

INSTRUCTIONS FOR INSTALLING THE UCC29 CALL
CONTROL UNIT IN MODEL 33 or 35 SETS

1. GENERAL

1.01 The UCC29 call control unit powers and provides means of connecting a Model 33 or 35 Set to a data set or a logic package. The set logic may be the 186627 set logic assembly or a data set of the 109C type. The UCC29 mounts in the area normally considered the call control unit area of Model 33 and 35 Sets. The UCC29 mounts in the rear of this area with the front section of the area reserved for the logic assemblies or the 109C type data sets. Optional bezel plates are available to cover the call control unit area. See Table 1 for the specific features of the UCC29. Refer to Table 2 for the various component units that may be used with the UCC29.

TABLE 1

UCC29 FEATURES

Wiring area to interconnect distributor, keyboard, reader, answer-back and set logic.
Power supply for selector magnet driver, data set and other device requirements as well as local power.
Motor start relay and power cord.
Five hundred milliamperes selector magnet driver for 0.020 ampere neutral input operation.
Convenience outlet for 115 volt alternating current, 100 watt maximum, not fused.
Fuses for alternating current, -20 volt direct current supply, and +24 volt direct current supply.
Capability of 60 hertz 115 volt alternating current operation; with 50 or 60 hertz operation if the elapsed time indicator is removed.

TABLE 1 (continued)

Mounting hardware for 109C type data set or set logic.
Facilities to mount the optional 186630 modification kit to provide break detection and indication light.

TABLE 2

UNITS COMPATIBLE WITH UCC29

UNIT	TELETYPE CODE
TYPING UNITS	UP800-805, 807-809, 811, 813, 816-818, 820, 825, 827, 829, 831-834, 851, and 853
READERS	UX800, 801, and 803
KEYBOARD	UK800, 804, 805, 809, 810-812, 815, and 816
PERFORATORS	UPE800-803
SET LOGIC ASSEMBLY	186627 described in 50694S 186670 described in 50701S
MODEL 35 TWX Sets	Most Model 35 TWX Sets when equipped with 336474 modification kit described in 50695S

1.02 The UCC29 has an electrical mechanical (primitive) interface. All input, output and control leads are brought out of the call control unit to 15-pin connectors no. 1 (CAH) and no. 2 (CAJ) at the rear of the unit. These leads include the send contacts, receive circuit, stunt box contacts, motor control relay, paper alarms, distributor trip and answer-back magnets. A complete listing of all leads is given in the theory of operation. All leads are controlled by the set logic or a data set housed in front of the UCC29 or below in the pedestal.

1.03 The UCC29 does not contain operator controls, indicators or alarms. The call control unit does bring out the keyboard, printer and reader control leads for the set logic which will house, if necessary, operator controls and indicators. See Part 4 of this specification for the theory of operation of the UCC29 call control unit.

1.04 Power requirements for the UCC29 are 115 volts alternating current, +10%, 60 hertz and a 0.020 ampere direct current signal line. The power supply provides 24 volts direct current at 2 amperes for the set logic and teletype-writer power requirements. This supply, also, provides 20 volts direct current at a maximum of 0.750 ampere for the selector magnet driver circuit.

1.05 The UCC29 is approximately 15 inches long, 4-1/2 inches wide and 6 inches high. It consists of a metal chassis to which the fuses, 15-pin connectors, selector magnet driver and power supply are mounted. The UCC29 weighs approximately 10 pounds.

1.06 Operation of the UCC29 at 50 to 60 hertz is permissible if the elapsed time indicator is removed.

1.07 For information on the optional 186630 break detection and indication modification kit, refer to Teletype Specification 50773S.

2. INSTALLATION

2.01 The UCC29 is normally furnished with a complete set. However, there may be occasion for stocking and shipping these call control units separately.

2.02 If the unit is shipped separately, care should be taken to unpack the unit carefully so as not to damage any of the assembled part components.

2.03 Two cables are available to interface the UCC29 with the set logic. The 336463 cable (must be ordered separately if required) has two 15-pin connectors to plug into connectors CAH and CAJ at the rear of the UCC29 and 30 leads with spade terminals at the set logic end. This cable is for use with a 109C or F data set and early design set logic assemblies. The 336464 cable (comes in the 186627 or 186670 set logic assembly) has 15-pin connectors at both ends. One end will terminate at the UCC29 and the other at the set logic packages designed for use with the UCC29. Neither cable is part of the UCC29.

2.04 When installing the UCC29 a bezel set of parts must be ordered separately. This bezel set of parts must match the unit color and the type of dial to be used. The following bezel sets of parts are available:

334889**	Bezel	No Dial
334890**	Bezel	Rotary Dial
334891**	Bezel	TOUCH-TONE® Dial
341337**	Bezel	No Dial w/VBLA (Voice Band Loop Around)

2.05 When installing the above bezels the 119634 button plug is retained, and it may be necessary to spread the prongs to assure tight fit.

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UCC29 INSTALLATION ON A MODEL 33 SET

- 2.06 Remove the faceplate by pulling outward and down.
- 2.07 Remove the four front cover screws.
- 2.08 Remove the three rear cover screws.
- 2.09 Remove the set screw from the left side of the tape reader (ASR set only).
- 2.10 Remove the cover.
- 2.11 Remove the copper grounding strap from the rear of the UCC.
- 2.12 Remove the plugs from the rear of the UCC.
- 2.13 Remove the screws that fasten the UCC to the sub-base.
- 2.14 Remove the UCC.
- 2.15 Mount the UCC29 with the screws removed from the old unit.
- 2.16 Replace the copper grounding strap.
- 2.17 Connect the plugs to the UCC29.
- 2.18 The set logic assembly is installed as shown in Figure 1. Mounting hardware is supplied with the UCC29.
- 2.19 Replace the cover and install the correct bezel plate as described in 2.04.
- 2.20 If the unit to be converted has an automatic reader, R5 and CR6 on the 183079 circuit card used in the 182134 reader power pack must be strapped or the power pack can be replaced by the 186480 power pack which has designed to operate with the UCC29.

UCC29 INSTALLATION ON A MODEL 35 SET

- 2.21 The 336474 modification kit must be used when the UCC29 is installed on Model 35 Sets. See Teletype Specification 50695S.

3. ADJUSTMENTS

- 3.01 The only adjustment on the UCC29 is the adjustable resistor on the 182630 selector magnet driver card. This resistor should be adjusted so that the selector magnet current is 500 milliamperes.
- 3.02 Mount the logic package assembly in the middle of its front to rear adjustment and the key mounting bracket at the top of its adjustment with its mounting screws friction tight.
- 3.03 Place the Model 33 cover in position.
- 3.04 Mount the proper faceplate (2.04) to the Model 33 cover using the two 182764 speed nuts and 182760 screws (6-32 by 5/16 oval head) furnished with the Model 33 Set. Use the faceplate to depress the keys to their proper position. The keys should not bind in the openings of the faceplate.
- 3.05 Remove the cover. If necessary, loosen the three mounting screws and refine the front to rear adjustment of the logic package assembly until the requirement is met for the assembly.
- 3.06 Tighten all mounting screws and fasten the cover in position.

4. THEORY OF OPERATION

Note: For the actual wiring of UCC29 see 8162WD; for typical system wiring see WDP0152.

- 4.01 The UCC29 consists of a power supply, SMD, motor control relay, and wiring area which connect to the controlling device.
- 4.02 The power supply consists of the 186434 transformer assembly and the 186438 circuit card assembly. The 115 v ac input power is applied to the primary of the transformer at 3C3. The 22 v ac output is connected to terminals 7 and 8 of the 186439 circuit card, 3C2. The 20 v ac secondary output is wired to terminals 5 and 6 of the same circuit card, 3D3. The output capabilities of the power supply are as follows:

<u>TERMINAL</u>	<u>103 V AC/I LOAD</u>	<u>127 V AC/I LOAD</u>
1 & 2	20.5 v dc Min/1.8a dc	32.2 v dc Max/40ma dc
3 & 4	17.7 v dc Min/0.7a dc	29.7 v dc Max/40ma dc

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The 24 v dc supply is capable of supplying 2 amps. This power will be used to drive the motor control relay 1D3, distributor trip magnet, 3D6, answer-back magnet 1E3 and the set logic 3E2. The 20 v dc supply is capable of supplying 0.750 amps dc which will be used by the SMD circuits, 2D6. The 22 v ac is brought out to the set logic, 3C2, to be used for an alarm buzzer or bell if so required. The 20 v dc is also brought out to the set logic, 3E3, which may be used if the current requirements are not more than 0.2 amps.

4.03 The selector magnet driver circuitry is similar to that of the 182695 SMD assembly. The power supply has been replaced by the 186438 circuit card and 186434 transformer. The UCC29 uses the 182630 SMD circuit card assembly.

4.04 The motor control relay is located under the 186438 circuit card assembly. One side of the coil is brought out to the set logic which will control the relay. Grounding the set logic lead will operate the relay and close the contacts in series with the motor.

4.05 The wiring area located at the rear of the UCC29 has eight 15-pin receptacles. Receptacles, 6, 7, and 8 are located on and are part of the 186439 circuit card assembly. The circuit card interconnects the three receptacles.

Note: Receptacles number one (CAH) and two (CAJ) make up the primitive interface, and the following paragraphs describe the positions, colors and functions of the wires that terminate there.

4.06 EOT Contact - normally open stunt box contact receptacle 1, terminal 1, red-yellow wire; call control side is tied to common return of +24 volt dc supply. This contact is capable of handling 0.100 ampere, 115 volts, ac or dc, inductive or resistive loads without spark protection.

4.07 Motor Control Relay - receptacle 1, terminal 2, slate wire, +24 v dc on call control side. When this wire is connected to the 24 v dc common return, the operating switch will break 0.055a at 24 volts.

4.08 Receptacle 1, terminal 3, brown wire, minus 20 volt direct current, may be used to supply 0.75 ampere maximum to outside referenced to ground.

4.09 ENQ/EOT - normally open stunt box contact receptacle 1, terminal 4, brown-slate wire, +24 v dc or +48 v dc on call control side. Capable of handling 0.100 ampere, 115 volts ac or dc, inductive or resistive loads without spark protection.

- 4.10 Automatic Reader Control - normally open stunt box contact receptacle 1, terminal 5, red-green wire. Capable of handling 0.100 ampere, 115 volts ac or dc, inductive or resistive loads without spark protection.
- 4.11 Receive Circuit SMD - negative side at receptacle 1, terminal 6, orange wire. Positive side at receptacle 1, terminal 13, white-green wire. Must see 20 ma for a MARK, zero current for a SPACE. Input impedance is nonreactive at approximately 30 ohms.
- 4.12 Frame Ground - receptacle 1, terminal 7, green wire.
- 4.13 Low Paper Contacts (described with full paper) - normally closed contact at receptacle 1, terminal 8, white-red-yellow wire. Normally open contact at receptacle 1, terminal 15, white-red-green wire, 24AWG used in UCC29 limits maximum allowable current to 1 amp. Call control side is tied to common side of +24 v dc supply.
- 4.14 Break Key - normally closed contact receptacle 1, terminal 9, white-orange-blue wire and receptacle 1, terminal 11, white-orange-brown wire. Normally used to break the signal line. Maximum capabilities 120 v dc, 0.060a.
- 4.15 Alarms for 22 v ac - receptacle 1, pin 10, black-green wire and receptacle 1, pin 14, purple wire, used for alarms if needed, 0.100 amp maximum. Neither side may be connected in common with the 24 v dc supply. +24 v dc - receptacle 1, pin 12, blue wire is positive side, receptacle 2, pin 5, white-purple is common return side. May be used to supply 2 amp maximum to outside loads.
- 4.16 Send Contact - receptacle 2, pin 1, white-black-orange wire and receptacle 2, pin 14, white-black-purple wire. Normally used to break signal line. Maximum capabilities 120 v dc, 60ma.
- 4.17 Break Reset Switch - normally closed, receptacle 2, pin 2, red-brown wire, and receptacle 2, pin 3, red slate wire. This switch is part of the 186630 modification kit. Rated at 3 amps, 125 v ac (resistive) or 3 amps, 30 v dc (noninductive).
- 4.18 Break Lamp - receptacle 2, pin 4, orange-green wire and receptacle 2, pin 15, orange-slate wire. Modification kit 186630 uses 28 v dc lamp. The UCC29 will supply +24 v dc and a return path for the lamp. This circuit will be switched by the 303833 circuit card.
- 4.19 Reader Enable - receptacle 2, pin 6, white-orange-green wire and receptacle 2, pin 12, red wire. Rating depends on switch being used to operate reader, but 24AWG used in UCC29 limits maximum allowable current to 1 amp.

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4.20 Stop All Senders - normally open contact receptacle 2, pin 7, black-brown wire and receptacle 2, pin 8, black-slate wire. Part of modification kit 186630. Maximum ratings: Current - 2 amp at 28 v dc, voltage- 115 v ac at 0.5 amp.

4.21 Break Holding Circuit - normally open contact, receptacle 2, pin 9, orange-brown wire. Part of modification kit 186630. Maximum Ratings, same as Stop all Senders.

4.22 ACK Contact - normally open stunt box contact, receptacle 2, pin 10, red-blue wire, same ratings as auto reader control.

4.23 Answer-Back Magnet - receptacle 2, pin 11, white brown wire, +24 v dc on call control side. When this wire is connected to the 24v common return, the operating switch will break approximately 0.220amp.

4.24 ACK Controlled Circuit - receptacle 2, pin 13, green-slate wire. An external contact closure here to 24 v dc common return will complete the operate path for the TDC relay, activating the reader if the reader control lever is in the RUN position and tape is present, 24AWG wire in the UCC29 limits maximum allowable current to 1 amp.

4.25 Terminal Strip CZ has the following:

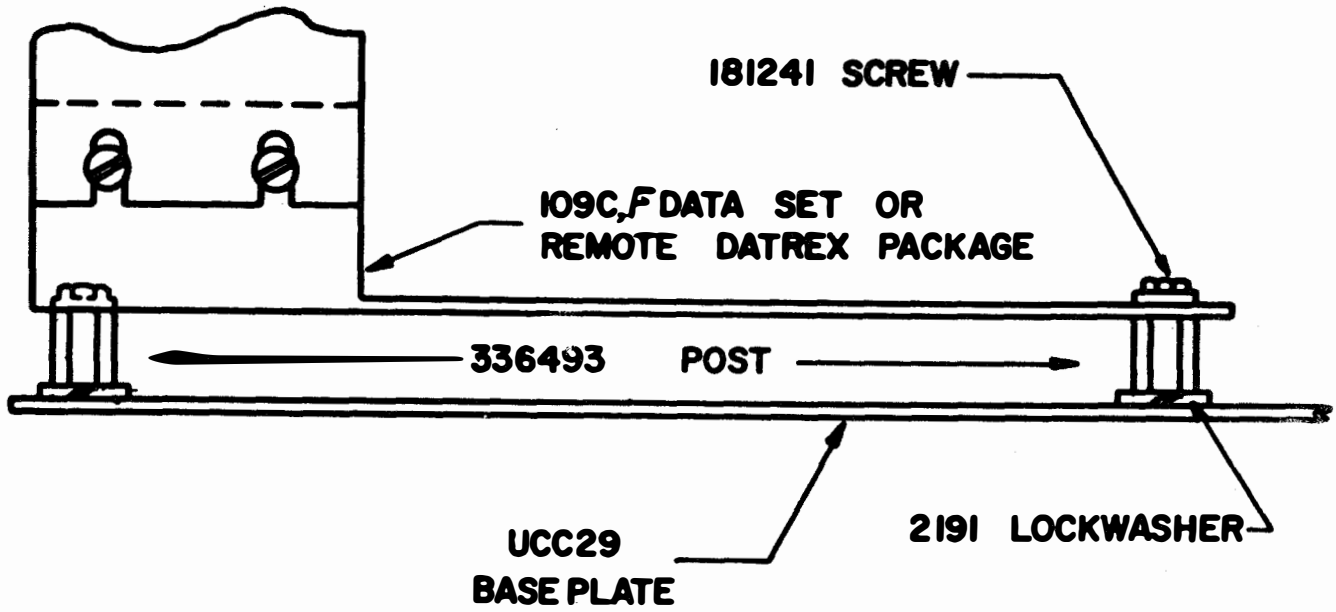
Terminal #1 - Chassis Ground

- #2 115 v ac 60 HZ Input (GS)
- #3
- #4 115 v ac 60 HZ Input (LS)
- #5
- #6 115 v ac Fused 3-2/10 Amp
- #7 115 v ac 60 HZ (Elapsed Time Indicator)
- #8 +24 v dc 2.0 Amps Max
- #9 -24 v dc

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SET LOGIC MOUNTING IN MODEL 33 SETS

FIGURE 1