I have not heard it in old organs further south in German where the tin content in the pipes was higher and less susceptible to sag.

I have always been disappointed to find well respected builders purposely copying obvious defects in mindless deference to the past. But the case outlined above happened in the 60's. A current example of not noticing the wrong things pipes often do occurred recently in an organ society journal that has rather wide circulation. In a generally critical article about pipeless organs by a knowledgeable, if emotional, young "pipe-nik", a graphic representation of the first four partials of a diapason tone pictured clearly the gulpy attack that I found so musically objectionable. Gulp, described in simple technical terms, is a slightly prolonged overshoot of the first harmonic (octave), and there it was, in that article, beautifully diagrammed (although incorrectly labeled, "2nd harmonic"). The article implied that the computer organ's Diapason ought also to do this because the pipe organ's musicality lies in the specific things individual pipes do. I have already explained why I cannot subscribe to this simplistic view. The specific timbre of instruments identifies them, but it does not, itself, constitute musicality.

Akin to the idea that whatever pipes do is okay is the equally erroneous idea, often proposed, that a very small organ with pipes is better than any pipeless organ of whatever size. The more level-headed of those who propose this argue that it should have one manual; there is a repertoire of lovely music for such an instrument; a clever player can get along quite nicely on such an instrument; and any congregation should be happy to "reform" its musical needs and tastes to the limits of such an instrument considering the high musical quality and low cost of the result. With the fundamental premise that the essence of the musicality of the organ can be contained in a single rank of pipes, I do, of course, agree. Indeed, this essence must be in every rank in every organ. But I do not agree, nor do the musical and church-going worlds, that all there is to the enjoyment of music is the admiration of the inherent potential of the medium. The evidence from my own attempts in this esoteric pursuit some years ago indicates that it does not relate well with the real musical requirements of a significant portion of the present organ using world.

The less logical maintain that a few ranks of pipes, no matter how disposed, are more suitable for any purpose than a pipeless organ. This implies that there is something so essential in the tone of a few pipes that we should not mind the narrow tonal palette or the missing notes (as in unification) or notice that these imitations of organs, although made with pipes, fall hopelessly short of the musical elements of the instrument we know and love and call the organ.

From the moment it became multi-voiced and could be played more than two keys at a time, the organ was no longer solely about pipes. From that time on it was about musical ideas. From that time on pipes were not its most distinguishing characteristic, nor was the fact that they were windblown, although both of these features had to be mentioned in any definition of the organ until the middle of this century.

But the most important characteristic of the organ is that it is a multi-voiced keyboard instrument arranged to be played by a single performer. It is because of this that it has continued with us for five centuries and is so important to us today. Not just because it had windblown pipes. If it had stayed in its medieval state with many-ranked blockwerks and fist-size keys, we would probably know of it now only from books. It was when it became a one man multi-colored polyphonic "band," and later, "orchestra" (as the names of many of its stops from various periods still remind us) that it earned a place in our lives. It was because of its utility rather than because of its sound.

For most of the organ's long history, it has been mechanically at the forward edge of technology. Progress was evident even in the seemingly stagnant hundred years of the French classical period, for while there was little that was truly inventive, builders learned how to enlarge organs successively, to make better actions and couplers and better wind systems. The last century saw much development, though perhaps not all of uniform worth. But in this century, what have we done? Well, in the first twenty years or so, we virtually annihilated the organ. It lost its identity almost completely even though it still had pipes. Then, finally responding to the urges expressed much earlier by Albert Schweitzer, we learned a lot about the fundamental principles of the art and put these ideals to work producing some creditable instruments. But for the past ten or twelve years, there has been no progress at all in pipe organ building. Regression is the best term for the present state of things, for whereas our reform movement looked to the past for a key to successful organs for the future, much present work merely echoes faintly the organ's former glory.

Until recently I felt this century would pass without making any meaningful contribution to the organ's form or function. However, I am not certain that digital computer technique will prove to be this century's most important contribution to the organ's continuing development—a contribution in many ways comparable to the Barker lever and better wind systems in the last century. Hand in hand with digital technique will be a better understanding of what the organ truly is and how it works in making music. The Digital Computer Organ will bring about a new reform movement concerned with the functional essentials of the lore rather than the mythology that so generally prevails.

Analysis and evaluation will probably always be a part of the Computer Organ. But this is not where the creativity in the art lies. The Computer Organ is truly a third kind of organ, an art form in itself, that returns organ building to technology's forward edge. It again brings the tonal scope of the organ to a new plateau of musical challenge as did the symphonic organ when it arose 100 years ago.

The pipe organ in general basks in the glory of a few fine examples, and we surely hope that these will continue to grow in number through the years. Short of sentiment, most of the world's pipe organs are of small musical value, however well they may be thought to serve the need of those who own them.

Nor are they as long lived as generally supposed. The famous old masterpieces that serve to perpetuate the image of longevity have nearly all been rebuilt and restored several times, and each time at costs usually exceeding that of a contemporary replacement of similar size. Today, in America, few organs reach their 25th year without substantial alterations or repairs. Often major tonal revisions occur every few years due to changing ideas in individual churches concerning tonal style or the organ's purpose and use, frequently brought about by a change of organist or by the organist's change of view. The costs of these short-term "rehashes," reversible only at equal cost, are seldom mentioned in discussions concerning the overall long range cost of a pipe organ. In an advanced custom computer organ extensive tonal changes can be made easily and at negligible cost, even for a single musical event. Indeed it is now quite possible to change the tonal style of an entire organ from French to German, for example, or from classic to romantic—four organs for the price of one.

It is often argued that a pipe organ is a good investment because when all else fails and it is beyond repair, at least the pipes are salvageable. A truly first-rate pipe organ will probably never deteriorate to the point that all that is left are the pipes. So, the argument about the intrinsic worth of pipes relates to what must be a less than first-rate organ at the start. Furthermore, no fully equipped reputable builder allows much credit for old pipes beyond the value of the metal. By the time they are cleaned, repaired, revoiced and shipped back and forth, they cost him about as much as pipes made in his own shop. Of course using these greatly compromises the integrity of the tonal scheme and the quality of the sound of the "new" instrument. Thus, the whole process is self-deteriorating.

"Will the Digital Computer Organ make the pipe organ obsolete?" is a question I am often asked. Many who hear the advanced custom work at Allen offer the opinion that it will. But my answer is, "No, not so far as I can see." The Computer Organ is a solution, an alternative. The half dozen fine firms in the world who build beautiful organs, who have kept their standards high and can be depended upon to do so, can probably go on for a long time. The pipe organ itself and the high standards it demands, and their attendant costs, is causing its own obsolescence. The stagnant state of the art mentioned above is a major cause of threatening obsolescence. The self-deteriorating process also mentioned above, applying as it does not just to the use of old pipes but to the rehash of old materials generally, is contributing to the organ's obsolescence. Those builders who have cut their standards in order to keep producing organs a few more years are also, by reducing the level of excellence, contributing to the organ's obsolescence. If these firms were not operating, the issues would be clearer. People who for some reason must have a pipe organ would deal with a builder who has maintained a high standard. Those who conclude after careful study that they really do not require pipes for their purposes would be able, without pressure, to obtain a Digital Computer Organ which would meet their needs in a more rewarding way.

When comparing the pipe organ and the Computer Organ item by item, the list of things the Computer Organ actually does better soon gets long enough to begin to interest one's pipe-committed friends. For example: It doesn't go out of tune; it can be easily accommodated to any pitch standard; various temperaments are possible and can easily be changed or compared; the reed sounds that are heard only at the top of the pipe can be directly projected into the listening area rather than heard entirely by reflection, as in Swell boxes and organ cases, and reed trebles can be properly balanced with the rest of the stop instead of falling off badly as they often do with pipes (thus avoiding two of the pipe organ's worst defects); virtually any sound, presently existing or not, can be programmed into the Computer Organ, the limits being human ingenuity rather than the equipment itself; the buildup of 8′ tone so essential to the organ in the French symphonic tradition can be much more carefully integrated in the Computer Organ and at a fraction of the cost of doing it with pipes . . . and on and on it goes. However, it is the superior way of working in the whole tonal process that is to me as an organ builder the most fascinating and rewarding. A system parallel in all respects to that I developed for scaling and voicing pipes will be directly accessible in the tonal designing of advanced custom Computer Organs, so that the subtleties of harmonic content and balance can be worked out for every instrument, just as I have always done with pipes.

If one listens really carefully to the sound of any individual pipe, one must conclude that it is a rather unlikely sound for a musical instrument. It is more dependent on its ambiance than is the tone of any other instrument. The organ pipe, therefore, is the only musical instrument that, ideally, must be designed for the space it will serve. The realm of "the acceptable", where the organ is concerned, is nonetheless quite wide. There are a considerable variety of sounds and practices that contribute ultimately to success. I have listened very carefully to some of my own principal pipes, those that have been most generally admired. I cannot say (at least as yet) exactly why they work musically and some by others of similar material, scale and construction do not. Yet, in collaboration with my friends at Allen, the minute tonal differences that the organ world expects between various pipes have already emerged. To my great surprise and pleasure, former associates who know my work well have easily selected stops I have worked on from a collection of over a hundred. The late Danish organbuilder Poul-Gerhard Andersen, together with the late Sybrand Zachariassen at Marcusson & Son and later on his own, had to do with more beautiful organs than anyone else I know of. In his book, "Orgelbogen", at the end of a several page discussion concerning the futile efforts of numerous searchers to find and reveal the secrets of successful organ scaling as practiced by renowned builders through the centuries, Andersen says, "Hemmeligheden—arcanum—var orgelbyggeren selv": "The secret, the 'Arcanum', was the organ builder himself." Today this is just as true for the third kind of organ as it has always been for the first kind of organ. ■

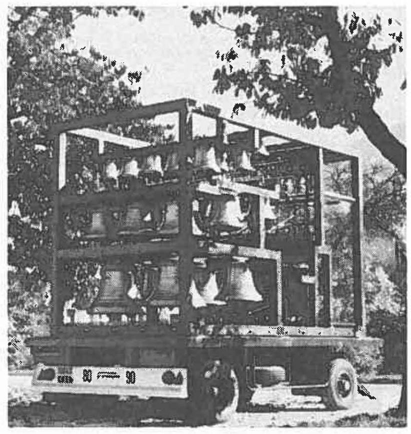
Carillon News

By Margo Halsted

DANISH MEETING

August 16-19 a world carillon meeting was held in Løgumkloster, Denmark. Two hundred forty-six persons, representing seventeen countries, were present to renew friendships and make new friends, to hear a varied assortment of music and presentations, to order music, tapes and records, and to learn from each other.

Løgumkloster carillon



French traveling carillon

Three carillons were used; the Løgumkloster instrument and traveling carillons from Norway and France. There were many solo recitals as well as a concert of music for three carillons and music written and arranged for carillon and band, choir, bagpipes and dancers.

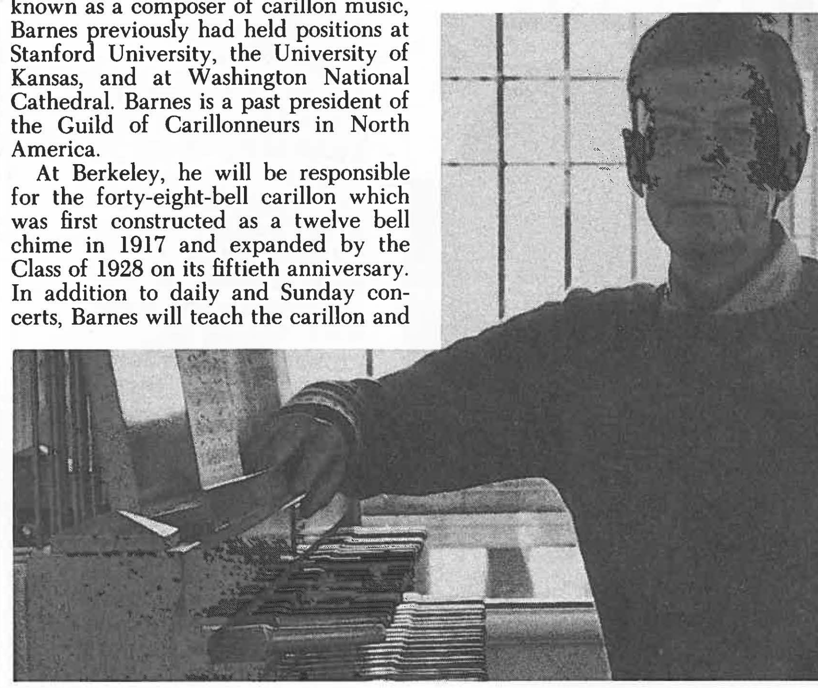
Each member carillon guild made a presentation including a demonstration of change ringing by the English, handbell playing by the French, and talks with slides by the North Americans, the Danish and the Belgians. The West German Guild had a demonstration of Russian zvon ringing.

Members of the Guild of Carillonneurs in North America who played recitals were George Gregory and Loyd Lott of Texas and Gordon Slater of Canada. A piece written for three carillons by Timothy Hurd was premiered.

Milford Myhre of Florida was elected the new World Carillon Federation President, succeeding Jacques Lannoy of France who had been the president for the eight years the Federation has been in existence. World meetings are held every four years and the next one will be at the University of Michigan in 1986.

Ronald Barnes has been appointed the first full-time carillonneur at the University of California, Berkeley. Well known as a composer of carillon music, Barnes previously had held positions at Stanford University, the University of Kansas, and at Washington National Cathedral. Barnes is a past president of the Guild of Carillonneurs in North America.

At Berkeley, he will be responsible for the forty-eight-bell carillon which was first constructed as a twelve bell chime in 1917 and expanded by the Class of 1928 on its fiftieth anniversary. In addition to daily and Sunday concerts, Barnes will teach the carillon and oversee a staff of volunteer players. He is a member of the Department of Music.



Recital Programs

CHARLES TOMPKINS, with Susan Hedling, flute, and Walter Blue, narrator, Hamline United Methodist Church, St. Paul, MN, Oct. 1: *Choral No. 3*, Frank; *Sonate II*, Hindemith; *Three Pieces for Organ & Flute*, Alain; *Fantasy in F Minor*, K 608, Mozart; *The King of Instruments*, Albright.

WILLIAM BECK, JAMES WALKER, duo-organ, First Congregational Church, Los Angeles, CA, Nov. 5: *Concerto VI for Two Organs*, Soler; *Dialogue Monastique*, Purvis; *Sonata for Two Organs* (premiere), Rayner Brown; *Cortège et Litanie*, Dupré; *Prelude, Fugue, & Variation* (organ & piano), Franck; *Fantasia for Two Organs* (premiere), Mark Chatfield; *Sonata in F Major for Two Keyboards*, W.F. Bach; *Grand Choeur Dialogue*, Gigout.

KENRICK MERVINE, with Barbara Mervine, soprano & narrator, Abington Presbyterian Church, Abington, PA, Nov. 7: *Kol Haneshemah*, Lidarti-Adler; *Prelude & Fugue in E Minor*, BWV 548, Bach; (vocal selections); *Final, Symphony 6, Naiades*, Vierne; *The King of Instruments*, Albright.

CALVERT JOHNSON, Northeastern State University, Tahlequah, OK, Nov. 18: *Prelude in B Minor*, Paine; *Benedictus*, Reger; *Scherzo*, Gigout; *Sonata*, Bellini; *Symphony 6*, Widor.

KAREL PAUKERT, Cleveland Museum of Art, Cleveland, OH, Dec. 5: *Fantasia & Fugue in G Minor*, Bach; *Missa Fortunata desperata*, Josquin, arr. Frank Michael Bayer; *Choral cistercien, Postlude, Litanies*, Alain.

RICHARD W. SLATER, with Stephen A. Smith, bass-baritone, and Richard Treat, cello, Church of the Ascension, Sierra Madra, CA, Dec. 5: *Nun komm, der Heiden Heiland*, BWV 559, 560, 561, *Fantasy In G.*, BWV 572, Bach; *Ich liege und schlafe*, Schuetz; *Evening Hymn*, Purcell; *Elevazione, Offertorio*, Zipoli; *Sonata in G*, Sammartini; *Cantata: Nascere, nascere, dive puellule*, Bassani.

JOHN DAVID PETERSON, Idlewild Presbyterian Church, Memphis, TN, Dec. 6: *Ave maris stella*, Titelouze; *Advent & Christmas Preludes from the Orgelbüchlein*, Bach; *Gothic Symphony*, Widor; *The Nativity of the Lord*, Messiaen.

JERALD HAMILTON, University of Illinois, Urbana-Champaign, Dec. 10: *La Nativité du Seigneur*, Messiaen.

PAUL KOCH, Carnegie Music Hall, Pittsburgh, PA, Dec. 19: *Psalm 18*, Marcello; *Pastoral Symphony*, Handel; *Jesu, Joy of Man's Desiring*, Bach; *Christmas Pastorale*, Harker; *In dulci jubilo*, Dupré; *In dulci jubilo, Von Himmel hoch*, Bach; *Toccata, Symphony 5*, Widor. (Program interspersed with carols sung by the audience).

LUDWIG ALTMAN, Temple Emanu-el, San Francisco, CA, Dec. 26: *Contrapunctus 11 from Art of Fugue*, Bach; *Variations on a Recitative*, Schoenberg; *Kleines harmonisches Labyrinth*, BWV 591, Bach; *Prelude through all major keys*, Beethoven; *The organ solos from Canticum Sacrum*, Stravinsky; *Paraphrase on a theme of Stravinsky's Canticum Sacrum*, Klebe; *Contrapunctus 18, Before Thy Throne I now approach*, BWV 668, Bach.

FREDERICK SWANN, Roy Thomson Hall, Toronto, Canada, Jan. 7: *Sonata 1*, Mendelssohn; *Dialogue, Tierce en taille (Parish Mass)*, Couperin; *Dialogue*, De Grigny; *How Brightly Shines*, Buxtehude; *Passacaglia*, Bach; *Choral in E Minor*, Franck; *Moto Ostinato*, Eben; *Even Song*, LaMontaine, *Carillon on Orientis Partibus*, Wills.

CATHARINE CROZIER, Gammage Center, Tempe, AZ, Jan. 16: *Chaconne in D Minor*, Pachelbel; *How Brightly Shines*, Buxtehude; *Kyrie, God Holy Ghost, Christ Our Lord To Jordan Came, O Man, Bewail, Rejoice, Beloved Christians*, Bach; *Trois Danse*, Alain; *Chaconne*, Ochse; *Passacaglia-Toccata on BACH*, Sokola.

BRETT WOLGAST, Fort Street Presbyterian Church, Detroit, MI, Feb. 21: *Wie schön leuchtet*, Buxtehude; *Sonata in D*, Telemann; *Prelude & Fugue in E Minor*, BWV 548, Bach; *Prelude & Fugue on ALAIN*, Duruflé; *Choral 2*, Franck; *Sortie (messe de la Pentecôte)*, Messiaen.

ROBERT SCHUNEMAN, with Elaine Sharp, soprano, Anne Whaley, flute, and choir, St. James Lutheran Church, Chicago, IL, Jan. 16: *Praeludium in C Major*, Leyding; *Variations on Auf meinen lieben Gott*, Boehm; *Voluntary in D Major*, Stanley; *Let the Bright Seraphim (Samson)*, Handel; *Mach's mit mir Gott, Seelenbräutigam, Meinen Jesum lass ich nicht*, Reger; *O, Praise God in His Holiness*, Gibbs; *Cantilena for Flute and Organ* (1981), Bourland; *Praeludium in E Minor*, BWV 548a, *Nun komm der Heiden Heiland*, BWV 659, *Christum, wir sollen loben schon*, BWV 611, *Allein Gott in der Höh' sei Ehr*, BWV 663, *In dir ist Freude*, BWV 615, *Christ, unser Herr, zum Jordan kam*, BWV 684, *Fugue in E Minor*, BWV 548b, Bach.

PHILIP KEIL, with trumpets, Episcopal Church of St. Matthew, San Mateo, CA, Jan. 16: *Chaconne*, Couperin; *Lied* (Op. 31, No. 17), Vierne; *Concerto for Trumpet*, Tartini; *Cantique*, Stravinsky; *Fugue in G*, BWV 576, Bach; *Pièce Héroïque*, Franck; *Concerto for Trumpet*, Telemann; *Pieces for Flute Clocks*, Haydn; *Finale Jubilante*, Lemmens; *Concerto for Two Trumpets*, Vivaldi.

GARY ZWICKY, with brass quintet, EASTERN ILLINOIS UNIVERSITY, Charleston, IL, Jan 23: *Balletto del granduca*, Sweelinck; *Passacaglia & Fugue in C Minor*, BWV 582, Bach; *Sweelinck Variations for Organ and Five Brass*, Cor Kee; *Pageant*, Sowerby; *Symphony 6*, Widor.

G. NICHOLAS BULLAT, First United Church, Oak Park, IL, Jan. 23: *Toccata 4*, Cabanilles; *Selections from Livre d'Orgue*, De Grigny; *Wo soll ich fliehen hin*, BWV 646, *Kommst du nun, Jesu*, BWV 650, *Prelude & Fugue in E Minor*, BWV 548, Bach; *Gothic Symphony*, Widor; *Desseins éternels, Dieu parmi nous (La Nativité du Seigneur)*, Messiaen.

LEONARD RAVER, with Gregory Geisert, percussion, Cleveland Museum of Art, Cleveland, OH, Jan. 23: *Sinfonia, Wir danken dir Gott*, Bach; *Offertoire sur les grands jeux (Parish Mass)*, Couperin; *Galactic Novae*, Gardner Read; *Prelude & Fugue in E Minor*, BWV 548, Bach; *Prelude & Fugue*, Leslie Adams; *Constellations: a concerto for organ and percussion*, Dan Locklair.

MICHAEL RUDD, First United Methodist, Lake Charles, LA, Jan. 30: *Ein fest'Burg*, Hanff; *Ach Gott, erhor mein Seufzen*, Krebs; *Erbarm dich, In Dulci Jubilo, Gigue Fugue*, Bach; *Toccata, Villancico, y Fuga on BACH*, Ginastera; *Cantabile*, Franck; *Toccata & Fugue, Benedictus*, Reger; *Divertissement*, Vierne; *Prelude & Fugue on BACH*, Liszt.

KAREL PAUKERT, Cleveland Museum of Art, Cleveland, OH, Jan. 30: *Aria Sebaldina*, Pachelbel; *Variation III*, Cage; *Selections from Premier Livre d'Orgue*, Marchand; *Postludium*, Janacek.

JOHN EGGERT, Concordia College, St. Paul, MN, Jan. 30: *Prelude, Fugue, & Chaconne in C Major, Nun komm, der Heiden Heiland, Lobt Gott, ihr Christen allzugleich, In dulci jubilo*, Buxtehude; *Fantasy in G Major, In dir ist Freude, Durch Adam's Fall, Christ, unser Herr, zum Jordan kam, Christ lag in Todesbanden, Wachet auf, Prelude & Fugue in G Major*, Bach.

JEROME BUTERA, Trinity Lutheran Church, Des Plaines, IL, Feb. 20: *Fanfare*, Cook; *Grand Sonata in E-flat*, Buck; *Sketch in F Minor*, Schumann, *Choral 2*, Franck; *Prelude & Fugue on BACH*, Liszt.

HARPSICHORD NEWS

By Dr. Larry Palmer

COMPETITIONS

The seventh international harpsichord competition to be held in Brugge, Belgium and the first fortepiano competition: Mozart are scheduled during the week July 29-August 6, 1983. The jury will consist of Kenneth Gilbert (Paris), Christopher Hogwood (London), Johan Huys (Ghent), Gustav Leonhardt (Amsterdam), Trevor Pinnock (London), Johann Sonnleitner (Zurich-Salzburg), Herbert Tachezi (Vienna). (Mr. Hogwood will be a member of the jury for the fortepiano competition, Mr. Pinnock for the harpsichord event).

This famous competition is open to harpsichord and fortepiano players of all nations, born after December 31, 1950; the application form and fee must be sent to the competition authorities before May 1st. The repertoire for the harpsichord competition is: Prelude and Fugue in D Major (WTC, I) or D minor (WTC, II) of J. S. Bach; a repertoire of 15 works including a composition with variations by Sweelinck, a piece by Bull, a suite by Froberger, a suite with unmeasured prelude by Louis Couperin, a toccata by Frescobaldi or Rossi, a partita or English suite by J. S. Bach, a pair of sonatas by Domenico Scarlatti (one slow, one fast), and a sonata by C.P.E. or J. C. Bach. From this list the jury will select one or more pieces for the preliminary round.

For the semi-final round the repertoire consists of Farnaby's Fantasia in g (Musica Brittanica XXIV, 8) and other pieces from the candidate's repertoire as presented for the preliminary round. For the finals, Bach's Toccata in G minor, BWV 915, and C.P.E. Bach's Concerto in D minor, Wq. 23 (Breitkopf und Härtel Nr. 3771) will be required.

For entry forms or further information, write Festival van Vlaanderen-Brugge, C. Mansionstraat 30, B-8000 Brugge, Belgium.

The sixth international competition sponsored by the Festival Estival de Paris and the Societe Jean-Philippe Rameau will take place in Paris (September 1-7, 1983) and in Dijon (September 8-11). The jury will include Huguette Dreyfus, Zuzana Ruzickova, Blandine Verlet, Alan Curtis, Christopher Hogwood, Andre Jouve, Rafael Puyana, Scott Ross, and Robert Veyron-Lacroix. Contestants must not have passed their 32nd birthdays by the time of the competition.

The required repertoire: Rameau: L'enharmonique and L'Egyptienne *or* L'Entretien des Muses and Les Cyclopes *or* Sarabande (A Major) and Les Trois Mains; Bach: Prelude and Fugue in B-flat Major, BWV 890 (WTC, II). For round two, Rameau: Suite in A minor (1706), Scarlatti Sonatas in G Major, K. 412-413 *or* Sonatas in D Major, K. 435-436; Froberger: a Toccata or Frescobaldi: a Toccata plus works of choice not to exceed 12 minutes. For the third round, Rameau's fourth or fifth Concert, the Bach Toccata in F-sharp minor, BWV 910, and a work in variation form from the English, Flemish or Spanish schools, composed between 1500 and 1650.

There will be a competition for basso-continuo realization and for the performance of contemporary music (required works: Etude 15 pour agresseurs, Louvier; Solfegietto, Ballif *or* Toccatine, Reibel).

For further information and entry forms, write Festival Estival de Paris, Concours de Clavecin, 5, Place des Ternes, 75017 Paris, France.

PUBLICATIONS

EARLY MUSIC for July 1982 (vol 10, no. 3) contained Mark Lindley's "An Introduction to Alessandro Scarlatti's *Toccata Prima*." In October, this journal included articles on instruments in Florentine Carnival Songs (Timothy McGee and Sylvia Mittler), storage climates for musical instruments (Cary Karp), Haydn autographs and early manuscript copies in the British Museum (Arthur Searle), and Uta Henning's "The most beautiful among the claviers—Rudolf Richter's reconstruction of a baroque lute-harpsichord."

BACH, the quarterly journal of the Riemenschneider Bach Institute included fascimilies of Bach's third English Suite (in G minor)—Prelude and Gigue and the Gigue from the sixth suite, (both in 18th-century manuscript copies) as well as articles on the lost oboe works of Bach and the organization of the two-part Inventions.

1985 IS COMING!

The New Bach Society, American branch of the Neue Bach-Gesellschaft issues a call for information of planned Bach observances for his tercentenary year. This information will be published in a documentation of worldwide observances of the Bach anniversary. To be included in the Bach Society list (at no charge) write of your plans to: New Bach Society, 1725 Main Street, Bethlehem, PA 18018.

LEONHARDT TO BE HONORED IN TEXAS

Southern Methodist University will confer on distinguished Dutch harpsichordist, musicologist, and conductor Gustav Leonhardt the degree Doctor of Music, *honoris causa* at its May commencement in 1983. Professor Leonhardt will participate fully in the commencement activities of the University and of the Meadows School of the Arts, and he will play a public recital on Sunday, May 22, at 8:15 p.m. in SMU's Caruth Auditorium.

Features and news items for HARPSICHORD NEWS are always welcome. Address them to Dr. Larry Palmer, Division of Music, Southern Methodist University, Dallas, TX 75275.

Effective immediately, the closing date for all materials to be published in THE DIAPASON is the first (1st) day of the preceding month, for the next month's issue (April 1st for the May issue, etc.).

Our earlier closing date is applicable to all materials, advertisements and news items, and has been established in order to allow us sufficient time in which to produce each issue of this magazine.

Calendar

This calendar runs from the 15th of the month of issue through the following month. **The deadline is the first of the preceding month** (Jan. 1 for Feb. issue). All events are assumed to be organ recitals unless otherwise indicated and are grouped within each date north-south and east-west. * =AGO chapter event, ** =RCCO centre event, + =new organ dedication, ++ =OHS event.

Information cannot be accepted unless it specifies **artist name, date, location,** and **hour** in writing. Multiple listings should be in chronological order; please do not send duplicate listings. THE DIAPASON regrets that it cannot assume responsibility for the accuracy of calendar entries.

UNITED STATES
East of the Mississippi

15 MARCH

*__Henry Cook__; Arch Street Presbyterian, Philadelphia, PA 12:05 pm
*__Jonathan Biggers__; St Anne's, Atlanta, GA 8:15 pm
*__Heinz Wunderlich__; Cathedral Basilica of the Assumption, Covington, KY
Gerry Guzaski; Eastern Illinois Univ, Charleston, IL 8 pm
Andrea Handley; The Chicago Temple, Chicago, IL 12:10 pm

16 MARCH

Constance Andrews; Trinity Church, Newport, RI 12:15 pm
Jerome Butera; Community Church, Park Ridge, IL 12:10 pm

18 MARCH

Gerald McGee; St Luke's Cathedral, Portland, ME 12:10 pm
Bethesda Schola Cantorum; Bethesda Episcopal, Saratoga Springs, NY 8:15 pm
Robert Glasgow, masterclass; Houghton College, Houghton, NY 10 am
Robert Glasgow; Houghton College, Houghton, NY 8 pm
Naomi Rowley; Fourth Presbyterian, Chicago, IL 12:10 pm

19 MARCH

Bach Society of Baltimore; Bishop Cummins Memorial Church, Catonsville, MD 8 pm

20 MARCH

Dubois, *Seven Last Words*; North Yonkers Community Church, Hastings-on-Hudson, NY 10:30 am
Tallis, *Lamentations*; Church of the Advent, Boston, MA 11 am
George W. Decker; All SS Church, Worcester, MA 8 pm
Brahms, *Requiem*; Madison Ave Presbyterian, New York, NY 4 pm
Joshua Singer; St Thomas Church, New York, NY
Bruce Neswick; Christ & St Stephen's, New York, NY 10:40 am
Bach Society of Baltimore; St Bartholomew's Church, Ten Hills, MD 4 pm
James Dale, Bach Birthday Concert; US Naval Academy, Annapolis, MD 3 pm
Brahms, *Requiem*; First Presbyterian, Naples, FL 4:30 pm
Atlanta Bach Choir, "Bach Around the Clock"; Druid Hills Presbyterian, Atlanta, GA 2-10 pm
Karel Paukert; Cleveland Museum of Art, Cleveland, OH 2 pm
Pennsylvania Boys Choir; St Paul's, Indianapolis, IN 8 pm
Cathedral Choir with orchestra; St James Cathedral, Chicago, IL 4 pm
Bach, *St Mark Passion*; Trinity Episcopal, Wheaton, IL
Roy F. Kehl, St Michael"s, Barrington, IL 3:30 pm
*Children's Choir Festival; Charleston Community Church, Charleston, IL 1:30 pm

21 MARCH

*__Marilyn Keiser__ (workshop); First Baptist, High Point, NC 7-10 pm

22 MARCH

Bach Birthday Concert; Cathedral of the Incarnation, Garden City, NY 8 pm
*__Robert Gonnella__; Arch Street Presbyterian, Philadelphia, PA 12:05 pm
*__Marilyn Keiser__; First Baptist, High Point, NC 8 pm
David Schrader; Trinity Episcopal, Toledo, OH 8 pm
Henry Lowe; Christ Church, Cincinnati, OH 12:10 pm
Bach, *St Mark Passion*; Church of Our Saviour, Chicago, IL
Robert Lodine; The Chicago Temple, Chicago, IL 12:10 pm

23 MARCH

Marian Van Slyke (with soprano); Trinity Church, Newport, RI 12:15 pm

24 MARCH

John Rose; First United Methodist, Gainesville, GA 8 pm

25 MARCH

Suzanne Felber; St. Luke's Cathedral, Portland, ME 12:10 pm
+ **Thomas Richner**; Lyme Congregational, Lyme, NY 8 pm
Bach, *St Matthew Passion*; Coral Ridge Presbyterian, Ft Lauderdale, FL 8 pm (also March 26)
Louis Patterson; Fourth Presbyterian, Chicago, IL 12:10 pm

27 MARCH

Byrd, *Mass for 5 Voices*, Church of the Advent, Boston, MA 11 am
Bach, *Cantata 182*; Holy Trinity Lutheran, New York, NY 5 pm
Robert M. Helmschrott; St Thomas Church, New York, NY
Bach, *St John Passion*; St Bartholomew's, New York, NY 4 pm
Handel, *Messiah* (Parts 2 & 3); Trinity Church, Newport, RI
Gillian Weir; National City Christian, Washington, DC 4 pm
John Rose; First United Methodist, Brevard, NC 4 pm
John A. Davis, Jr.; Trinity Lutheran, Lancaster, PA 5 pm
Karel Paukert; Cleveland Museum of Art, Cleveland, OH 2 pm
Laurence Jenkins; Cathedral of St Philip, Atlanta, GA 5 pm
John G. Schaeffer; First Congregational, Columbus, OH 8 pm
Macalester Concert Choir; First Presbyterian, Ft. Wayne, IN
Robert Glasgow; The Chicago Temple, Chicago, IL 12:10 pm
Robert Glasgow; First Methodist, Chicago, IL 4 pm
Bach, *Mass In B Minor*; Univ of Chicago, Chicago, IL 3 pm
*Children's Choir Workshop; Central Community Church, Mattoon, IL

29 MARCH

Hutton School Chamber Choir; St Paul's Cathedral, Buffalo, NY 8 pm
Bach, *St John Passion*; Holy Trinity Lutheran, New York, NY 8 pm
John Rose; Western Carolina Univ, Cullowhee, NC 8 pm
Raymond Horsley; The Chicago Temple, Chicago, IL 12:10 pm

31 MARCH

Byrd, *Mass for 5 Voices*; Church of the Advent, Boston, MA 6:30 pm
Josquin, *Missa Pange Lingua*; St Ignatius, New York, NY 11 am

1 APRIL

Sowerby, *Forsaken of Man*; North Yonkers Community Church, Hastings-on-Hudson, NY 8 pm
Schuetz, *St John Passion*; Christ & St Stephen's, New York, NY 12 pm
William Kilmas (Tournemire, *Sept Paroles du Christ*); Trinity Cathedral, Trenton, NJ 12 noon
Brahms, *Requiem*; Fourth Presbyterian, Chicago, IL 7:30 pm
Duruflé, *Requiem*; House of Hope Presbyterian, St Paul, MN 1 pm

3 APRIL

Isaac, *Missa Paschale*; St Ignatius, New York, NY 11 am
Judith Hancock; St Thomas, New York, NY
Bruce Neswick, with brass; Christ & St Stephen's, New York, NY 10:40 am
Karel Paukert; Cleveland Museum, Cleveland, OH 2 pm

4 APRIL

Weinberger, *The Way to Emmaus*; Princeton Theological Seminary; Princeton, NJ 7:30 pm

5 APRIL

* **William Klimas**; First Unitarian, Philadelphia, PA 12:05 pm
Gerre Hancock; St Paul"s Cathedral, Pittsburgh, PA 8:30 pm
Philip Enge; Eastern Illinois Univ, Charleston, IL 8 pm

6 APRIL

Charles Tompkins; Carroll College, Waukesha, WI 8 pm

7 APRIL

Richard Morgan; St Paul's Chapel, Columbia Univ, New York, NY 12 noon

8 APRIL

Simon Preston; First Presbyterian, Germantown, PA

9 APRIL
Paul Danilewski; Longwood Gardens, Kennet Square, PA 2 pm (also 10 April)
Gillian Weir, workshop; United Church on the Green, New Haven, CT 10 am

10 APRIL
Gillian Weir; United Church on the Green, New Haven, CT 4 pm
John Rose; Trinity College, Hartford, CT 3 pm
Daniel Beckwith; St Bartholomew's, New York, NY 4 pm
Lotti, *Missa brevis*; St Ignatius, New York, NY 11 am
Simon Preston; Park Avenue Christian, New York, NY 2:30 pm
Paul Jacobson; St Thomas, New York, NY
Marilyn Keiser; St Paul's Parish, Washington, DC
Donald Sutherland; Camp Hill Presbyterian, Camp Hill, PA 7:30 pm
Carol Teti, with brass; St Paul's Monastery, Southside, PA 8 pm
Steven McConnell; Cathedral of St Philip, Atlanta, GA 5 pm
Michael Radulescu; Cleveland Museum, Cleveland, OH 2 pm
+ **Larry Smith**; Immanuel Lutheran, Valparaiso, IN 7 pm

11 APRIL
Donald Sutherland, Phyllis Bryn-Julson; Christ's Church, Baltimore, MD 8 pm

12 APRIL
Todd & Anne Wilson; Bucknell Univ, Lewisburg, PA 8 pm
* **Tony Ciucci**; First Unitarian, Philadelphia, PA 12:05 pm
Simon Preston; First Presbyterian, Columbus, GA 8 pm
* **Joan Lippincott**; St Paul's Episcopal, Indianapois, IN 8 pm
Gerre Hancock; St Peter's Episcopal, Chicago, IL

13 APRIL
Cathy Nardiello; St John's Church, Washington, DC 12:10 pm

14 APRII
Robert Gallagher; St Paul's Chapel, Columbia Univ, New York, NY 12 noon

15 APRIL
* **Gerre Hancock**; St John's Parish, Waterbury, CT
* **Gillian Weir**; Oak Park United Church, Oak Park, IL 8 pm

16 APRIL
William Albright; United Methodist, Red Bank, NJ 3 pm
Bach Society of Baltimore; Corpus Christi Church, Bolton Hill, MD 8 pm
+ **Todd Wilson**; St John's Episcopal, Hampton, VA 7 pm
Frederick Swann, workshop; Christ Church Cathedral, New Orleans, LA

17 APRIL
* **James Moeser**; Trinity Methodist, Albany, NY
David Craighead; Park Central Presbyterian, Syracuse, NY 8 pm
Walter Hilse; The Presbyterian Church, Rye, NY 4 pm
James Litton; St Bartholomew's, New York, NY 4 pm
Donald Joyce, Poulenc Organ Concerto; Holy Trinity Chapel, New York, NY 5 pm
Reginald Lunt; St Thomas, New York, NY
Dufay, *Missa Se la face ay pale*; St Ignatius, New York, NY 11 am
Bruce Neswick; Christ & St Stephen's, New York, NY 1 pm
William Albright; United Methodist, Red Bank, NJ 4 pm
US Naval Academy Chapel Choir; St John's Church, Washington, DC 11 am
Fred Gramann; Bradley Hills Presbyterian, Bethesda, MD 4 pm
David Hurd; Union Baptist, Baltimore, MD 4 pm
Bach Society of Baltimore; Our Lady of Perpetual Help, Woodlawn, MD 8 pm
+ **Todd Wilson**; St John's Episcopal, Hampton, VA 7 pm
Judith Hancock; Good Shepherd Lutheran, Lancaster, PA 8 pm
Karel Paukert; Cleveland Museum, Cleveland, OH 2 pm
Roberta Gary; North Presbyterian, Cincinnati, OH 4 pm
McNeil Robinson; Seventh-Day Adventist, Kettering, OH 8 pm
Gilian Weir; Immanual Lutheran, Grand Rapids, MI 4 pm
Children's Choir Concert; Second Presbyterian, Indianapolis, IN 8 pm
Frederick Swann; Christ Church Cathedral, New Orleans, LA 4 pm

18 APRIL
* **Gillian Weir**, masterclass; Immanuel Lutheran, Grand Rapids, MI 8 pm

19 APRIL
* **John Obetz**; Ginter Park Presbyterian, Richmond, VA 8 pm
* **Gene Paul Strayer**; First Unitarian, Philadelphia, PA 12:05 pm
Frederick Swann; D.H. Clark residence, Monroe, LA 8 pm

20 APRIL
Philip Crozier; St John's Church, Washington, DC 12:10 pm
Clyde Holloway; First Presbyterian, Philadelphia, PA
* **Gillian Weir**, masterclass; Second Presbyterian, Baltimore, MD 8 pm

21 APRIL
Edward Parmentier, harpsichord; Old West Church, Boston, MA 8 pm
Renee Barrick; St Paul's Chapel, Columbia Univ, New York, NY 12 noon
Marilyn Keiser; First Presbyterian, Dalton, GA 8 pm
Guy Bovet (with masterclass); Eastern Illinois Univ, Charleston, IL (also 22 April).

22 APRIL
* **Gillian Weir**; Cathedral of Mary our Queen, Baltimore, MD 8 pm
Frederick Swann; Key Biscayne Presbyterian, Key Biscayne, FL 8 pm
Berlioz, *Te Deum*, with orchestra; Christ Church, Cincinnati, OH 8 pm
David Hurd; Metropolitan Methodist Church, Detroit, MI 8 pm
* **Cherry Rhodes**; St Paul's Episcopal, Milwaukee, WI 8 pm

23 APRIL
* **McNeil Robinson**, masterclass, First United Methodist, Schenectady, NY 1 pm
Joan Lippincott; First Congregational, Westfield, MA 8 pm
James Litton, Children's Choir Workshop; St Paul's Church, Clifton, NJ (through 24 April)
Liszt, Brahms, Beethoven, *Symphony 9*, with orchestra; US Naval Academy, Annapolis, MD 3 pm

24 APRIL
McNeil Robinson; First United Methodist, Schenectady, NY 7:30 pm
* **Eileen Hunt**; St Mark's, New Canaan, CT 3 pm
Monteverdi, *Missa Tu es pastor ovium*; St Ignatius, New York, NY 11 am
Catharine Crozier; St Bartholomew's, New York, NY 4 pm
Jerry A. Hohnbaum; St Thomas, New York, NY
Univ of Maryland Chorale; St Margaret's Episcopal, Washington, DC 5 pm
Children's Choir Festival; First Presbyterian, Naples, FL 4:30 pm
John Rose; Third Presbyterian Pittsburgh, PA 4 pm
Frederick Swann; Northside United Methodist, Atlanta, GA 5 pm
Florence Hiatt; Cathedral of St Philip, Atlanta, GA 5 pm
Rossini, *Messe Solennelle*; All Saints Church, Atlanta, GA 3 pm
Todd & Anne Wilson; Cleveland Museum of Art, Cleveland, OH 2 pm
Handbell Concert; Church of the Covenant, Cleveland, OH 4 pm
Christoph Albrecht; First Congregational, Columbus, OH 8 pm
Greg Funfgeld; Fourth Presbyterian, Chicago, IL 6:30 pm
Nancy Lancaster; House of Hope Presbyterian, St Paul, MN 4 pm
Simon Preston; Grace & Holy Trinity Cathedral, Kansas City, MO 5 pm

25 APRIL
Mendelssohn, *St Paul*; Princeton Theological Seminary, Princeton, NJ 7:30 pm
John Rose; Central Christian, Warren, OH 8 pm

26 APRIL
* **Roger Allen**; First Unitarian, Philadelphia, PA 12:05 pm
Competition Winner; First Presbyterian, Ft Wayne, IN 8 pm

27 APRIL
Albert Russell; St John's Church, Washington, DC 12:10 pm

28 APRIL
David Shuler, with trumpet; St Paul's Chapel, Columbia Univ, New York, NY 12 noon

See notice of new closing date on page 24.

Calendar

29 APRIL
Clarence Watters; Trinity College, Hartford, CT 8:15 pm
Thomas Richner; First Church of Christ, Scientist, Montclair, NJ 8 pm
* **John Rose**; First Lutheran, Jamestown, NY 8 pm
Leo Abbott; St John's Lutheran, Allentown, PA 8 pm

30 APRIL
New York Choral Society; Carnegie Hall, New York, NY 8 pm

UNITED STATES
West of the Mississippi

16 MARCH
***John Rose**; The Mormon Tabernacle, Salt Lake City, UT 8 pm

18 MARCH
Brahms, *Requiem*; St John's Cathedral, Denver, CO 8 pm
Heinz Wunderlich; Crystal Cathedral, Garden Grove, CA 8 pm
Beth Zucchino; First Presbyterian, Santa Barbara CA 12:00 noon
***Alice Rucker**; Our Lady of Lourdes, Northridge CA 11:30 am

20 MARCH
David Spicer, Vaughan Williams, Durufle (with choir & orchestra); First Presbyterian, Lincoln, NE 3:45 pm
Children's Choir Festival; St John's Cathedral, Denver, CO 2 pm
Texas Bach Choir; St Luke's Episcopal, San Antonio, TX 4 pm
McNeil Robinson; Sacred Heart Church, Coronado, CA 4 pm
***Margaret Long Crouch**, harpsichord; Grace Lutheran, Santa Barbara, CA 4 pm

22 MARCH
National MTNA Collegiate Organ Auditions; First Methodist, Houston, TX 9 am

23 MARCH
Oswald Ragatz, MTNA Lecture; First Methodist, Houston, TX 3 pm
Philip Gehring, MTNA winner; First Methodist, Houston, TX 4 pm
Beth Zucchino; First Presbyterian, Oceanside, CA 12:10 pm

24 MARCH
Philip Gehring, MTNA Lecture; First Methodist, Houston, TX 3 pm
Oswald Ragatz, Clyde Holloway; First Methodist, Houston, TX 4 pm

25 MARCH
Bach Birthday Concert; St John's Cathedral, Denver, CO 8 pm
Clyde Holloway, MTNA Lecture; First Methodist, Houston, TX 10:30 am
***Eleanor Hammer**; Our Lady of Lourdes, Northridge, CA 11:30 am
Cherry Rhodes, Ladd Thomas; Crystal Cathedral, Garden Grove, CA 8 pm

27 MARCH
Odile Pierre; University United Methodist Temple, Seattle, WA 8 pm

29 MARCH
Handel, *Messiah Part 2*; St Paul the Apostle Church, Los Angeles, CA 8 pm

31 MARCH
Michael W. Lindner; SMU, Dallas, TX 3:30 pm

1 APRIL
Beth Zucchino; All Saints Episcopal, Beverly Hills, CA 12 noon

2 APRIL
Gillian Weir; Bethany College, Lindsborg, KA 8 am (masterclass at 10 am)

8 APRIL
Frederick Swann; First United Methodist, Palo Alto, CA

10 APRIL
Bach Festival; First Presbyterian, Lincoln, NE 2-8 pm
Gerre Hancock; First Presbyterian, Bartlesville, OK 4 pm
Chico State Univ Chorus, with brass; St John's Catholic Church, Chico, CA 7:30 pm

11 APRIL
* **David Britton**; First Presbyterian, Granada Hills, CA 8:15 pm

12 APRIL
* **John Obetz**; St Mark's Episcopal, Little Rock AR 8 pm

13 APRIL
Frederick Swann; Northwestern State Univ, Natchitoches, LA 8:30 pm

14 APRIl
Frederick Swann; workshop; Northwestern State Univ, Natchitoches, LA 10-12 am

15 APRIL
* **Robert Glasgow**; All Souls Episcopal, Oklahoma City, OK 8 pm
* **Larry Smith**; St Philip Presbyterian, Houston, TX 8 pm
Simon Preston; Crystal Cathedral, Garden Grove, CA 8 pm
Michael Radulescu; First Congregational, Los Angeles, CA 8 pm
Bach, *B Minor Mass*; Chandler Pavilion, Los Angeles, CA 8:30 pm

16 APRIl
* **Robert Glasgow**, workshop; All Souls Episcopal, Oklahoma City, OK 10 am

17 APRIL
Simon Preston; Grace Cathedral, San Francisco, CA 5 pm
Mendelssohn, *Elijah*; La Jolla Presbyterian, La Jolla, CA 7:30 pm
Theodore Johnson; St Cross Episcopal, Hermosa Beach, CA 4 pm
Samuel Swartz; Immanuel Presbyterian, Los Angeles, CA 4 pm

18 APRIL
* **Larry Smith**; First Presbyterian, Fort Worth, TX 8 pm
Simon Preston; Pacific Union College, Angwin, CA

21 APRIL
* **Todd Wilson**; First Presbyterian, Dallas, TX 8 pm

22 APRIL
* **Simon Preston**; St John's Cathedral, Denver, CO 8 pm

24 APRIL
* **Larry Smith**; University Christian, Des Moines, IA 3 pm

25 APRIL
Simon Preston; First United Methodist, Lubbock, TX 8 pm

26 APRIL
Randal McGlade, harpsichord; SMU, Dallas, TX 8:15 pm

27 APRIL
Simon Preston; Trinity Univ, San Antonio, TX 8 pm
* **Christa Rakich**; St Mark's Cathedral, Seattle, WA
* **Janet Krellwitz**; First Presbyterian, Garden Grove, CA 8 pm

30 APRIL
* **Christa Rakich**, masterclass; St Mark's Cathedral, Seattle, WA

INTERNATIONAL

20 MARCH
****Odile Pierre**; Robertson-Wesley United Church, Edmonton, Alberta, Canada 3 pm

23 MARCH
** **Odile Pierre**; Univ of British Columbia, Vancouver, BC 8 pm

1 APRIL
Bach, *St Matthew Passion*; St George's United Church, Toronto, Ontario, Canada 7:30 pm

23 APRIL
** **Marilyn Mason**, masterclass; Central Presbyterian, Hamilton, Ontario, Canada 10 am
** **Marilyn Mason**; Wellington Square United Church, Burlington, Ontario, Canada 7;30 pm

24 APRIl
** **Gordon Stewart**; Robertson-Wesley United Church, Edmonton, Alberta, Canada 3 pm

The new closing date for calendar dates to be published in THE DIAPASON is the first (1st) day of the preceding month, for the next month's issue (April 1st for the May issue, etc.).

CLASSIFIED ADVERTISEMENTS

Classified advertising rates will be found on page 26.
Replies to box numbers should be sent c/o The Diapason, 380 Northwest Highway, Des Plaines, IL 60016.

POSITIONS AVAILABLE

ASSISTANT ORGANIST, COLLEGE CHAPEL. Excellent opportunity for gifted college student. Fine Aeolian-Skinner organ. Assist with weekly non-denominational service, accompany choir; excellent performance possibilities. Preference given to student in the B.A. program majoring in organ and church music. Contact: Alexander Anderson, Box 2643, Rollins College, Winter Park, FL 32789.

EXPERIENCED ORGAN BUILDER. APPLICANT must be capable of producing first-class work in all phases of new organ construction. Great opportunity for the right person. Harris Organs, Pipe Organ Builder, 7047 S. Comstock Av., Whittier, CA 90602.

WANTED—PIPE ORGANS

USED PIPE ORGAN WANTED. SEND SPECIFICAtion and price. Address D-4, THE DIAPASON.

PIPE ORGAN FOR EDUCATIONAL PURPOSES wanted. Any condition. Will pick up or remove. Must be very inexpensive. Brown, P.O. Box 322, Churchton, MD 20733.

WANTED—MISCELLANEOUS

WISH TO OBTAIN ORIGINAL OR PHOTOCOPY of October 1893 issue of The Organ, and published index to Volume 2. Please advise price. Douglas R. Carrington, Editor, The Organ, 84 Park View Rd., Lytham St. Annes, Lancs. England, FY8 4JF.

COMBINATION ACTION: REISNER, TYPE RR REmote capture or similar, to operate about 12 stops from 12 pistons. P. Coats, 8 Dorothy Pl., Berkeley, CA 94705. (415) 841-1134.

E.M., OR AEOLIAN-SKINNER FOUR MANUAL console capable of accommodating approximately 100 ranks. A. Thompson-Allen Co., 11 Court St., New Haven, CT 06118. (203) 787-0786.

EVERETT ORGATRON ELECTROMAGNETIC console, schematics, service notes, etc. for restoration. S.C. Bear, 6558 Cedar Av., Pennsauken, NJ 08109. (609) 662-9315.

MUSIC ROLLS FOR ANY PIPE ORGAN PLAYERS. Other rolls too. W. Edgerton, Box 88, Darien, CT 06820.

MUSIC ROLLS FOR AEOLIAN DUO-ART, WELTE and Skinner Automatic Pipe Organ Players. J.V. Macartney, 406 Haverford Av., Narberth, PA 19072.

AEOLIAN-SKINNER METAL PEDAL 16′ BOMbarde, 56 pipes or 32′, 68 pipes, medium scale. Also chests for same. Dr. A. W. Yeats, 725 Adams, Beaumont, TX 77705. (713) 833-5205.

MISCELLANEOUS

REALIZING ALCOHOLISM RUNS RAMPANT through our profession, any recovering alcoholic wishing to help form support group write: Bill B., Box 1231, Kinston, NC 28501.

MASTER ORGAN BUILDER WITH 16 YEARS experience wants to talk to potential investors and customers about establishing his own workshop for the construction of high quality tracker organs. For information: Address MR-1, THE DIAPASON.

VIRTUOSO TRUMPET SOLOIST, MAGNIFICENT effect!—with organ, chorus, or vocalists. Services or concerts. Extensive baroque repertoire, including Bach cantatas. Michael Schuman, 198 Douglas Rd., Staten Island, NY 10304. (212) 448-0127.

THE NEW 7-OCTAVE PETERSON CHROMATIC tuner, model 320, is now available from stock. Continuously variable Vernier control allows you to compensate for temperature or tune celeste ranks with ease. For more details: Peterson Electro-Musical Products, Dept. 31, Worth, IL 60482.

BUSINESS OPPORTUNITY

PROFITABLE MIDWEST SERVICE/REPAIR/REbuilding business for sale. Business is over 50 years old. Please, serious inquiries only. Address OC-3, THE DIAPASON.

PUBLICATIONS & RECORDINGS

CONTINUO: THE EARLY MUSIC JOURNAL OF North America. Published 11 times yearly. Write for your free copy. Continuo, 6 Dartnell Av., Toronto, Ont., Canada, M5R 3A4.

REPRINT OF HISTORIC ORGAN BROCHURE OF one-manual organs built by Marshall & Odenbrett of Ripon, Wisconsin, 19th Century. Send SASE and 25¢ in stamps or coin to: Susan Friesen, Editor, The Stopt Diapason, 2139 Hassell Rd., Hoffman Estates, IL 60195.

BOOKS ON ORGAN BUILDING, ACOUSTICS, etc. Good used rare, including original Audsley, Robertson, Ellerhorst. Send SASE for list. Paul Koch, 5 Ellsworth Ter., Pittsburgh, PA 15213.

HARPSICHORD MUSIC, SOLO AND ENSEMBLE. Best editions from U.S. and European publishers. Also books on history, performance. Write for free catalogue. Zuckermann Harpsichords, Inc., Box 121-D, Stonington, CT 06378.

ANGLICAN BOOKS, OUT-OF-PRINT: MUSIC, HIStory, liturgics, worship—bought and sold. Send $1 for catalog. The Anglican Bibliopole, RD 3, Box 116f, Saratoga Springs, NY 12866. (518) 587-7470.

PUBLICATIONS & RECORDINGS

A COMPLETE LISTING OF ALL AVAILABLE back-numbers of THE DIAPASON is now available. Many from the 1930's on, and some older issues may also be obtained for your personal or library collection. Send SASE to: The Organ Historical Society, Box 26811, Richmond, VA 23261.

ORGAN MUSIC CATALOGS OF THEODORE Presser and Novello companies available at no charge. Biggs, Ed. Bornemann, Dupre, Elgar, Langlais, Messian, Persichetti, many more. Write: Dept. DXC, Theodore Presser Company, Bryn Mawr, PA 19010.

THE ORGAN LITERATURE FOUNDATION, world's largest supplier of organ books and recordings, offers a catalogue listing 1,100 plus items, at $1.00 or 4 international reply coupons (refundable with first order). Write to: The Organ Literature Foundation, 45 Norfolk Rd., Braintree, MA 02184.

THE STOPT DIAPASON, A BI-MONTHLY PUBLIcation features illustrated articles regarding vintage organs in the midwest. Special articles deal with little-known, but extant instruments and their builders, as well as similar articles regarding organs that no longer exist. Published information is well-researched. Subscription only $8 per year. Checks made payable to Chicago-Midwest OHS. Address orders with remittance to: Susan Friesen, Editor, The Stopt Diapason, 2139 Hassell Rd., Hoffman Estates, IL 60195.

HARPSICHORDS

PLEYEL HARPSICHORD, 2 MANUALS, THREE choirs, six pedals, nazard and lute. As is. Make offer. Joseph Chapline, 624 W. Upsal St., Philadelphia, PA 19119. (215) 849-3333.

YVES A. FEDER HARPSICHORDS, CUSTOM instruments and reconditioning work. Authorized Agent Zuckermann kits sold at factory direct prices. Assistance to kit builders. North Chestnut Hill, Killingworth, CT 06417.

FLOWER YOUR HARPSICHORD SOUNDBOARD with authentic decorations. Ruckers-type birds, bees, flowers, $35. Early 18th C. French, $40. Full-size layout and complete instruction manual. Shirley Mathews, Box 401, South Street, Freeport, ME 04032.

HARPSICHORD OWNERS: A FULL LINE OF AUdio and visual chromatic tuners is now available to help you with your tuning requirements. For more information write: Peterson Electro-Musical Products, Dept. 20, Worth, IL 60482.

SPERRHAKE HARPSICHORDS AND CLAVIchords. Excellent, dependable, beautiful. Robert S. Taylor, 8710 Garfield St., Bethesda, MD 20034.

DOWD ITALIAN HARPSICHORD, 1966, 2X8, buff, transposer. Oiled walnut finish, excellent condition, Write: 3432 Cummings, Eau Claire, WI 54701. After 5 pm CST call (715) 834-5578.

NEW, TRANSPOSING, FLEMISH SINGLE MANUal harpsichord, after John Bull of Antwerp. Wooden Jacks, registration: 8, 8, 4. Painted case, turned cherry stand. $5,000, Canadian. Harvey Fink, RR 5, Cobourg, Ontario, Canada K9A 4J8. (416) 372-9942.

FLEMISH SINGLE, NEW, GG-D^3, 8′ AND 4′, WITH soundboard painting and handmade flemish-style papers. $5500. Richard Thomas, 4 Clyth Dr., Wilmington, DE 19803. (302) 478-0570.

HARPSICHORDS, CLAVICHORDS BY NEUPERT, world's finest, oldest maker. Catalogs on request. Magnamusic, Sharon, CT 06069.

BURTON HARPSICHORDS, SPINETS AND CLAVIchords. Professional instruments in kit form from $195. For brochure, write: Burton Harpsichords, 727 "R" St., P.O. Box 80222D, Lincoln, NE 68508.

HARPSICHORDS, CLAVICHORDS, FORTEPIAnos. Custom instruments and kits. Write for free brochure. Zuckermann Harpsichords Inc., Box 121-D, Stonington, CT 06378.

HARPSICHORDS, PEDAL HARPSICHORDS, clavichords custom made. Jan H. Albarda, 14 Princess St., Elora, Ont. Canada N0B 1S0.

PIANOFORTE

KAWAI PROFESSIONAL PIANOS. NEW, FACTOry warrantee. Large discount to A.G.O. members and churches. Information and brochures: 6907 Highway 36, Freeport, TX 77541. (713) 233-5956.

FOR SALE—PIPE ORGANS

2-MANUAL PILCHER, 9-RANKS, LATE 1920 with 1965 Reisner console. Includes 9 ranks of manual pipes. Great and Swell chests, plus one unit chest of 61 notes, main reservoir and blower. Does not include rectifier, chimes, main legs and berers and 16′ Bourdon pipes and chest. Buyer to remove. Available in late February or March. $1000 or negotiable. St. Paul's Episcopal Church, Batesville, AR. (501) 793-2203.

WICKS ORGAN, 1937 MODEL IN EXCELLENT condition. 3 ranks of pipes and chimes. Wittich-Lewis Funeral Home, 210 Cedar St., Muscatine, IA 52761. (319) 263-8112.

6-RANK 1974 2-MANUAL, SWELL SHADES, solid cherry console, suitable for small church. Now playing residence, $22,000. Leading organ builder will reinstall if desired. Ralph Brown, 1058 Pittsford-Mendon Rd., Pittsford, NY 14534. (716) 624-1438.

POSITIVE AND PORTATIVE ORGANS. WE MAKE instruments in the Baroque and Medieval traditions to your specification. For further information, please write: Paul F. Martin Organs, P.O. Box 6, Mansfield, Ontario, Canada L0N 1M0.

NOEL MANDEL OFFERS MEDIEVAL PORTAtives, £825. Two fine early ninteenth century chamber organs, £6000 and £9000 and one by Green, about 1770, £10,000. All ex. works. Those interested, please send five dollar bill. Noel Mander. St. Peter's Organ Works, London E2, England.

INTERESTED IN A SMALL TRACKER ORGAN? For free literature, contact Klug & Schumacher, Inc., 3604 Waterfield Pkwy, Lakeland, FL 33801. (813) 665-4802.

2-MANUAL, 8-STOP ESTEY PIPE ORGAN, OPUS 2271, ca. 1900. Pneumatic action, re-tubed by Walker and Cole ca. 1955. Blower included, no case. 30-note radiating, concave pedalboard. Completely dismantled and stored in Charlton, MA. $5,000. Dr. Carl Russo, 8 Herrick Dr., Ipswich, MA 01938. (617) 356-5929.

4-RANK POSITIV ORGAN, AVAILABLE IMmediately. Easily portable. Ideal for small church. (614) 592-4382.

1893 C.S. HASKELL TRACKER ORGAN, 2 manuals, 20 ranks. Will rebuild and install. For details write: Brunner & Heller Organbuilders, Box 66, Marietta, PA 17547. (717) 426-2310.

1913 E.M. SKINNER, 4 MANUALS, 58 RANKS, Moller console. Contact: Nancy Lancaster, House of Hope Presbyterian Church, 797 Summit Av., St. Paul, MN 55105. (612) 227-6311.

THEATRE ORGANS

3-MANUAL, 14-RANK WURLITZER. IS NOW playing. Jim Sandling, (713) 947-2944.

WURLITZER AND OTHER THEATER ORGAN pipes, chests, including 3-manual console and relays, Barton wood bar Marimba Harp, New toy counter, Wurlitzer "D" Trumpet, Tibia, metal Saxophone, Morton Clarinet, Vox, many tremulants. Items described, but not priced, and will go to best offer or will trade. SASE to: Weldon Flanagan, 2613 Webster Ct., Plano, TX 75075. (214) 596-2632.

NEW: MIGHTY WURLITZER RECORD WITH Rosemary Bailey. Terrific!! $10 p.p. Wallyn Ent., 2736 Hollyridge Dr., Hollywood, CA 90068.

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REPLACEMENT REEDS AVAILABLE FOR USE in parlour reed organs. Send inquiry to: Paul W. Toelken, Box 5017, Prescott Valley, AZ 86312.

FOR SALE—ELECTRONIC ORGANS

95 ALLEN, CONN, BALDWIN AND HAMMOND Church organs, 400 grands, $1000 and up. Victor, 300 NW 54th St., Miami, FL 33127. (305) 751-7502.

1976 ALLEN MODEL 122C ORGAN WITH 412F external flute cabinet and other extras. Gilbert Stoeber, 473 College Hwy., Box 63, Southwick, MA 01077. (413) 569-6910.

IMPORTANT NOTICE

The new closing date for classified advertisements to be published in THE DIAPASON is the first (1st) day of the preceding month, for the next month's issue (April 1st for the May issue).

CLASSIFIED ADVERTISEMENTS

Classified advertising rates will be found below.
Replies to box numbers should be sent c/o The Diapason, 380 Northwest Highway, Des Plaines, IL 60016.

FOR SALE—MISCELLANEOUS

CUSTOM KEYBOARD ASSEMBLIES IN ANTIQUE styles; split sharps, nonstandard measurements. SASE to: Keyboards, 50 Columbia St., Newark, NJ 07102.

USED ELECTRIC CONSOLES, SWELL FRAME and motor, pipes (metal, wood and reed). Andover Organ Company, Inc., P.O. Box 36, Methuen, MA 01844.

THEATRE ORGAN PARTS: PIPES, CHESTS, percussions, etc. Send SASE to: Carlton B. Smith, 3704 N. Pennsylvania St., #3, Indianapolis, IN 46205.

WURLITZER 3-MANUAL CONSOLE. REBUILT and refinished. $5,500 firm, FOB Lexington, KY. Send SASE for information to: Carlton B. Smith, 3704 N. Pennsylvania St., #3, Indianapolis, IN 46205.

"ORGANISTS PLAY GREAT AND SWELL." New T-shirts, posters, bumperstickers for organists, teachers, musicians! Write for free brochure. Workbooks, Department R, P.O. Box 8504, Atlanta, GA 30306.

4 RANKS OF PIPES: 16′ STOPPED GEDECKT (97), 4′ Principal (73), 2-2/3′ (73), 1-3/5′ (61), 1-7/8 inches wind. Two keyboards, Klann pedalboard (new), vertical pallet magnets, B.O.B. Blower, regulator. J.H.T., 1341 La Loma Dr., Santa Ana, CA 92705. (714) 730-5141.

WURLITZER PIPES: 8′ DIAPASON (61), $300; 8′ Leathered Diapason (84), $300; 4′ Octave (73), $200; 8′ Salicional (85), $300; 4′ Celeste (73), $200; 8′ Stopped Flute (85), $300; two 4′ Open Flutes (73), $100 each; 8′ Tuba (73), $500. Highest bidder. Gesu Church, 17204 Oak Dr., Detroit, MI 48221. (313) 862-4400.

44-NOTE PEDAL BOURDON WITH CHESTS. also six rank Moller unit chest and bottom octave, 8′ Open Diapason. All in good condition. Must sell, best offer. SE PA. (717) 394-4261.

SLIMLINE STEEL BENCHES, CUSTOM CHESTS and regulators, new wood pipes. John R. Ross, P.E., 223 Linda Ln., Duncanville, TX 75137. (214) 298-4288.

1952 CASAVANT CONSOLE, 3 MANUAL DRAWKNOB. Built originally for 35 ranks. Ivory keys. Entirely releathered. Ideal for small instrument or expansion to 3-manual design. Colonial style with walnut caps and eggshell white side and rear panels. Finish renewed. For further details contact: John Ferguson, (317) 894-1879. If no answer, call (317) 253-0144.

KILGEN ORGAN PARTS, CIRCA 1918. SPENCER blower, console, chests, reservoirs, some pipework, miscellaneous items. Send SASE to: Morel & Associates, 4221 Steele St., Denver, CO 80216

2000 RARE DECO PIANOS AND ORGANS. 400 grands and church organs. Victor's 300 NW 54th St., Miami, FL 33127. (305) 751-7502.

ORGAN PARTS FOR SALE: CHESTS, CONSOLES, reservoirs, pipework, and many miscellaneous components. Send SASE with your inquiry stating your specific needs. Sorry, no list. Sold as-is, or rebuilt to your requirements. Address D-2, THE DIAPASON.

TWO WURLITZER RELAYS, 3-10 AND 3-11; large-scale Vibraphone; d.c. generator; miles of organ cable; Pizzacato action; piano magnet action and more. G.T. Merriken, 2141 Briggs Chaney Rd., Silver Spring, MD 20904.

16′ DULZIAN, 68 PIPES, GIESECKE, 3″ w.p. (714) 624-0674.

ANTIQUE PLAYER ORGAN CONSOLE FROM Aeolian opus 1205. Built approximately 1912. Has tilting tablet stops, 30-note straight pedalboard. Player mechanism intact. Coupler chest and bench included. No pipes. Organ has been in church use last 5 years. Make an offer to: Violet E. Hill, 24649 Morton St., Dowagiac, MI 49047. (616) 782-2257.

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RELAY AND SWITCH STACKS, WIRED FOR six stops; ivory covered manual keyboards; solid-state couplers; remote combination action; tracker organ parts. All parts new, will consider offers. Bennett Organ Company, 11 N. 73rd Terr., Kansas City, KS 66111. (913) 299-0815.

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USED PIPES, CHESTS, CONSOLES AND MISCELLANEOUS equipment in good condition. Write: Box 2061, Knoxville, TN 37901.

KORG WT-12 CHROMATIC TUNER. 7-OCTAVE visual tuning range on lighted V-U meter: C#1 to C#8. 5-octave aural tuning: C#2 to C#7. Emits 2 volumes. Full calibration. Quartz crystal. Introductory offer, $135 ppd. ($230 list). Song of the Sea Dulcimers, 118 Ledgelawn, Bar Harbor, ME 04609. (207) 288-5653.

2-MANUAL AUSTIN CONSOLE IN EXCELLENT condition, 6-stop straight chest, 5-stop chest with duplex action, pedal valve actions, ¾ hp blower and some pipes. Good builder's project. C. Durham. (904) 575-2001.

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NEW ORGAN PIPES TO YOUR SPECIFICATIONS. James Morris Organ Pipe Co., RD 3, Box 53-B, Smithfield, PA 15478.

PIPE ORGAN REPAIR AND REBUILDING. Complete fabrication services. Engineering and drafting services. John R. Ross, P.E., 223 Linda Ln, Duncanville, TX 75137. (214) 298-4288.

NEW WOOD ORGAN PIPES, VOICED OR unvoiced. Fine workmanship. Artisan Builders, 806 N.P. Av., Fargo, ND 58102. (701) 293-8964.

CUSTOM-MADE WOODEN REPLACEMENT parts for consoles, actions. Vintage-looking finishes. Ebony-capped pedal sharps made to your pattern. Robert M. Raiselis, Cabinetmaker, RFD White River Junction, VT 05001. (802) 295-5850.

USED, REVOICED, CLASSIC PIPEWORK. Various registers offered for one-half price of new pipework. We will also revoice your romantic pipes on a time and materials basis. Contact: Schneider Orgelbau, Box 382, Niantic, IL 62551. (217) 668-2412.

TUNE EQUAL OR ANY HISTORICAL TEMPERAMENT with Widener Computer Tuner. Full details, write: Yves Albert Feder Harpsichords, Box 640, Killingworth, CT 06417.

ORGAN SERVICEMEN: WE WILL RECOVER Casavant and Skinner pouchboards, primary and offset actions. Write: Burness Associates, P.O. Box 344, Glenside, PA 19038.

NEW ORGAN PIPES, EXCELLENT WORKMANSHIP and expertly voiced. Formerly supervisor of Aeolian-Skinner pipeshop. Hans Rother, German Organ Pipecraft, 34 Standard St., Mattapan, MA 02126.

RECOVERING ANY TYPE OF POUCHES, pneumatics and primaries in leather. Reservoirs releathered also. Write: Eric Brugger Releathering Service, 1034 East 29th St., Erie, PA 16504.

RELEATHERING ANY TYPE POUCH, PNEUMATIC, bellows or action. Long years of experience and accurate workmanship. Jacob Gerger & Son, P.O. Box 245, Croydon, PA 19020. (215) 788-3423.

HARPSICHORD/ORGAN TUNER. SET ANY temperament automatically with AccuTone tuner. Prices discounted. Carl Dudash Harpsichords, 11 Jewel St., Enfield, CT 06082.

RESERVOIR SPECIALIST, RELEATHERING and Restoration. 20 years international experience. "That's right, Air Tight" Write: Keith P. Henderson, Air Tight Bellows Restorations, 4515 Merle Dr. B., Austin, TX 78745.

METAL ORGAN PIPES. FIRST CLASS WORKMANSHIP. Helmut Hempel Organ Pipes, 4144 W. 50th St., Cleveland, OH 44144.

"PIPE SHINE" CLEANS PIPES LIKE NEW. SASE for details: Rive, Inc., 811 Focis St., Metairie, LA 70005.

CLASSIFIED RATES

CLASSIFIED ADVERTISEMENT RATES

Regular classified advertising is single paragraph "want ad" style. First line only of each ad in bold face capital type.

Display classified advertisements are set entirely in bold face type with the first line in capital letters and the addition of a ruled box (border) surrounding the advertisement.

Regular Classified, per word	$ .30
Regular Classified minimum	5.00
Display Classified, per word	.40
Display Classified minimum	15.00
Additional to above charges:	
Box Service (mail forwarding)	2.50
Billing charge to non-established accounts (per insertion)	2.00

Closing Date (Classified): the first (1st) of the month for the next month's issue (Jan. 1st for the Feb. issue).

Non-subscribers wanting single copies of the issue in which their advertisement appears should include $2.00 per issue desired with their payment.

The Diapason reserves the right to designate appropriate classification for advertisments, and to reject the insertion of advertising deemed inappropriate to this magazine.

Murtagh-McFarlane Artists, Inc.

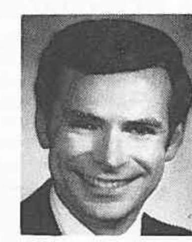
3269 West 30th Street
Cleveland, Ohio 44109
(216) 398-3990


William Albright


David Craighead


Gerre Hancock


Judith Hancock

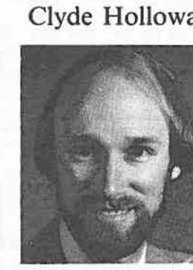

Clyde Holloway

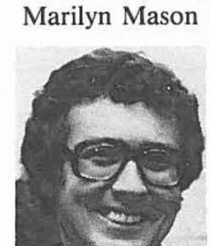

Marilyn Keiser

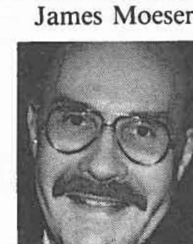

Joan Lippincott


Marilyn Mason


James Moeser


George Ritchie


Donald Sutherland


Frederick Swann


Ladd Thomas


John Weaver


Todd Wilson

European Artists Available 1983–1984


Peter Planavsky
Sept. 14–
Oct. 2


Daniel Roth
November

**Available Sept. 23–
Oct. 14, 1984**
Susan Landale/Petr Eben

Available in Future Seasons
Guy Bovet
Martin Neary
Simon Preston

All-Bach Concerts 1985
Lionel Rogg, March
Peter Hurford, April/May
Marie-Claire Alain, October