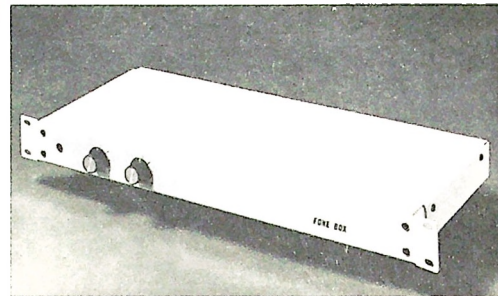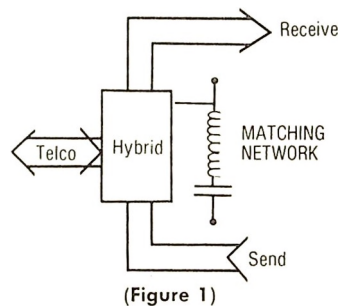# FONE-BOX

...is an effective and inexpensive answer to one of the most annoying problems in broadcasting; ... the interconnection of standard telephone lines to broadcast facilities for direct airing or recording of telephoned material.

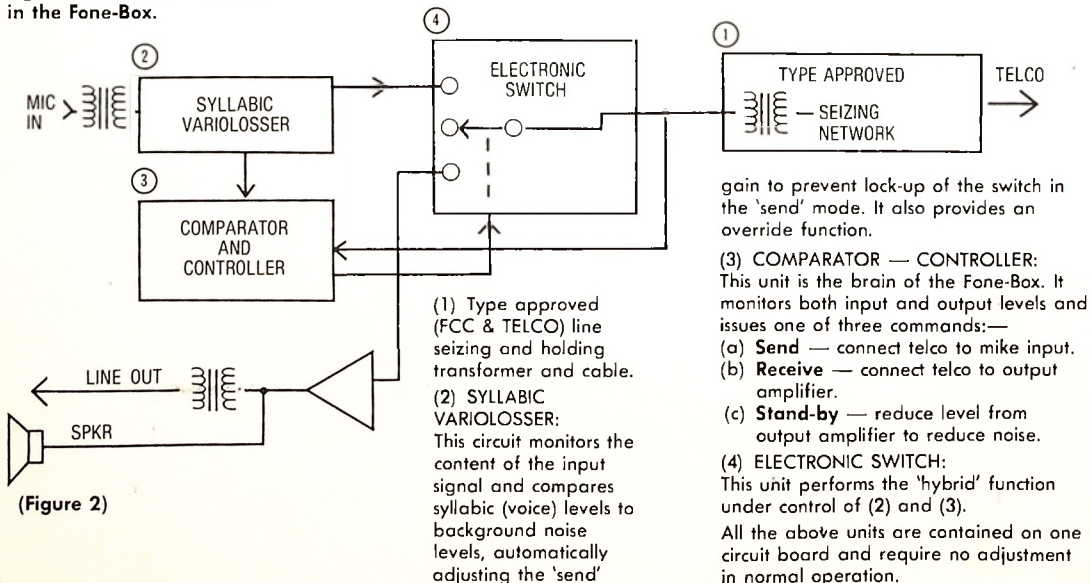**There are 2 basic methods of accomplishing this interconnection.**

(1) By the use of a 2-wire to 4-wire converter, commonly called a 'hybrid'. (Figure 1)

A 'hybrid' normally employs matched transformers in an impedance balancing bridge configuration to separate the send and receive functions of a telco line at the studio terminals. Isolation (send to receive) is dependant upon the 'balancing network' identically matching the impedance of the incoming telco line. Unfortunately, the telco line impedance is neither constant from line-to-line nor is it constant on a specific line for any specific time. A sophisticated and therefore expensive dynamic balancing network is required to enable a true 'hybrid' to perform well in broadcasting facilities.
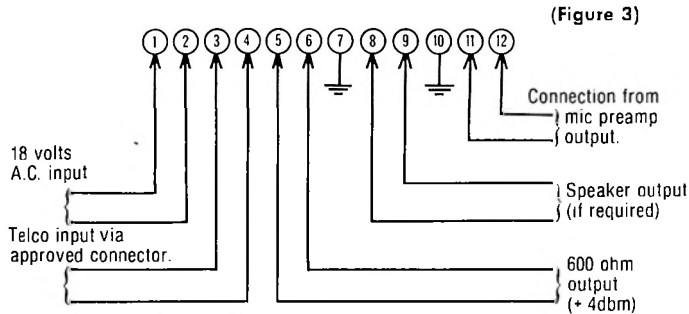
(2) By the use of some form of switching to perform the 'hybrid' function. The Fone-Box utilizes an electronic silent switch.

(Figure 1)

Figure 2 shows the basic units in the Fone-Box.

(Figure 2)

gain to prevent lock-up of the switch in the 'send' mode. It also provides an override function.

(3) COMPARATOR — CONTROLLER:
This unit is the brain of the Fone-Box. It monitors both input and output levels and issues one of three commands:—
(a) **Send** — connect telco to mike input.
(b) **Receive** — connect telco to output amplifier.
(c) **Stand-by** — reduce level from output amplifier to reduce noise.

(4) ELECTRONIC SWITCH:
This unit performs the 'hybrid' function under control of (2) and (3).

All the above units are contained on one circuit board and require no adjustment in normal operation.

(1) Type approved (FCC & TELCO) line seizing and holding transformer and cable.

(2) SYLLABIC VARIOLOSSER:
This circuit monitors the content of the input signal and compares syllabic (voice) levels to background noise levels, automatically adjusting the 'send'

The Fone-Box is simple to connect. Connections required (rear terminals) are shown in Figure 3.

(Figure 3)

Connection from mic preamp output.

18 volts A.C. input

Telco input via approved connector.

Speaker output (if required)
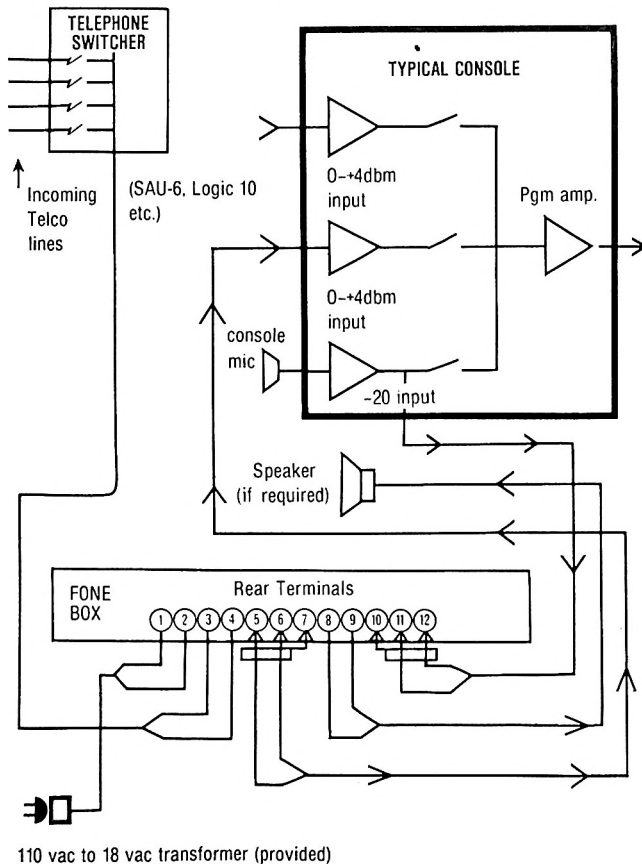
600 ohm output (+ 4dbm)

After the Fone-Box has been connected (suggested method of application shown in Figure 4), two operational adjustments are required.

With Fone-Box operating and a call engaged:—

(1) Set output level for console requirements.

(2) Increase mike input level to point where local voice just overrides incoming audio (gain of variolosser to provide previously mentioned override function).

SUGGESTED APPLICATION FOR THE FONE-BOX

(Figure 4)

110 vac to 18 vac transformer (provided)

TECHNICAL SPECIFICATIONS:

Type Approval Number . . .
   FCC - AB - 898Y - 70038   3 PM
   PNHR - 883210 - BTR

INPUT – 20 + 4 dbm — balanced bridging

OUTPUT + 4 dbm — balanced 600

POWER – 18V Ac via CSA/UL approved Adapter

WARRANTY:

The Fone-Box is fully warranted for a period of one (1) year for parts and material. If adjustments are required during the warranty period, request return authorization from factory. Work will be done at nominal labour charge and returned, prepaid, provided the unit has not been utilized contrary to instructions nor abused.

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