

DATA AUXILIARY SET 806A-TYPE

DESCRIPTION AND OPERATION

1. GENERAL

1.01 This section is a description of the physical and functional characteristics of the Data Auxiliary Set (DAS) 806A-type.

1.02 This section is reissued to:

- Describe the guaranteed operate conditions for the DAS
- Include information on the 2075A transformer
- Distinguish between the 806A1 and 806A2 and 806A3
- Change the title of this section from Identification and Operation to Description and Operation.

Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The DAS 806A-type facilitates maintenance and testing of 4-wire line facilities.

1.04 This DAS is installed on customer premises on the line side of the station equipment (Fig. 1). It can be controlled locally by depressing a pushbutton-indicator, or remotely with a control signal from the serving test center (STC). In the local operate mode, the station lines are looped-back and the facility lines are terminated. In the remote operate mode, the facility lines are looped-back and the station lines are either looped-back (option R) or terminated (option S).

1.05 The DASs 806A1 and 806A2 are designed for use with common data circuits, while the DAS 806A3 is designed specifically for use on Federal Aviation Agency (FAA) remote ground control circuits.

1.06 Two pads are used to simulate either the station equipment or the STC. The appropriate 89-type resistor is used in conjunction with each pad to obtain the correct resistance value.

2. PHYSICAL DESCRIPTION

2.01 The external appearance (Fig. 2) of all three DASs 806A-type is the same. All three sets are housed in gray aluminum covers, and are designed to be wall mounted. The 806A1 differs internally from the 806A2 and A3 in that it has the detector card (Fig. 3) removed. The 806A1, A2, and A3 are powered by a 2075A transformer from standard 117-volt, 60-Hz ac receptacles.

2.02 The basic DAS 806A-type consists of a detector circuit and relays, attenuator pads, indicators and switches (for local operation), and terminal boards for external connections and option strapping. The 2075A transformer, while not mounted in the chassis, supplies 15 to 18 volts to the DAS.

2.03 The components of the 806A-type are shown in Fig. 3.

3. FUNCTIONAL DESCRIPTION

3.01 This DAS aids in the overall maintenance of 4-wire facilities by providing a means of remotely or locally looping back or terminating the customer and facility lines.

3.02 When operated remotely, the 806A-type acts as a control signal detector. It loops the facility transmit and receive lines together through an AT1 pad, and either terminates the station lines in 600 ohms (option S) or loops them together through an AT2 pad (option R). See Table A for available options.

3.03 The 806A1 is controlled by 48 volts dc while the 806A2 and A3 are ac controlled. In the dc set, current from the line is fed through the HA relay coil to initiate the loopback (Fig. 4). This current must be maintained to hold the loopback condition. The 806A2 is remotely actuated by 2800-Hz control signal (10 second minimum) while the 806A3 responds to a 2400-Hz signal. These ac sets remain in the loopback condition as long as the control signal is present, unless they are

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strapped for option A. If the set is strapped for option A, a second (10 second minimum) burst of the control signal is required to return the set to the off condition.

Note: Although a minimum of 10 seconds is specified for the control signal, the majority of the DASs will operate in less time.

3.04 In the local operate mode (Fig. 5), the L relay loops the station lines together through the AT2 pad and terminates the facility lines in 620 ohms. The L relay is actuated by current through the LOC pushbutton-indicator on the set, or through the auxiliary ON-OFF switch. The set is returned to the off condition by closing the OFF switch on the set or the auxiliary switch.

POWER SUPPLY

3.05 Fifteen to eighteen volts ac is supplied to the rectifier-filter circuit from an external 2075A transformer.

4. OPERATION

4.01 The DAS is placed in the local operate mode by depressing the LOC pushbutton-indicator, which lights and stays lighted until the DAS is taken out of the local operate mode. The DAS is taken out of the local operate mode by depressing the OFF pushbutton. (This same cycle may be performed by operating the auxiliary ON-OFF switch, when supplied.) The DAS may also be taken out of the local operate mode upon reception of a control signal from the STC. When this happens, the LOC pushbutton-indicator extinguishes, the DAS goes into the remote operate mode, and the FAC indicator lights, if option A is provided. Table B gives the control signals for each DAS.

5. REFERENCES

5.01 For additional information, refer to CD- and SD-1D053 and the following BSPs.

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|-------------|--|
| 598-036-200 | Data Auxiliary Set 806A-Type—Installation |
| 598-036-300 | Data Auxiliary Set 806A-Type—Maintenance |
| 598-036-500 | Data Auxiliary Set 806A-Type—Test Procedures |

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|-------------|--|
| 314-410-501 | Transmission Maintenance of 4-Wire Facilities Equipped With Data Auxiliary Set 806A-Type |
| 668-108-510 | Data Test Center 904A- and C-Type—Test Procedures |

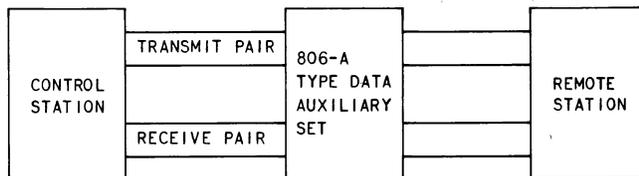


Fig. 1—Typical DAS 806A-Type—Installation

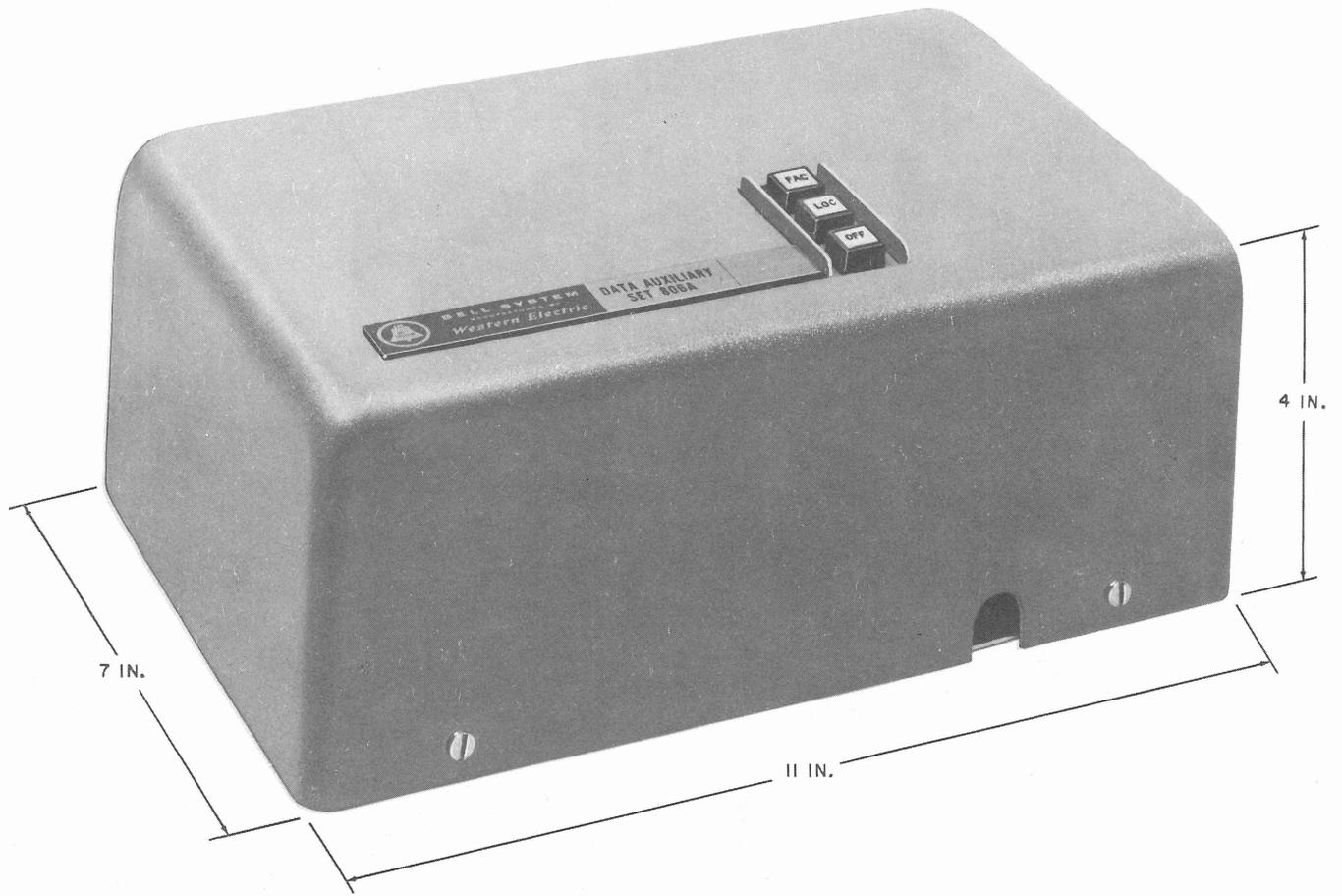


Fig. 2—DAS 806A-Type

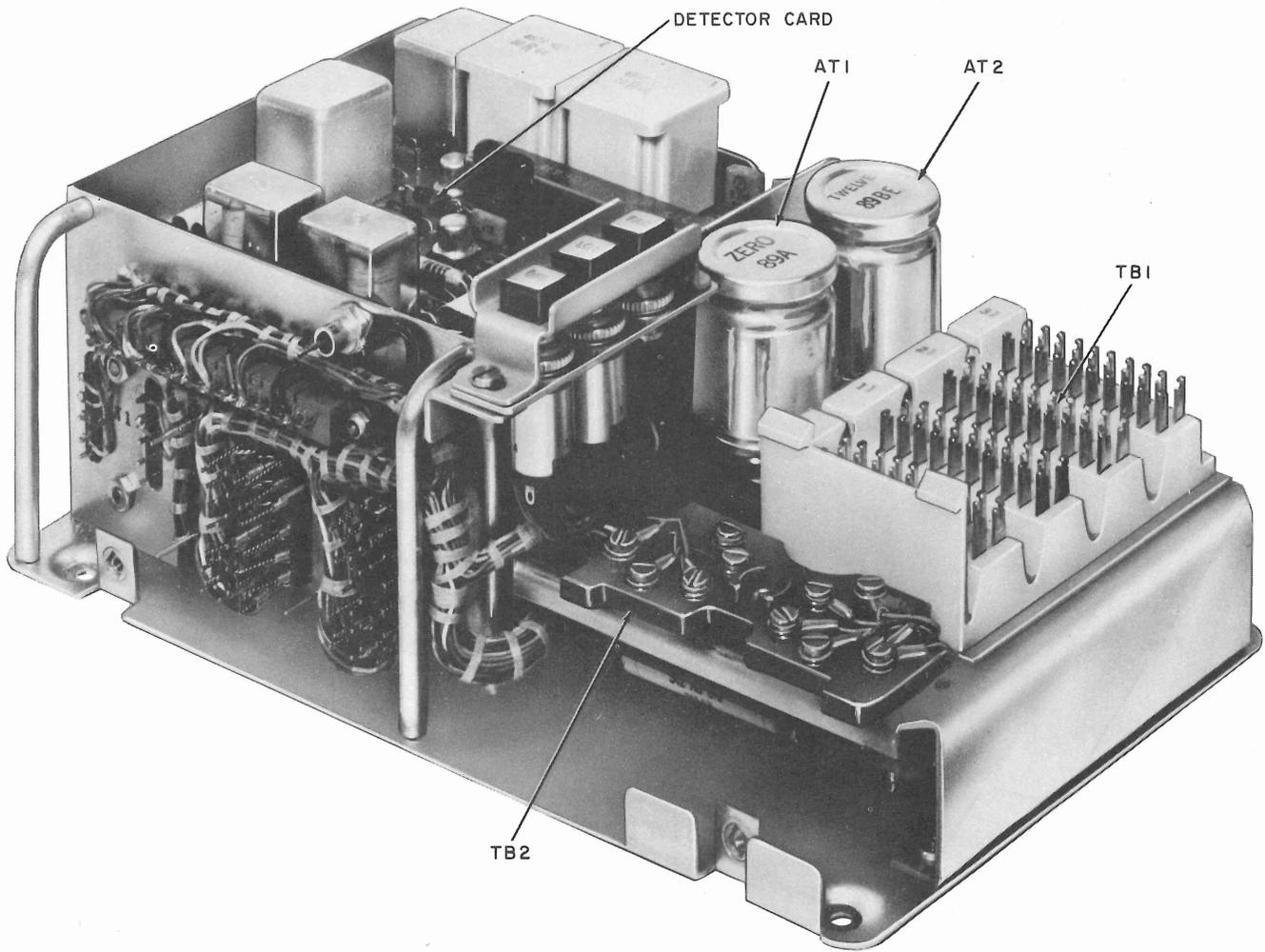


Fig. 3—DAS 806A-Type—Cover Removed

TABLE A
AVAILABLE OPTIONS

OPTION OR FEATURE		806A1	806A2	806A3
Line Loop-Back Conditioned for Wet Line	(V)	‡	*	*
Line Loop-Back Conditioned for Dry Line	(W)	‡	*	*
Metallic Transmission Paths	(Z)	‡	*	*
Repeat Coil on Receive Leg	(Y)	*	*	*
Repeat Coil on Transmit Leg	(X)	*	*	*
With Auxiliary LOCAL Key	(M)	*	*	*
Without Auxiliary LOCAL Key	(N)	*	*	*
Station Side Remotely Looped	(R)	*	*	*
Station Side Remotely Terminated	(S)	*	*	*
Used With X or Y Option When the Line is Wet	(J)	‡	*	*
DC Signaling Facility Indicator	(F)	*	‡	‡
DC Loop Signaling	(H)	*	‡	‡
DC Simplex Tip Side Grounded	(K)	*	‡	‡
DC Simplex Balanced to Ground	(T)	*	‡	‡
DC Simplex Ring Side Grounded	(G)	*	‡	‡
Binary Operation	(A)	‡	*	*
2800-Hz Signaling on Receive Leg	(E)	‡	†	‡
2400-Hz Signaling on Receive Leg	(B)	‡	‡	†
Station Side Looped Into 12 dB	(P)	†	†	§
Station Side Looped in Infinity	(D)	*	*	†

*Installation option available

‡Supplied as a factory-installed option for this set

‡Not applicable

§Not applicable for this set for use by the FAA (Federal Aviation Agency)

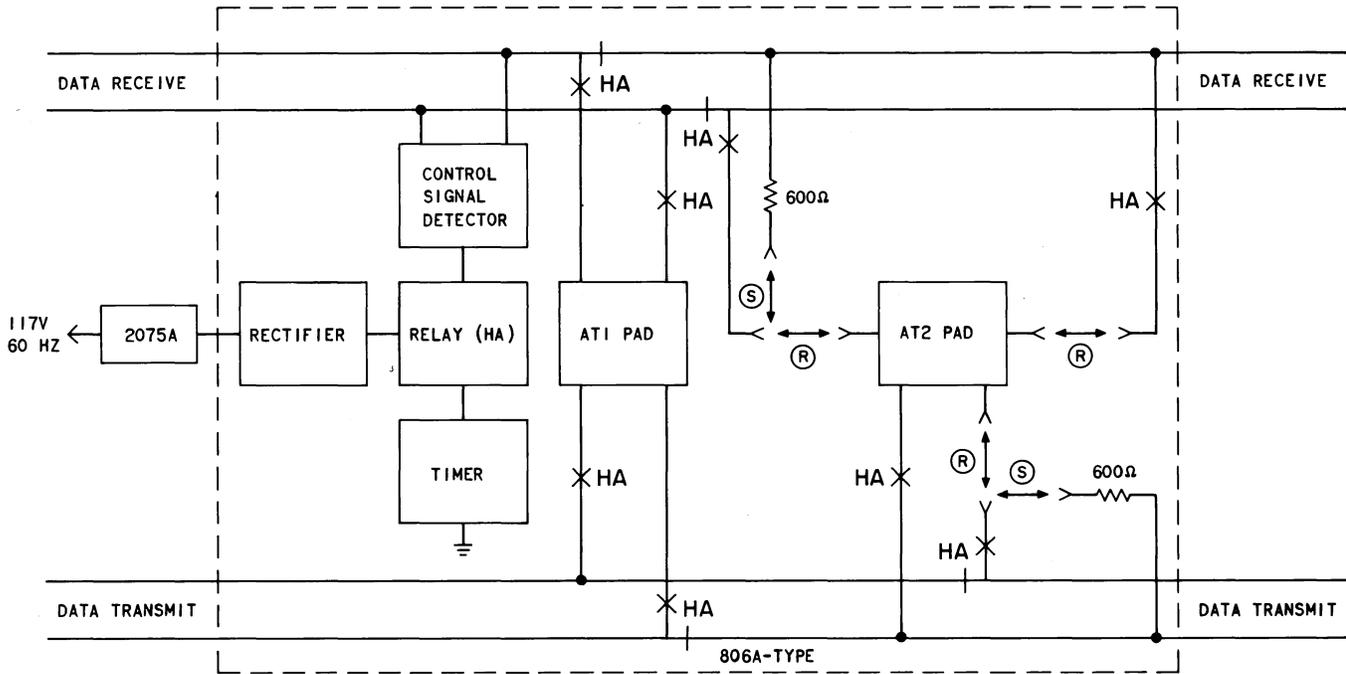


Fig. 4—Remote Operation of DAS 806A-Type

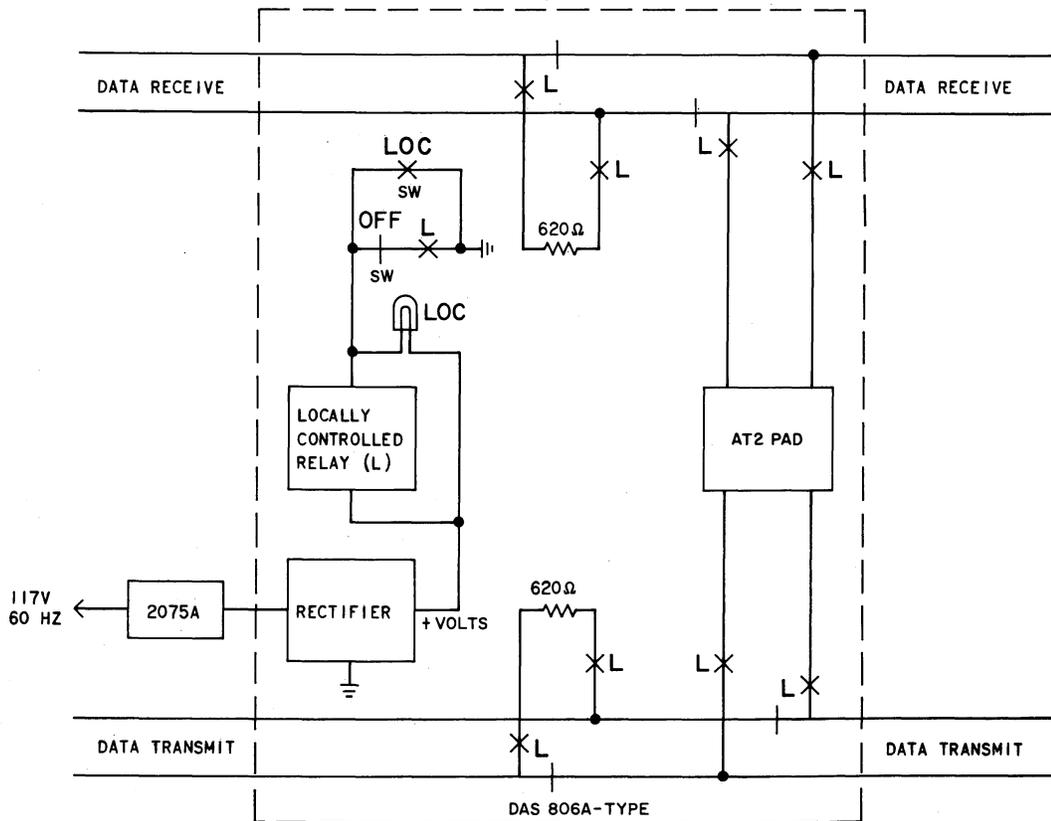


Fig. 5—Local Operation of DAS 806A-Type

TABLE B
OPERATE SIGNALS

MODEL	ACTUATING SIGNAL	RELEASE SIGNAL
806A1	48-volts dc	Removal of 48-volt signal
806A2 (without A option)	2800 Hz (continuously applied)	Removal of 2800-Hz signal
806A2 (with A option)	At least 10-second burst of 2800-Hz tone	At least 10-second burst of 2800-Hz tone
806A3 (without A option)	2400 Hz (continuously applied)	Removal of 2400-Hz signal
806A3 (with A option)	At least 10-second burst of 2400-Hz tone	At least 10-second burst of 2400-Hz tone