

W.E.CO. 202AW DATA SET  
DESCRIPTION

1. GENERAL

1.01 This section provides descriptive information and operating procedures for the W.E.Co. 202AW data set.

1.02 This section was formerly numbered 555-422-100. Section 555-422-100 is hereby cancelled.

1.03 The suffix Win the data set model number indicates that the data set was manufactured by W.E.Co. and sold to a non-Bell System company.

2. DESCRIPTION

2.01 The 202AW data set (see Figure 1) is a medium-speed nonsynchronous transmit-

ter-receiver which operates at speeds up to 1800 bits per second. It accepts serial binary data from a business machine in the form of positive and negative d-c voltage signals and converts the data signals to voice frequency tones (1200 cps for mark and 2200 cps for space). These tones are transmitted over existing telephone facilities. At the distant data set the tones are received, converted back to d-c form and delivered to the business machine. In addition to the transmitter and receiver, the 201AW data set includes a 6-button telephone set.

2.02 The data set can be used in one-way or two-way nonsimultaneous transmission on a 2 wire basis only. The 202AW is designed for use on switched message network (DDD) or private lines (see Table 1).

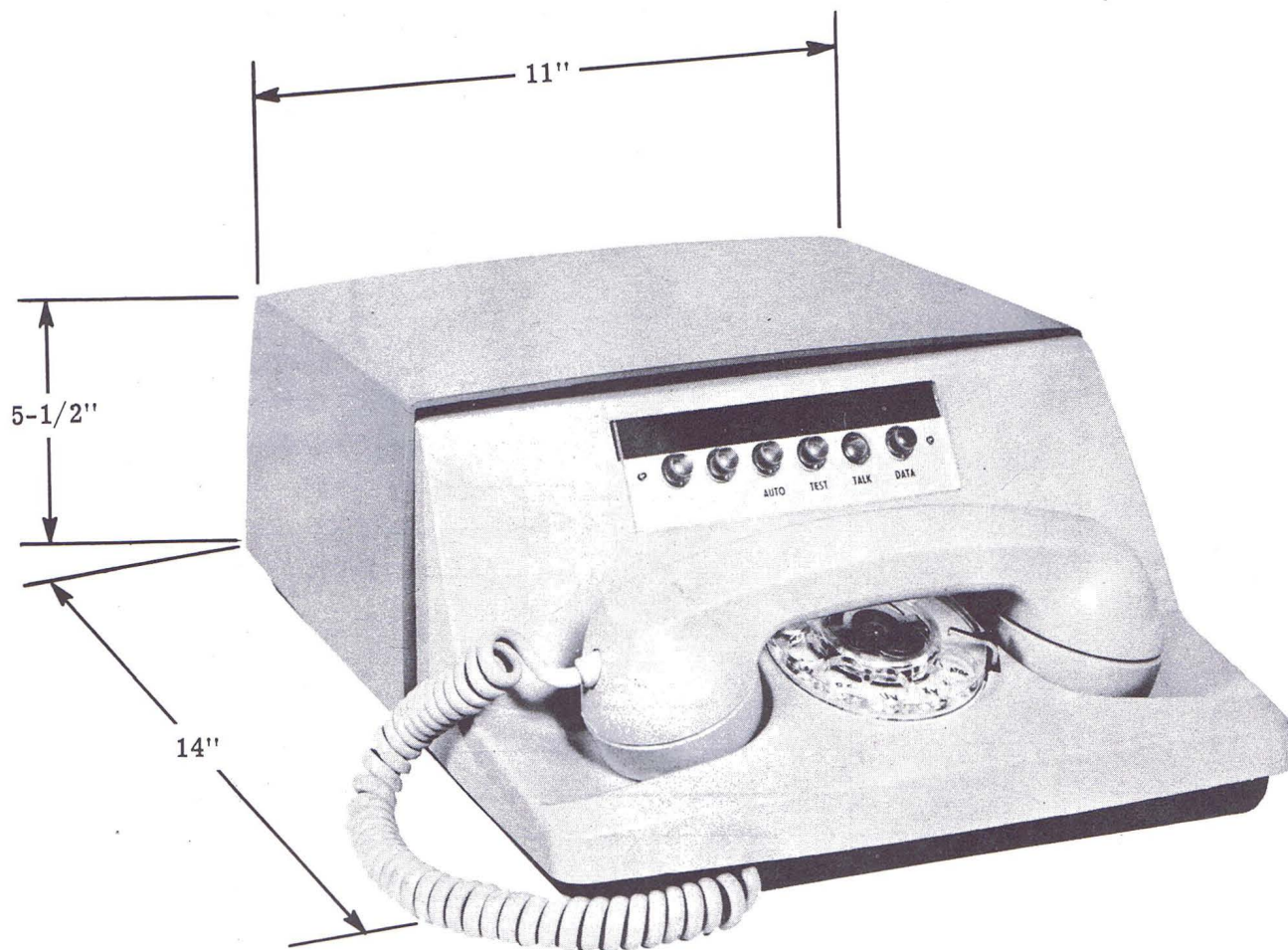


Figure 1. 202AW Data Test.

Table 1. 202AW Data Set Frequencies and Bit Rates.

Facilities	Bit Rate	Frequencies
	bps	cps
Switched Telephone Network	1200	1200 mark
Private Line Service	Up to 1800 per schedule 4 data channels	2200 space

NOTE: The maximum bit rate at which data set 202AW will perform satisfactorily on the switched telephone network is 1200 bits per second. This limit is not a function of the data set alone, but takes into consideration the nature of the network over which the sets will work. In private line service where the losses and gains of the transmission facility are known, the recommended bit rates for schedule 4 data channels are found in Sections 314-410-500 and 972-0550100, AB27.350.

2.03 A block diagram of the 202AW data set including interface lead designations is shown in Figure 2. Two cords are furnished with the data set:

- (a) A 10-foot 3-conductor power cord per KS-14532 List 15 equipped with a Hubbell #7484 receptacle.
- (b) A 5 1/2-foot D24B-61 cord. (Some 202AW sets were equipped with D19B-61 cords. The D19B-61 cords have been replaced by the D24B-61 cords.)

2.04 The interface cord must be provided by the customer. It must be equipped with a Cinch or Cannon DB 19604-432 type plug for connection to the KS 19087 List 6 connector located at the rear of the data set (see Figure 3).

2.05 Early model data sets contained a D1B ringer. Newer sets contain a D1E ringer which has a resonator for louder ringing. The data set operates satisfactorily over a temperature range of 40° to 120°F. The data set consumes approximately 7 watts of a-c power.

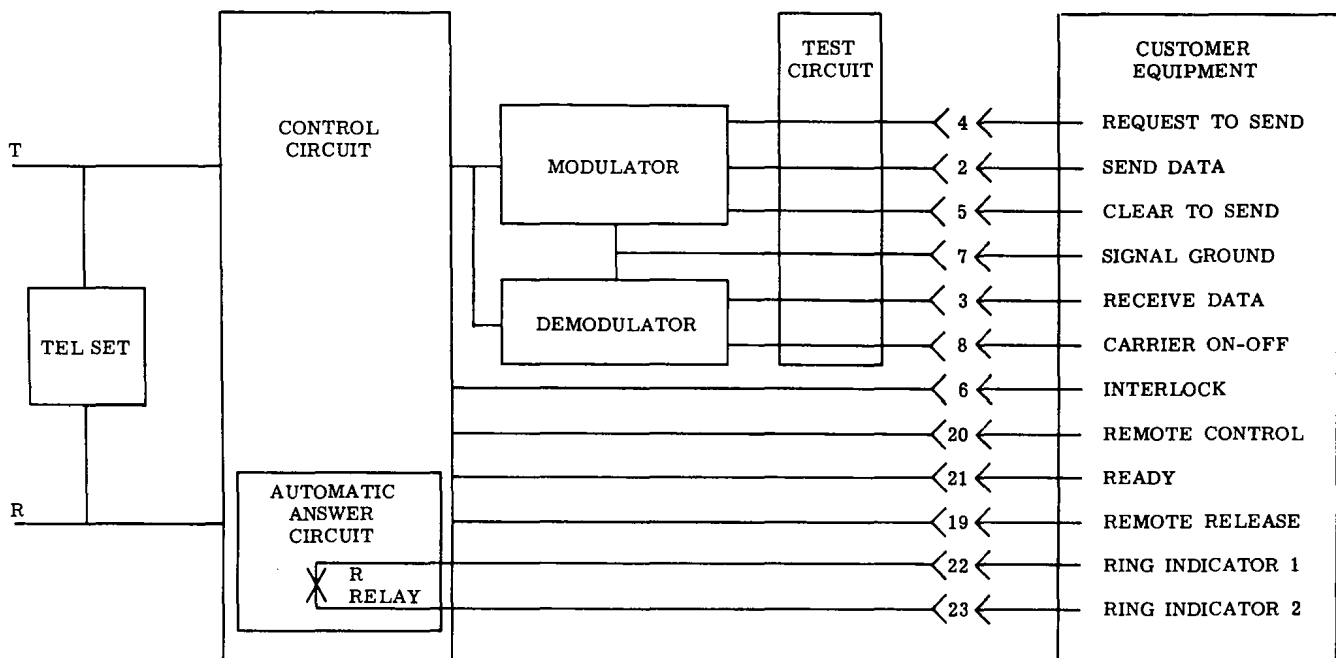
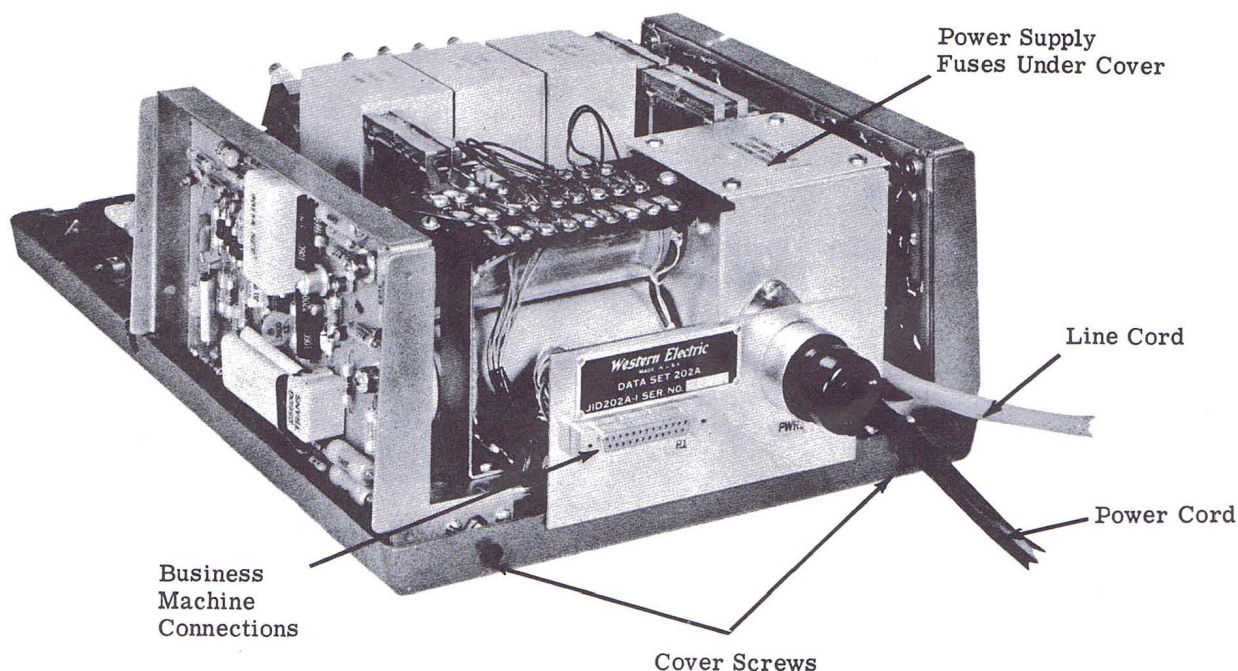


Figure 2. 202AW Data Set, Simplified Block Diagram.

Figure 3. 202AW Data Set (Rear View - Cover Off).



2.06 The 6-button 589key mounted on the front of the set has the following functions:

- (a) Keys 1 and 2 (counting from the left) are spare keys independent of the data circuit. They are convertible to signal keys. The associated lamps, if used, must obtain power from an external source, usually a key telephone system. The set comes equipped with 52A lamps and it may be necessary to replace them to conform to the key telephone system power supply. No holding feature is provided.
- (b) Key 3, marked AUTO, may be used as an automatic answer key (Z option) or it can be used in the same manner as keys 1 and 2 (Y option).
- (c) Key 4, marked TEST, is used to conduct tests in conjunction with the data test center. It is a non-locking key.
- (d) Key 5, marked TALK, is the telephone circuit key.
- (e) Key 6, marked DATA, is used to change the mode of operation from talk to data. It is a nonlocking key and will release any depressed key.

2.07 The customer must provide a 105/125-volt, 60-cycle a-c source not controlled by a switch and on the same a-c circuit which serves the associated business machine (to minimize noise causing impulse potentials by using a common ground bus). The 202AW data set has fuses located under the power supply cover.

### 3. OPERATION

3.01 The 202AW data set can transmit or receive data, but not simultaneously. The operation of the business machine determines whether the set is in the transmit or receive condition. When used as a transmitter, the receiver portion monitors outgoing data for the customer.

#### Originating a Data Call

3.02 The operator must depress the TALK key and place a telephone call to the distant terminal in the normal telephone manner. After the distant terminal answers, proceed as instructed in either (a) or (b) as appropriate:

- (a) With manual operation verbal agreement must be reached as to when data is to be sent. The data key must then be depressed until the associated lamp lights. No answer-back tone is heard during attended operation.

- (b) With automatic operation a 1200-cps tone will be heard for a few seconds indicating that the distant set is ready to receive data. The operator must then depress the DATA key until the associated lamp lights.

NOTE: If the receiving station goes to the data mode first, talking or room noise picked up by the transmitting station handset may cause false signals to be received. This problem can be minimized by covering the telephone transmitter or making sure that the transmitting station goes to the data mode first on manually answered calls.

#### Automatic Answering

- 3.03 The data set can be arranged so that calls will be answered automatically when the AUTO button is depressed; or the set can be arranged so that the AUTO button is bypassed and all calls are answered automatically under control of the business machine.

#### Manual Answering

- 3.04 The TALK key must be depressed and the incoming call answered in the normal telephone manner. When verbal agreement has been reached as to when transmission of data is to begin, the operator must depress the DATA key until its associated lamp lights. The set is now in the data mode and transmission can begin.

#### Terminating a Data Call

- 3.05 A data call can be terminated in two ways. The operator can depress the TALK key, lift the handset, and hang up, or the business machine can be arranged to use the remote release feature to terminate the call.

#### Remote Testing

- 3.06 The 202AW data set is equipped with a remote test feature which permits testing from a centralized data test center. The data test center must be called in the normal telephone manner and when a 1200-cps tone is heard on the line, the TEST key must be depressed to place the data set in the test mode. Testing will then be conducted under control of the data test center.