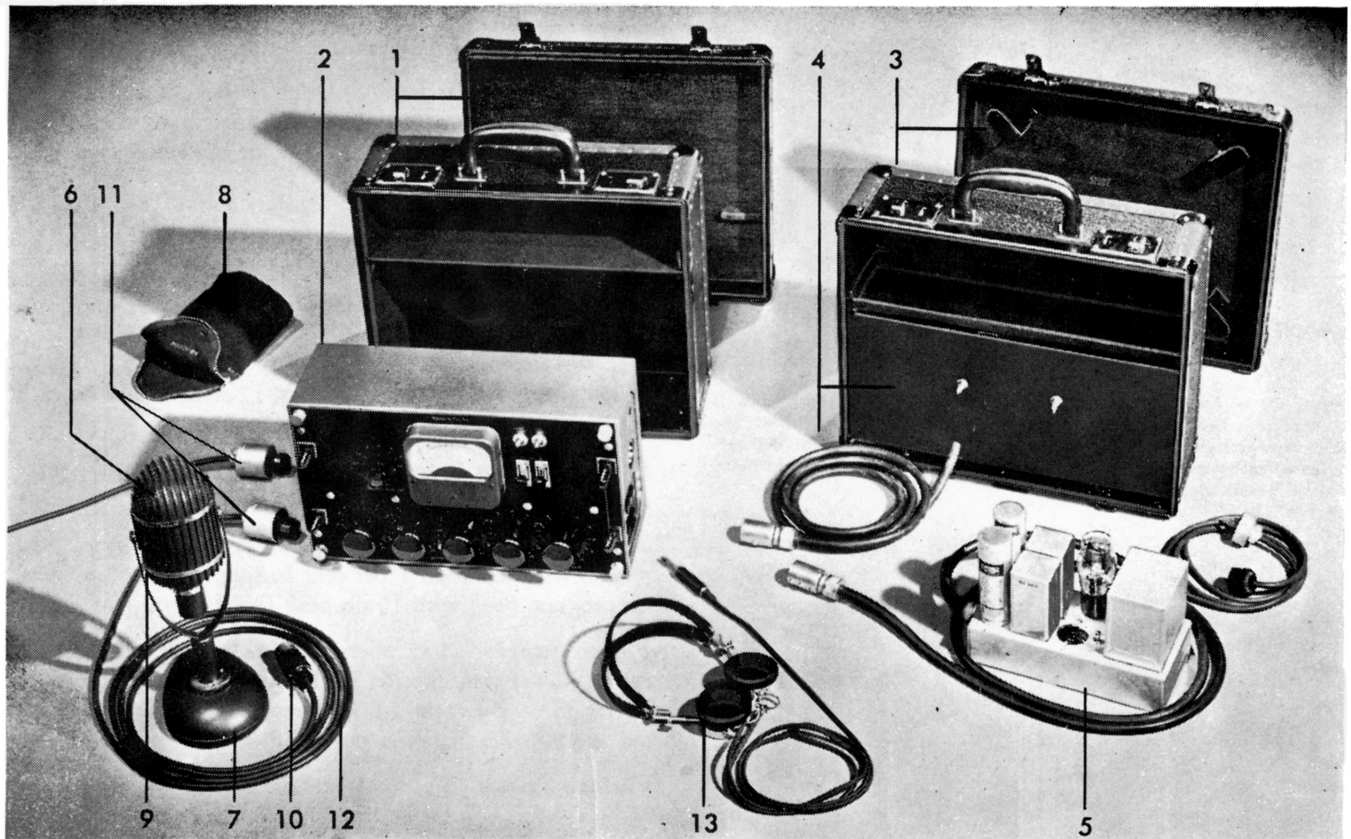


## No.22-D SPEECH INPUT EQUIPMENT



1. Amplifier-control Unit Carrying Case with Cover
2. Amplifier-control Unit
3. Power Supply Carrying Case with Cover
4. Battery Rack Assembly with Cord and Plug

5. A-c Power Unit with Cord and Plug
6. 639 Type Microphone
7. KS-12000 Transmitter Cover
8. 24A Transmitter Mounting

9. 11A Transmitter Attachment
10. 442A Jack and 712A Adapter
11. Microphone Plugs
12. KS-7133 Cordage
13. 1002F Headset

Figure 19 — Components of the 22D Speech Input Equipment.

### 22D SPEECH INPUT EQUIPMENT

**Use** — A compact portable speech input system, light in weight and designed to provide complete pick-up facilities both for established remote and for on-the-spot broadcasts.

**Description** — It consists of a combination amplifier and control unit with a carrying case, and either a power unit for a-c operation or a battery holder for battery operation or both, as specified, with a carrying case and a power supply cord. The long and dependable service experienced with this high quality light weight equipment has made this unit a favorite among broadcasters.

The 22D includes a four channel parallel mixing circuit designed to work with 30 ohm dynamic microphones or other sources of comparable impedance. Master gain control, indirectly illuminated volume indicator, binding posts for two program lines, jacks for two monitoring headsets, and both binding posts and a jack for an order wire telephone set are provided. There is ready accessibility to the interior without disconnecting any cords or wires by simply removing the rear cover.

#### Outstanding Features

Real portable equipment — compact and light in weight.

Divided into two packages, each approximately 30 pounds, for balanced carrying.

Highly efficient performance.

Operates from an impedance of 30 ohms and into 150 or 600 ohms. A maximum gain of approximately 92 db when operated between these impedances.

Frequency response uniform within  $\pm 1$  db from 30 to 10,000 cycles.

Stabilized feedback.

Low harmonic distortion. Low noise level.

Operates from either a-c or battery power supply. The a-c unit has switch for instant change to battery supply in case of a-c power interruption.

Flexible control — four paralleled mixers and a master gain control.

Contacts on output line keys, in unoperated positions, short-circuit inputs of outgoing lines, enabling station

## No.22-D SPEECH INPUT EQUIPMENT

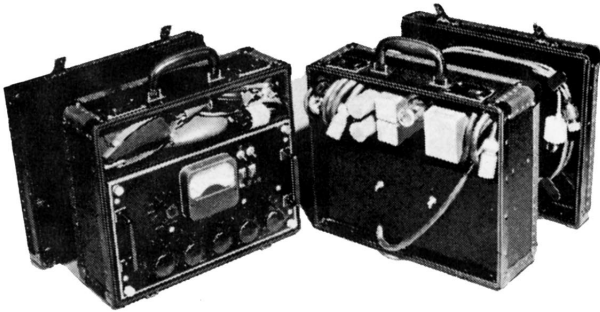


Figure 20 — Amplifier-control and Power Supply Units. Each case is divided into two compartments, providing space for accessories. The lower compartment of the Power Supply Carrying Case holds the batteries when battery operation is desired. The upper compartment holds the a-c power supply.

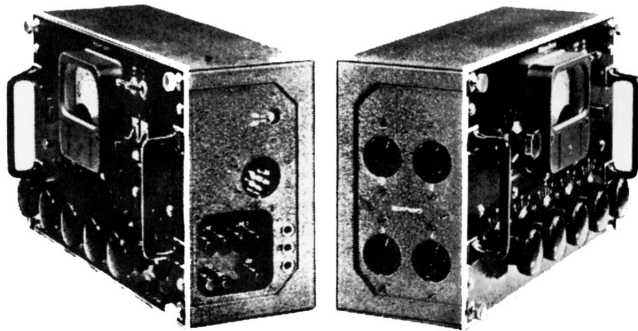


Figure 21 — Left: Right end of the Amplifier-control Unit showing line terminals, telephone binding posts and plug, plug for monitoring headset and the multi-pronged socket for the power supply plug. Right: Left end of the Amplifier-control Unit showing four plug-in type microphone receptacles.

operator to test the loops from master control.

Instantaneous interchange of program and order wire lines in emergencies.

Indirectly illuminated volume indicator gives output level in vu. Battery condition may be checked on volume indicator meter during operation.

Range switch for adjusting normal level indication of the volume indicator meter to correspond to output levels of +4, +6, +8, +10, +12, or +14 vu (0 level calibration 1 milliwatt)

Non-glare Alumilite finish on control panel.

Mushroom type mixer knobs with skirts and raised pointers facilitate fingertip control and avoid cramped hands.

Accessibility — ready access to interior without disconnecting any cords or wires, simply by removing rear cover.

Microphone receptacle mounting plate removable and readily adapted to substitution of other microphone receptacles.

Provision for two monitoring headsets.

Rugged construction assures long service and dependability.

### Specifications

**Frequency Response:** Uniform within  $\pm 1$  db from 30 to 10,000 cycles.

**Signal-to-Noise Ratio:** 66 db for battery operation and 60 db for a-c operation; at 72 db gain and referred to peak output signal of +18 dbm.

**Source Impedance:** 30 ohms. (Use 172A Repeating Coil in cord for 250-ohm microphones).

**Load Impedance:** 150 or 600 ohms.

**Gain:** Maximum 92 db. Typical operating 70 db.

**Mixer Controls:** 45 db in 20 steps. 12 steps of  $1\frac{1}{2}$  db each increasing on the last eight steps to cut-off.

**Master Volume Control:** Seventeen 2 db steps, last three steps have increasing attenuation to cut-off.

**Maximum Output Level:** +20 dbm single frequency fundamental with less than 1 per cent harmonic distortion. +10 vu program level with 10 db peak factor.

**Power Supply:** A-C operation — 110-120 volts, 50-60 cycles. Power consumption is 28 watts at 115 volts. Battery operation — Filament 1.6 amperes at 6 volts and plate 21 ma. at 180 volts. Batteries not supplied with the equipment.

### Vacuum Tubes:

	Quantity Required	Commercial Receiver Types
Amplifier:	2	6J7
	1	6F6
Power Unit:	1	80
	4	

**Dimensions and Weights:** Total weight of two units and full equipment 50-60 pounds.

Components	Dimensions	Weight
Amplifier-Control Unit	9"x15"x5"	15 lbs.
Battery Rack Ass'y (Eqpd.)	7"x15"x5"	14 lbs.
A-C Power Unit	7"x12"x5"	9½ lbs.
Carrying Cases (2 Required)	14"x16¾"x7¾"	12 lbs. ea.

**Accessories:** 633 or 639 type Microphones, and the 1002F Headset for monitoring purposes, are recommended.

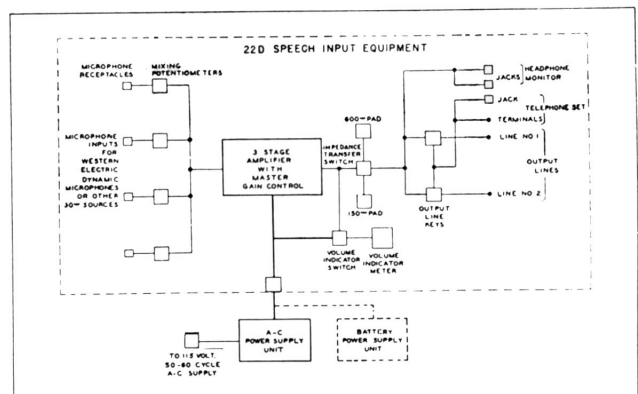


Figure 22 — Block schematic of 22D Speech Input Equipment.

# No.22-D SPEECH INPUT EQUIPMENT

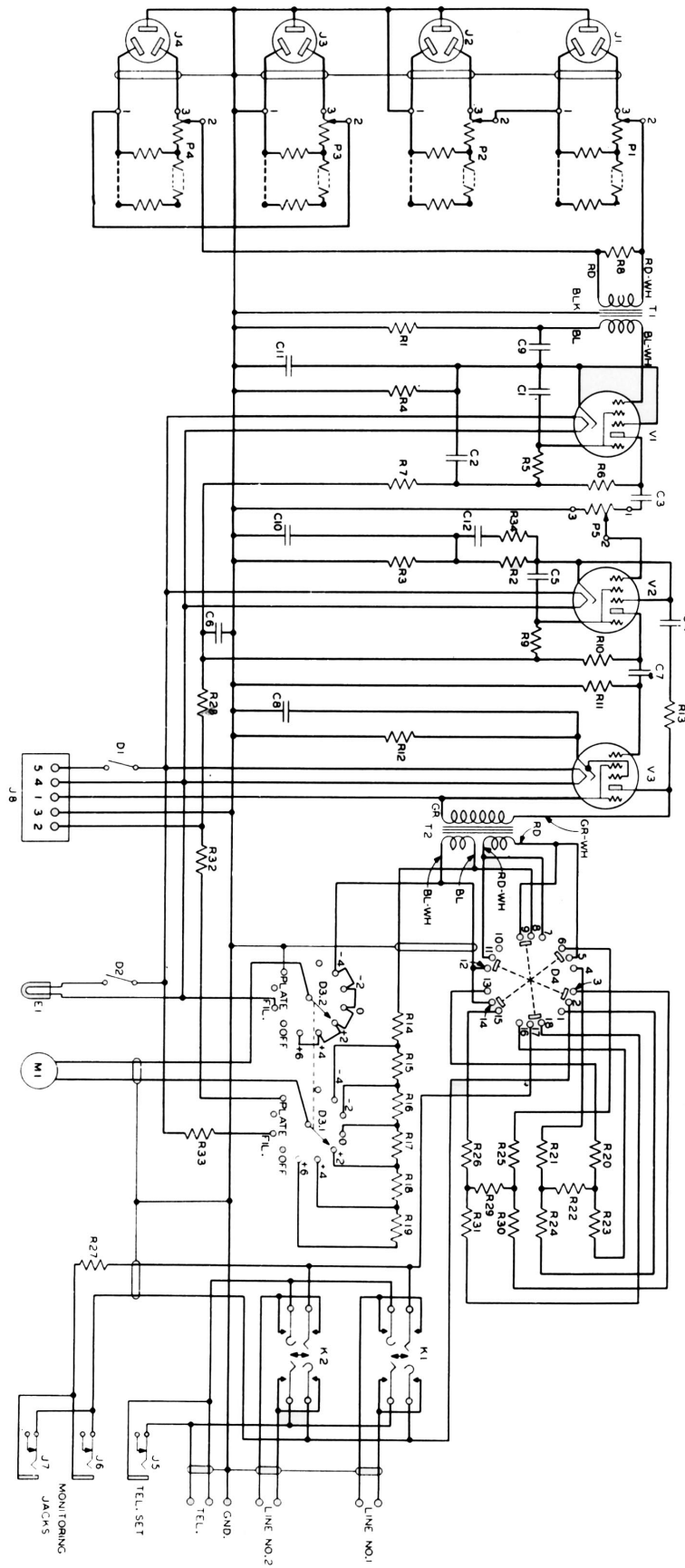


Fig. 1—Amplifier Schematic