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MAGNETIC REPRODUCTION SYSTEM
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nology, Chicago, Ill., a corporation of Illinois
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This invention relates to a magnetic reproduction sys-
tem, and particularly to a novel means for providing a
linear output from a system including a magnetic trans-
ducer responding to the time derivative of an input mag-
netic signal flux.

In instrument applications, it is often desirable to
obtain an output varying linearly with a signal magneti-
cally recorded on a record medium. In conventional prac-
tice, such linear output would be obtained by amplifying
the signal induced in the playback coil of a conventional
playback head and feeding the amplified signal into a con-
ventional integrating circuit and then further amplifying
the signal. However, according to the present invention,
it has been found possible to obtain a linear output from
a conventional playback head with an important reduction
in the number of amplification stages required.

It is therefore an object of the present invention to
provide an especially economical and simple method and
means for obtaining a linear output from a conventional
induction type playback head.

It is a further object of the present invention to provide
a novel linear magnetic reproduction system.

Other objects, features and advantages of the present
invention will be apparent from the following detailed de-
scription taken in connection with the accompanying
sheet of drawings, in which:

Figure 1 represents diagrammatically a magnetic re-
production system in accordance with the present inven-
tion; and

Figure 2 illustrates a modification in the circuit of
Figure 1.

As shown on the drawings:

In the drawings, the reference numeral 10 indicates a
record medium having a signal magnetically recorded
thereon, the waveform of which is to be substantially
linearly reproduced by the system including induction type
playback head 16. To this end, the record medium 10
passes over a playback gap 15 of the magnetic playback
head 16 in such manner as to induce a signal voltage in
the playback coil 17 of the head. The signal from the
head is fed to a coupling transformer 20 whose secondary
may be provided with a shunt resistance 21, and then to
a conventional linear, negative feedback amplifier 24 such
as the Ballantine Decade Amplifier, Model No. 220, hav-
ing a gain of 100.

It has been found that a linear output can be obtained
from the amplifier 24 by providing a positive feedback

circuit externally of the amplifier including for example,
a resistance 25, and a resistance 26 and capacitance 27 in
parallel across the input to the amplifier, and by de-