**NAVY TYPE SYSTEMS  
INDUSTRIAL SYSTEMS  
BUREAU OF MINES APPROVED SYSTEMS**

The Dynalec USI-patented sound powered principle eliminates the need for an outside power source or batteries.

All necessary power is supplied by the user's voice.

For use in airports, fire and police rescue crews, public utilities, schools, vaults, refrigeration plants and civil defense; reliable communications are never interrupted due to power failure.

Sound powered telephones provide communication for bridge installation, diving projects and geophysical operations, where outside power is not available; in isolated areas likewise, they provide remote contact as in oil fields, parks and forests, railroads, and salvage yards.

Clear transmission reduces errors due to misunderstood instruction in high-noise locations such as foundries, heavy manufacturing plants, shipping platforms, shipyards, sports arenas and road building projects.

Sound powered telephone equipment is explosion-proof, making it ideal for arsenals and powder works, gas works, chemical plants, oil refineries, mines and quarries, ballistic missile sites and nuclear installations.

Lightweight and portable, the equipment is comfortably used for in-plant and outside maintenance, construction and repair, electrical contract installation, public utilities, radio, television, telephone installations, and shipboard operations.

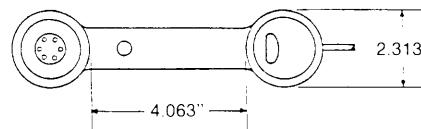
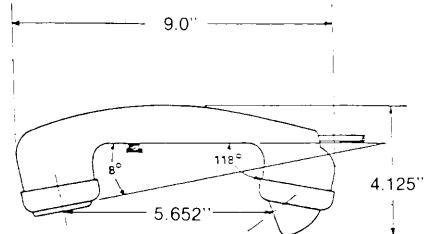
## HANDSETS



Sound powered handsets designed for reliable service under adverse conditions; plug-in type transmitter and receiver units equipped with blast-stop nuts.

Handset is weatherproof and carries Underwriter's Laboratory approval for use in hazardous, Class 1, Group D environments.

Manufactured and approved to latest MIL SPECIFICATION



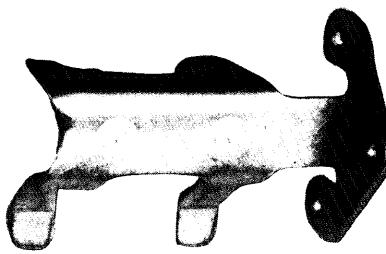
HANDSET

9" long; approximately 20 oz. without cord

TYPE	HANDSET FEATURES	APPLICATION	PART NUMBER
A257-2N	Press-to-operate switch, Navy Type L FSN 5805-090-7450	US NAVY	702019-001
A257-2UL	4 1/2 feet rubber covered cord	UL APPROVED	702019-003
A333	Press-to-operate switch, 4 1/2 feet heavy duty rubber covered cord	US COAST GUARD	702019-075
A333-S3	6 feet rubber covered cord, 1 foot coiled; press-to-operate switch		702019-079
A333-1	25 feet straight rubber covered cord; with press-to-operate switch		702019-073
A555	4 feet rubber covered cord; no switch; 20 oz.		702019-575
A560	4 feet rubber covered cord; press-to-operate switch; 22 oz.		702019-675
A577	4 feet rubber covered cord with alligator clips; no built-in switch		702019-845
H-203/U	Press-to-operate switch; 6 feet cord, one foot coiled FSN 5965-840-8849	US NAVY	702003-315

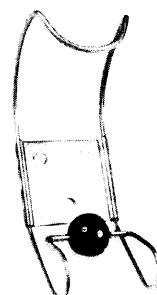
## RIGID FRAME HANDSET HOLDER

## STANDARD MOUNTING HOOK



Type 5200. Standard for left-hand mounting on signal boxes and other locations. 701002-947

Type 5201. Standard for right-hand mounting. 701002-948



Type A815. Rigid 3/16 inch diameter stainless steel rod frame with molded phenolic ball which slips into transmitter mouthpiece to hold handset securely in place.

701006-912

## LOCKING TYPE HANDSET HOLDER

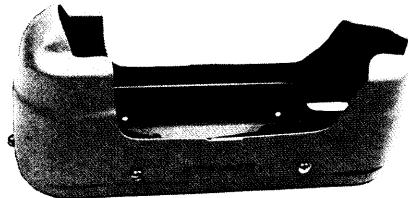


Type A281, a black-finished aluminum locking hook with rubber padded fork for handset receiver; transmitter is held firmly by a coil stainless steel spring covered with phenolic rollers.

701012-300

Type A325-1. Multiple switch mounting hook. Similar to 702012-300, having eight switching arrangements utilizing up to six switch springs. Available to meet your requirements.

## TYPE Z-33A HANDSET HOLDER

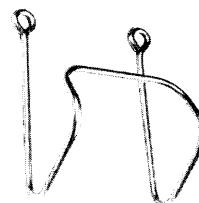


Type Z-33A. Includes a pressure leaf spring to keep the handset secure. Symbol 2675

701021-273

Sound powered head-chest set is useful wherever operator must have hands free. Heavy duty, waterproof construction, requires no external power source.

## HEAD-CHEST SET HOLDER



Type 5740. For all models of head-chest sets, formed from 3/16 inch diameter stainless steel rod; supports chestplate, cordset and headband assemblies for ready access. NSN 5965-296-5283. BUSHIPS drawing 815-1853041. Symbol 2921

701005-343



Type H-200/U, equipped with a UA1000 plug (Navy S-74211), 20-foot cord and neoprene sheathed, nylon covered ear cushions.

## TYPE NUMBER

## HEAD-CHEST SET, WEATHERPROOF

## PART NUMBER

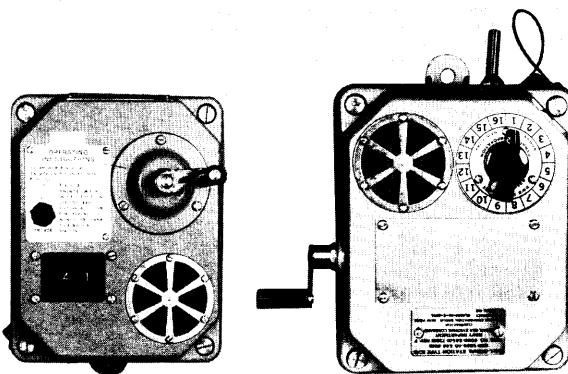
A330	Double receiver, no switch, 10-foot cord.	702019-165
A429	Single receiver, no switch, 10-foot cord.	702019-325
A602	Double receiver, press-to-talk switch.	702019-855
H-200/U	Double receiver, press-to-talk switch, Navy; FSN 5965-900-6401. 2 lbs. 2 oz. Manufactured and approved to latest MIL SPECIFICATION	702019-375
H-202/U	Double Receiver, switch, hard shell ear cups for high noise areas, Navy; FSN 5965-940-8699. Manufactured and approved to latest MIL SPECIFICATION	702020-230

## HEAD-SET, WEATHERPROOF

A331	Double receiver, lug terminals.	702019-245
A332	Single receiver	702019-255

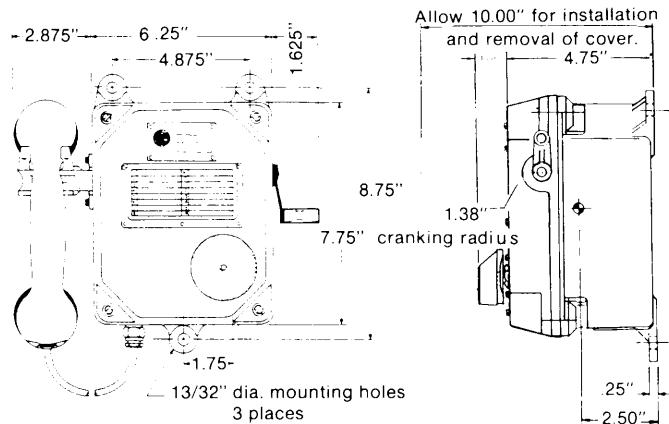
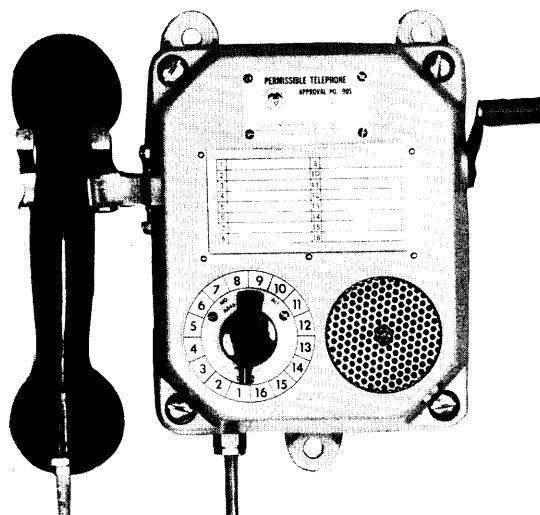
**STOWAGE BOXES** Drip-proof stowage boxes for headset/chestset storage; shock-tested per MIL-S-901C. BUSHIPS 815-1853040.

COMPARTMENTS	SYMBOL NO.
1	2924.1
2	2925.1
3	2926.1
4	2927.1
5	2928.1
6	2929.1



**REEL STOWAGE** Reel stowage bracket and casualty Communication leads, Type 1C/TCR. NSN 5805-263-8644.

SYMBOL 2793.



Modifications of the basic type IC/D call signal station may include relay, panel-mounted jack, interrupted howler (Symbol 2988-C), flush mounting, or design according to ship's requirements.

### FRONT CRANK

### SIDE CRANK

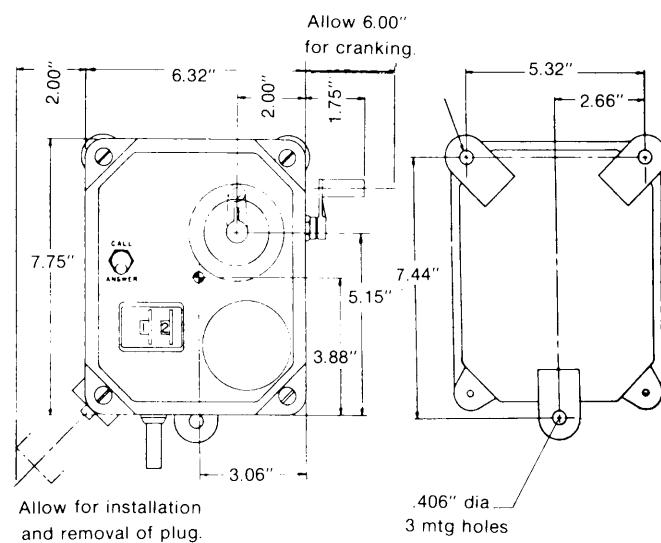
High efficiency transducers in each telephone provide voice reception comparable in volume with public telephone systems.

Ringing is accomplished by hand cranking a magneto generator, producing current power to operate a howler at the called station.

The system utilizes a line sharing principle requiring only twelve line pairs, enabling station-to-station conference calls.

The system may be connected to net lines. Each net line connection reduces the number of individual station connections.

Provides up to 144 point-to-point, sound-powered, dial-type telephone communications at various locations throughout a ship.

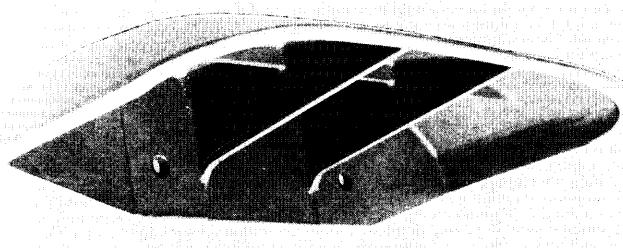


Front View

Back View

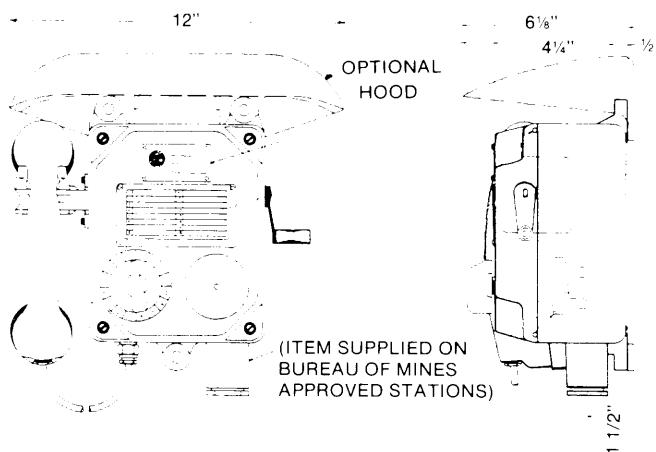
TYPE NUMBER	FEATURES	PART NUMBER
A380-S2	<p>NAVY TYPE SYSTEMS</p> <p>Type 1C/D Call Signal Station, Symbol 2988 Drawing 9000-S6501-73801</p> <p>Modifications of the basic Type 1C/D call signal station are available to meet special design requirements. All are manufactured and approved to the latest military specification.</p>	702019-267
	INDUSTRIAL SYSTEMS	
A541	Common Talking/Common Signalling 6 stations maximum	702019-455
A542	Common Talking/Selective Signalling 8 stations maximum	702019-505
A543	Common Talking/Selective Signalling 16 stations maximum	702019-520
A540	Substation	702019-445
	BUREAU OF MINES APPROVED SYSTEMS	
A544	Common Talking/Common Signalling 6 stations maximum	702019-535
A545	Common Talking/Selective Signalling 8 stations maximum	702019-545
A546	Common Talking/Selective Signalling 16 stations maximum	702019-555
A571	Substation	702019-835

## PROTECTIVE HOOD

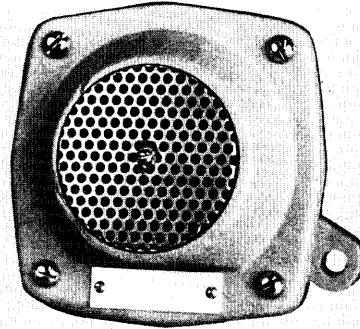


Cast aluminum station hood protects call station from dripping water or falling debris. Three-point mounting.  
2 1/2 lbs.

701000-677



## EXTENSION SIGNALS

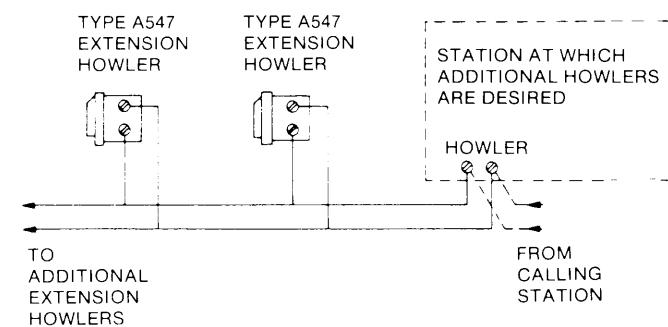


### EXTENSION HOWLER

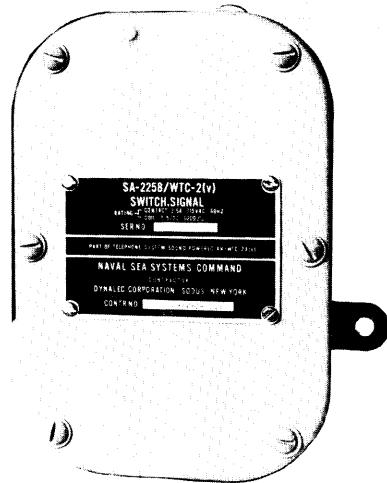
Type A-547

Provides for call signal at a remote location when connected in parallel with the howler in any station. Waterproof brass case. 2 lbs.

702003-239

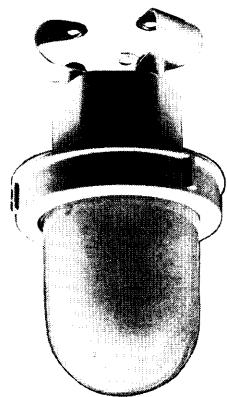


## EXTENSION SIGNAL RELAY

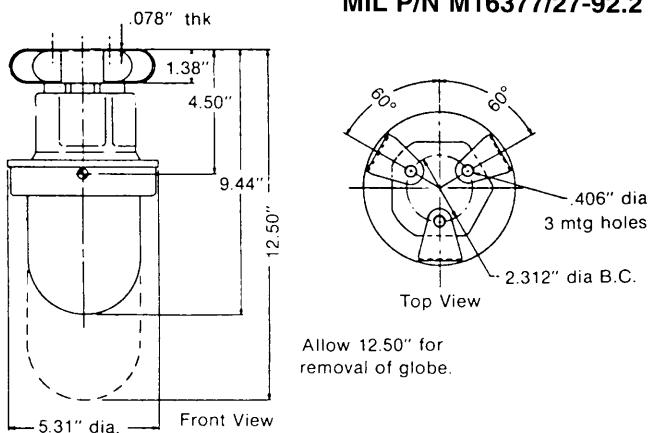


**EXTENSION SIGNAL RELAY BOX J-3523/WTC-2(V)**  
provides power to the Extension Signal Device.

701021-478



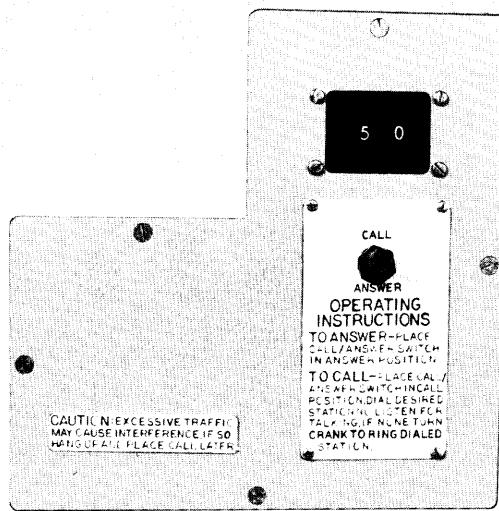
MIL P/N M16377/27-92.2



Provides a visual signal to indicate that there is a call on the station. Effective in high noise level areas.

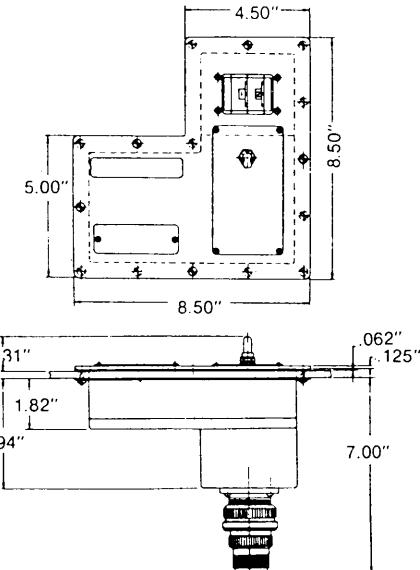
No external power is required to operate the system. However, the signal switch requires 115VAC to operate the visual signal device. 701021-250

## CONSOLE CONTROL BOX ASSEMBLY

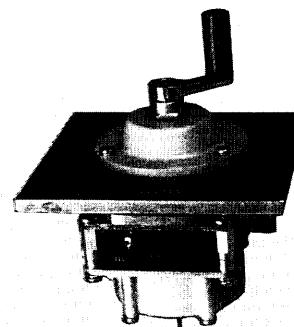


The console control box assembly permits installing the sound powered telephone system in a console.

701021-562

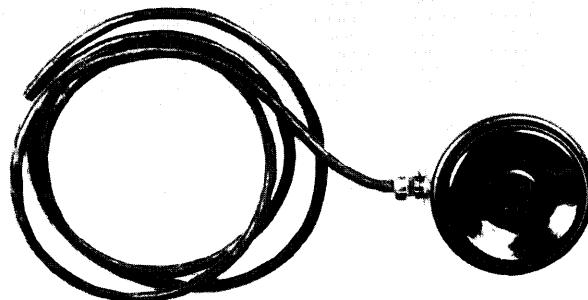


GENERATOR AND CRANK



Generator and crank may be installed in a console. Magneto generator produces direct current power to operate a howler at the called station.

## POCKET TELEPHONE

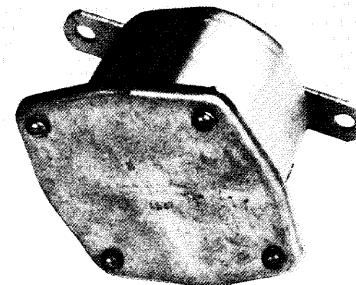


Combined sound powered receiver and transmitter, 2 3/8 inch diameter; 3 1/2-foot rubber covered cord; for test or periodic reports. Type A 278.

7 oz. without cord.

702019-090

## GENERATOR OPERATED RELAY

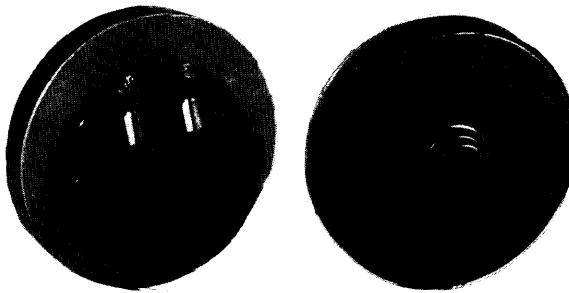


Use with power horns or bells when additional signalling is desired. Controls 115V power circuits with up to 1.5 amp noninductive load. Watertight brass case.

1 3/4 lbs.

Type A-537

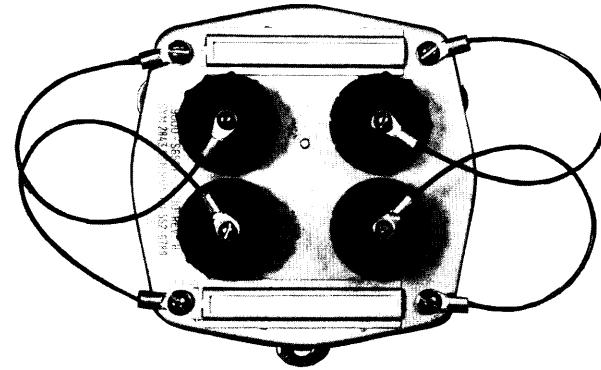
702019-435



Transmitter and receiver unit for sound powered equipment such as telephones, gas masks, power megaphones. Available with warble frequency impedances from 12 to 28,000 ohms. 3 oz.

Type UA 1614

702020-050/064

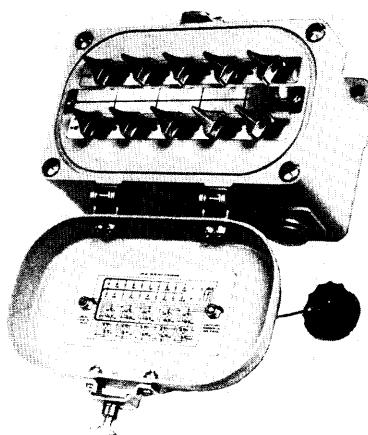


## JACK BOX

For use with sound powered equipment, enclosure with jack designed to prevent water entry into enclosure if cap is left off. Phenolic terminal block.

TYPE NUMBER	FEATURES	PART NUMBER
NAVY TYPE JACK BOXES		
A343	Single jack; NSN 5935-00-552-6791 SYM 2841. 1 lb. 9 oz.	702003-473
G15A		
A343	Two jacks; NSN 5935-00-552-6790 SYM 2842. 1 lb. 12 oz.	702003-471
G15B		
A343	Four jacks; NSN 5935-00-552-6789 SYM 2843. 2 lbs. 12 oz.	702003-472
G15C		

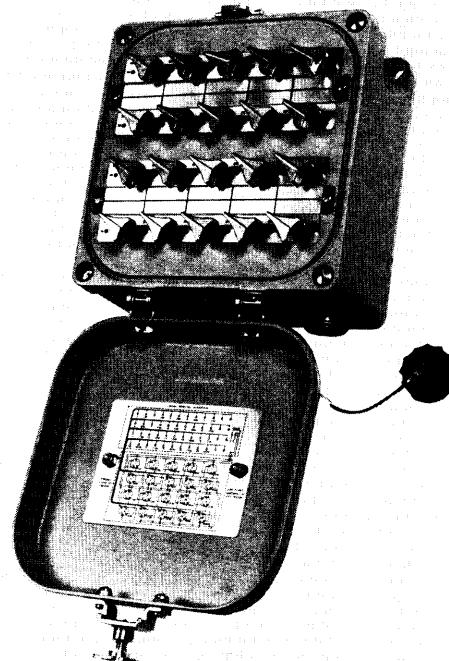
## SWITCH BOXES



TYPE A-17A. A watertight switch box that provides flexibility in establishing sound powered circuits. Equipped with a TYPE S-2JF1 rotary switch, having 10 switch positions. Wiring diagram inside hinged cover; dust cap with safety cable for panel-mounted jack; terminal board connected. NSN 5930-033-5665.

8.3 lbs.

SYMBOL 2860.1

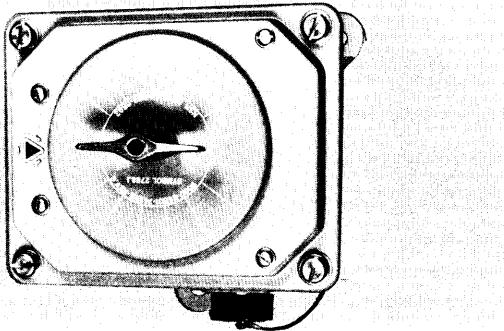


TYPE A-19A. Same as A-17A except with 20 switches. NSN 5930-033-5666.

15 lbs.

SYMBOL 2861.1

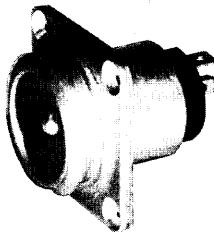
## ROTARY SELECTOR SWITCH



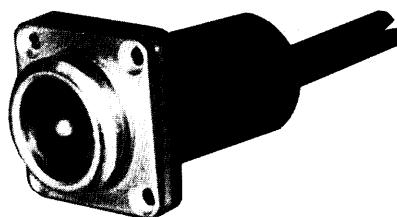
Watertight 16-position enclosed switch connected to panel mounted jack. Silver wiping contacts. Operator connects handset or headset and selects any one of 16 circuits. Lighted dial for night use. FSN 5930-89-0592; Type A442S1; SYM 2788.1. 702000-903

TYPE NUMBER	FEATURES	PART NUMBER
A442	Like A442S1, without lamp; FSN 5930-1296-6041; NAVY TYPE A-26A SYM 2788.	702019-366
UA 1086-2	16-position, 2-deck shorting type selector switch. NAVY TYPE A-26A. FSN 5930-296-3615; 7 oz.	702020-030
UA 1600-2	30-position, 2-deck Navy Type JA2C(30), Switch, dial and knob. FSN 5930-296-6042. 1 lb. 9 oz.	702011-552
UA 1633-2	16-position, 2-deck rotary switch, Navy Type JA2C(16); FSN 5930-4255. 1 lb.	702002-813
UA 1633-6	16-position, 6-deck, Navy Type JA6C(16) FSN 5930-258-4256. 2 lb. 8 oz.	702002-812
UA 1633-10	16-position, 10-deck, Navy Type JA10C(16) FSN 5930-296-6395. 2 lb. 8 oz.	702014-901

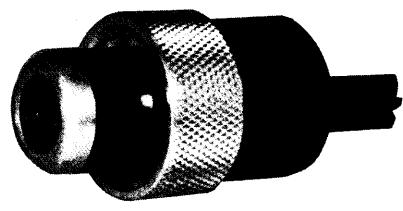
## JACKS AND PLUGS



PANEL-MOUNTED JACK



PORTABLE JACK



PORTABLE PLUG

## TYPE NUMBER

## FEATURES

## PART NUMBER

## NAVY TYPE JACKS

UA 1076      Panel-mounted jack; solid brass  
H27A           stainless steel plate, phenolic  
                  insulation block. NSN-5935-00-254-9192. 2 1/2 oz.

UA 999      Panel-mounted jack without  
H25A           square mount.

UA1000      Portable plug for handsets and head-  
H39A           chest sets with 5/16 inch diameter  
                  cord. FSN 5935-00-254-9287

## JACKS AND PLUGS

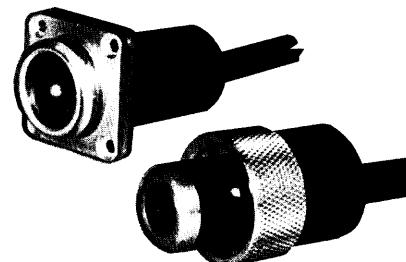
A 689      Portable watertight jack with UA 1000 or A529  
                  portable plug for extension with handsets  
                  or head-chest sets. 5 oz.

A 529      Portable plug for 1/4 inch to 5/16 inch diameter  
                  cords. Not for Navy inspection.

## EXTENSION CORDSETS

A567-1      One A 689 jack and one UA 1000 plug,  
through        SJO cable in lengths of 25 feet,  
A 567-4        50 feet, 75 feet, and 100 feet.

A 804-1      Two A 689 jacks, SJO cable in  
through        lengths of 25 feet, 50 feet,  
A 804-4        75 feet and 100 feet.



## TYPE

## EXTENSION CORDSET WITH 1 JACK AND 1 PLUG

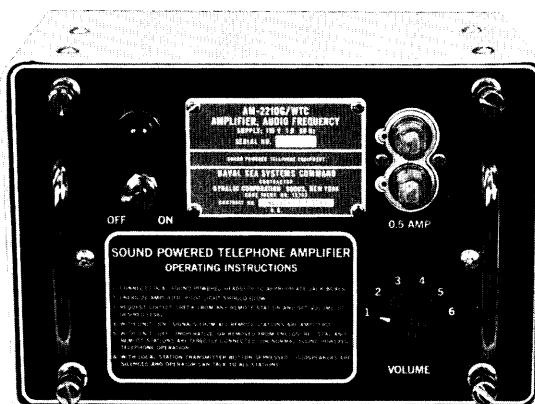
## PART NUMBER

A567-1      25-foot cord. FSN 5995-01-045-4137.      702019-785  
A567-2      50-foot cord.      702019-786  
A567-3      75-foot cord.      702019-787  
A567-4      100-foot cord.      702019-788

## EXTENSION CORDSET WITH TWO JACKS

A804-1      25-foot cord.      702019-960  
A804-2      50-foot cord.      702019-961  
A804-3      75-foot cord.      702019-962  
A804-4      100-foot cord.      702019-963

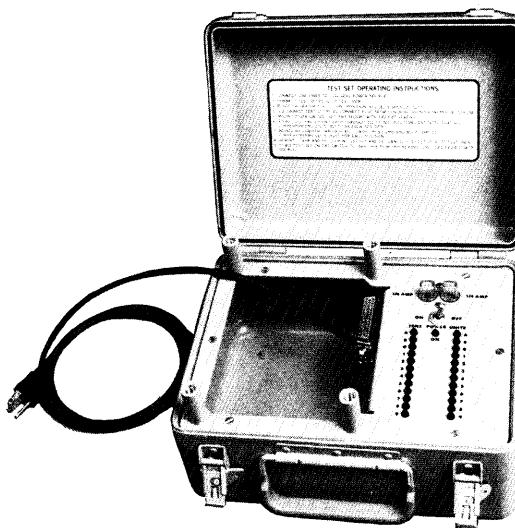
## TELEPHONE TEST SET

**AUDIO FREQUENCY AMPLIFIER**

An audio frequency amplifier that supplies signals to speakers and headsets for understandable messages at high ambient noise levels. Signals from the receiver position are transmitted to the command post at the sound powered telephone level. MIL-A-16749 (SHIPS) Type AM-2210G/WTC

12 lbs.

61660-000

**TELEPHONE TEST SET****TELEPHONE TEST SET**

Provides a rapid means of fault isolation and of checking the dial switch and associated connections in a sound powered telephone set.

MIL-T-15514

**TS-3687/WTC-2(V)**

701021-518

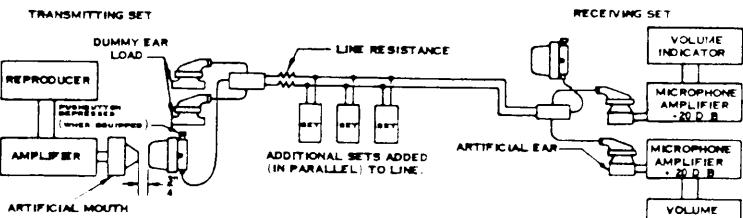
**H-200/U & H-202/U**

TYPE NUMBER	FEATURES	PART NUMBER
UA2418	Headband assembly for 702020-230	701006-898
UA1710	Headband assembly for 702019-375	701005-379
UA1720	Headband cover for 702019-375 and 702020-230	701003-471
4833	Cordset, 20 ft., for 702019-375 and 702020-230	702011-551
UA1719-1&2	Ear cushion assembly for 702019-375	701003-469
UA1722	Ear cushion cover assembly for 702019-375	701006-486

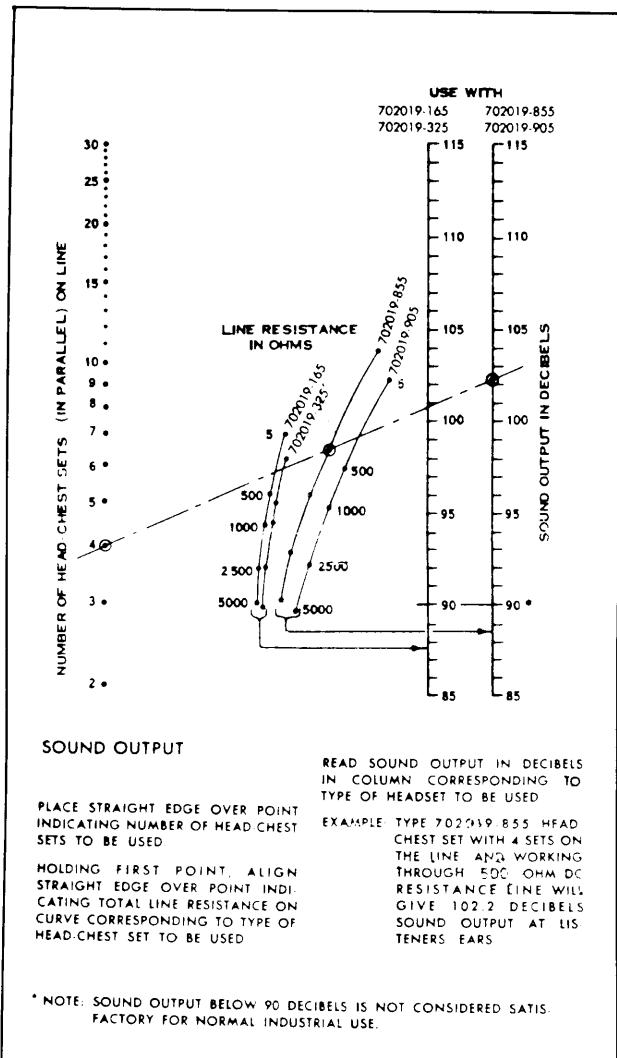
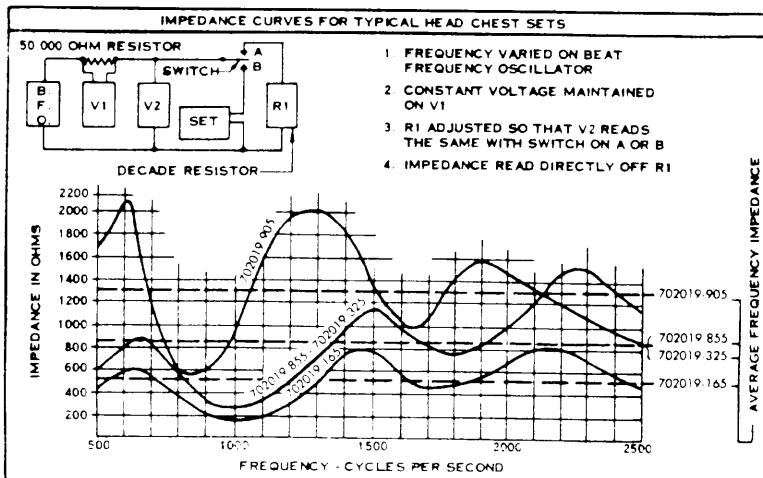
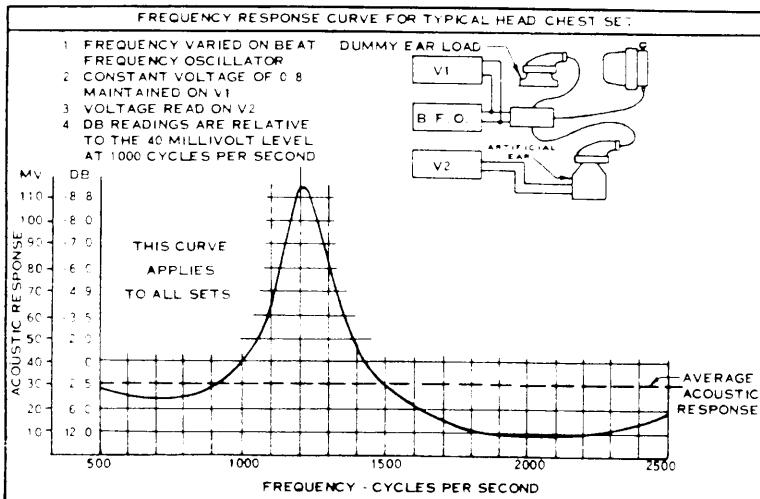
Spare parts may be ordered for replacement of individual units and subassemblies of the equipment.

## DESIGN CHARACTERISTICS

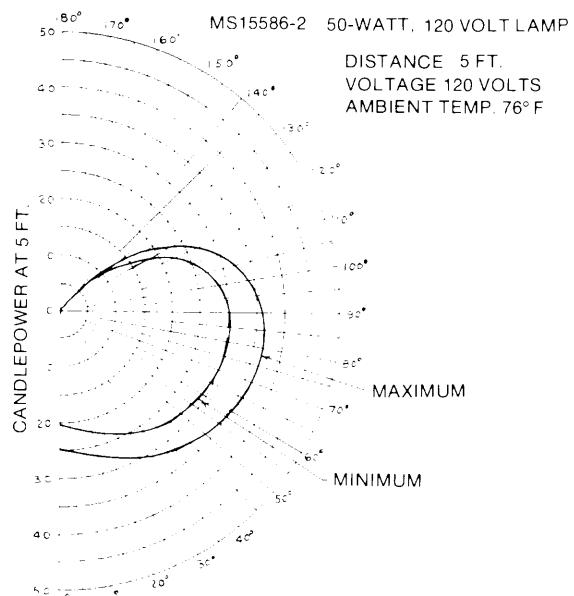
## METHOD OF DETERMINING SOUND OUTPUT



1. SOUND PRESSURE OF 100 DECIBELS MAINTAINED 3/4 INCH FROM ARTIFICIAL MOUTH.
2. ZERO DECIBELS EQUALS .0002 DYNES PER SQUARE CENTIMETER.
3. FREQUENCY VARIES ACROSS BROAD BAND (500-2500 CYCLES PER SECOND) AT A UNIFORM RATE OF 5.5/9 TIMES PER SECOND.
4. SOUND OUTPUT, IN DECIBELS, IS READ ON VOLUME INDICATORS.



## VISUAL SIGNAL DEVICE



## CANDLEPOWER DISTRIBUTION CURVES

## DYNALEC CORPORATION

DYNALEC CORPORATION offers a record of experience, performance and achievement that is ready to work for you. Highest engineering standards assure reliable performance of each sound powered instrument under the most rugged operating conditions. All equipment meets rigid inspection requirements for maximum resistance to shock, vibration, corrosion, temperature and pressure.

Dynalec's USI - Type sound powered telephone equipment consistently meets top specifications for approval by the U.S. Navy, U.S. Coast Guard, U.S. Bureau of Mines, Underwriters' Laboratories, and contract requirements.

Whatever your sound powered communication needs might be, there is a Dynalec system to meet your requirements.

Audio Frequency Amplifier .....	10
Bureau of Mines Approved Stations.....	5
Call Signal Station.....	4
Console Control Box Assembly .....	6
Extension Cordsets .....	9
Extension Howler .....	5
Extension Signal Relay .....	6
Generator and Crank.....	6
Generator Operated Relay .....	7
Handsets .....	2
Head-Chest Sets .....	3
Headsets .....	3
Holder .....	2,3
Hood .....	5
Industrial Systems .....	5
Jack Boxes .....	7
Jacks .....	9
Navy Type Sytems .....	5
Pocket Telephone.....	7
Plugs.....	9
Rotary Selector Switch.....	8
Spare Parts .....	7, 10
Switch Boxes.....	8
Telephone Test Set.....	10
Visual Signal Device.....	6



87 WEST MAIN STREET  
SODUS, NEW YORK 14551

TELEPHONE 315-483-6923  
FAX 315-483-2298  
FAX 315-483-6656