

Oct. 24, 1971

THE AUTOMATIC CONTROL UNIT - MARK II

The ACU-2 is an improved version of the original ACU design, which has been out in the field for evaluation. All of the desirable features of the original design are incorporated, such as push-button startup and shutdown, output connection for flashing a lamp (up to 300 watts only), ACU shutdown by means of Break key either locally or remotely, and, as well, the mechanical walking-beam arrangement for actuating the telephone buttons.

Two new features are added in the ACU-2 design. One is a MESSAGE RECEIVED lamp, on the front panel; this indicates to the deaf person that a message was received during his absence, and that he should look at the teletypewriter to see what was received. The other is a rearrangement of the mode switch, so that the ACU-2 Phonetype combination can be used with a Model 19 installation for tape punching in LOCAL mode.

Further, callup and shutdown times are separately adjustable by means of switches mounted on the printed circuit (accessible by opening the cover). With the front of the ACU-2 facing you, the slide switch along the left side of the printed circuit board is for adjusting "L" 30 seconds callup time or "S" 1 second callup time. The other slide switch, near the right hand, front area of the printed circuit board, is for adjusting "L" 3 minutes to shutdown or "S" 30 seconds to shutdown.

Thus, the ACU-2 can be used for residential telephone answering, by setting both slideswitches to "L", so one gets 30 seconds callup time, equivalent to six telephone rings; and 3 minutes to TTY shutdown, if there is no further typing.

In Deaf Messenger service, the ACU-2 is best operated with both switches set to "S", so that it picks up the telephone on the very first ring, and it shuts down after 30 seconds (approx.) of no typing.

Optionally, the residential ACU-2 could have its shutdown timing set to 30 seconds. However, this places undue haste on the caller; if he dawdles in his typing, the ACU-2 may shut down without his knowledge, and a portion of his message may be missed. Further, in residential use, the short shutdown timing may make it inconvenient when making calls to the outside. One would have to keep the START button held down while dialing and waiting for the other end to answer.

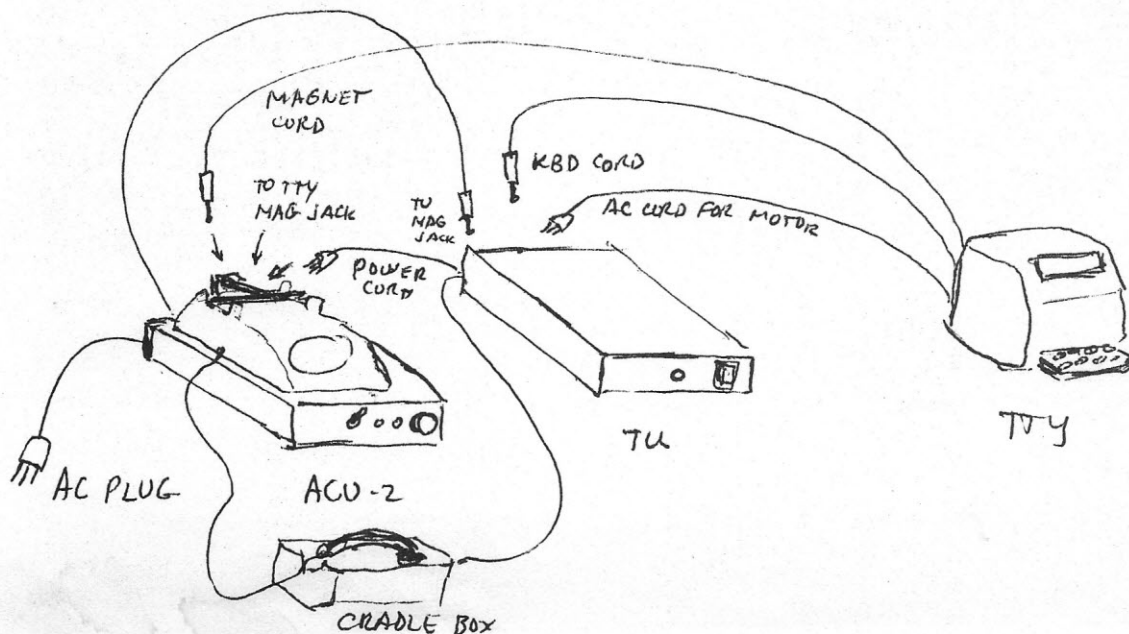
The Mode switch (on the front panel) has three positions, AUTO, OFF, and LOCAL. In AUTO, the system is ready to answer incoming calls on an automatic basis. In OFF, the system does not respond to calls, but will only flash a lamp (if used). In LOCAL, the system, used with a Model 19, can be used to prepare a tape, without picking up the telephone.

The MESSAGE RECEIVED light can be extinguished just by pressing the STOP button on the front panel of the ACU-2. Thus, the owner is relieved of the chore of having to inspect his TTY every time he comes near it to check for the possibility of messages having been left on it during his absence.

There is a special jack at the rear of the ACU-2, to accept a cradle switch, available as an accessory. This item is placed in the Phonetype cradle box, so that if a hearing person desires to make a telephone call, all he has to do is to pick up the telephone handset from the cradle box, and the telephone buttons will automatically rise, as actuated by the ACU-2's walking beam. At the finish of the voice call, just place the handset back in the cradle box, and the buttons will go down. The TTY machine will not turn on during this procedure, except of course, should the START pushbutton be pressed during the voice call.

The connecting wires on the rear of the ACU-2 have been simplified. All the connections of the original ACU design are available. There is a power cord with 3-pin grounding plug, and a Magnet plug with cord (this goes to the Phonetype Terminal Unit's MAGNET jack). These are the two flying cords. On the rear will be found a TTY MAGNET jack (this receives the plug from the teletypewriter magnet circuit) and a Phonetype TU power outlet socket (this receives the power plug from the terminal unit). In addition, there is the aforementioned jack for the cradle box switch. Likewise, there is a 2-pin AC socket for operating a lamp, up to 100 watts only, for indicating telephone rings to the deaf resident.

Follows a hookup plan for the ACU-2-Phonetype system. For other information, please consult the Technical Bulletin dated July 30, 1970.

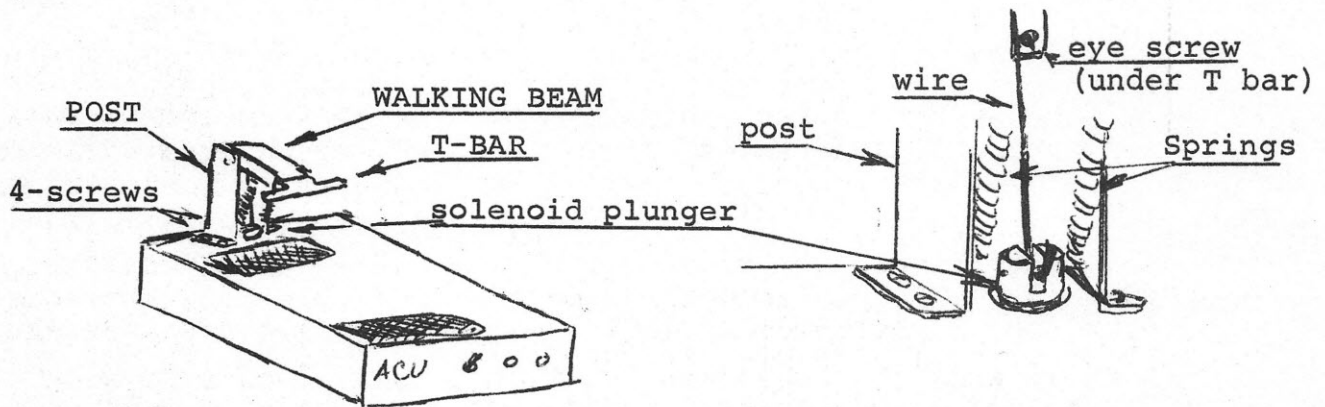


THE AUTOMATIC CONTROL UNIT
INSTALLATION INSTRUCTIONS

As shipped, the Automatic Control Unit arrives with certain parts dismantled and packed separately in a corner of the shipping carton. The parts involved comprise the "Walking Beam", the "T-Bar", and other associated components. These parts control the buttons on the top of the Bell System 500-series telephone base.

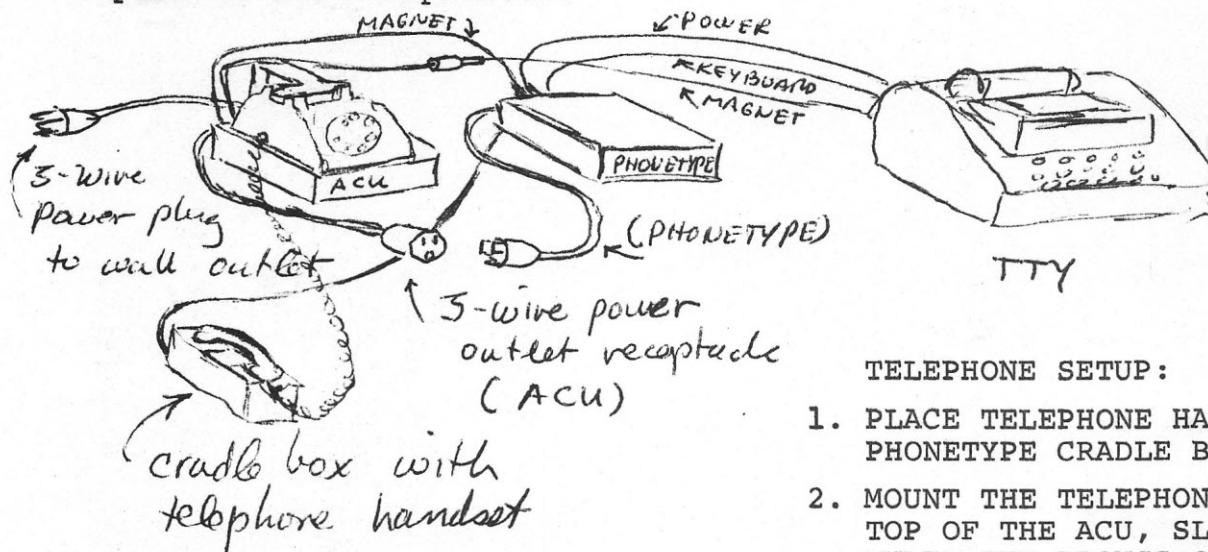
These parts are mounted at the rear and on the top of the ACU box; the assembly should be quite obvious. Four short screws are provided to fasten the post to the top of the ACU. Be sure to seat the screws firmly, using a small screwdriver.

There is a round metal rod with a pointed end; this is the plunger which goes into the magnet solenoid, through a round hole in the ACU's top. Also, there is a piece of wire with hooks on both ends; it connects the slotted end of the plunger with the eye-screw just beneath the rear of the walking beam at the top of the post.



The 500-series telephone base is slipped under the upraised T-bar; it won't hurt to use a very slight finger force to enable the T-bar to slip over the projections on the top of the telephone base. The T-bar should be in near correct adjustment and should now press down the buttons on the telephone base. In any event, should adjustment be necessary, the two screws holding the slotted rear end of the T-bar can be loosened, and the latter part can be slid up or down to find the correct adjustment. When the solenoid is energized, the T-bar should rise just enough to allow the telephone buttons to rise, and yet just clear them by a gap of about 1/32 inch. When the solenoid is turned off, the springs should pull the T-bar down so that both buttons are pressed firmly and flush with the surface of the telephone base top. In this way, the buttons will be properly controlled, and this can be ascertained by presence of dial tone on the Phonetypewriter monitor light when the buttons are completely up, and by absence of dial tone when the buttons are completely down. At least, be sure that the buttons are either completely up or completely down, not "half way up or down".

The arrangement for the ACU, the Phonetype Terminal Unit, and the Teleprinter is sketched below. Briefly, the ACU is powered from off the wall power outlet; the ACU in turn powers the Phonetype Terminal Unit; and, finally, the Phonetype TU operates the Teleprinter.



TELEPHONE SETUP:

1. PLACE TELEPHONE HANDSET IN PHONETYPE CRADLE BOX.
2. MOUNT THE TELEPHONE BASE ON TOP OF THE ACU, SLIPPING UNDER THE PRONGS OF THE T-BAR.

PLUGGING THINGS UP---

1. PLUG THE POWER CORD OF THE PHONETYPE TERMINAL UNIT INTO THE OUTLET RECEPTACLE OF THE AUTOMATIC CONTROL UNIT.
2. KEEP THE POWER CORD OF THE TELEPRINTER IN THE "TTY MOTOR" SOCKET OF THE PHONETYPE TERMINAL UNIT.
3. KEEP THE KEYBOARD PLUG OF THE TELEPRINTER IN THE "KEYBOARD" JACK ON THE PHONETYPE TERMINAL UNIT.
4. PLACE THE MAGNET PLUG OF THE TELEPRINTER IN THE MAGNET-JACK RECEPTACLE FROM THE AUTOMATIC CONTROL UNIT.
5. PLACE THE MAGNET PLUG OF THE AUTOMATIC CONTROL UNIT IN THE MAGNET JACK ON THE PHONETYPE TERMINAL UNIT.
6. Finally, PLACE THE POWER CORD OF THE AUTOMATIC CONTROL UNIT IN THE WALL POWER OUTLET.

Then, PUSH THE STOP BUTTON TO TURN OFF THE ACU-PHONETYPE SYSTEM. Try the START button to see that the equipment turns on, and that the telephone picks up (with the ACU panel switch in Auto-On position). Try the STOP button to see that things shut down properly. Again, the START button, and try the BREAK button (on either the Teletypewriter keyboard or on the front of the special Phonetype, if equipped). The system should shut down properly.

The ACU can sit on top of the Phonetype, if that arrangement is desired. It makes for a combined system, pleasing to the eye, and takes up a minimum of desk space. The telephone is easily accessible for dialing out. The cradle box, with the telephone lying there for all time, should be separated somewhat, not closer than about one foot to the ACU-Phonetype set. Keep the cradle box in a quiet area.