

Western Electric Company, Inc.  
 Service Division  
 Distribution Engineering

Specification RS-581.0  
 Section 27J  
 Page 5  
 10-8-65

ED. NOTE - not clear why these summary pages are in 27J with the ROTR info

Code	Cabinet	Typing Unit	TTY Base	Elec. Service Unit	Perf. Trans. Base	Trans. Dist. Unit and Base	Motor Unit	Set of Gears	Call Control Unit
KSR 35A	35A	35A	35A	35A	-	-	28A	28C-1	35A
KSR 35A-6	35A	35A	35A	35A	-	-	-	28C-1	35A
KSR 35B	35A	35A	35A	35A	-	-	28B	28C-1	35A
KSR 35C	35A	35B	35A	35A	-	-	28A	28C-1	35A
KSR 35C-6	35A	35B	35A	35A	-	-	-	28C-1	35A
KSR 35D	35A	35B	35A	35A	-	-	28B	28C-1	35A
R0 35E	35A	35A	35B	35A	-	-	28A	28C-1	35A
R0 35F	35A	35A	35B	35A	-	-	28B	28C-1	35A
R0 35G	35A	35B	35B	35A	-	-	28A	28C-1	35A
R0 35H	35A	35B	35B	35A	-	-	28B	28C-1	35A
ASR 35J	35B	35A	-	35B	35A	35A	28A	28F-1	35A
ASR 35C-6	35B	35A	-	35B	35A	35A	-	28F-1	35A
ASR 35K	35B	35A	-	35B	35A	35A	28B	28F-1	35A
ASR 35L	35B	35B	-	35B	35A	35A	28A	28F-1	35A

Western Electric Company, Inc.  
 Service Division  
 Distribution Engineering

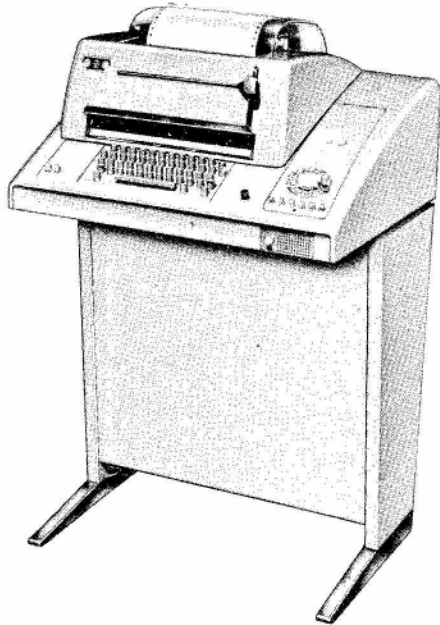
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<u>Code</u>	<u>Cabinet</u>	<u>Typing Unit</u>	<u>TTY Base</u>	<u>Elec. Service Unit</u>	<u>Perf. Trans. Base</u>	<u>Trans.- Dist. Unit and Base</u>	<u>Motor Unit</u>	<u>Set of Gears</u>	<u>Call Control Unit</u>
ASR 35L-6	Teletypewriter-Set	35B	-	35B	35A	35A	-	28F-1	35A
ASR 35M	Teletypewriter-Set	35B	-	35B	35A	35A	28B	28F-1	35A
KSR* 35N	Teletypewriter-Set	35A	35A	35A	-	-	28A	28C-1	35A
KSR* 35P	Teletypewriter-Set	35A	35A	35A	-	-	28B	28C-1	35A
KSR* 35R	Teletypewriter-Set	35A	35A	35A	-	-	28A	28C-1	35A
KSR* 35S	Teletypewriter-Set	35A	35A	35A	-	-	28B	28C-1	35A
ASR* 35U	Teletypewriter-Set	35B	-	35B	35A	35A	28C	28F-1	35A
ASR* 35W	Teletypewriter-Set	35B	-	35B	35A	35A	28D	28F-1	35A
ASR* 35Y	Teletypewriter-Set	35B	-	35B	35A	35A	28C	28F-1	35A
ASR* 35AA	Teletypewriter-Set	35B	-	35B	35A	35A	28D	28F-1	35A

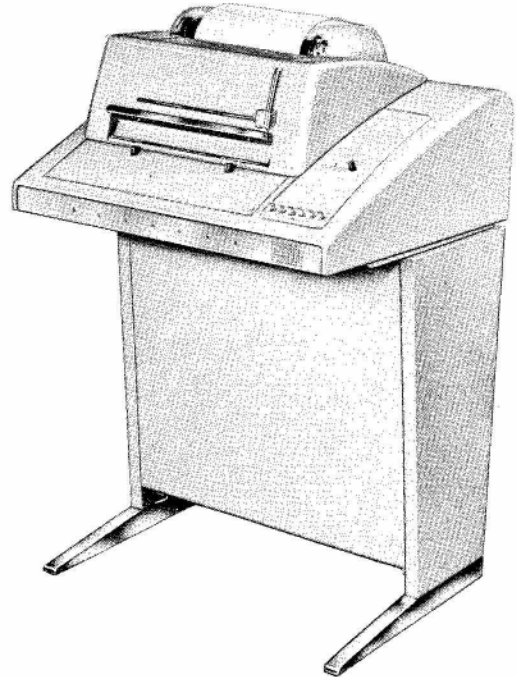
\*These units are furnished with a "D" controller for use with WADS D Service

END OF SECTION

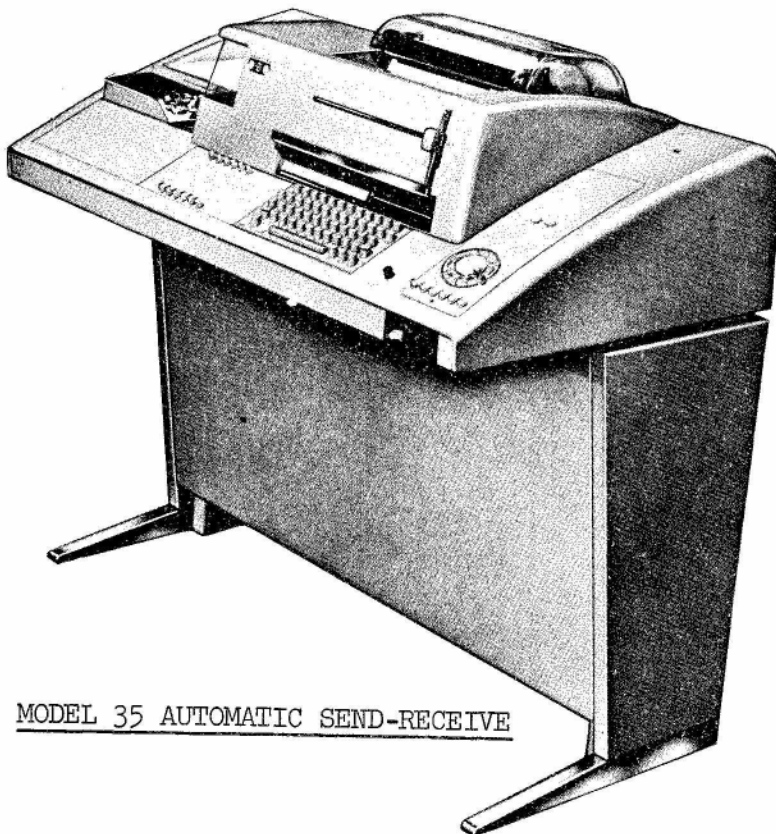
35 TYPE CABINETS



MODEL 35 SEND-RECEIVE SET



MODEL 35 RECEIVE-ONLY SET



MODEL 35 AUTOMATIC SEND-RECEIVE



MODEL 35 WALL-MOUNTED SET

The cabinet is designed to house the components of the 35 KSR, RO, and ASR Sets. They are floor standing enclosures made up to a pedestal (lower part) or cover (upper part). The KSR is also available in table mounted enclosures without a pedestal.

The pedestal is of sheet metal construction, and rests on two feet which extend forward to support the weight of the set. Cabinets used with sets that print data on continuous business forms should be equipped also with rearward extending feet to prevent tilting of the enclosure due to the weight of the form container on the back of the cabinet. An equipment supporting pan is spot welded to the top of the pedestal. The pan contains mounting facilities for the components of the set, including a shock-mounted cradle onto which the keyboard base is secured. A removable panel on the front of the pedestal provides access to the apparatus mounting rack, which is used to support any necessary relay assemblies or a data set.

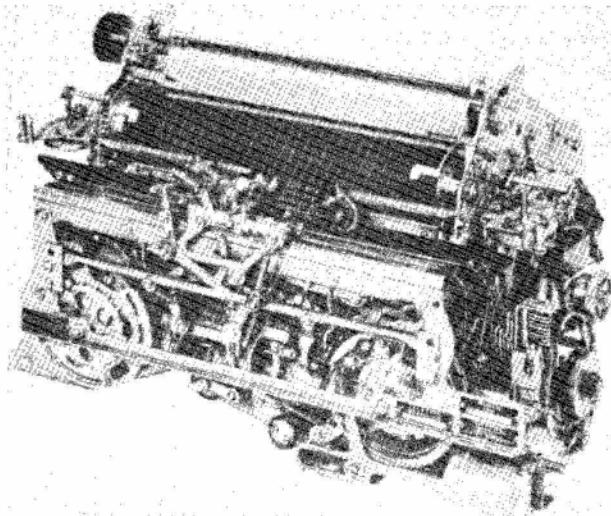
The cover is also of sheet metal construction, and consists of a lower cover and a hinged upper cover. In an earlier model the cover rests on four rubber vibration isolators, three of which have locating pins to align it with the pan. In later models the cover is hinged and designed to pivot clear of enclosed equipment when opened. Hinge pins can be separated for complete removal of the cover. The upper cover is hinged to the lower cover to provide access to the equipment for changing the paper supply and ink ribbons. An information and character counter window is located in the lower front of the upper cover. A clear plastic bubble is located on top of the upper cover for viewing the copy and observing operation of the typing unit. A laminated glass window, in front of the plastic bubble, enables the operator to view the copy as it is typed. The rear edge of the glass provides a paper tearing surface for removal of typed copy. A window is also located at the left front of the upper cover for viewing the perforated tape, and an adjustable metal edge is provided for tearing the tape.

The cabinet is equipped with a copyholder and line guide for short copy, and copy illuminating lamps for the typing unit and reperforator areas.

35 TYPE CABINETS

CODE DESIGNATION	WIRE DIAGRAM	TTY CODE	ARRANGEMENT			ASR CONSOLE	NOT E/W FOR CALL CONTROL UNIT	LIGHT OLIVE GREY NO. 716	TEXTURED VINYL FINISH	REMARKS
			RO-KSR-WALL							
			CONSOLE	TABLE	MOUNTED					
35A		LAC 300	X				X			
B		LAAC 300			X		X			
C		LAC 301	X			X		X	E/W Pedestal and Rack	
D		LAC 302	X					X	Not E/W Pedestal or Rack	
E		LPC 300			X		X			

35 TYPE TYPING UNIT



The typing unit is an electro-mechanical device to translate eight level signal code combinations to sequentially received in an 11.0 unit transmission pattern into mechanical actions which print the message and perform various functions at speeds of 60-75-100 WPM. The Friction Feed typing unit prints the message on single or multiple copy paper from a 5 inch diameter roll. The Sprocket Feed typing unit prints the message on flat folded form feed paper with marginal perforations spaced to fit the sprocket teeth on the typing unit platen. A low paper switch is operated when a low paper supply condition exists. Vertical and horizontal tabulation and remote form feed-out are features of these units. Type pallets are arranged in a compact type box which must be ordered separately.

TECHNICAL DATA

1. Approximate Dimensions

Width	15 1/2 inches
Depth	10 1/2 inches
Height	9 3/4 inches
Weight:	
Friction Feed	19 pounds
Sprocket Feed	22 pounds

2. Signal

Code	11 unit start stop
Current	0.500 amperes (DC)

MOD. KIT <u>PART NO.</u>	CONSISTING OF		PAPER WIDTH SIZE <u>IN INCHES</u>
	<u>PART NO.</u>	<u>PART NO.</u>	
306686	176237	306670	3-5/8
306687	176236	306671	4
306688	176235	306672	4-1/4
306689	176234	306672	4-5/16
306690	176233	306673	4-1/2
306691	176232	306674	5
306692	176231	306675	5-1/2
306693	176230	306676	5-3/4
306694	176229	306677	6
306695	176228	306678	6-1/4
306696	176227	306679	6-3/8
306697	176226	306680	6-1/2
306698	176225	306681	7
306699	176224	206682	7-1/2
306700	176223	306683	8
306701	176222	306684	8-1/2
306702	176221	306685	9
305037	176238	305058	9-1/2





YPING UNITS

NOTES:

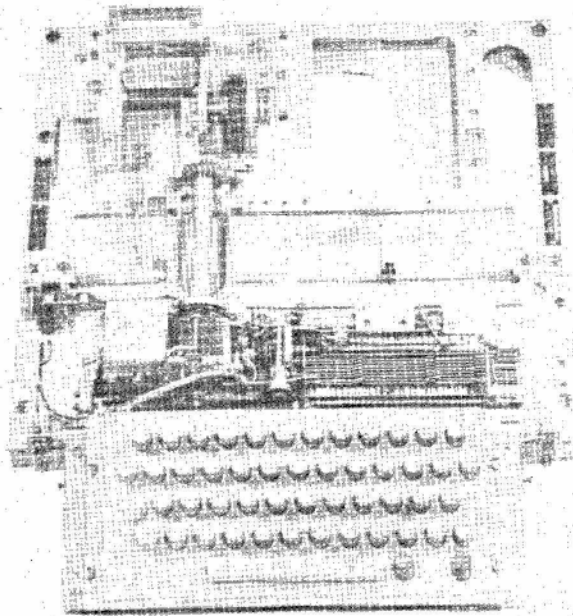
REMARKS

WADS  
WADS

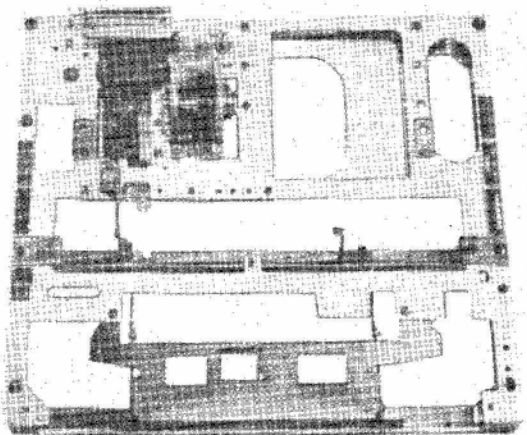
NO. 1 ESS  
WALL MTD.

END OF SECTION

35 TYPE TELETYPEWRITER BASES  
KSR & RO



KSR



RO

### GENERAL DESCRIPTION

The keyboard mounts on the cradle assembly of the cabinet pan, and provides support for the motor unit, typing unit, and intermediate gear assembly of a KSR Set. The front of the keyboard extends forward beyond the edge of cabinet pedestal (floor standing cabinets) to place the typing keys in a convenient operating position. The keys are positioned in a four row arrangement with most punctuation marks and control symbols indicated as upper keytop characters.

The keyboard incorporates code selecting and signal generating mechanisms, and signal line and power line circuits. Motive power for activating the keyboard is derived from the motor unit and intermediate gear assembly, and through a gear arrangement to the typing unit main shaft.

The answer-back unit is located on the left rear corner of the keyboard in sets so equipped. Its main components are a coded message drum, a main shaft, and a distributor assembly. The answer-back mechanism receives its motive power from the motor unit via the intermediate gear assembly.

The answer-back unit is designed to distribute, upon receipt of a who are you (WRU) to HERE IS signal, a pre-determined sequence of characters which serves to identify the station. A maximum of 20 characters may be transmitted with first character suppression, or 21 characters where first character suppression is not required. The character sequence is determined by the manner in which the message drum is coded by the customer.



35 TYPE TELETYPEWRITER BASES  
KSR & RO

	TTY CODE	KEYBOARD ARRANGEMENT	SERVICE			CALL CONTROL NOT REQUIRED	ANSWERBACK MECHANISM	REMARKS
			KSR	RO	PARITY			
	LK 801	ATO	X				X	
D	LK 807	ATM	X		X			
D	LB 801	---		X			X	
D	LK 802	ATD	X			X		
D	LK 808	ATM	X		X			
D	LB 800	---		X		X		
D	LK 804	ATL	X					
	LK 803	ATD	X					Wall mounted Sets

END OF SECTION

35 TYPE MOTOR UNITS

35A Motor Unit - AC (Teletype LMU 15)

The 35A Motor Unit is similar to the 28A Motor Unit except it has no fan. A pulley is provided in place of the fan to drive the tape windèr in 35 type ROTR Sets.

Features are as follows:

Voltage	- 115 V.A.C. $\pm 10\%$
Phase	- Single Phase
Frequency	- 60 Cycles $\pm 0.75\%$
Input Current	- Start - 9 Amps, Running - 1.85 Amps
Wattage	- 65 Watts
Horsepower	- 1/20
Speed	- 3600RPM

END OF SECTION

35 TYPE SETS OF GEARS

35A Set of Gears

The 35A set of gears is used for 100WPM operation in the 35 type Typing Reperforator Sets.

END OF SECTION

### 35 TYPE RECEIVING SELECTOR

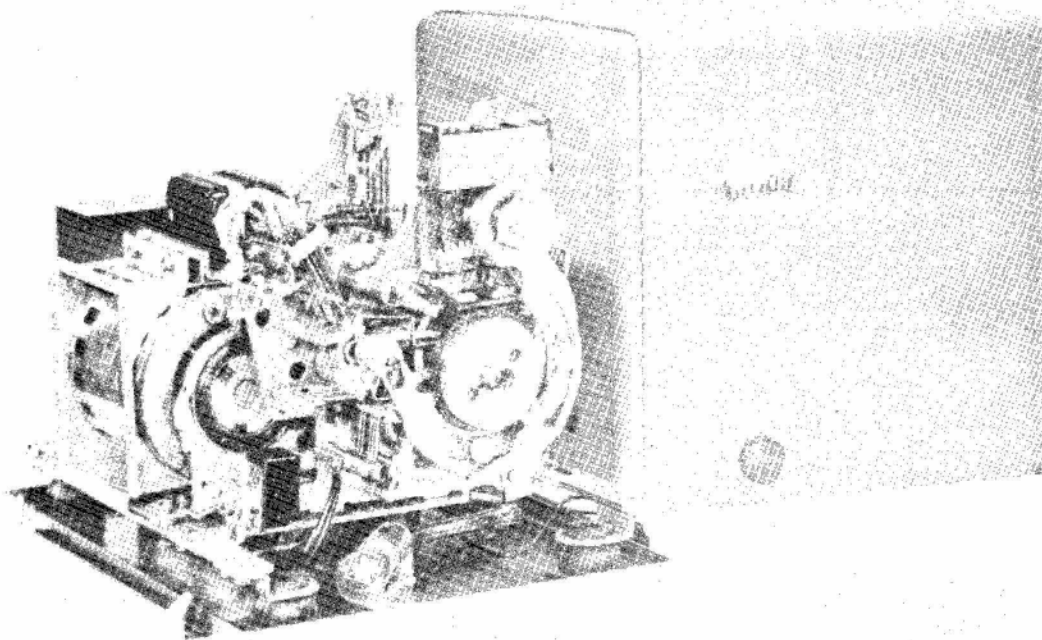
#### GENERAL DESCRIPTION

This is a receiving selector unit for mounting on a 28A Mounting and Cover Assembly and is capable of converting an 8 level sequential teletypewriter signal into an equivalent parallel output.

#### Features

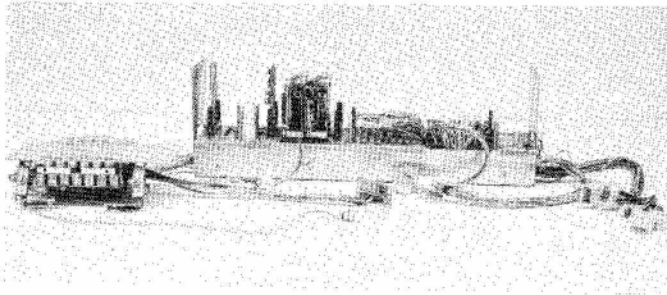
1. Receiving selector unit is equipped with code reading contacts as well as two auxiliary contacts for timing purposes.
2. The timing contacts consist of two separate transfer type contacts.
3. All wires terminate in a cable connected to a miniaturized 36 terminal Amphenol receptacle which is fastened on the 28A Mounting and Cover Assembly.
4. Provision for mounting on a 28A Mounting and Cover Assembly.

The motor-to-intermediate gears for the 28A Mounting and Cover Assembly must be ordered separately as the 28G, 28H and 28J set of gears for 60, 75 and 100 wpm operation respectively.





35 TYPE ELECTRICAL SERVICE UNIT



The 35 type Electrical Service Unit provides the necessary relay, wiring, power and circuit facilities for operation of the various components, lights and controls associated with the 35 type Set. Units are used with or without call control units depending upon whether the set is used at a station location or in a switching center.

All electrical service assemblies are physically similar, and are mounted in the cabinet behind the typing unit. Basically, they consist of a main chassis and a number of mounting plate assemblies. Each mounting plate assembly consists of a functional group of components mounted on the container and interconnected by strapping as required.

Features of the various coded units and the use for which they were designed may be found on the following pages of this section.





MAIL SERVICE UNIT

CABLES		POWER SWITCH	TRANSFORMER	POWER FUSE	POWER CORD	SIGNAL BELL	LINE TEST KEY	SIG. REC. CIRCUIT	CONNECTION FOR BACK	CONNECTION FOR CIRCUIT	CONVENIENCE	OUTLET	TO CONNECTION CIRCUIT	NOTES	REMARKS
...	...														
								A	A		A				WADS
								B	B	B	B	B			WADS
			C	C							C				WADS
		D	D	D							D				WADS
		E	E					E	E	E	E				WADS
															TYPING REPERFORATOR SET
								J	J		J				NO. 1 ESS
		K	K	K	K			K		K	K				NO. 1 ESS
L			L	L		L					L				WALL MTD. SET
											M				

AUXILIARY FEATURES OF NO. 35 TYPE TELETYPEWRITER

35A Paper Supply Box

Equips a 35 type teletypewriter with a form supply and accumulating shelf. It can be used on sprocket feed machines which work with folded forms up to 9" wide and 11" long. The accumulating shelf holds forms from 3 5/8" to 11" long.

TP-307228 - Modification Kit to add Offset Copyholder

TP305037 Modification Kit (50386S)

Adapts 35 type sprocket feed typing unit to take 9 1/2" wide paper.

TP199328 Control Panel - This is the control panel for use with 35 KSR Teletypewriters. It consists of a panel equipped with an "on-Line", "Local" and "Off" Switch.

TP199327 Control Panel - This is the control panel for use with the 35 ASR Teletypewriters. It consists of 2 panels, one equipped with a 3 position switch for "On-Line", "Local" and "Off" and the other a 5 position rotary switch labeled K - KT - T - TTS - TTR.

TP1955941 Control Panel - This is a control panel for use with 35 RO Teletypewriters. It consists of a panel equipped with an "On-Line", "Local" and "Off" Switch.

TP315528 Faceplate Modification Kit - This is a modification kit consisting of a blank plate designed to mount on the right hand side of the 35 ASR, KSR and RO Teletypewriter Cabinets. It includes the necessary hardware and mounting parts to secure it to the cabinet.

TP305446 Signal Regenerator Modification Kit - This is a signal regenerator device for use with the 35 ASR and 35 KSR Teletypewriters. It mounts in the 35G or 35H Electrical Service Unit and provides an output signal with a maximum of 5 percent distortion.

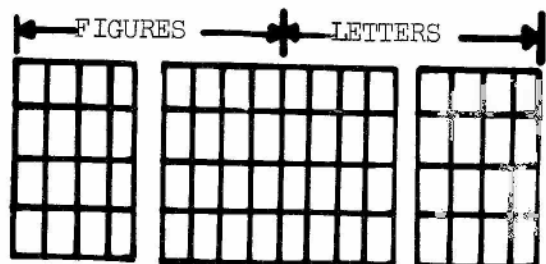
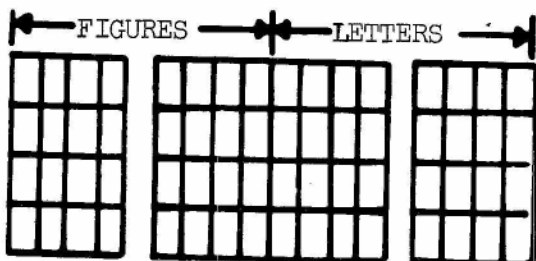
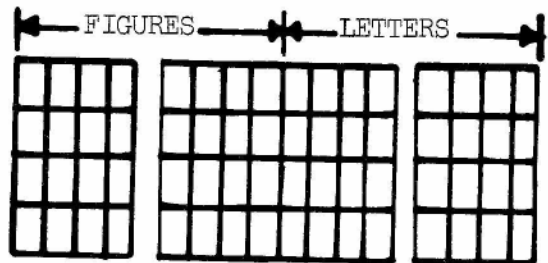
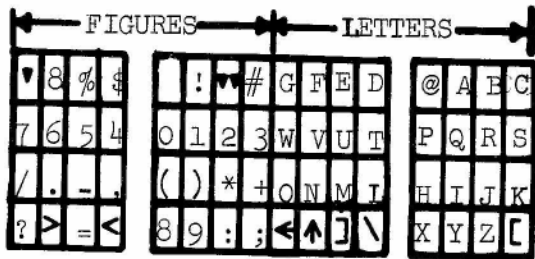
END OF SECTION

35 TYPE BOXES



LOCATION OF PALLETS IN TYPE BOXES FOR STANDARD TYPE ARRANGEMENTS

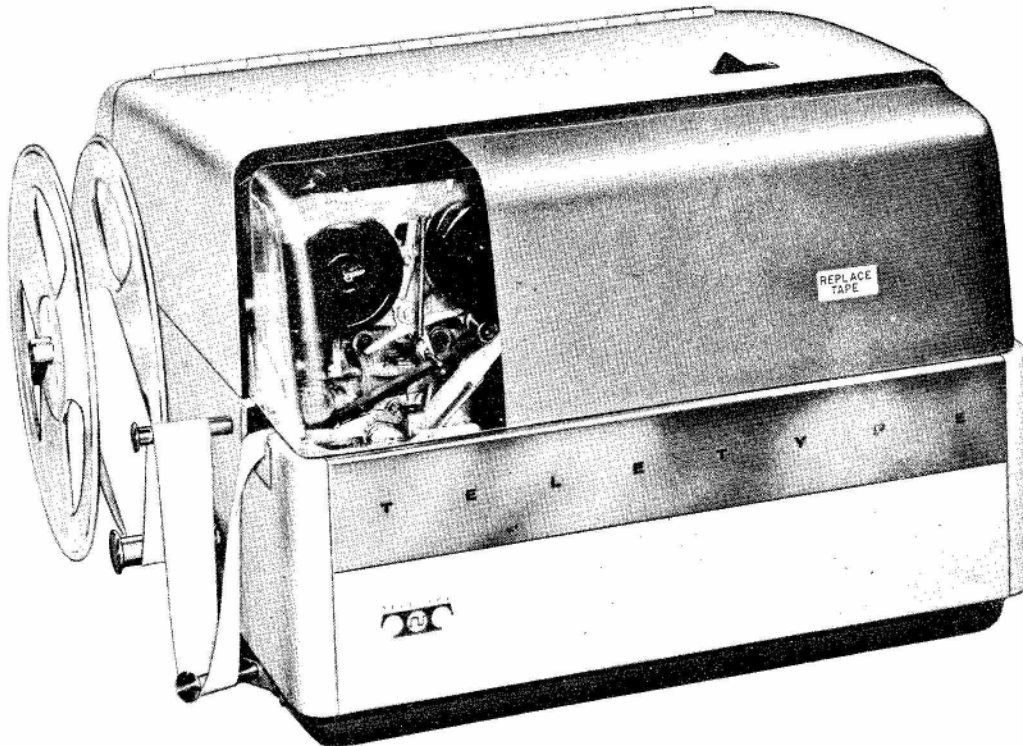
35A TYPE ARRANGEMENT (TD)



35A Type Box - (Teletype Arrangement TD; TP-179814)

This type box contains the standard Murray style pallets for punctuation characters.

MODEL 35 RECEIVE-ONLY  
TYPING REPERFORATOR



GENERAL DESCRIPTION

The Model 35 Receive-Only Typing Reperforator (ROTR) set is designed to operate at 100 words per minute as a self-contained unit or in conjunction with all Model 33 and 35 equipment.

The ROTR records data in fully punched tape and prints the information between the feed holes. The code is 8 level 11.0 unit.

The punched tape is automatically wound and stored on the plastic reel mounted on the left of the unit.

This tape punch is controlled by the ASR, KSR or RO to which it is connected. An ON-OFF switch is used to turn off the set when it is not needed, or to replenish the tape supply. An indicator light is illuminated when the tape supply runs low.

GENERAL DESCRIPTION (Cont'd)

35AK Typing Reperforator Set

Description

This is a receive only typing reperforator set working on the Standard 8 Level ASCII code.

Features

2-color printing (red printing is suppressed but can be activated)

Tape winder

Delete tape feed out (solenoid controlled)

Chad disposal arrangement

The set consists of the following components:

- 35A Typing Reperforator Unit
- 35A Typing Reperforator Base
- 35A Typing Reperforator Cover
- 35A Typing Reperforator Stand
- 35A Motor Unit
- 35A Set of Gears
- 35F Electrical Service Unit

35A Typing Reperforator Unit

Description

This is a receive only typing reperforator unit working with the ASCII code.

Features

8-Level punching in 1-inch wide tape



GENERAL DESCRIPTION (Cont'd)

Features (Cont'd)

The unit is equipped with a magnet which, when the 6th and 7th pulse are different, controls the printing to be black. When pulses 6 and 7 are both marking or spacing, and the feature is not disabled, the printing is red.

Fully punched tape is produced.

Printing occurs between the feed holes and is 5-1/2 characters behind the punching.

Solenoid controlled "delete" tape feedout.

35A Typing Reperforator Base

Description

This base is used in the 35 typing reperforator set.

Features

Tape supply bin

Low tape contact and indicator light

Tape winder

Fuse, power switch

Terminal strips

35A Typing Reperforator Cover

Description

The 35A Typing Reperforator Cover is used with the 35A Reperforator Base in 35 typing reperforator sets. The cover features a plexi-glass window to permit reading of the printed tape.

GENERAL DESCRIPTION (Cont'd)

35A Set of Gears

Description

The 35A Set of Gears is used for 100 WPM operation in the 35 typing reperforator sets.

35A Motor Unit

Description

The 35A Motor Unit is used in the 35 ROTR set. The motor is similar to the 28A Motor Unit except it has no fan. In place of the fan a pulley is provided to drive a tape winder.

35A Typing Reperforator Stand

Description

The 35A Typing Reperforator Stand is used in the 35 typing reperforator sets.

Features

Chad disposal bin equipped with warning light indicating when full.

Arranged to mount electrical service unit.

35F Electrical Service Unit

Description

This electrical service unit is used for the 35AK Typing Reperforator Set. It is mounted in the 35A Typing Reperforator Stand.

Features

Reperforator control relays (2) used to blind and unblind ROTR; also to start tape feed when ROTR is blinded.

Selector magnet driver with power supply and fuse.

Motor control relay

All traffic switch

Receptacle to receive turn around traffic control card.

END OF SECTION

Code	Teletypewriter-Set	Cabinet	Typing Unit	TTY Base	Elec. Service Unit	Perf. Trans. Base	Trans. Dist. Unit and Base	Motor Unit	Set of Gears	Call Control Unit
KSR 35A	Teletypewriter-Set	35A	35A	35A	35A	-	-	28A	28C-1	35A
KSR 35A-6	Teletypewriter-Set	35A	35A	35A	35A	-	-	-	28C-1	35A
KSR 35B	Teletypewriter-Set	35A	35A	35A	35A	-	-	28B	28C-1	35A
KSR 35C	Teletypewriter-Set	35A	35B	35A	35A	-	-	28A	28C-1	35A
KSR 35C-6	Teletypewriter-Set	35A	35B	35A	35A	-	-	-	28C-1	35A
KSR 35D	Teletypewriter-Set	35A	35B	35A	35A	-	-	28B	28C-1	35A
R0 35E	Teletypewriter-Set	35A	35A	35B	35A	-	-	28A	28C-1	35A
R0 35F	Teletypewriter-Set	35A	35A	35B	35A	-	-	28B	28C-1	35A
R0 35G	Teletypewriter-Set	35A	35B	35B	35A	-	-	28A	28C-1	35A
R0 35H	Teletypewriter-Set	35A	35B	35B	35A	-	-	28B	28C-1	35A
ASR 35J	Teletypewriter-Set	35B	35A	-	35B	35A	35A	28A	28F-1	35A
ASR 35C-6	Teletypewriter-Set	35B	35A	-	35B	35A	35A	-	28F-1	35A
ASR 35K	Teletypewriter-Set	35B	35A	-	35B	35A	35A	28B	28F-1	35A
ASR 35L	Teletypewriter-Set	35B	35B	-	35B	35A	35A	28A	28F-1	35A

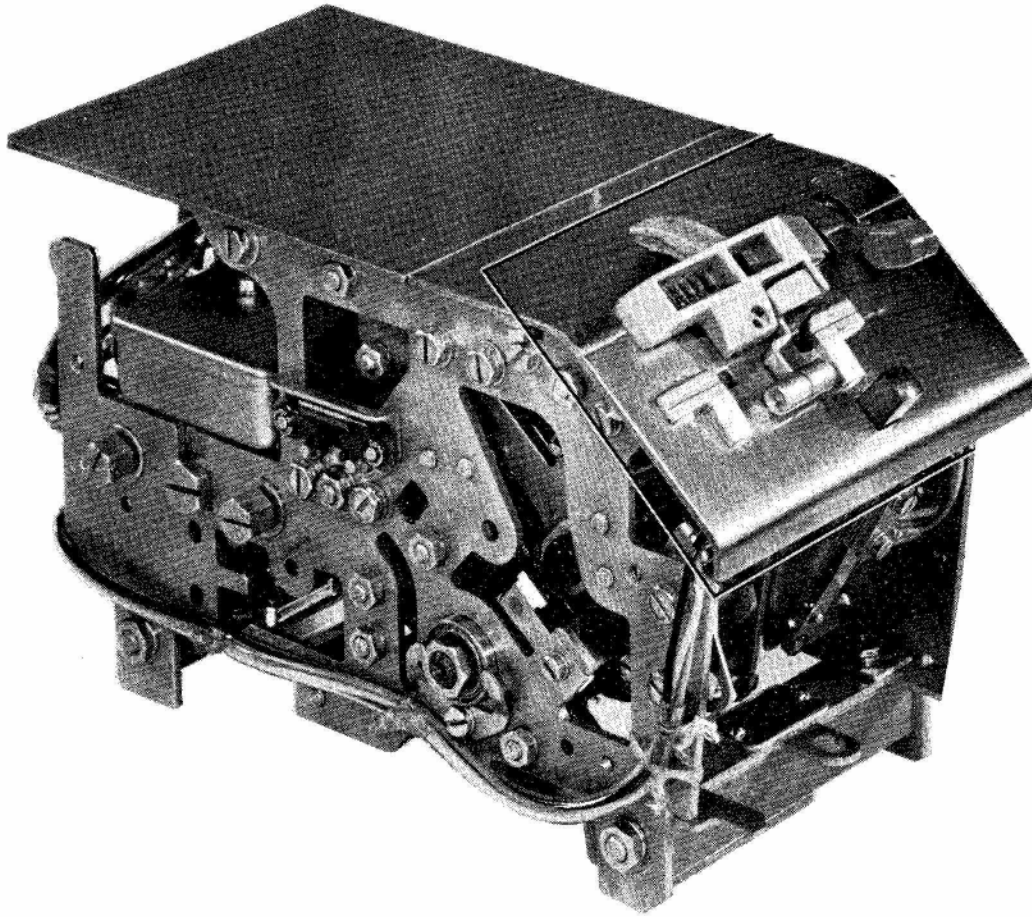
<u>Code</u>	<u>Cabinet</u>	<u>Typing Unit</u>	<u>TTY Base</u>	<u>Elec. Service Unit</u>	<u>Perf. Trans. Base</u>	<u>Trans. Unit and Base</u>	<u>Motor Unit</u>	<u>Set of Gears</u>	<u>Call Control Unit</u>
ASR 35L-6	Teletypewriter-Set	35B	-	35B	35A	35A	-	28F-1	35A
ASR 35M	Teletypewriter-Set	35B	-	35B	35A	35A	28B	28F-1	35A
KSR* 35N	Teletypewriter-Set	35A	35A	35A	-	-	28A	28C-1	35A
KSR* 35P	Teletypewriter-Set	35A	35A	35A	-	-	28B	28C-1	35A
KSR* 35R	Teletypewriter-Set	35B	35A	35A	-	-	28A	28C-1	35A
KSR* 35S	Teletypewriter-Set	35A	35A	35A	-	-	28B	28C-1	35A
ASR* 35U	Teletypewriter-Set	35B	-	35B	35A	35A	28C	28F-1	35A
ASR* 35W	Teletypewriter-Set	35B	-	35B	35A	35A	28D	28F-1	35A
ASR* 35Y	Teletypewriter-Set	35B	-	35B	35A	35A	28C	28F-1	35A
ASR* 35AA	Teletypewriter-Set	35B	-	35B	35A	35A	28D	28F-1	35A

\*These units are furnished with a "D" controller for use with WADS D Service

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35 TYPE TRANSMITTER DISTRIBUTORS



### GENERAL DESCRIPTION

The 35 Transmitter-Distributor Unit is an electromechanical device using a single cam shaft to initiate and sequentially perform the functions of sensing the intelligence stored in the tape. An electrical contact is linked to certain mechanisms to translate the intelligence sensed into pulses of current (marking) and no current (spacing). The unit will accept an eight level tape of one inch width fully perforated. The tape may be inserted without lifting the tape lid by moving the start-stop lever to the free whelling position. Otherwise, the feed wheel is detented and the tape-out pin extended so that the tape is blocked from sliding under the lid.

The unit is arranged so that the components are readily accessible for adjustment or replacement. In the same manner, new features or mechanisms may be installed with a minimum amount of disassembly.

#### A. Special Features

Accommodates fully perforated eight level tape at a speed of 100 words per minute.

A control lever with start-stop and freewheeling positions. The latter position permits free wheeling of the tape feed wheel which facilitates insertion or removal of tape.

A pair of adjustable guides are provided for aligning and locating tape over the feed wheel.

An index line has been scored in the tape guides 0.600" (six characters) ahead of the sensing pins to aid in aligning tape start position.

A tight tape device on the tape lid stops transmission if the tape becomes taut or tangled.

A tape-out pin located to the right of the sensing pins stops transmission if there is no tape in the sensing head. (The pin is advanced 4 characters from the sensing pins.) A rub-out deleter mechanism consisting of a bail, a guide and a spring is located among the sensing levers. This mechanism causes the clutch magnet circuit to open when an all marking combination is sensed by the transmitter.

A spring loaded tape lid that snaps open when the red tape lid button is depressed.

GENERAL DESCRIPTION (Cont'd)

A quick disconnect connect plug which aligns with its mate on the base and facilitates making electrical connections as well as simplifying handling during servicing.

B. Physical Data

Approximate dimensions of transmitter:

Width-----7-1/2 inches  
Depth-----3-5/8 inches  
Height-----5 inches  
Weight-----7 pounds

### 35A Transmitter Distributor Unit

#### General Description

This is a single contact, fixed gate transmitter distributor unit. Tape reading and tape feeding occur in a read-feed sequence of operation. This unit is an 8 level, 11 unit code, 100 W8 or T.O.

#### Features

1. Separate tight and tape out contacts.
2. Bat handle less two positions: "Free wheel-run".
3. Contact to drive signal regenerator circuit.
4. The TO stops on one fill character.
5. Start magnet works on 48V D.C.
6. The wiring of the transmitter distributor unit terminates in a 50 terminal connector that is mounted on the unit.

### 35A Transmitter Distributor Mounting

#### General Description

This is a transmitter distributor mounting used for mounting the 35A transmitter distributor unit and the answer back unit in the 35 automatic send-receive teletypewriter cabinet.

#### Features

1. The base contains its own motor.
2. A 50 terminal connector is provided to mate with the connector on the 35A transmitter distributor unit.

END OF SECTION



### 35 TYPE DISTRIBUTOR

#### General Information

This is a multicontact distributor which can accept 8 level parallel input and produce sequential output. It is designed to mount on a 28A Mounting and Cover Assembly.

#### Features

1. Ten cam operated contacts. Eight are for code elements, one for start - stop operation and one for auxiliary contact, for timing purposes.
2. The clutch trip magnet may be externally controlled, either on 120 volts ac or 48 volts to 120 volts dc with the appropriate external dropping resistors to limit the current to 0.100 amperes.
3. The unit is operable at 60, 75 and 100 wpm by use of the appropriate set of gears on the 28A Mounting and Cover Assembly.
4. All wires terminate in the cable connected to a miniaturized 14 terminal Amphenol receptacle which is fastened on the 28A Mounting and Cover Assembly.

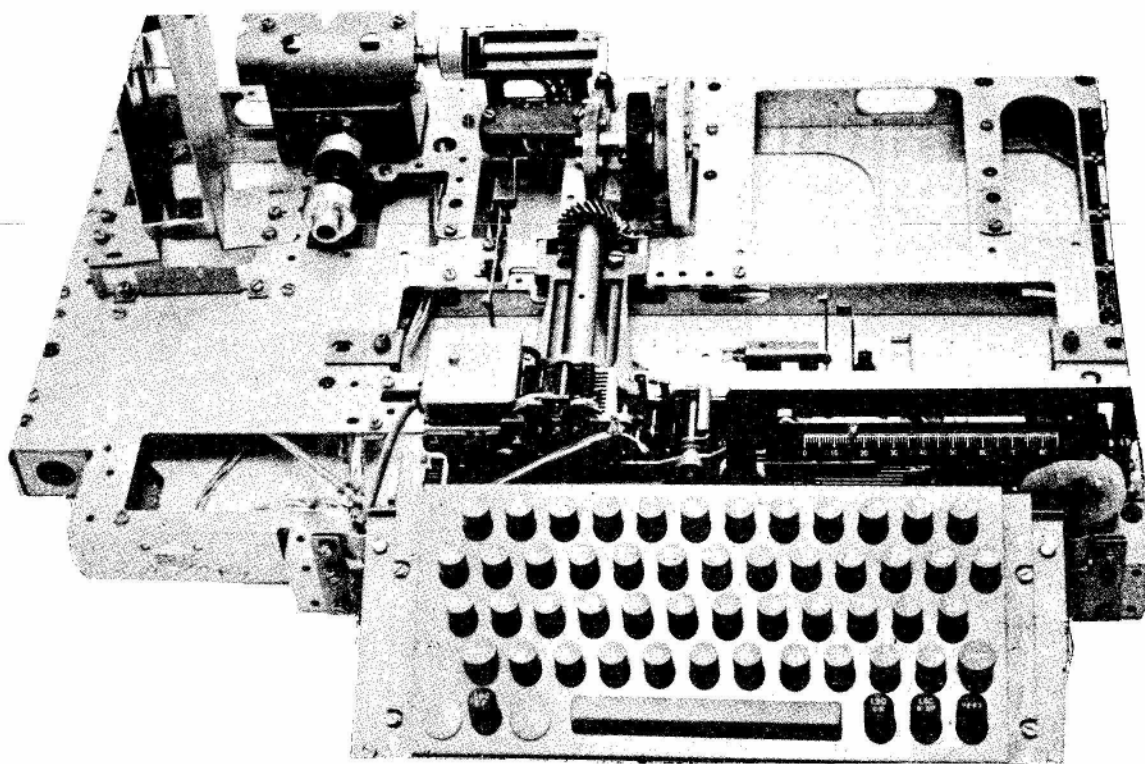
The motor-to-intermediate gears which must be ordered separately as the 28G, 28H, and 28J set of gears for 60, 75 and 100 wpm respectively can be used with the new units.

END OF SECTION

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35 TYPE PERFORATOR TRANSMITTER BASES



GENERAL DESCRIPTION

The keyboard mounts on the cradle assembly of the cabinet pan, and provides support for the motor unit, typing unit, reperforator, and intermediate gear assembly of an ASR Set. The front of the keyboard extends forward beyond the edge of the cabinet pedestal to place the typing keys in a convenient operating position. The keys are positioned in a four row arrangement with most punctuation marks and control symbols indicated as upper keytop characters.

The keyboard incorporates code selecting and signal generating mechanisms (including parity), and signal line and power line circuits. Motive power for activating the keyboard is derived from the motor unit and intermediate gear assembly, and through a gear arrangement on the typing unit main shaft. The reperforator receives its driving power from the motor unit via a jack shaft and gearing arrangement located on the keyboard.

The reperforator is located at the left front corner of the keyboard. It fully perforates eight level tape supplied from a reel located behind the unit. In sets that are equipped with a typing reperforator the message is also printed on the perforated tape. Chad from the punched tape is diverted from the punch head to a chad container located below the ASR cabinet pan assembly.

The reperforator operates in response to line signals or signals generated by keyboard operation. The selection of operating mode is controlled by pushbuttons on the automatic mode switching control panel in sets used with telephone switched networks and by a rotary mode switch to the left of the keyboard in sets used in standard (dc or private line) applications.

### 35A Perforator Transmitter Base

#### General Description

The 35A Perforator Transmitter Base is to generate the 8-level, 11 unit code. It is used in the 35 ASR Teletypewriter.

#### Features

1. Reperforator to punch 8-level (1-inch) fully punched tape.
2. 49 code keys to generate the 11-unit code.
3. 8th pulse transmitted as work.
4. Shift key
5. Control key
6. Local keys as: carriage return, line feed, repeat, reperforator back space.
7. Escape key-alternate mode key
8. Standard keyboard shows:  
VT over K                    The K, I & L keytops without upper  
HT over I                    designation are furnished in a  
FF over L                    cloth bag with every keyboard.
9. Mounting and low noise drive parts for reperforator.
10. Character counter
11. Universal contact (noncontention)
12. End of line indicator
13. Contact to drive signal regenerator.

### 35D Perforator Transmitter Base

#### General Description

The 35D perforator transmitter base is equipped with the following features:

1. Manually operated lever to suppress printing if desired, for example, when data tapes using non-ASCII codes are being sent.
2. Low noise intermediate gear drive.
3. Typing reperforator arranged to give visibility of printing.

#### Remarks

The 35D perforator transmitter base is intended for use on the 35BA and 35BB teletypewriter sets.

35 TYPE TAPE TYPING UNITS &  
ASSOCIATED EQUIPMENT

General Information

The keyboard tape punch is an electro-mechanical device for perforating information in paper tape. An operator types the information on a keyboard and the punch converts it to mechanical motions that perforate the tape. The keyboard typing tape punch is similar to the keyboard tape punch except that it also types the information on the tape. The basic function of the units is to prepare perforated tape off-line for later use in teletypewriter communication applications.

The units consist of a keyboard-base, a motor, a typing or nontyping punch, a drive mechanism, a chad disposal mechanism and a cover.

Variations of the units will produce 5, 6, and 8-level tapes with either in-line or advanced feed holes. The units provide rapid blank tape feed-out, a powered backspace mechanism, a character counter, and an end-of-line indicator.

Technical Data

Approximate Dimensions

Width-----16-5/16"  
Depth-----19"  
Height-----11"  
Weight-----43 lbs.

Tape

Type-----Standard Communications  
Width-----One inch maximum  
Perforations-----Fully Perforated

Motor Unit

Type-----Synchronous  
Horsepower-----1/20  
Input Voltage-----115 V AC,  $\pm 10\%$   
Phase-----Single  
Frequency-----60 Cycles,  $\pm 0.75\%$

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35 TAPE TYPING UNIT

Technical Data (Cont'd)

Motor Unit (Cont'd)

Input Current	
Starting	9 Amperes
Running	1.85 Amperes
Power Factor	
Full Load	30%
Watts Input	
Full Load	65
Start Capacitor	
Rating	43-48 UF
Speed	3600 RPM
Rotation	CCW Viewed from Fan End

35A TAPE TYPING UNIT

General Description

The 35A Tape Typing Unit is similar to the 28LA Tape Typing Unit but is designed for use with the 11-unit code.

Features

1. Selector mechanism with 60 ma magnets.
2. Typewheel printer with standard WADS type arrangement.
3. 3/8-inch wide tape with printing in center of tape.
4. Friction type tape feed wheel.
5. 100 words-per-minute operation.
6. Interfering manual feedout.
7. Print suppression on nonprint characters.

The 35A Tape Typing Unit is part of the 35AB and 35AD Teletypewriter-Sets for use in switchboard positions and training control desks.

### 35B TAPE TYPING UNIT

#### General Description

The 35B Tape Typing Unit is similar to the 28LA Tape Typing Unit but is designed for use with the 11-unit code.

#### Features

1. Selector mechanism with 500 ma magnets.
2. Typewheel printer with standard WADS type arrangement.
3. 3/8-inch wide tape with printing in center of tape.
4. Friction type tape feed wheel.
5. 100 word-per-minute operation.
6. Interfacing manual feedout.
7. 2-color printing (nonprint characters printed in red).

The 35B Tape Typing Unit is part of the 35AE Teletypewriter-Set for use in 10B Test Boards.

### 35A TAPE TELETYPEWRITER BASE

#### General Description

The 35A Tape Teletypewriter Base is similar to the 28LA Tape Teletypewriter Base but designed with a 4-row keyboard for use with the 11-unit code.

#### Features

1. Repeat key.
2. Line break key (not on keyboard).
3. Tape supply reel with low-tape contact.
4. End-of-line and low-tape indicator lights (6 volt).
5. Character counter.



Features (Cont'd)

6. 10-point terminal block arranged to provide half duplex or full duplex operation.
7. Signal generator.
8. No regeneration of signal generator output.
9. Standard keyboard base with WADS keyboard layout.
10. Motor control relay to operate on 48V dc.
11. Motor on-off switch wired in series with the contacts of the motor control relay.
12. 185A Network across motor control relay winding.
13. 5.5 Volt copylight transformer.
14. Pull-out handle to remove base from serviceboard.

The 35A Tape Teletypewriter Base is part of the 35AB Tape Teletypewriter-Set which is used in the switchboard positions and training control desks for operating on ac.

35B TAPE TELETYPEWRITER BASE

General Description

The 35B Tape Teletypewriter Base is similar to the 35A Tape Teletypewriter Base but is designed for 48V dc operation.

Features

1. Repeat key.
2. Line break key (not on keyboard).
3. Tape supply reel with low tape contact.
4. End-of-line and low tape indicator lights to operate on 48V dc.
5. Character counter.

Features (Cont'd)

6. 10-point terminal block arranged to provide half duplex or full duplex operation.
7. Signal generator.
8. No regeneration of signal generator output.
9. Standard keyboard base with WADS keyboard layout.
10. Motor control relay to operate on 48V dc.
11. Motor on-off switch wired in series with the contacts of the motor control relay.
12. 185A Network across motor control relay winding.
13. Contact protection for motor contacts on motor control relay.
14. Pull-out handle to remove base from switchboard.

The 35B Tape Teletypewriter Base is similar to the 28LA Tape Teletypewriter-Set which is used in the switchboard positions operating on 48V dc.

35C TAPE TELETYPEWRITER BASE

General Description

The 35C Tape Teletypewriter Base is similar to the 28LA Tape Teletypewriter Base but designed with a 4-row keyboard for use with the 11-unit code.

Features

1. Repeat key.
2. Line break key (not on keyboard).
3. Tape supply reel with low tape contact.
4. End-of-line and low tape indicator lights (6 volt).
5. Character counter.
6. 10-point terminal block arranged to provide half duplex or full duplex operation.

Features (Cont'd)

7. Signal generator.
8. 500 mil selector magnet driver.
9. Regeneration of signal generator output.
10. Standard keyboard base with WADS keyboard layout.
11. Motor control relay to operate on 48V dc.
12. Motor on-off switch wired in series with the contacts of the motor control relay.
13. 185A Network across motor control relay winding.
14. 5.5 Volt copylight transformer.
15. Pull-out handle to remove base from serviceboard.
16. Restrainer lamp.

The 35C Tape Teletypewriter Base is part of the 35AE Tape Teletypewriter-Set which is used in the 10B Test Board position.

35A TAPE TELETYPEWRITER COVER

General Description

The 35A Tape Teletypewriter Cover is similar to the 28LA Tape Teletypewriter Cover but is designed to function with 35-type teletypewriter bases operating on ac.

Features

1. Copylight (6 volt).
2. Character counter light (6 volt).
3. Front access door (for changing ribbon and tape).
4. Greige textured vinyl finish.

The 35A Tape Teletypewriter Cover is part of the 35AB Tape Teletypewriter-Set which is used in the switchboard positions and training control desks for operating on ac.

35B TAPE TELETYPEWRITER COVER

General Description

The 35B Tape Teletypewriter Cover is similar to the 28LA Tape Teletypewriter Cover but is designed to function with the 35B Tape Teletypewriter Base.

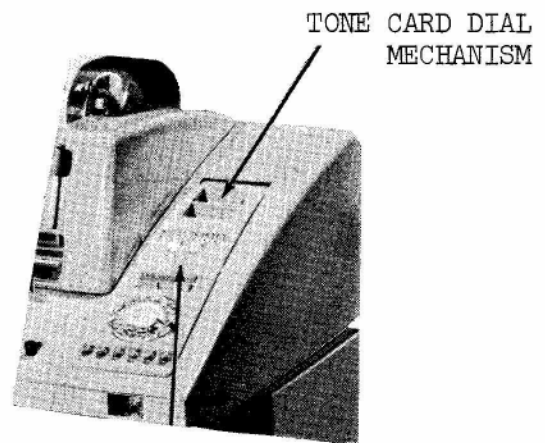
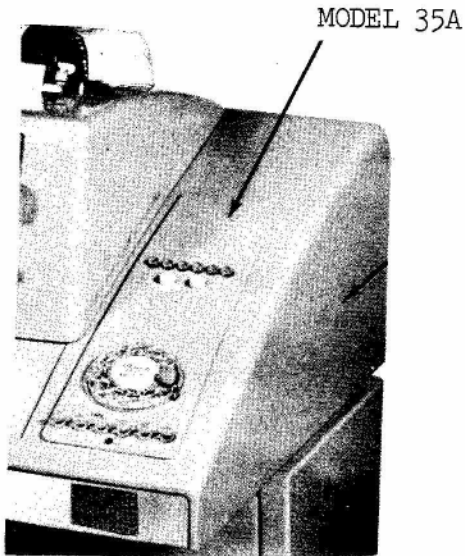
Features

1. Copylight (48 volt).
2. Character counter light (48 volts).
3. Front access door for changing ribbon and tape.
4. Greige textured vinyl finish.

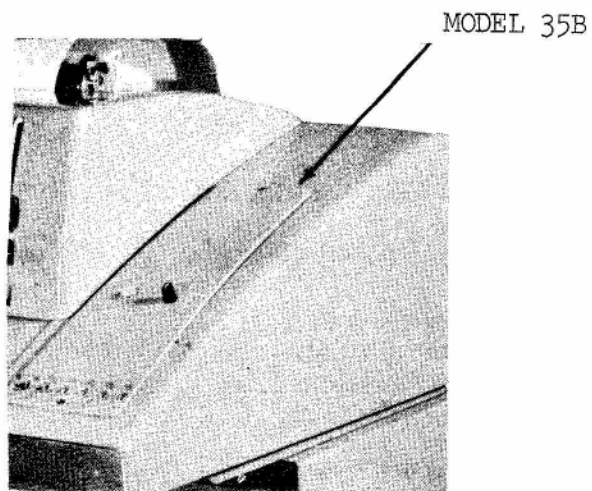
The 35B Teletypewriter Cover is part of the 35AD Tape Teletypewriter-Set used in switchboard positions operating on 48 volt dc.

END OF SECTION

35 TYPE CALL CONTROL UNITS



MODEL 35A WITH  
ADDED FEATURE



### General Description

The Call Control Unit for the KSR Set is located to the right of the page printer and is mounted on the cabinet pan assembly. It is almost physically identical to the call control unit used in the 35 receive-only (RO) set, but is electrically more complex.

The most obvious physical feature which distinguishes the LCCU 300 (Bell 35A) from the LCCU 301 (Bell 35B), is the presence of a rotary or touch-tone dialing mechanism located immediately behind the front row of illuminating push buttons.

The call control unit includes the following features:

- (a) A ringer mechanism to signal an incoming call.
- (b) A transistorized selector magnet driver assembly.
- (c) A transistorized speaker - amplifier assembly.
- (d) A volume control to set the speaker level.
- (e) A power supply which provides the necessary operating potentials and current for the various controls and circuits.
- (f) Fuses for circuit protection, and a 117 volt convenience outlet.
- (g) A cable termination area, at the rear, which provides eight female receptacles for interconnection of components.
- (h) An AC power cord for connection of the set to the power line.
- (i) A combined break (BK) lamp and reset push button (white, upper), REST lamp (amber), OUT-OF-SERVICE lamp (white, lower), and out of service rotary switch. This group of controls is located behind the dial mechanism. The lamps which separate the controls are for future system use.

In addition to the above, the call control unit can be adapted for the following features:

- (a) Automatic pulsing or tone card dial mechanism.
- (b) Make busy circuit.

General Description (Cont'd)

- (c) Call progress lamps.
- (d) Hand held receiver.
- (e) Connection of an Auxiliary Receive-Only Typing Reperforator (ROTR).

### 35A Call Control Unit (LCCU 300)

#### General Description

The 35A Call Control Unit provides an interface between the operator and the 35 KSR and ASR Teletypewriters.

#### Features

1. Dialer Options
  - (a) 35A1 Call Control Unit Rotary Dial
  - (b) 35A2 Call Control Unit Touch-Tone Dial
  - (c) 35A3 Call Control Unit Touch-Tone Card Dial
  - (d) 35A4 Call Control Unit DC Card Dial
  - (e) 35A5 Call Control Unit No Dial
2. Keys
3. Speaker with volume control
4. Ringer and buzzer
5. Loop connections
6. Power transformer and fuses
7. 500 ma Selector Magnet Driver
8. Call progress indicators
9. Motor control relay
10. Break and restrain lights

### 35B Call Control Unit (LCCU 301)

#### General Description

The 35B Call Control Unit provides an interface between the operator and the 35 RO Teletypewriter.

#### Features

1. Keys (clear, answer, etc.)
2. Speaker with volume control
3. Ringer and Buzzer
4. Loop connections
5. Fuses
6. Break Light

### 35C Call Control Unit

#### General Description

The 35C Call Control Unit is used in the 35BJ Teletypewriter Set. It is the interface between the teletypewriter and the 105A Data Set.



35C Call Control Unit (Cont'd)

Features

The 35C Call Control Unit is similar to the 35A Call Control unit with the following exceptions:

It contains no speakers, no amplifiers, no dial, no ringer, no call progress lights, no out-of-service key and no restraint light.

The ORIG, ANS and TEST keys are inoperative and blocked. Four special alarm lamps are mounted in the area of the out-of-service key and lamp.

Remarks

This is a special call control unit used in the remote maintenance machine for ESS offices.

END OF SECTION

## 35 TYPE SETS

### GENERAL DESCRIPTION

The 35 Keyboard Send Receiver (KSR) Set or Automatic Send-Receive (ASR) Sets are basically electro-mechanical devices capable, when properly adapted, of sending and receiving messages over telephone networks, telegraph lines, or radio channels. The set accommodates message transmission at 100 words a minute. All messages (received or transmitted) may be typed on either page size copy paper or continuous business forms. If set is an ASR they may be punched in paper tape with or without the message typed on the tape, depending on the equipment combinations and options used.

The component complement of an ASR or KSR Set may vary from one installation to another, depending upon the installation requirements. In general, an ASR Set will consist of a page printer, keyboard with reperforator, motor unit, transmitter distributor and its base assembly, electrical service unit, and cabinet. A KSR Set will consist of a page printer, keyboard base, motor unit, electrical service unit, and cabinet. A call control unit is included on sets that are required to operate with tone modulation over telephone networks.

A data set is also required for operation with tone modulation over telephone networks. However, it is not supplied as a part of the Set. When used, the data set is mounted on an apparatus rack in the pedestal of the cabinet or, in some installations, is included with switchboard equipment.

### 35A-X3 Teletypewriter Set

This is a friction feed KSR teletypewriter set having the same features as the 35A teletypewriter set except that it will be equipped with a parity keyboard.

### 35B-X3 Teletypewriter Set

This is a friction feed KSR teletypewriter set equipped with a governed motor having the same features as the 35A-X3 teletypewriter set.

### 35C-X3 Teletypewriter Set

This is a sprocket feed KSR teletypewriter set having the same features as the 35C teletypewriter set except that it will be equipped with a parity keyboard.

GENERAL DESCRIPTION (Cont'd)

35D-X3 Teletypewriter Set

This is a sprocket feed KSR teletypewriter set equipped with a governed motor having the same features as the 35C-X3 teletypewriter set.

35J-X3 Teletypewriter Set

This is a friction feed ASR teletypewriter set having the same features as the 35J teletypewriter set except that it will be equipped with a parity keyboard.

35K-X3 Teletypewriter Set

This is friction feed ASR teletypewriter set equipped with a governed motor having the same features as the 35J-X3 teletypewriter set.

35L-X3 Teletypewriter Set

This is a sprocket feed ASR teletypewriter set having the same features as the 35L teletypewriter set except that it will be equipped with a parity keyboard.

35M-X3 Teletypewriter Set

This is a sprocket feed ASR teletypewriter set equipped with a governed motor having the same features as the 35L-X3 teletypewriter set.

35AB-X3 Teletypewriter Set

This is a keyboard tape teletypewriter set for use in the switchboard having the same features as the 35AB teletypewriter set except that it will be equipped with a parity keyboard.

35AD-X3 Teletypewriter Set

This is a keyboard tape teletypewriter set for use in the switchboard having the same features as the 35AD teletypesriter set except that it will be equipped with a parity keyboard.

GENERAL DESCRIPTION (Cont'd)

35AH-X3 Teletypewriter Set

This is a desk-top mounted KSR set for use in the supervisor's desk having the same features as the 35AH teletypewriter set except that it will be equipped with a parity keyboard.

35AJ-X3 Teletypewriter Set

This is a KSR set for use in the 10B test board having the same features as the 35AJ teletypewriter set except that it will be equipped with a parity keyboard.

35BA-X3 Teletypewriter Set

This is a friction feed ASR teletypewriter set having the same features as the 35BA teletypewriter set except that it will be equipped with a parity keyboard.

35BB-X3 Teletypewriter Set

This is a sprocket feed ASR teletypewriter set having the same features as the 35BB teletypewriter set except that it will be equipped with a parity keyboard.

35BJ-X3 Teletypewriter Set

This is a sprocket feed KSR set having the same features as the 35BJ teletypewriter set except that it will be equipped with a parity keyboard.

35BK-X3 Teletypewriter Set

This is a friction feed KSR set having the same features as the 35BK teletypewriter set except that it will be equipped with a parity keyboard.

35BK-X2-X3 Teletypewriter Set

This is a sprocket feed KSR set having the same features as the 35BK-X2 teletypewriter set except that it will be equipped with parity keyboard.

GENERAL DESCRIPTION (Cont'd)

35BL-X3 Teletypewriter Set

This is a friction feed KSR set having the same features as the 35BL teletypewriter set except that it will be equipped with a parity keyboard.

35EM-X3 Teletypewriter Set

This is sprocket feed KSR set having the same features as the 35BM teletypewriter set except that it will be equipped with a parity keyboard.

The following are 35-type teletypewriter bases coded as (dash) -X3 to add parity to the standard coded teletypewriter bases.