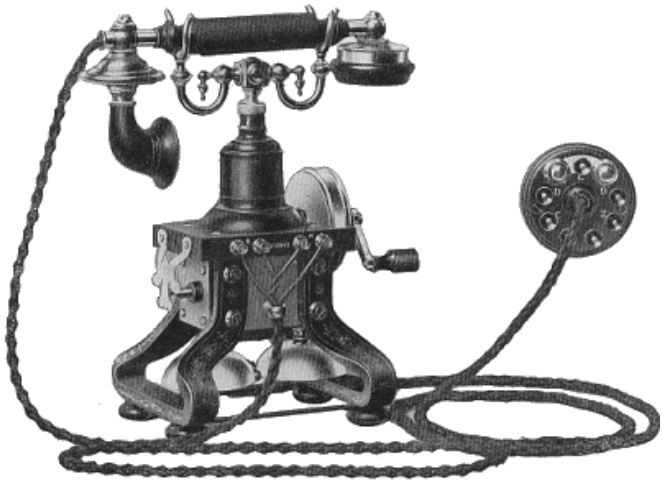
Magneto Table Telephone



N 2000

This exclusive instrument is a masterpiece of unique design and is undoubtedly the handsomest set in the industry.

The micro-telephone rests on a cradle which operates the switch springs.

The generator armature is totally enclosed and the 2 magnets of large cross section also form the legs of the telephone.

The generator will operate a 1000 ohm ringer satisfactorily through a line resistance up to 15,000 ohms.

The ringer has a resistance of 1000 ohms and the sound from the domes is not restricted, although they are well protected from accidental damage.

The cord connections from the micro-telephone and terminal block are made to terminals on the ebonite base-plate.

A disc type lightning arrester is fitted on the terminal block.

For suitable battery box and cells see " Accessories and Parts Section."

Micro-telephone N5803

Micro-telephone cord N4002

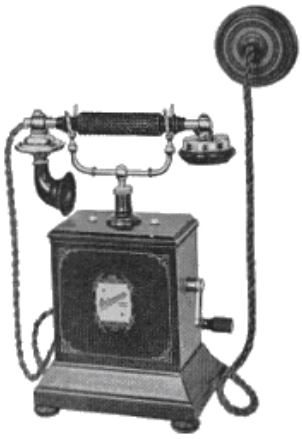
Terminal block cord N4091

Overall dimensions 12 x $10^{1}/_{4}$ x 5½ inches.

Weight $11^{3}/_{4}$ lb.

Code word NACALL

Magneto Table Telephone



N 2100

The case is constructed in three parts: the base and body of metal black enamelled, and the top of hardwood ebonized.

The body is relieved by gold transfers of artistic design.

This is the standard table instrument for all kinds of magneto working up to the largest installation.

Generator: 4 magnets.

Ringer: 1000 ohms.

The working parts and terminals are totally enclosed, making the set very compact.

A lightning arrester is fitted in the terminal block.

Micro-telephone N5802

Micro-telephone cord N4001

Terminal block cord N4090

Overall dimensions 13 x $10^{1}/_{4}$ x 5½ inches.

Weight 11½ lb.

Code word NACMAL

If specially ordered, we can supply this set with a 300 ohm ringer, i.e., series circuit.

Magneto Table Telephone

N 2150

The case of this instrument is built up from three parts : the base, the body and the top, all made of pressed steel and finished in a durable black enamel.

The body is relieved by gold lines.

Generator: 5 magnets.

Ringer: 2000 ohms.

The terminals of this instrument and terminal block are all enclosed and a lightning arrester is fitted in the latter.

This telephone is eminently suitable where a more powerful generator than that fitted in the one above is desired.

Micro-telephone N5802

Micro-telephone cord N4001

Terminal block cord N4090

Overall dimensions 12 x $10^{1}/_{4}$ x 6 inches.

Weight $10^{3}/_{4}$ lb.

Code word NACBSA

For suitable battery box and cells for the above instruments, see " Accessories and Parts Section."

Magneto Wall Telephone

N 2200

This instrument, designed for short or moderately long lines, is specially suitable for private installations, such as works, warehouses, hospitals and public buildings.

The case work is matt polished hardwood with metal fittings finished in good quality black and copper bronze.

Polarized ringer 1 000 ohms.

The 3-magnet generator will ring satisfactorily a 1000 ohm ringer through a non-inductive resistance of 15 000 ohms.

Enclosed terminals for connecting the lines and speaking battery; the latter is usually fitted in a separate box.

Micro-telephone N5801

Cord N4000

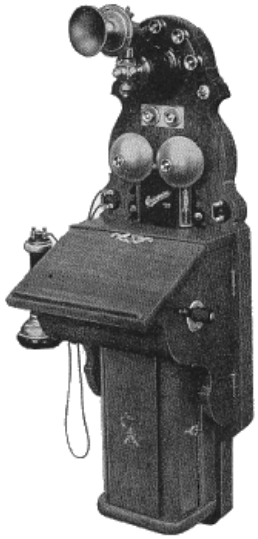
Dimensions $11^{1}/_{4}$ x $6^{3}/_{4}$ x 5 inches

Weight 8 lb.

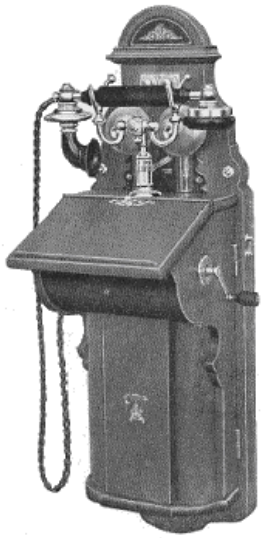
Code word NACOLA

For suitable battery box and cells, see " Accessories and Parts Section."

Magneto Wall Telephone



N 2260



N 2270

High grade, original design, small type wall pattern, with battery compartment, writing desk and paper clip.

Suitable for small or medium size magneto exchanges.

The woodwork is matt polished, relieved by gold lacquered and nickel-plated metal fittings.

Generator, 3-magnet, will operate effectively through a line resistance of 20,000 ohms.

Polarized ringer 300 ohms.

Terminals for lines and extension bell.

The terminals on type N2270 are enclosed in the semi-circular compartment at the top.

The battery compartment will accommodate two cells each having maximum dimensions of 4 x 2 x 7½ inches for N2260, and $3^5/_8$ x $2^3/_4$ x $7^3/_4$ inches for N2270.

Highly efficient disc type lightning arresters are fitted.

Receiver N6803

Cord N4061

Transmitter N7704

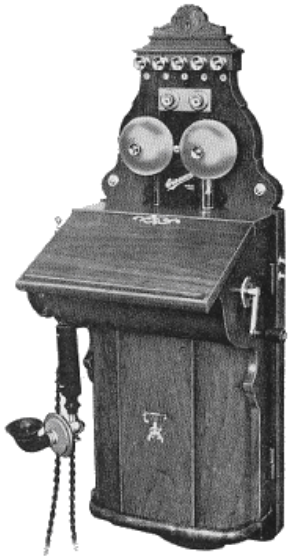
Micro-telephone N5800

Cord N4000

Code No.	Circuit	Dimensions inches	Weight lb.	Code word
N2260	Series	29¼ x 11¼ x 9	16¾	NACOUL
N2270	Series	28¼ x 9 x 9½	18	NACCHA

If specially ordered, we can supply these instruments with 1 000 ohm ringers and wired for bridging circuit.

Magneto Wall Telephone



N 2300

N 2350

Substantial, artistically designed, high-grade instruments, suitable for large magneto exchanges, long lines or heavy load bridging work, giving the most efficient service at low maintenance cost.

Matt polished woodwork, with battery compartment for two large cells each having maximum dimensions of $3^3/_4$ x $3^3/_4$ x $7^3/_4$ inches. (For suitable wet or dry cells see " Accessories and Parts Section.")

The exterior metal parts are given a superior nickel plate and gold lacquer finish. The writing desk is fitted with a paper clip.

Powerful generators which automatically cut out the home ringer and operate satisfactorily a 1 000 ohm ringer through a line resistance up to 30,000 ohms.

The terminals on the N2350 type are enclosed in the semi-circular compartment at the top.

The wiring is so arranged that a condenser may be readily added in the ringer or receiver circuit, as desired, for auto clear systems or bridging work.

Disc type lighting arresters are fitted.

Micro-telephone N5801
Cord N4000

Micro-telephone N5800
Cord N4000

Code No.	Circuit description	Generator Magnets	Ringer Ohms.	Dimensions inches	Weight lb.	Code word
N2300 N2301	Standard bridging set Bridging set, heavy load	4 5	1000 2000	$28\frac{1}{4}$ x $11\frac{3}{4}$ x 10 $28\frac{1}{4}$ x $11\frac{3}{4}$ x 10	$19\frac{1}{4}$ 20	NACPAA NACDAB
N2350 N2351	Standard bridging set Bridging set, heavy load	4 5	1000 2000	$28\frac{1}{4}$ x $10\frac{1}{4}$ x 10 $28\frac{1}{4}$ x $10\frac{1}{4}$ x 10	$20\frac{1}{4}$ $20\frac{3}{4}$	NAODFA NAODSM

Magneto Wall Telephone

N 2500

A robust and powerful instrument, specially designed where a separate receiver and transmitter is desired.

Matt polished woodwork with the metal fittings finished in good quality, black and copper bronze.

All terminals are enclosed.

Sensitive polarized ringer.

Powerful generator.

Solid back transmitter.

Double pole " Bell " receiver.

Induction coil.

The battery compartment will accommodate 2 cells each having maximum dimensions of $3^7/_8$ x $3^7/_8$ x 7½ inches.

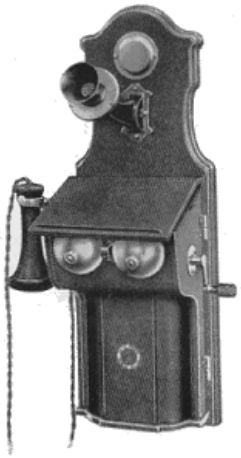
The wiring is so arranged that a condenser may be readily added in the ringer or receiver circuit, as desired.

Receiver N6801
Cord N4060
Transmitter N7701

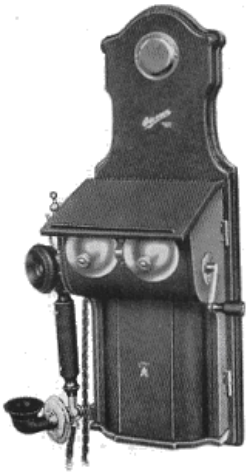
Code No.	Circuit description	Generator Magnets	Ringer Ohms.	Dimensions inches	Weight lb.	Code word
N2500	Standard bridging	4	1000	$16\frac{3}{4}$ x 10 x $10\frac{1}{2}$	17	NAOFAL
N2501	Heavy bridging	5	2000	$16\frac{3}{4}$ x 10 x $10\frac{1}{2}$	18	NAOSAM

A similar instrument, without generator, can be supplied for use on central battery signalling systems.

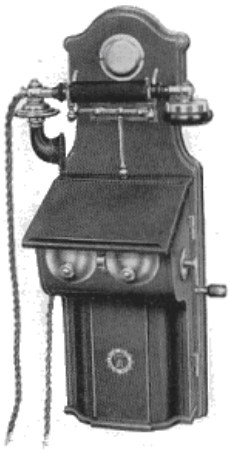
Steel Case Magneto Wall Telephones



N 2800



N 2830



N 2860

The case is built up from pressed steel, finished with a pleasing and durable black enamel, relieved by nickel-plated metal fittings and incorporating a convenient writing desk.

Separate receiver and transmitter, hanging micro-telephone or micro-telephone resting on a cradle, as desired.

The generators will operate a 1 000 ohm ringer satisfactorily through a line resistance up to 30,000 ohms.

Polarised ringers - for resistance see table below.

The transmitter arm on N2800 type is adjustable for height.

The terminals are enclosed, mounted on ebonite, and all parts of the circuit are very efficiently insulated from the case.

A lightning arrester is fitted.

The battery compartment will accommodate 2 dry cells each having maximum dimensions up to $2^1/_4$ x $2^1/_4$ x 6½ inches.

Receiver N6801
Cord N4060
Transmitter N7705

Micro-telephone N5801
Cord N4000

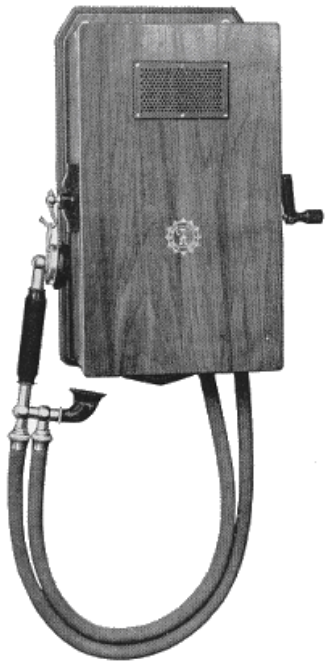
Micro-telephone N5800
Cord N4000

Code No.	Circuit description	Generator Magnets	Ringer Ohms	Dimensions inches	Weight lb.	Code word
N2800	Standard bridging	4	1000	22⅛ x 10½ x 8½	16½	NAOJAA
N2801	Heavy bridging	5	2000	22⅛ x 10½ x 8½	17½	NAOJLB
N2830	Standard bridging	4	1000	22⅛ x 10½ x 7¼	16	NAOJDL
N2831	Heavy bridging	5	2000	22⅛ x 10½ x 7¼	17	NAOJPM
N2860	Standard bridging	4	1000	22⅛ x 8 x 7¼	16¼	NAOXGA
N2861	Heavy bridging	5	2000	22⅛ x 8 x 7¼	17¼	NAOXUM

For tropical climates these instruments are specially treated, and are not fitted with lightning

Magneto Wall Telephone

("High Tension")



N 2950

N 6505

N 8518

This set is specially designed for use on installations where there is any risk of the telephone lines being brought into contact with lines carrying high-tension currents.

The case is of polished walnut, lined on the inside with tinned steel plates which are in connection with the earth terminal.

The micro-telephone is a dummy acoustically connected, by means of two special vulcanised rubber tubes 39 inches long, to the transmitter and receiver which are fitted inside the case.

The 5-magnet generator and 2000 ohm ringer renders this set very efficient on long lines and heavy bridging work.

Space is provided for two dry cells each having maximum dimensions of 7½ x 3½ x $1^{3}/_{4}$ inches.

A special protector is fitted internally, consisting of carbon arresters and heat coils.

All external parts liable to be touched are perfectly insulated from the internal working parts and circuit : the generator crank and switch arm being made of solid ebonite of massive proportions.

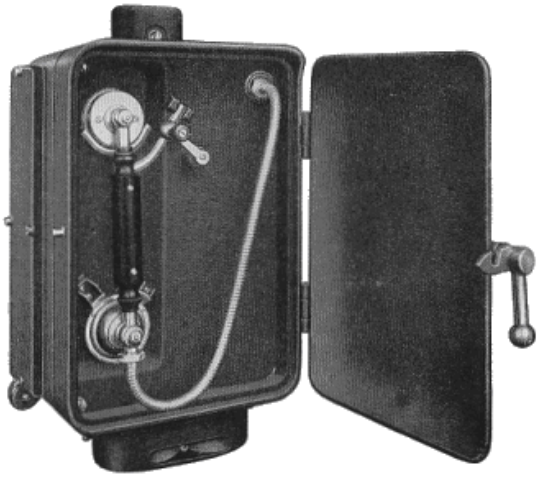
Dry cells are included.

N6505 protector fuse consists of two fuses N4600 mounted on a marble base and having a metal cover in contact with a terminal which should be connected to earth. The protector should be fitted near to the point where the telephone lines enter the building.

N8518 discharge coil is specially designed to reduce the disturbances from high-tension conductors which may be in close proximity to the telephone lines, and should be fitted at various points along the line.

Code No.	Apparatus	Dimensions inches	Weight lb.	Code word
N2950	Telephone	21½ x 11¼ x 7½	39	NACZFA
N6505	Protector, Fuse	16 x 5¾ x 4¼	7¾	NAGFAS
N8518	Discharge Coil	6¼ x 3¾ x 2⅞	3	NAJSMX

Iron-Cased Magneto Wall Telephone



N 2960

OPEN FOR USE

N 2960

CLOSED

The special arrangements made in the design of this instrument make it very suitable for use in places exposed to damp or rough usage, such as railway and ship yards, factories, traction routes and all other out-door installations.

Fine quality cast-iron case made in three main portions-the body, the inner door, and the outer door-finished in black enamel.

The body contains the terminals, lightning arrester, induction coil, generator and ringer movement with a hammer which operates through a gland to the outside where the gongs are fitted and protected so as not to deaden the sound; also a separate compartment is provided for 2 dry cells and fitted with a removable cover at the side. The maximum dimensions of each cell are $2^1/_4$ x $2^1/_4$ x 5½ inches.

The inner door, when closed, renders the body watertight and only exposes the microtelephone, switch hook and generator handle, which are similarly protected when the outer door is closed.

The micro-telephone is firmly held on the switch hook by means of projecting pads which bear on the transmitter case, thus making the switch hook more reliable, as it is not entirely dependent on gravity.

Fitted with interchangeable inset type transmitter, patent hygienic mouthpiece, and waterproof cord protected from mechanical damage by a flexible metallic tube.

Two holes are provided on the top of the case for leading in the external wires, and are so formed that they may be hermetically sealed with a suitable compound after the wires are lead in ; also the top portion of each hole is threaded so that screwed tubing may be used to protect the wires.

	DIMENSIONS	WEIGHT
Generator 5-magnet	Height 18 inches	63 lb.
Ringer 2000 ohms	Width 11 inches	
Dry cells are included	Depth 7 inches	
Code word NACKGL		

Mining Magneto Wall Telephone

N 2980
OPEN FOR USE

N 2980
CLOSED

Designed substantially and specially for use in mines and where the conditions are detrimental to ordinary type telephones.

Explosion-proof and watertight, complies with the Home Office recommendations for safety in mines.

The apparatus in the inner compartment is sealed by the inner door, which is fastened by heavy machine screws, arranged for attaching a seal, if desired.

The cut-out on the generator is totally enclosed, making it absolutely impossible for open sparking to take place.

The outer door, fitted with a slam catch, makes the case quite watertight and protects the speaking equipment from mechanical damage and dirt.

Two all-metal receivers with flexible arms and the transmitter are mounted as an integral unit, and when raised for use automatically operates the switch for connecting the speaking battery.

Transmitter: Interchangeable " inset " type protected by moisture-proof shield and metal grid.

Generator: 2 special large section magnets equal to 5 of the ordinary size.

Ringer: 2000 ohms with the hammer operating (through a gland) between two extra large gongs which are well protected.

Dry cells are included.

The terminals for the line, extension bell or relay and also for external speaking battery, if desired, are mounted at the bottom of the case in a separate compartment which may be sealed with a suitable compound. The speaking battery is normally fitted in the inner compartment.

The apparatus, coil windings and wiring are specially treated to prevent the detrimental and corrosive effects of moisture and gases, etc.

A diagram of the connections is supplied with each instrument.

N2980 has a cast-iron case	Weight 80 lb.	Code word NACKJA
N2981 has an aero-engine quality aluminium case	Weight 41 lb.	Code word NACxxM

Height 16½ inches Width 13½ inches Depth 10 inches

NOTE.-Mining switchboard N515, illustrated and described on page 53, is suitable for use with these telephones.

Switchboards

INDEX

Table showing Old Catalogue Numbers of Switchboards, and the Corresponding Numbers in this Catalogue

Old No	New No.	Old No.	New No.
OA150	N500	OB110/10	N586
OA500/3	N503	OB110/12	N587
OA500/4	N504	OB110/15	N588
OA500/5	N505	OB110/20	N589
OA500/6	N506	OB110/25	N590
OA600/5	N540	OB450/6	N620
OA600/6	N541	OB450/9	N621
OA600/10	N542	OB450/12	N622
OA600/12	N543	OB450/16	N623
OA600/15	N544	OB450/20	N624
OA800/10	N560	OB450/25	N625
OA800/16	N561	OB450/30	N626
OA800/20	N562	OB2600/20	N640
OA800/25	N563	OB2600/25	N641
OA800/30	N564	OB2600/30	N642
OA800/35	N565	OB2600/40	N643
OA800/40	N566	OB2600/50	N644
OA800/50	N567	OB2600/60	N645
OB110/2	N580	OB2600/80	N646
OB110/3	N581	OB2600/100	N647
OB110/4	N582	OB2601/100	N650
OB110/5	N583	OB2601/160	N651
OB110/6	N584	OB2601/200	N652
OB110/8	N585		

C.B. Table Switchboards

Cordless

N 100

These switchboards are very compact and are designed to be placed on a table or shelf.

They are for use as Private Branch Exchanges in connection with the larger C.B. Public Exchanges.

The woodwork is matt polished and the metal fittings are finished in black and copper bronze.

The connections are made by means of keys, and the broad lines, in different colours, extending right across the keys, indicate more clearly the connections made, and thereby eliminate operating errors.

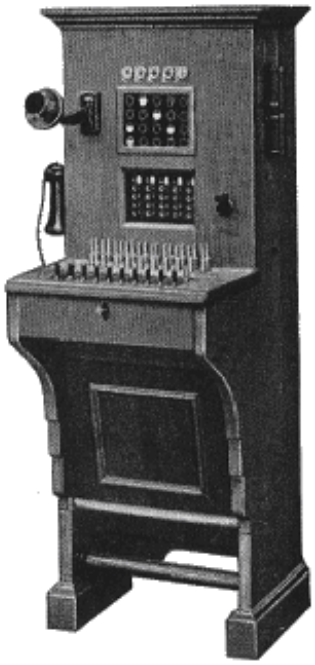
The extension lines are fitted with our totally enclosed self-restoring indicators which also act to give positive supervision. The exchange lines are fitted with our standard hand-restored drop indicators.

A hand generator for calling the extension telephones, and a buzzer to give the alarm when an indicator is actuated.

A special feature of these and our larger Branch Exchange Switchboards is the totally enclosed Indicators which prevent damage by operators and also render the boards dust-proof.

Code No.	Equipment			Dimensions inches	Weight lb.	Code word
	Extension Lines	Exchange Lines	Connecting Circuits			
N100	3	1	2	12 x 12¼ x 11¼	33	NAABAL
N120	4	2	3	12 x 14½ x 11¾	45	NAABOA
N140	9	3	5	14½ x 20¼ x 11¾	70	NAABEL
N141	7	3	5	14½ x 20¼ x 11¾	67	NAABEM

C. B. Floor Switchboard



N 200

This switchboard is designed to occupy small space, and although it stands on the floor it should be installed where it can be fastened to the wall or to supports from the wall.

The woodwork is matt polished and the external metal fittings finished in black and copper bronze.

The extension indicators are the totally enclosed self-restoring type which cannot be tampered with by the operator, and the circuit is so arranged that these indicators also give positive supervision.

The exchange lines are fitted with the hand-restored drop indicators which are robust and not readily put out of order.

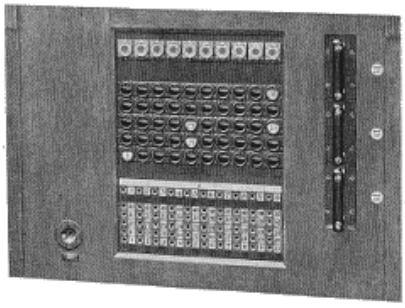
" Bell " receiver resting on switch-hook, solid back transmitter on adjustable arm, alarm which operates when any indicator is actuated, and night switching keys so that the exchange lines may be put through at night to any of the extension telephones.

NOTE :-Supplied also for working to automatic systems.

Code No.	Equipment			Dimensions	Weight	Code word
	Extension Lines	Exchange Lines	Cord Circuits	inches	lb.	
N200	20	5	8	53 x 19¾ x 20	170	Naacaa

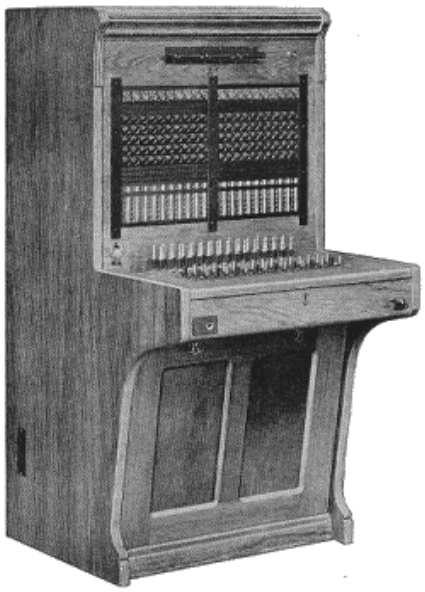
This switchboard can be supplied partially equipped, but wired for the full capacity.

C. B. Floor Switchboards



FRONT PANEL

N 240



N 280

Where an ultimate equipment of more than 25 extension lines is anticipated, these switchboards are eminently suitable; also for small community public exchanges. They are the self-supporting floor pattern.

The woodwork is matt polished, and the external metal of the apparatus and fittings is finished durable black and copper bronze.

Totally enclosed indicators for the extension lines, and the same type mounted on the key shelf gives double negative supervision.

Standard, tubular, iron-sheathed drop indicators for the exchange lines.

Night extension switches, so that the exchange lines may be put through to the extension telephones for night calls.

Alarm bell, switch, hand generator and a jack for testing the cords.

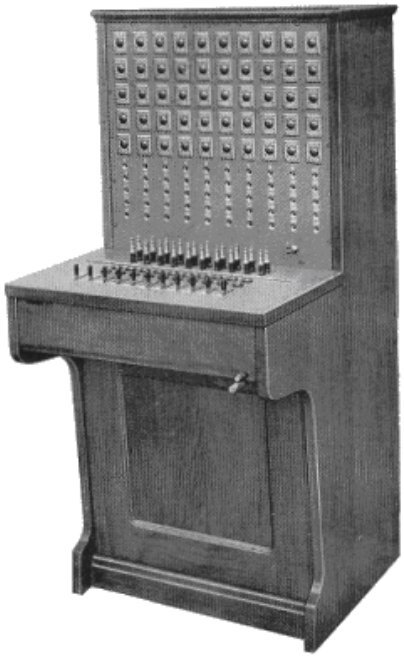
An operator's set consisting of head receiver and breast transmitter is supplied with each switchboard.

NOTE.-These switchboards can also be supplied for working to automatic systems.

Code No.	Equipment			Dimensions inches	Weight lb.	Code word
	Extension Lines	Exchange Lines	Cord Circuits			
N240	50	10	15	55 x 24¼ x 31	330	NAACEL
N280	100	20	17	55 x 28 x 31	400	NAACJA

Partially equipped switchboards may be ordered, but wiring will be included for the ultimate capacities as above, so that additions may be readily made, as required, from time to time.

C. B. Floor Switchboards



N 300

These switchboards are designed for private installations where no junction lines to a public exchange are required.

The woodwork is matt polished and the metal fittings copper-bronze finished.

The " eyeball " type indicators are fitted with unbreakable, transparent, dust-proof covers, and are mounted individually, so that on partially equipped switchboards additions of one line at a time can readily be made.

The supervisory indicators, mounted on the key shelf, are the compact, totally enclosed type arranged to give double negative supervision.

Hand generator with switching key for power ringing. Night bell and key, and transmitter cut-out key.

For the operator's use, a micro-telephone is supplied with each switchboard.

Code No.	Line Circuits	Cord Circuits	Dimensions inches	Weight lb.	Code word
N300	50	10	51 x 24 x 26¾	218	NAADLA
N301	40	8		200	NAADAM
N302	30	6		185	NAAPLO
N303	20	4		167	NAAPAD
N320	100	12	51 x 34 x 26¾	298	NAADOL
N321	90	12		289	NAADOM
N322	80	10		277	NAADOC
N323	70	10		268	NAADOP
N324	60	10		259	NAADOE

Partially equipped switchboards are wired for the ultimate capacities.

C.B. Floor Switchboards

Lamp Signalling

N 360

Switchboards employing lamp signalling throughout have become very popular for private installations.

The framework is matt polished and smaller than that required for magnetic indicator signals.

The line lamps are in strips of 10, and the supervisory lamps mounted individually on the keyboard give double positive supervision.

An alarm bell, to attract attention when a lamp glows, is provided and may be cut off when not required by means of a key.

Hand generator and switching key for power ringing.

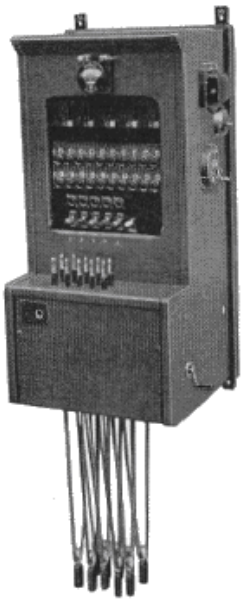
Twenty-four volts are required to operate these switchboards. Partially equipped boards in multiples of 10 lines can be supplied.

Code No.	Line Circuits	Cord Circuits	Dimensions inches	Weight lb.	Code word
N340	50	10	46 x 22 x 29	240	NAAPEL
N360	100	15	46 x 27½ x 29	320	NAAPUA

Where the extension lines are very short and of low resistance, these switchboards can be supplied without line relays.

C. B. S. Table and Wall Switchboards

N 400



N 430

The " central battery signalling " system is developed to meet the case where, owing to the small size of the installation, it is not considered economical to install a full C.B. system.

These switchboards embody the very latest improvements, afford the advantages of automatic call and clear and provide standard operating facilities which are very desirable in areas where the larger exchanges are C.B. or automatic.

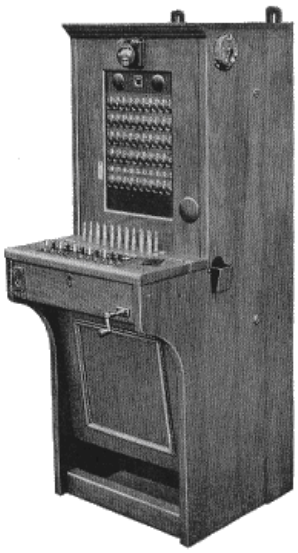
The main features are automatic call, automatic clear, local battery speaking and economy in energy consumption.

The woodwork is matt polished and the metal fittings are finished in black and copper bronze. The totally enclosed type of indicator is fitted in the local or extension lines, and the drop type in the junction or exchange lines.

A 22-volt battery of large type primary cells will operate these switchboards.

Code No.	Pattern	Equipment			Dimensions inches	Weight lb.	Code word
		Exchange Lines	Extension Lines	Cord Circuits			
N400	Table Cordless	1	3	2	14½ x 14¼ x 10⅛	36	NAARAA
N410	„	2	4	3	14½ x 16¼ x 13	49	NAARBA
N420	„	3	9	5	17 x 22¾ x 13	85	NAAROL
N421	„	3	7	5	17 x 22¾ x 13	81	NAAROM
N430	Wall	2	20	5	34¾ x 18 x 15	92	NAARPA
N431	„	2	5	3	34¾ x 18 x 15	84	NAAEDM

C. B. S. Floor Switchboards



N 440

Central battery signalling switchboards are ideal as satelite exchanges in areas where main installations are C.B. or automatic. They are economical compared with full C.B. and give better operating facilities than magneto.

These switchboards are fitted throughout with our totally enclosed type of indicator.

Double positive supervision is provided.

Ticket clip and box for records of special calls.

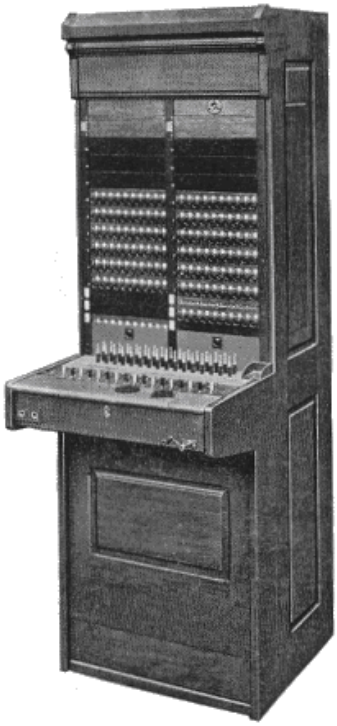
Mounting space for an automatic dial, when required to work in conjunction with an automatic exchange.

Milliampere-meter to detect leakage of current on the lines.

A 22-volt battery of large type primary cells will operate these switchboards.

Code No.	Equipment			Dimensions	Weight	Code word
	Exchange Lines	Extension Lines	Cord Circuits	inches	lb.	
N440	10	40	10	57 x 22 x 26¼	300	Naarel
N441	5	20	7	57 x 22 x 26¼	260	Naaerm

C. B. S. Floor Switchboards



N 450

This size of switchboard is eminently suitable where an ultimate of three operators' positions is anticipated.

It has capacity for 20 incoming junctions, 40 outgoing junctions, 10 miscellaneous circuits, 180 subscribers' lines and 200 multiple.

The local cable supplied and fitted is arranged for 10 incoming junctions, 20 outgoing junctions and 120 subscribers' lines, so that if wiring is required for a greater ultimate equipment, it must be specially ordered.

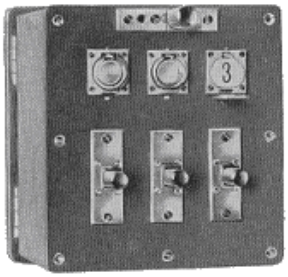
Space is provided on the keyboard for an automatic dial.

Part of the top panel (at the side) is removable, so as to provide cabling space when two or more sections are lined up. A cable rack for supporting the cables is also incorporated in the top panels.

Code No.	Equipment				Dimensions	Weight	Code word
	Out Junctions	In Junctions	Subscribers' Lines	Cord Circuits	inches	lb.	
N450	20	10	120	16	77 x 25 x 35¼	560	NAARFA
N451	20	10	60	14	77 x 25 x 35¼	520	NAAESM

Magneto Wall Switchboard

Cordless



N 500

This switchboard is suitable for small installations where the lines are short and of low resistance, and may be used for either earth or metallic circuits.

The woodwork is matt polished and the front face is covered with fibre.

The indicators are the hand-restored drop type with alarm contacts, and they act for calling and clearing.

The connections are made by means of keys.

An alarm switch is provided, but a separate bell and battery must be installed if an audible signal is desired when an extension instrument is calling.

To operate the switchboard a separate telephone is required.

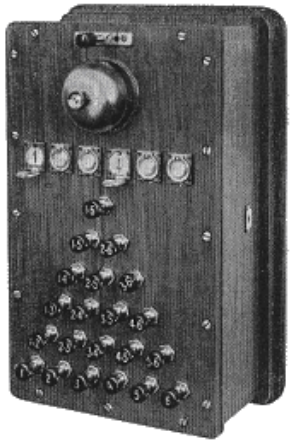
Overall dimensions $6^{1}/_{4}$ x 6 x 6 inches.

Weight $3^{3}/_{4}$ lb.

Code word NAASAL

Magneto Wall Switchboards

Cordless



N 506

These switchboards are extremely simple, reliable and give maximum efficiency. They are known as the " Pyramid " type on account of the design formed by the arrangement of the keys

The woodwork is matt polished and the metal parts of the apparatus are nickel-plated. The drop type indicators serve for both calling and clearing purposes.

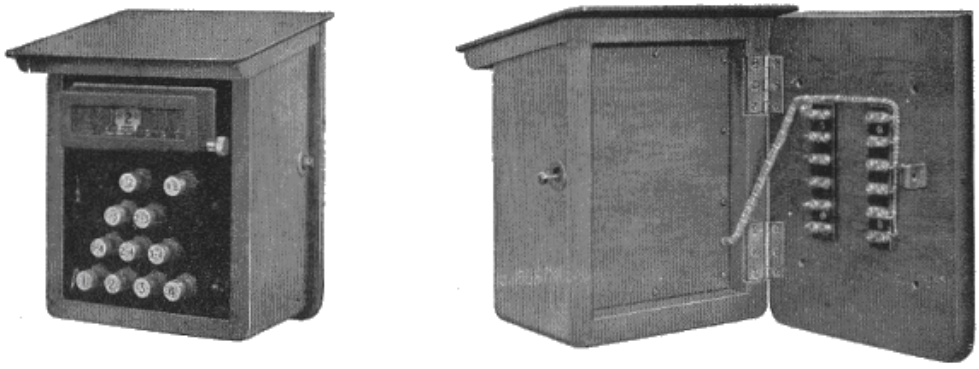
All connections are made by means of keys. The bottom row connect the extensions to the operating telephone, and the remaining rows connect the extensions, indicated on the key top, together. Engaged lines are recognized by the engraved numerals on the key tops being slightly turned to the left. The illustration shows extensions 3 and 6 connected together, and extension 4 connected to the operating instrument.

A night bell and switch are provided, but a separate magneto telephone instrument is required for operating purposes.

Code No.	No. of Lines	Dimensions inches	Weight lb.	Code word
N503	3	13 x 7⅝ x 7⅝	9¼	NAASAD
N504	4	13 x 7⅝ x 7⅝	10¼	NAASLE
N505	5	15⅜ x 9¾ x 7⅝	14¼	NAASAF
N506	6	15⅜ x 9¾ x 7⅝	15½	NAASLU

Magneto, Mining, Wall Switchboards

Cordless



N 510

These switchboards, while giving the same facilities as N515 type on page 53, have been specially designed to meet the demand for a cheaper article for mines where cast-iron explosionproof cases are not essential.

The casework is constructed of hardwood of robust proportions and the sloping top is reinforced by a heavy-gauge steel plate which provides ample protection against falling roof material and water. A special triangle-headed screw lock is fitted and a suitable key for same is provided.

The indicators, mounted on the steel front plate, are protected by a watertight cover and are re-set by turning the knob at the right-hand side.

The connecting keys, comprised of stout metal plungers fitted with metal tops, will withstand a considerable amount of rough usage. The tops are engraved to indicate the connections made when the keys are depressed.

The terminals are mounted on ebonite strips screwed to the backboard and are very accessible. A blind back is fitted to protect the interior from dust, moisture and unauthorized interference.

This form of cordless switchboard is widely known as the " Pyramid" on account of the design formed by the keys. The simplicity of operating and obvious low maintenance costs have made them the general favourites for small magneto systems.

Code No.	No. of Lines	Dimensions inches	Weight lb.	Code Word
N509	3	11 x 9 x 8½	15	NAAFAZ
N510	4	11 x 9 x 8½	16	NAASMA
N512	6	13¼ x 11¼ x 8½	23	NAAFBO

Magneto, Mining, Wall Switchboards

Cordless

N 550

Designed to meet the case where a larger ultimate capacity than six lines is required. Constructed on very similar lines to the N510 type overleaf but a micro-telephone with battery switching key, induction coil and generator are fitted so that a separate instrument is not required for operating purposes.

The indicators and keys are mounted on a hinged steel front plate which is locked by means of special triangle-headed screws. The keys are of exactly the same design as those used on the " Pyramid" boards but are arranged to provide a limited number of connecting circuits as given below.

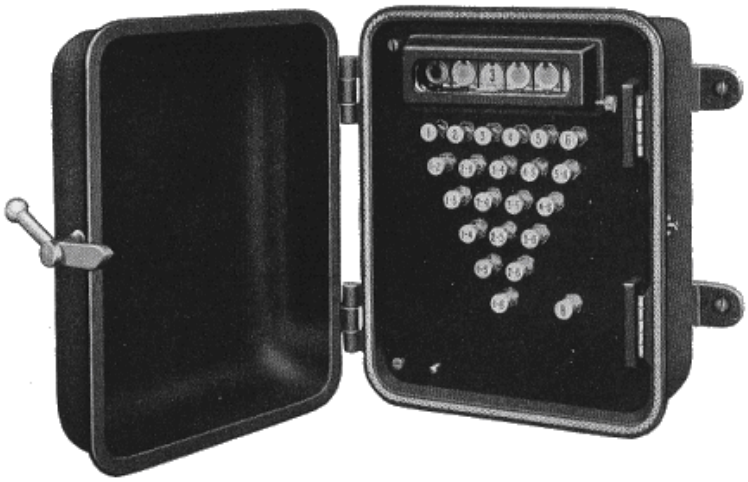
The generator is approved by the Mines Department as being electrically safe for use in fiery mines and provided that the other apparatus used in conjunction with the switchboards is of an approved type, the latter may be safely used in the mine.

Equipments over 10 lines have the line indicators and connecting keys arranged horizontally and the clearing indicators vertically.

Code No.	No. of Lines	No. of Connecting Circuits	Dimensions inches	Code Word
N550	10	3	20 x 15 x 9	NAAFSA
N552	20	4	19¾ x 32 x 7¾	NAAFFO
N553	30	5	21 x 45 x 7¾	NAASFE

Magneto, Mining, Wall Switchboards

Cordless



N 515

This switchboard complies with the requirements of the Coal Mines Act and is recommended for use underground, or in exposed positions on the surface, when it is desired to branch several telephone lines to a central point.

Communication can be established separately with any section. Each section can communicate with any other section. Several sections can be connected together.

All sections can be connected in bridge with the controlling telephone, and yet, should a fault occur on any section it can be rapidly isolated and so maintain the rest of the system in working order.

These and many other features are invaluable, especially in an emergency.

The cast-iron case is explosion-proof and watertight : the inner compartment being sealed by an inner door fastened with heavy machine screws arranged for attaching a seal, if desired ; the outer door when closed giving thorough protection.

The push and pull type connecting keys, the mechanically-restored indicators protected by a glass fronted cover, and all working parts are of a specially robust pattern, suitable for the conditions met with in mines. Provision is also made for connection of an external alarm bell.

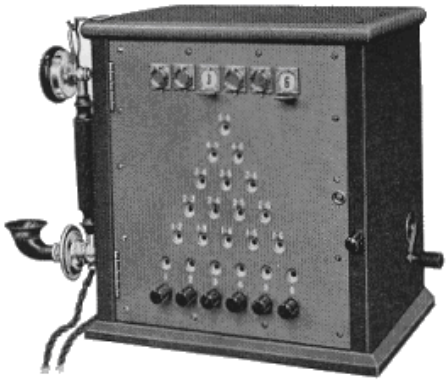
Telephone instrument N2980 or N2981, illustrated and described on page 38, is required to operate the switchboard, and should be fitted at the right-hand side near the switchboard, as the front doors will then open away from each other and thereby give better facilities for operating.

This switchboard is made in one size only, namely, for a maximum of six lines, but partially equipped boards can be supplied.

Code No.	Dimensions inches	Weight lb.	Code word
N515	14 x 13½ x 10	55	NAASBE

Magneto, Mining, Wall Switchboards

Cordless



N 521

N 541

The " Pyramid " type switchboards are designed to reduce maintenance costs to a minimum, and are recommended up to a maximum of 15 lines. They are compact, highly efficient and reliable.

The jack field is covered with fibre, and the woodwork is finished in our standard matt polish.

The connections are made by means of cordless plugs, and all stations can be interconnected, thus giving the maximum number of simultaneous connections ; also any number of stations can be connected together for a conference.

Normally the plugs must be inserted in the bottom row of jacks, as the lines are, thereby, connected to the indicators. The jacks, in the next row, connect the micro-telephone and generator to the lines for answering and calling purposes. Those in the remaining rows connect the stations, indicated above the jacks, together.

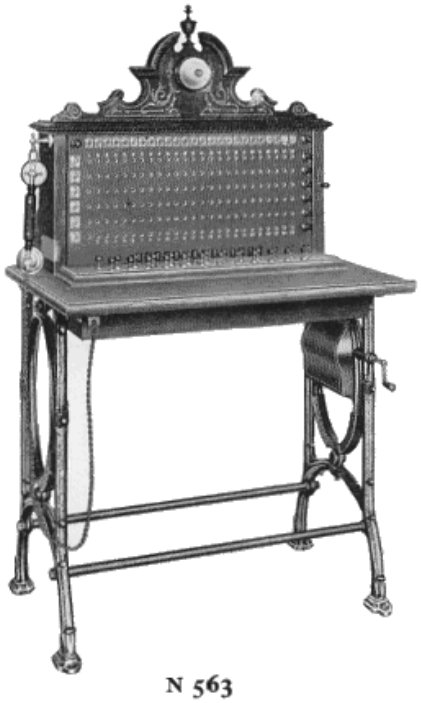
Micro-telephone, generator, night bell and switch, also a spare plug, are provided.

N520 type is suitable for either table or wall use.

Code No.	No. of Lines	Dimensions inches	Weight lb.	Code word
N520	4	12 x 11 x $9\frac{3}{4}$	20	NAASCA
N521	6	$13\frac{1}{4}$ x 13 x $9\frac{3}{4}$	26	NAASOB
N522	10	$17\frac{1}{2}$ x $16\frac{1}{2}$ x $9\frac{3}{4}$	38	NAASCO
N540	5	$28\frac{1}{2}$ x $9\frac{5}{8}$ x $8\frac{7}{8}$	$23\frac{1}{4}$	NAASEL
N541	6	$28\frac{1}{2}$ x $9\frac{5}{8}$ x $8\frac{7}{8}$	$26\frac{1}{2}$	NAASEM
N542	10	33 x $13\frac{1}{4}$ x $8\frac{7}{8}$	$38\frac{1}{2}$	NAASRO
N543	12	36 x $15\frac{1}{2}$ x $8\frac{7}{8}$	$45\frac{3}{4}$	NAASEP
N544	15	41 x 19 x $8\frac{7}{8}$	61	NAASRE

Magneto Floor Switchboards

Cordless



N 563

These switchboards are designed for use where larger ultimate capacity than the " Pryamid " type, previously described, is required. They are arranged to give a limited number of connections in order that the overall dimensions are not unduly large.

Enamelled cast-iron stand, matt polished woodwork with fibre-faced jack field.

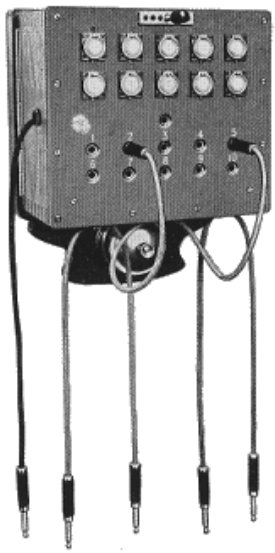
The connections are made by means of cordless plugs, and the jacks are mounted in rows varying in number, according to the size of the switchboard. Each row, parallel with the line indicators, represents a connecting circuit and has associated a clearing indicator, an operating key and two plugs.

A key, connected to the generator, is fitted in each line circuit for calling purposes. Night bell, switch, micro-telephone, testing key and two spare plugs are provided.

Code No.	No. of Lines	No. of Connecting Circuits	Dimensions inches	Weight lb.	Code word
N560	10	4	$52\frac{5}{8}$ x 24 x $21\frac{1}{4}$	110	NAAFUL
N561	16	5	$58\frac{5}{8}$ x $25\frac{3}{4}$ x $21\frac{1}{4}$	130	NAAFUM
N562	20	6	$54\frac{1}{8}$ x $27\frac{3}{4}$ x 22	143	NAAFGO
N563	25	6	$54\frac{1}{8}$ x $31\frac{3}{4}$ x 22	152	NAAFUP
N564	30	6	$54\frac{1}{8}$ x $35\frac{5}{8}$ x 22	161	NAAFGE
N565	35	6	$54\frac{1}{8}$ x $39\frac{1}{2}$ x 22	170	NAAFUS
N566	40	7	60 x $43\frac{3}{4}$ x 22	176	NAAFUG
N567	50	8	$61\frac{1}{2}$ x 52 x 22	187	NAAFGH

N560 and N561 have the connecting circuits arranged vertically.

Magneto Wall Switchboards



N 586

A very popular type of switchboard, being so simple in build, apparatus and operation. The case is made of fine hardwood matt polished, with a covering of hard fibre on the front face to prevent damage by the plugs, when being inserted into the jacks, and so preserve a good appearance.

The hand-restored drop indicators in the lines also give the clearing signal.

The connecting cords are fitted with a plug at each end, also a single cord and plug is provided for operating purposes, and as an alternative or stand-by to the latter, a single jack is fitted, which can be used in conjunction with any of the connecting cords to operate the switchboard.

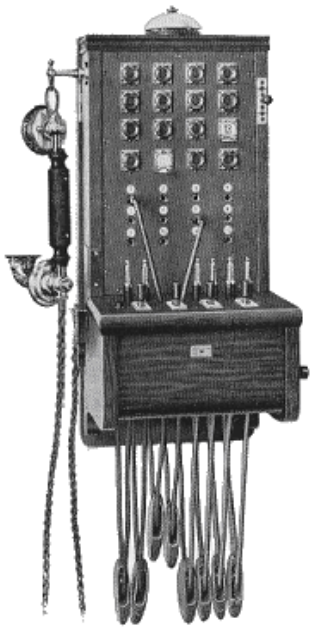
Night bell and switch.

For the operator's use a separate magneto telephone is required and should be installed by the side of the switchboard.

Code No.	No. of Lines	No. of Cord Circuits	Dimensions inches	Weight lb.	Code word
N580	2	1	$9\frac{3}{8}$ x $6\frac{3}{8}$ x $5\frac{1}{2}$	5	NAAFXL
N581	3	1	$9\frac{3}{8}$ x $6\frac{3}{8}$ x $5\frac{1}{2}$	$5\frac{1}{2}$	NAAFJM
N582	4	2	10 x $9\frac{1}{4}$ x 6	8	NAAFXO
N583	5	2	10 x $9\frac{1}{4}$ x 6	$8\frac{1}{2}$	NAAFJP
N584	6	2	10 x $9\frac{1}{4}$ x 6	9	NAAFXE
N585	8	3	$12\frac{1}{4}$ x $9\frac{3}{4}$ x 6	$11\frac{1}{2}$	NAAFJS
N586	10	3	$12\frac{1}{4}$ x $9\frac{3}{4}$ x 6	13	NAAFXU
N587	12	4	$12\frac{1}{4}$ x $9\frac{3}{4}$ x 6	14	NAAFJH
N588	15	4	$14\frac{1}{4}$ x $14\frac{3}{4}$ x 6	19	NAAFXJ
N589	20	5	$14\frac{1}{4}$ x $14\frac{3}{4}$ x 6	22	NAAFJK
N590	25	5	17 x $14\frac{3}{4}$ x 6	28	NAAFKA
N591	30	6	17 x $14\frac{3}{4}$ x 6	30	NAAFZM

These switchboards may also be used for earth circuits.

Magneto Wall Switchboards



N 622

Designed to give full operating facilities and constructed to occupy small space, these switchboards are particularly suitable where a high-grade magneto installation is desired.

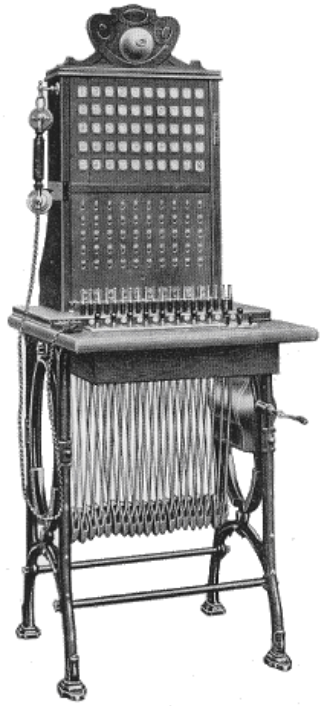
The woodwork is matt polished, and the front panel is covered with fibre.

Equipped with separate line and clearing indicators, speaking and ringing keys in the cord circuits, and a key called the " ring back key," to ring on the answering cords should it be necessary.

Night bell, switch, generator and micro-telephone, so that these switchboards are complete and do not require a separate telephone for the operator.

Code No.	No. of Lines	No. of Cord Circuits	Dimensions inches	Weight lb.	Code word
N620	6	2	22 x 9½ x 11½	30	NAAGOL
N621	9	3	22 x 9½ x 11½	32	NAAGOB
N622	12	4	22 x 9½ x 11½	37	NAAGCO
N623	16	4	24½ x 11½ x 11½	41	NAAGOP
N624	20	5	24½ x 11½ x 11½	46	NAAGCR
N625	25	5	27 x 13¼ x 11½	51	NAAGOF
N626	30	6	27 x 13¼ x 11½	55	NAAGCU

Magneto Floor Switchboards



N 644

The open type floor pattern switchboards on castiron stands are very convenient and all apparatus and parts are readily accessible for maintenance.

Woodwork matt polished, the jack field covered with fibre, and the cast-iron stand black enamelled.

Equipped with individually-mounted line drop indicators and jacks, speaking and ringing keys and clearing drop indicators in the cord circuits, night bell, switch, micro-telephone, generator and a key for switching on power ringing when installed.

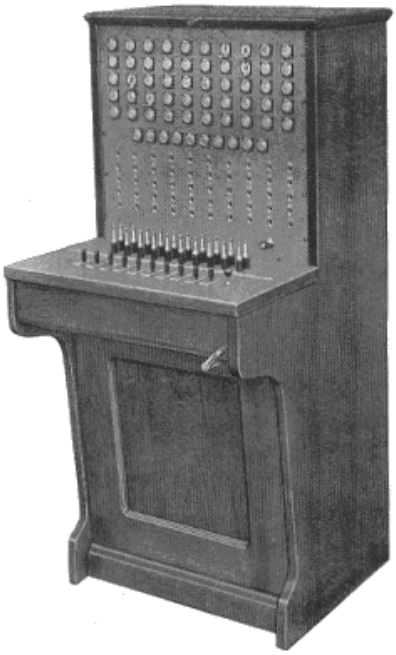
Special fitments are :-

Three keys, respectively for speaking, ringing by generator, and ringing by battery, on the answering or calling cord separately when the ordinary cord circuit key is in the speaking position. A key for testing for earth on the lines and a jack for testing the cords.

Code No.	No. of Lines	No. of Cord Circuits	Dimensions inches	Weight lb.	Code word
N640	20	5	$58\frac{3}{4}$ x $16\frac{1}{2}$ x $25\frac{1}{4}$	127	NAAGRA
N641	25	5	$58\frac{3}{4}$ x $16\frac{1}{2}$ x $25\frac{1}{4}$	129	NAAGEM
N642	30	6	$58\frac{3}{4}$ x $16\frac{1}{2}$ x $25\frac{1}{4}$	133	NAAGRO
N643	40	8	61 x 22 x $25\frac{1}{4}$	144	NAAGEP
N644	50	10	61 x 22 x $25\frac{1}{4}$	162	NAAGRE
N645	60	10	61 x 22 x $25\frac{1}{4}$	165	NAAGES
N646	80	12	$68\frac{1}{2}$ x $26\frac{3}{4}$ x $25\frac{1}{4}$	194	NAAGRU
N647	100	12	$68\frac{1}{2}$ x $26\frac{3}{4}$ x $25\frac{1}{4}$	199	NAAGEH
N650	100	18	$63\frac{1}{2}$ x $38\frac{1}{4}$ x $25\frac{1}{4}$	230	NAAUSL
N651	160	20	$65\frac{1}{2}$ x $38\frac{1}{4}$ x 26	243	NAAUSM
N652	200	24	72 x $42\frac{3}{4}$ x $28\frac{1}{4}$	265	NAAUSO

N650, N651 and N652 are two position switchboards and are provided with double the operating equipments.

Magneto Floor Switchboards



N 700

Enclosed type, standard floor pattern switchboards ; the framework built up of fine hardwood, matt polished, with fibre facings on the keyboard, plugshelf and the indicator and jack panel.

These switchboards make high-grade installations either as private or small community public exchanges.

Equipped with individually-mounted drop indicators and jacks for the lines, and similar indicators for clearing.

Associated with each pair of cords is a speaking and ringing key, and in addition a common key, termed the " ring back key," is fitted for ringing out on the answering cords.

The night bell is mounted inside, and a plunger type key on the front panel for switching it on or off as desired.

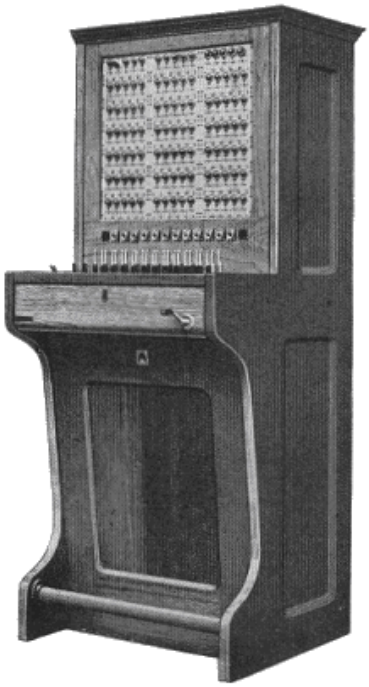
Hand generator with extension shaft, also a micro-telephone.

The switchboards are made in two sizes, namely, 50 and 100 lines capacity, but varying equipments are supplied as under; additional lines being readily equipped when required, as each board is wired for its full capacity.

Code No.	No. of Lines	No. of Cord Circuits	Dimensions inches	Weight lb.	Code word
N700	50	10	49 x 23 x 24¼	148	NAAHAA
N701	40	8		140	NAAHAM
N702	30	6		133	NAAHLO
N703	20	4		126	NAAHAP
N720	100	12	49 x 33 x 24¼	215	NAAWCA
N721	90	12		208	NAAWOM
N722	80	10		200	NAAWCO
N723	70	10		194	NAAWOP
N724	60	10		187	NAAWCR

Magneto Floor Switchboards

Mechanically- Restored Indicators



N 760

These switchboards are designed to give the greatest facilities in operation and prompt service obtainable with the magneto indicator system.

The line indicators and jacks are combined on small mounting plates and so arranged that the insertion of a plug into a jack automatically replaces the indicator to its normal position.

The clearing indicators are the hand-restored drop type and associated with each is a speaking and ringing key and a pair of cords with plugs for making the necessary connections.

Complete with generator, night bell, switch and micro-telephone.

The combined indicators and jacks are removable from the front of the switchboards, either individually or in units of five, so that with partially equipped boards extensions can be readily added.

These switchboards are made in two sizes for 50 and 105 lines capacity respectively, but partially equipped boards can be supplied. When additional capacity is required, another similar switchboard can be lined up alongside, as the top end mouldings are removable.

Code No.	No. of Lines	No. of Cord Circuits	Dimensions inches	Weight lb.	Code word
N740	50	10	52 x 20 x 27	170	NAAHRA
N760	105	12	61½ x 24 x 27	240	NAAHUL