

DRAWINGS ATTACHED

1 305 303

- (21) Application No. 20285/70 (22) Filed 28 April 1970
- (31) Convention Application No. A4212 (32) Filed 30 April 1969 in
- (33) Austria (OE)
- (44) Complete Specification published 31 Jan. 1973
- (51) International Classification H04R 19/04
- (52) Index at acceptance

(19)



H4J 24A1B 24E 5D 5E 5F1 5FX 6F 7BY

(54) A CAPACITOR MICROPHONE

5 (71) We, AKG AKUSTISCHE u. KINO-
GERATE GESELLSCHAFT m.b.H., an Austrian
Company, of Nobilegasse 50, 1150 Vienna
XV, Austria, do hereby declare the inven-
tion, for which we pray that a patent may
be granted to us, and the method by which
it is to be performed, to be particularly de-
scribed in and by the following statement:—

10 As is known, the use of capacitor micro-
phones has already become extremely wide-
spread, due to their high transmission
performance. Amongst other things, they
are also used for the recording of beat- and
15 pop-music, which often leads to overtaxing
of the associated amplifier and/or a subse-
quent amplifier, due to the considerable
variation in the dynamic range of this type
of music. Such overtaxing occurs particu-
20 larly when, for example, a solo instrument
(a trumpet, for instance) is played in the
usual manner directly in front of the micro-
phone.

25 A known procedure intended to rectify
such defects is to provide a capacitor micro-
phone, the capsule of which is rigidly con-
nected to its amplifier, with an externally
operable switch, by means of which an at-
tenuator can be switched into, or out of,
30 circuit as required. However, an arrange-
ment of this type is disadvantageous not only
because a switch, which may perhaps prove
noisy, is located at the very high ohmic out-
put of the capacitor microphone or, indeed,
35 at the input of the amplifier, but also be-
cause the sound engineer, who is usually at
a fairly considerable distance from the
microphone, cannot tell whether the attenu-
ator is in circuit or not, and finally there
40 is also the possibility that some unauthorised
person may inadvertently alter the position
of the switch.

45 According to the present invention there
is provided a capacitor microphone com-
prising a microphone capsule, an amplifier
and an attenuator detachably connected to-
gether, wherein complementary electrical
and mechanical connectors are provided on
the capsule and the amplifier whereby the
50 microphone capsule and the amplifier may
be directly connected together without the

attenuator, and the attenuator comprises an
attenuating element mounted in a housing
provided with electrical and mechanical con-
nectors mating with the connectors on the
microphone capsule and the amplifier where-
55 by the attenuator is detachably connected
between the capsule and the amplifier.

The attenuating element mounted in the
housing can be a simple capacitor which
shunts the microphone capacitor and has
an attenuating effect which is independent
60 of the frequency. In order to obtain a par-
ticular frequency response, it is also pos-
sible to provide an attenuating element in
the form of an RC network connected in the
electrical path which connects the micro-
65 phone capsule to the amplifier whereby, for
example, to achieve a treble and/or bass
boost.

70 Advantageously, the exterior of the at-
tenuator housing is provided with a tell-
tale mark which distinguishes it from the
amplifier housing and the microphone cap-
sule even at a fairly considerable distance
75 so that, from his remotely-located control
desk, the sound engineer can tell at a glance
whether the attenuator is in circuit or not.
When several attenuators having differing
attenuating elements are provided, it is,
80 moreover, advisable to employ different tel-
tale markings, so that the type of attenua-
tion (for example attenuation which is vari-
able with or independent of frequency), can
be read at a fairly considerable distance
85 away. In its simplest form, said marking may
be produced by providing the surface of the
attenuator housing with a coat of paint
which is visible at a distance, or a coloured
plastics sheath. The surface might, inter
90 alia, be treated directly by electro-chemical
means (silver-plated, gold-plated or an-
odised, for example) or otherwise be provided
with suitable plating.

In order that the invention may be clearly
understood, an embodiment thereof will now
95 be described, by way of example, with
reference to the accompanying drawing, in
which:

Figure 1 is a partial section through an

[