

# Strictly Instrumental

by K. Lenton-Smith

**T**HE piano, without which no home was complete several decades ago, is now becoming a rarity because of lack of living room space and other home entertainment attractions. This could be one of the reasons that the guitar is often the choice of younger members of the household.

For those wishing to take up a keyboard instrument, the Electric Piano is ideal as it occupies very little room.

## ELECTRIC PIANO

The majority of these instruments suffer from only one disadvantage musically in that the keyboard is usually a standard five octave (organ) manual, against the seven octaves of a conventional piano. Nevertheless, five octaves are probably sufficient for performing many piano pieces. The cost of a compact electric piano may be well under £200 and, with pre-amplified output, it is small enough to be easily carried in one hand.

The percussive attack of a conventional piano will readily penetrate a semi-detached house's party wall: the volume of its electronic counterpart may be closely controlled. Ear-phones may be used for practising late in the evening. The electric piano allows changes of timbre, such as harpsicord, honky-tonk, etc.

Like the majority of commercial electronic organs, the generated waveform is square. The usual arrangement is a Hartley (sine wave) oscillator, followed by a series of Eccles-Jordan frequency dividers (square wave) for each of the 12 chromatic notes of the scale. The dividers are invariably integrated circuits as these are cheaper and smaller than discrete components and there is a saving in labour costs.

Piano tuners introduce small frequency variations to give an ordinary piano added brilliance: from middle "C", notes above are progressively sharpened slightly, those below flattened. A system of electronic frequency division—where tuning must be mathematically accurate—would thus not appear to be ideal. In practice, however, this discrepancy is not noticeable and, given a good amplification system (which could well be the domestic hi-fi), a most realistic piano results.

## KEYING METHODS

Diode-keying is normally used in electric pianos as this keying method can produce the attack/decay characteristics of a piano fairly closely. Keying transients are practically eliminated by diode-keying and precious metal keyswitches are not vital.

Some instruments employ a changeover keyswitch where a capacitor is kept charged while the key is at rest, depression of the key connecting the charged capacitor to the gating circuit. Filtering is required to round up the square waveform somewhat, usually in the form of a passive low pass filter for "piano" tone.

The keyboard may be split by a special control so that a "walking bass" may be played without drowning the melody line. The Italian-made "Instapiano" is an attractive example, retailing at about £160 before VAT. It measures approximately 48in x 10in x 4in.

## PLAYING TECHNIQUE

The electric piano has a number of advantages, not least that there is plenty of published piano music available. Though it may take a little getting used to, pianists have no difficulty in acustoming themselves to the electric piano.

Where two manuals and a pedal clavier are concerned, printed music is not so readily available—unless the player particularly likes Bach and Handel.

The pianist who turns to the organ has some formidable problems: as long as a note is held it will sound,

unlike the automatic decay of the piano/electric piano. Thus, attempting to play piano scores on an organ results in disaster—and what does one do with the pedals except "double" the left hand part?

Any constructional project is a challenge to get the beast working! Those who build musical instruments have a further challenge: they have to master the keyboard, and organists who like lighter music will find three-stave scores few and far between.

## CHORD SYMBOL BASIS

A number of readers will have built the P.E. Organ, or have access to an organ, and may have experienced difficulty buying music. The usual light music score includes the piano part, guitar symbols, vocal line and chord symbols; the last two are the important items for the organist. With practice, it is possible to play both manuals and pedals using this information only, on sight.

Memorising what each chord symbol involves might, at first, appear to be a mammoth task. Relatively few key signatures are used in popular music as the publishers have to bear in mind the transposing instruments (normally B flat and E flat) which may be involved. The same chords appear frequently and can be memorised as easily as the resistor colour code! But it must be admitted that the "bridge" often moves into a strange key and demands quick thinking.

The right hand part (melody) should be registered in a way that makes the tune fairly incisive; single notes are often sufficient and, where chords are used, the melody should still stand out.

The left hand part is the problem and should be considered along with the pedals; accompaniment registration should be quieter and less clear cut than the upper manual. The root of the chord symbol can be used for the pedal on the downbeats, at least for a start, alternating with the fifth (i.e., C—G) except where a diminished chord is indicated. The left hand plays the notes indicated by the chord symbol, according to the time signature and rhythm, using an "anchor note" if possible.



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