

INDUSTRIAL SOUND-POWERED TELEPHONE SYSTEMS



INDUSTRIAL USI – TYPE SYSTEMS
BUREAU OF MINES APPROVED

ORDERING INFORMATION

| | TYPE | DYNALEC PART |
|---------------------------------------|------------------------|----------------|
| HANDSET | A257-2UL | 702019-003 |
| HANDSET | A333-S3 | 702019-079 |
| HANDSET | A560 | 702019-675 |
| HANDSET | A555 | 702019-575 |
| HANDSET | A577 | 702019-845 |
| HANDSET | A333-1 | 702019-073 |
| HANDSET HOLDER | 5200 | 701002-947 |
| HANDSET HOLDER | 5201 | 701002-948 |
| HANDSET HOLDER | A815 | 701006-912 |
| HANDSET HOLDER | A281 | 701012-300 |
| HANDSET HOLDER | A325-1 | 702019-125/142 |
| HANDSET HOLDER | Z-33A | 701021-273 |
| HEAD-CHEST SET | A330 | 702019-165 |
| HEAD-CHEST SET | A429 | 702019-325 |
| HEAD-CHEST SET | A602 | 702019-855 |
| HEAD-CHEST SET | A603 | 702019-905 |
| HEADSET | A331 | 702019-245 |
| HEADSET | A332 | 702019-255 |
| HEAD-CHEST SET HOLDER | 5740 | 701005-343 |
| TIEAD OTTEST SET TIGEDETT | | 701000 010 |
| CALL SIGNAL STATION | | |
| COMMON TALKING/COMMON SIGNALLING* | A541 | 702019-455 |
| COMMON TALKING/SELECTIVE SIGNALLING* | A542 | 702019-505 |
| COMMON TALKING/SELECTIVE SIGNALLING* | A543 | 702019-520 |
| SUBSTATION* | A540 | 702019-445 |
| COMMON TALKING/COMMON SIGNALLING** | A544 | 702019-535 |
| COMMON TALKING/SELECTIVE SIGNALLING** | A545 | 702019-545 |
| COMMON TALKING/SELECTIVE SIGNALLING** | A546 | 702019-555 |
| SUBSTATION** | A571 | 702019-835 |
| PROTECTIVE HOOD | | 701000-677 |
| EXTENSION HOWLER | A547 | 702003-239 |
| POCKET TELEPHONE | A278 | 702019-090 |
| MONOPHONE | A734 | 702019-945 |
| GENERATOR-OPERATED RELAY | A537 | 702019-435 |
| JACK BOX | A343-G15A | 702003-473 |
| JACK BOX | A343-G15B | 702003-471 |
| JACK BOX | A343-G15C | 702003-472 |
| VISUAL SIGNAL DEVICE | MIL P/N M16377/27-92.2 | |
| RECEIVER & TRANSMITTER UNIT | UA1614 | 702020-050/064 |
| ROTARY SELECTOR SWITCH, SYMBOL 2788 | A442 | 702019-366 |
| ROTARY SELECTOR SWITCH, SYMBOL 2788.1 | A442S1 | 702000-903 |
| ROTARY SELECTOR SWITCH, SYMBIL 2747.1 | A960S2 | 702014-920 |
| ROTARY SELECTOR SWITCH, SYMBOL 2747 | A960S1 | 702014-919 |
| PANEL-MOUNTED JACK H-27A | UA1076 | 65002-004 |
| WATERTIGHT JACK | A689 | 702003-453 |
| PORTABLE PLUG | A529 | 702004-234 |
| EXTENSION CORDSET, 25-foot | A567-1 | 702019-785 |
| EXTENSION CORDSET, 50-foot | A567-2 | 702019-786 |
| EXTENSION CORDSET, 75-foot | A567-3 | 702019-787 |
| EXTENSION CORDSET, 100-foot | A567-4 | 702019-788 |
| EXTENSION CONDUCT, 100 1000 | | |

^{*} Industrial

^{**}Bureau of Mines Approved.

ORDERING INFORMATION (cont.)

| | TYPE | DYNALEC PART |
|-----------------------------|------------|--------------|
| EXTENSION CORDSET, 25-foot | A804-1 | 702019-961 |
| EXTENSION CORDSET, 50-foot | A804-2 | 702019-962 |
| EXTENSION CORDSET, 75-foot | A804-3 | 702019-963 |
| EXTENSION CORDSET, 100-foot | A804-4 | 702019-964 |
| SWITCH BOX | A17A | 65002-700 |
| SWITCH BOX | A19A | 65002-705 |
| | No. 2924.1 | 702003-464 |
| STOWAGE BOX, 2 Compartments | 2925.1 | 702003-465 |
| STOWAGE BOX, 3 Compartments | 2926.1 | 702003-466 |
| STOWAGE BOX, 4 Compartments | 2927.1 | 702003-467 |
| STOWAGE BOX, 5 Compartments | 2928.1 | 702003-468 |
| STOWAGE BOX, 6 Compartments | 2929.1 | 702003-469 |

SYSTEM FEATURES

- Dynalec USI-Type sound-powered principle eliminates the need for an external power source or batteries.
- User's voice creates all of the necessary power.
- Reliable communications are never interrupted by a power failure.
- Ideal for use in airport, fire and police rescue crews, public utilities, schools, vaults, refrigeration plants and civil defense.
- Where outside power is not available, sound-powered telephones provide communication for bridge construction, diving projects and geophysical operations. Also sound-powered telephones are used in isolated areas such as oil fields, parks and forests, railroad, and salvage yards.
- Sound-powered telephone systems offer clear transmission for accurate and understood communication in high-noise locations such as foundries, heavy manufacturing plants, shipping docks, 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, and nuclear installations.
- Lightweight and portable, the equipment is user-friendly. A minimum of instruction is necessary to operate units comfortably and effectively.
- Dynalec manufactures sound-powered telephone systems which conform to military specifications, meet industrial standards, and are approved by the Bureau of Mines.

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Sound-powered handsets are designed for reliable service under adverse conditions. Handset is weatherproof and equipped with blast-stop screws. Uses plug-in type transmitter and receiver units.

Handset is nine inches long and weighs approximately 20 ounces without a cord.

HANDSET

TYPE A257-2UL

DYNALEC PART 702019-003

Handset carries Underwriters Laboratory approval for use in hazardous, Class I, Group D environments. Comes equipped with a 4-1/2-foot, rubber-covered cord.

HANDSET

TYPE A333-S3

DYNALEC PART 702019-079

6-foot, rubber-covered cord, 1-foot coiled; Press-To-Operate Switch.

HANDSET TYPE A560

DYNALEC PART 702019-675

Weatherproof handset with built-in Press-To-Operate Switch which connects the handset to the line. When the switch is inactive, the handset can not introduce extraneous noise to the line. A sturdy, heavy-duty set with plug-in units.

Comes complete with 4-foot, heavy-duty, rubber-covered cord.



HANDSET TYPE A555

DYNALEC PART 702019-575

Same as Type A560 without switch. Comes with 4-foot, rubber-covered cord.

HANDSET TYPE A577

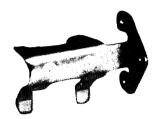
DYNALEC PART 702019-845

4-foot, rubber-covered cord with alligator clips; without switch.

STANDARD MOUNTING HOOK TYPE 5200 DYN

DYNALEC PART 701002-947

Standard for left-hand mounting on signal boxes and other locations.



STANDARD MOUNTING HOOK

TYPE 5201 DYNALEC PART 701002-948

Standard for right-hand mounting on signal boxes and other locations.

RIGID FRAME HANDSET HOLDER TYPE A815 DYNALEC PART 701006-912

Rigid 0.1875-inch diameter stainless steel rod frame with molded phenolic ball which slips into transmitter mouthpiece to hold handset securely in place.



LOCKING TYPE HANDSET HOLDER TYPE A281 DYNAMIC PART 701012-300

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



LOCKING TYPE HANDSET HOLDER TYPE A325-1 DYNALEC PART 702019-125/142

Multiple mounting hook. Similar to Type A281, having eight switching arrangements, utilizing up to six switch springs. The switch is activated by removing and replacing the handset. All contacts are break-before-make and are rated at 115 VAC, 0.5 Amp, 60 Hz, or 24 VAC, 1.0 Amp, 60 Hz.

HANDSET HOLDER TYPE Z-33A

DYNALEC PART 701021-273

Body of the holder is manufactured of brass and includes a pressure leaf spring to keep the handset secure, and mounting holes.



Sound-powered head-chest set is useful wherever the operator must have hands free.

HEAD-CHEST SET TYPE A330

DYNALEC PART 702019-165

Heavy-duty, weatherproof double receiver set for a wide variety of uses wherever operator must have hands free. Supplied with 10-foot, heavy-duty, rubber-covered cord. Not equipped with Press-to-Talk Switch.



HEAD-CHEST SET

TYPE A429

DYNALEC PART 702019-325

Similar to Type A330, but has a single receiver, no switch, 10-foot cord.

HEAD-CHEST SET

TYPE A602

DYNALEC PART 702019-855

Same as Type A330, but comes equipped with Press-To-Talk Switch.

HEAD-CHEST SET

TYPE A603

DYNALEC PART 702019-905

Single receiver with Press-To-Talk Switch.

HEADSET

TYPE A331

DYNALEC PART 702019-245

Weatherproof. Double-receiver type with a 19-inch rubber-covered cord and lug terminals.

HEADSET TYPE A332

DYNALEC PART 702019-255

Weatherproof. Single receiver type headset with a 19-inch rubber-covered cord and lug terminals.

HEAD-CHEST SET HOLDER
TYPE 5740 DYNALEC PART 701005-343

A bulkhead-mounted device which holds all models headset-chest sets. Formed from 0.1875-inch diameter stainless steel rod. Manufactured to BUSHIPS Drawing 815-1853041.



POCKET TELEPHONE TYPE A278

DYNALEC PART 702019-090

Combined sound-powered receiver and transmitter. 2.375-inch diameter with a 3.5 inch rubber-covered cord. Ideal for testing or periodic reports to a central station. Weighs 7 ounces without a cord.



PANEL-MOUNTED JACK TYPE UA1076

DYNALEC PART 65002-004

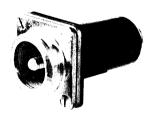
Made of solid brass and stainless steel with phenolic insulation block.

WATERTIGHT JACK TYPE A689

DYNALEC PART 702003-453

Portable watertight jack accepts either the UA1000 or the A529 portable plug.



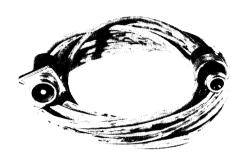


PORTABLE PLUG TYPE A529

DYNALEC PART 702004-234

A portable plug for 0.25 inches to 0.3125 inches diameter cords.

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EXTENSION CORDSETS

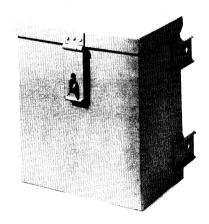
| TYPE | EQUIPMENT | DYNALEC PART |
|--------|------------------------------|--------------|
| A567-1 | 25-foot Cord/Jack and Plug | 702019-785 |
| A567-2 | 50-foot Cord/Jack and Plug | 702019-786 |
| A567-3 | 75-foot Cord/Jack and Plug | 702019-787 |
| A567-4 | 100-foot Cord/Jack and Plug | 702019-788 |
| A804-1 | 25-foot Cord with two Jacks | 702019-960 |
| A804-2 | 50-foot Cord with two Jacks | 702019-961 |
| A804-3 | 75-foot Cord with two Jacks | 702019-962 |
| A804-4 | 100-foot Cord with two Jacks | 702019-963 |

Types A567-1 to A567-4 include an A689 Jack and an UA1000 Plug, SJO Cable in lengths of 25 feet, 50 feet, 75 feet, and 100 feet respectively. Types A804-1 to A804-4 include two A689 Jacks, SJO Cable in lengths of 25 feet, 50 feet, 75 feet, and 100 feet, respectively.

STOWAGE BOXES

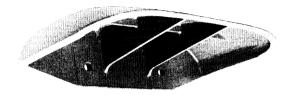
Drip-proof stowage boxes for headset-chestset storage. Shock-tested per MIL-S-901C. Manufactured per BUSHIPS 815-1853040.

| COMPARTMENTS | SYMBOL NO. | DYNALEC PART |
|----------------|------------|--------------|
| 1 Compartment | 2924.1 | 702003-464 |
| 2 Compartments | 2925.1 | 702003-465 |
| 3 Compartments | 2926.1 | 702003-466 |
| 4 Compartments | 2927.1 | 702003-467 |
| 5 Compartments | 2928.1 | 702003-468 |
| 6 Compartments | 2929.1 | 702003-469 |
| | | |



PROTECTIVE HOOD DYNALEC PART 701000-677

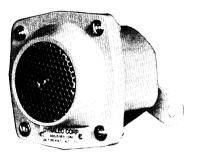
All aluminum station hood protects the Call Signal Station from dripping water or falling debris. Includes three-point mounting. Size of station with hood measures 12" wide, 13" high, and 6.125" deep. Weighs 2-1/2 lbs.



EXTENSION HOWLER A547

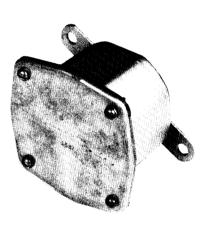
DYNALEC PART 702003-239

Provides call signals at a remote location when connected in parallel with the howler in any station.



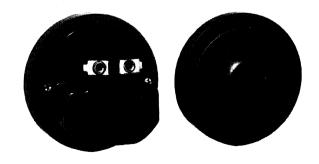
GENERATOR-OPERATED RELAY TYPE A537 DYNALEC PART 702019-435

Used to control externally powered signalling devices, such as the Visual Signal Device. Controls 115-volt power circuits with up to 1.5-Amp non-inductive load. Watertight brass case.



RECEIVER/TRANSMITTER UNITS TYPE UA1614-1/15 DYNALEC PART 702020-050/064

A series of receiver and transmitter units for sound-powered telephones, wall phones and head-chest sets. Available with warble frequency impedances from 12 to 28,000 Ohms. Weighs 3 ounces.



VISUAL SIGNAL DEVICE



MIL P/N M16377/27-92.2 DYNALEC PART 701021-250

Effective in high ambient noise areas, the Visual Signal Device provides a visual indication when there is an incoming call at the station. Requires an external power source. Can be bulkhead or overhead mounted.

WATERTIGHT JACKBOX TYPE A343 G15A SYMBOL NO. 2841

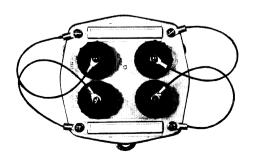
DYNALEC PART 702003-473

For use with sound-powered equipment using the UA1000 H39A or A529 portable plugs. Jack is designed to prevent short circuits from water entry into the enclosure when the cap is not covering the jack.

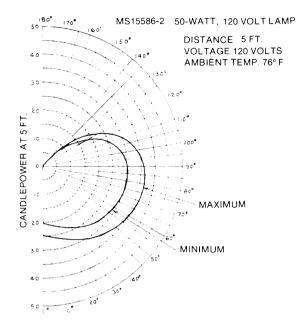
WATERTIGHT JACKBOX TYPE A343 G15B SYMBOL NO. 2842

DYNALEC PART 702003-471

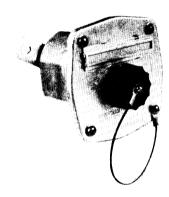
Similar to above but with two jacks.

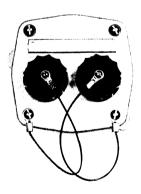


VISUAL SIGNAL DEVICE



CANDLEPOWER DISTRIBUTION CURVES





WATERTIGHT JACKBOX TYPE A343 G15C SYMBOL NO. 2843

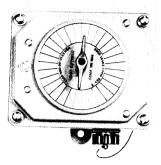
DYNALEC PART 702003-472

Similar to A343 G15A, but has provisions for four jacks.

ROTARY SELECTOR SWITCH 30-POSITION SWITCH WITH LIGHTED DIAL, SYMBOL 2747.1 30-POSITION SWITCH WITHOUT LIGHTED DIAL, SYMBOL 2747

DYNALEC PART 702014-920 DYNALEC PART 702014-919

A selector switch having 30-positions. Available with and without lighted dial.



ROTARY SELECTOR SWITCH
TYPE A442S1 DYNALEC PART 702000-903
SYMBOL NO. 2788.1

Watertight, 16-position enclosed switch equipped with a panel-mounted jack for the connection of handset or headset. Operator may select any of 16 circuits. Switch has silver-plated, wiping contacts. Lighted dial for night use.



Similar to Type A442S1, but without lighted dial.



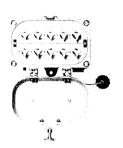
A watertight switch box which provides flexibility in establishing sound-powered circuits. Equipped with 10 TYPE S-2JF1 rotary switches. Wiring diagram is included on the inner side of the hinged cover; dust cap with safety cable for panel-mounted jack; terminal board connected.

SWITCH BOX TYPE A19A, SYMBOL NO. 2861.1 DYNALEC PART 65002-705

Similar to TYPE A-17A, except it contains 20 switches.









DYNALEC PART 61660-000

*A separate product sheet is available on request.

^{*}AUDIO FREQUENCY AMPLIFIER, AM-2210G/WTC

CALL SIGNAL STATION

| | TYPE | DYNALEC PART |
|-------------------------------------|--------------|--------------|
| COMMON TALKING/COMMON SIGNALLING | A541 | 702019-455 |
| COMMON TALKING/SELECTIVE SIGNALLING | A 542 | 702019-505 |
| COMMON TALKING/SELECTIVE SIGNALLING | A543 | 702019-520 |
| SUBSTATION | A540 | 702019-445 |
| COMMON TALKING/COMMON SIGNALLING | A544 | 702019-535 |
| COMMON TALKING/SELECTIVE SIGNALLING | A 545 | 702019-545 |
| COMMON TALKING/SELECTIVE TALKING | A 546 | 702019-555 |
| SUBSTATION | A571 | 702019-835 |

Three basic types of units are offered:

COMMON TALKING/COMMON SIGNALLING is a simple party line system for up to six stations.

COMMON TALKING/SELECTIVE SIGNALLING enables communication with only the called station. TYPE A542 allows for up to eight stations within the system. TYPE A543 can include up to 16 stations.

The **SUBSTATION** unit is used in a Master Station/Substation System. The Master Station unit can be either the Common Talking/Selective Signalling units A542, A543, A545, or A546. The Substation unit can receive calls and can originate calls only with the master station. The number of units on line depends on the number of positions on the master station selector switch.

Types A540 to A543 are industrial units, mainly intended for use in typical environments where there are not the presence of any gaseous hazards. Types A544, A545, A546, and A571 are approved by the Bureau of Mines for use in hazardous areas. Tested in methane-air mixtures only. Bureau of Mines Approval Number 905.

High efficiency transducers in each telephone provide voice reception comparable in volume to public telephone systems. The system can provide up to 16 sound-powered (point-to-point), communications at various locations. Also, it does not require an external power source. Ringing is accomplished by a hand-cranked magneto (generator), producing sufficient power to operate a howler at the called station. Common Talking/Selective Signalling units include a multi-position selector switch. These units are designed for use in adverse conditions

The Call Signal Station measures 10-3/4 inches wide, 9-3/4 inches high, and 5-3/4 inches deep. It weighs 10 lbs.

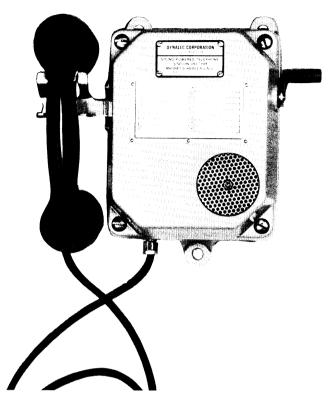
REPLACEMENT PARTS FOR THE CALL SIGNAL STATION*

The following are the recommended spare parts for the Call Signal Station:

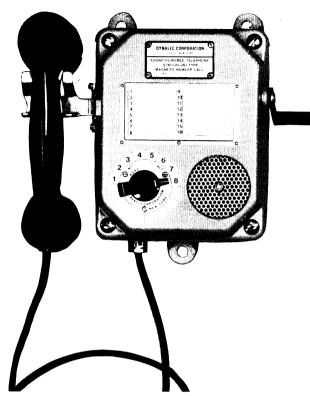
Generator
Generator Handle Assembly
Howler Unit
Howler Guard Assembly
Cover Gasket
Rotary Selector Switch
Switch Knob

DYNALEC PART 702019-300
DYNALEC PART 701021-600
DYNALEC PART 702020-056
DYNALEC PART 65002-226
DYNALEC PART 701000-623
DYNALEC PART 702020-030
DYNALEC PART 701003-047

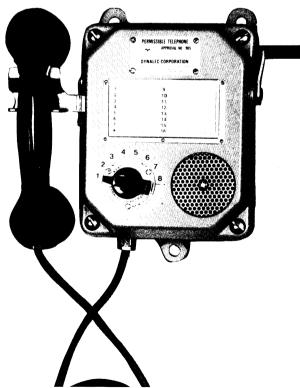
^{*}Replacement parts may be ordered from your distributor.



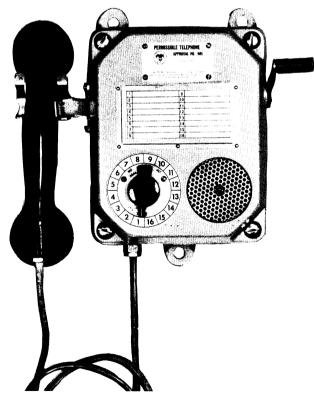
COMMON TALKING/COMMON SIGNALLING (INDUSTRIAL TYPE) TYPE A541



COMMON TALKING/SELECTIVE SIGNALLING (INDUSTRIAL TYPE) TYPE A542

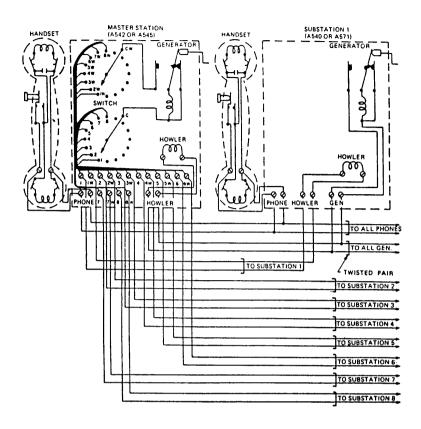


COMMON TALKING/COMMON SIGNALLING (BUREAU OF MINES APPROVED) TYPE A545

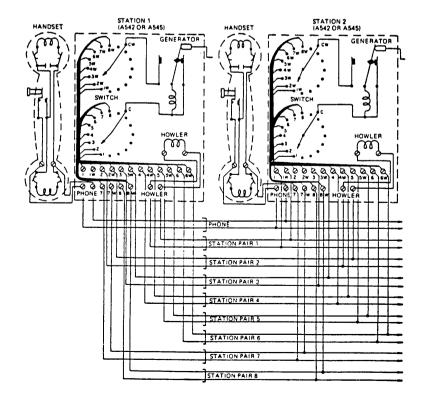


COMMON TALKING/SELECTIVE SIGNALLING (BUREAU OF MINES APPROVED) TYPE A546

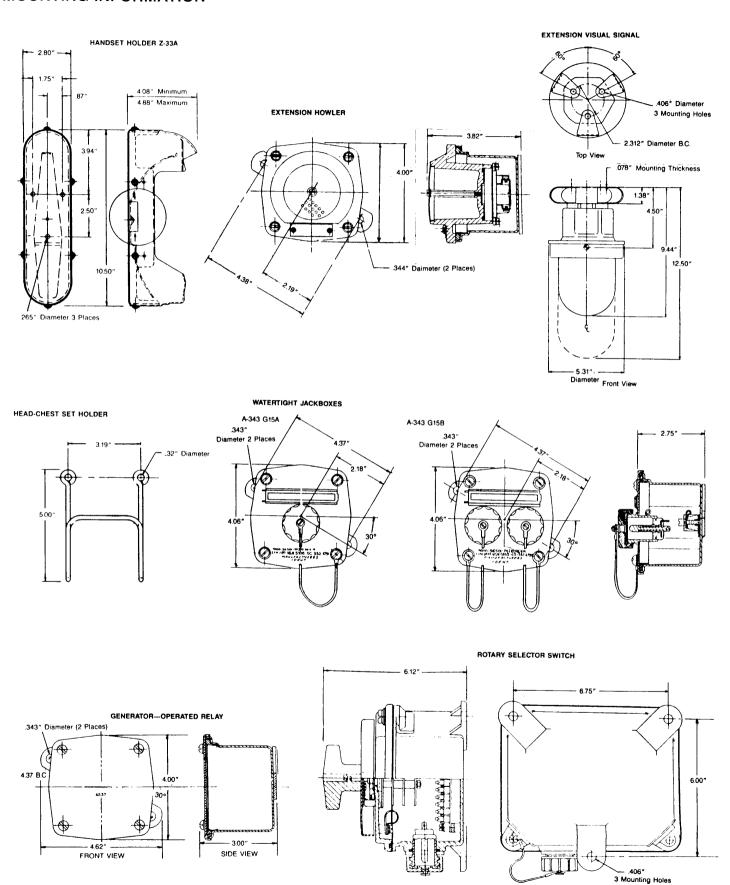
TYPICAL CALL SIGNAL STATION SYSTEMS TYPICALLY USING MASTER STATION AND SUBSTATIONS



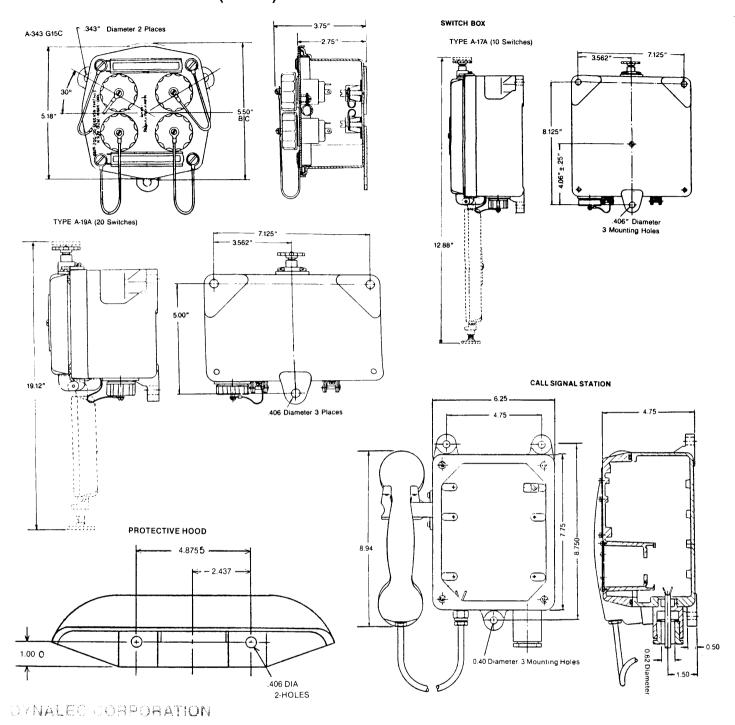
TYPICALLY USING MASTER STATIONS



MOUNTING INFORMATION



MOUNTING INFORMATION (CONT.)



For over thirty years, Dynalec Corporation has established a solid reputation for quality, design excellence and manufacturing expertise. With unsurpassed attention to detail and strict adherence to specifications and all other standards, Dynalec continues to strive to provide its customers with reliable products. Dynalec is ready to offer information about its products or quote on any product.