

1C DISCRETE CALLING GENERATOR
INSTALLATION AND CHECKOUT

CONTENTS	PAGE
1. GENERAL	1
2. UNPACKING	1
3. INTERNAL PREPARATION	1
SERVICE OPTION	1
CODING	2
SIGNAL GENERATOR CHECKOUT	3
4. INTERFACE CONNECTIONS	4
SERIAL DATA SET	4
A. Data Set Connection	4
B. Serial Logic Checkout	4
C. Final Checkout	5
PARALLEL DATA SET	5
A. Data Set Connection	5
B. Parallel Logic Checkout	5
C. Final Checkout	6

1. GENERAL

1.01 This section provides the installation and checkout procedures for the discrete calling generator. It has been reissued to include the latest engineering changes and to remove the preliminary designation. Since this is a general revision the arrows normally used to indicate changes and additions have been omitted.

1.02 The discrete calling generator may be used for serial type data set operation (data set Types 201A, 201B, 202A, 202B, 202C, and 202D) or parallel type data set operation (data set Type 402D) but not both at the same time.

1.03 The discrete calling generator has three service options: one for automatic operation; one for remote control operation through the auxiliary connector; and one for remote control operation through the data set connector. Automatic operation may be either serial or parallel; remote control through the auxiliary connector may be serial or parallel; but remote control through the data set connector (auxiliary connector not used) may be serial, only.

1.04 References made to left or right, top or bottom, and front or rear apply to the unit in its normal position as viewed from the front.

2. UNPACKING

2.01 Carefully remove the discrete calling generator from its carton. The case is made of plastic and can be scratched.

2.02 When shipped, the unit may have packing inside the plastic cover to protect the relays. The packing must be removed before operation can begin. Loosen the two screws at the rear and one screw on each side of the cover (Figure 1). Lift the cover off the base, and remove the packing. Leave the cover off until after the service option is secured, the disc is coded, and the applicable checkouts are performed.

3. INTERNAL PREPARATION

SERVICE OPTION

3.01 A service option is obtainable by rearranging the straps on the TB3002 terminal block. Option RD is factory furnished; if another option is desired, remove and/or rearrange the straps as indicated in Table 1.

Note: Only serial type data sets may use the RD option and only then if the reverse channel feature is not being used by the data processing terminal.

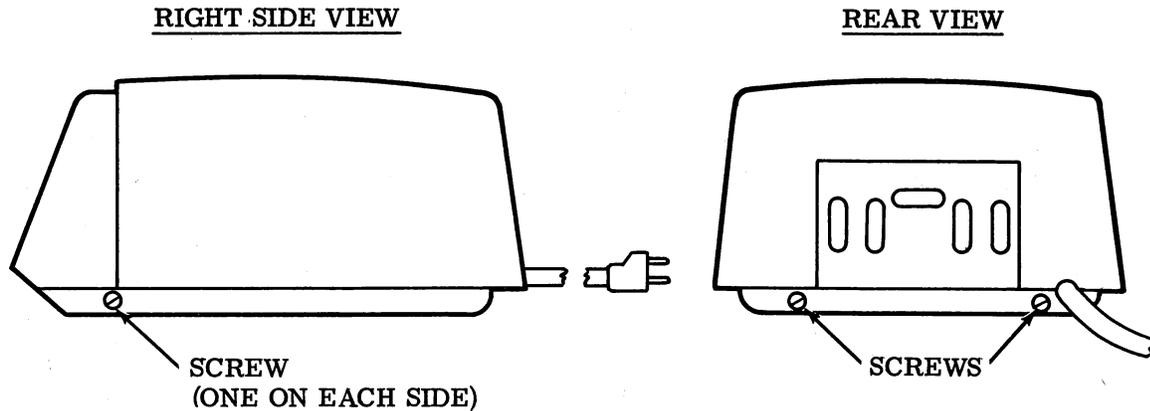


Figure 1 - Location of Cover Screws

TABLE 1 - SERVICE OPTION STRAPPING ARRANGEMENTS FOR DISCRETE CALLING GENERATOR

SERVICE OPTION		STRAP TERMINALS ON TB3002	USED WITH	
SYMBOL	DEFINITION		SERIAL TYPE DATA SET	PARALLEL TYPE DATA SET
*A	Automatic Operation	5-6, 6-7	X	X
R	Remote Control Operation Through Auxiliary Connector	4-5, 7-8	X	X
**RD	Remote Control Operation Through Data Set Connector	4-5, 7-8 9-10, 11-12	X	

*Cannot be used with manually operated 202A data sets.

**Only if reverse channel feature is not being used.

CODING

3.02 The code disc must be encoded with the appropriate discrete calling code. Remove the two screws holding the metal cover to the signal generator assembly, and lift the cover off. Unscrew the wing nut and remove the code disc.

3.03 Prepare the TP199580 code disc by encoding bit numbers 1 through 14 (Figure 2). A marking bit (M) is present when the code area is connected to the common area. A spacing bit (S) is present when the code area is not connected to the common area. The code disc is manufactured with all bits marking, so continuity must be broken for selected bits to

become spacing bits. To provide a spacing bit, remove the metallic material at the encoding neck by scraping with the corner of a screwdriver. Be sure that the metal has been scraped completely through.

Note: The use of discrete codes consisting of all marks, all spaces, single marks, single spaces, and single transitions from all marks to all spaces (or vice versa) should be avoided.

3.04 Wipe the disc thoroughly with a soft clean cloth to remove all traces of fingerprints, dirt, lint, or other foreign material; put it in the signal generator (conductor side facing brushes), and secure with the wing nut.

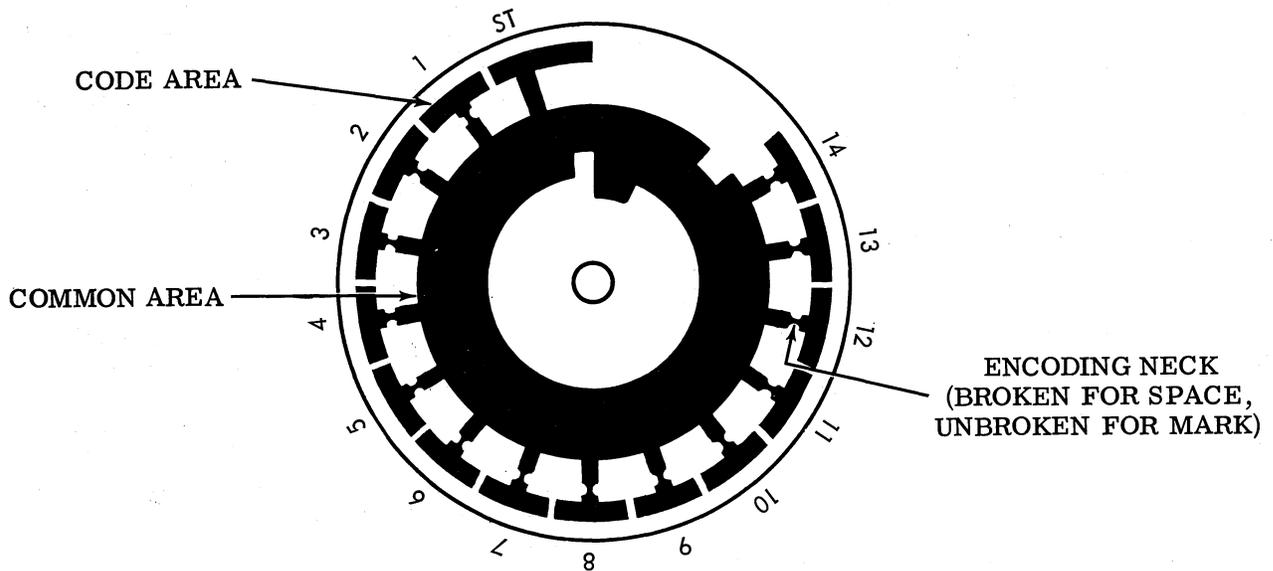


Figure 2 - TP199580 Code Disc

SIGNAL GENERATOR CHECKOUT

3.05 No interface connections are required for checking the operation of the signal generator. With the metal cover removed, proceed as follows:

(a) Plug the power cord of the discrete calling generator into a 115 volt ac outlet. The motor should operate.

(b) Using a strapping wire, connect terminals 14 and 15 on the auxiliary control receptacle, J3003 (Figure 3). Approximately 200 ms after making contact, the code disc should rotate once and then stop. This cycle should reoccur each time continuity is established between terminals 14 and 15.

(c) Remove the strapping wire. Replace the metal cover on the signal generator, and fasten it with the two screws.

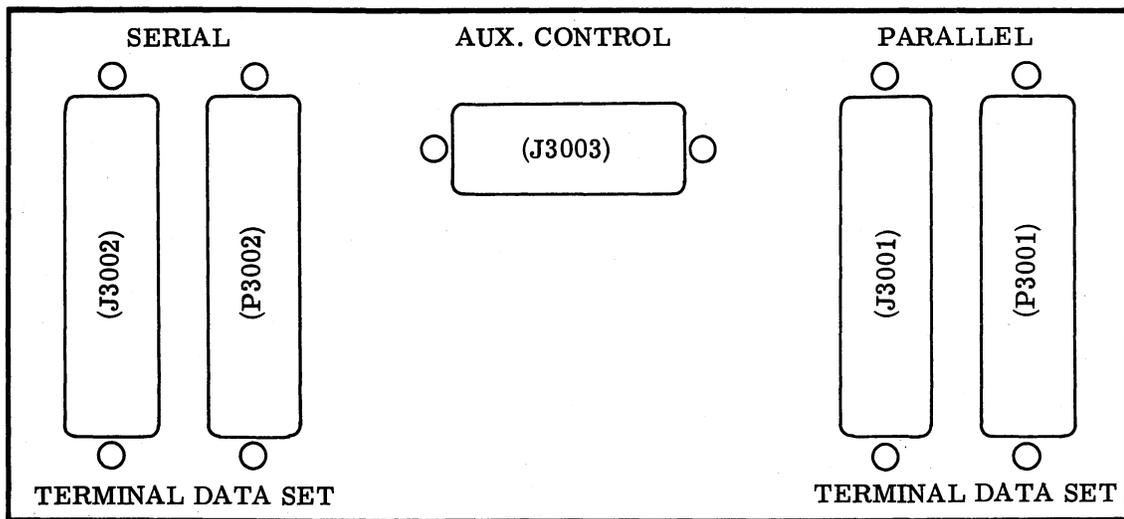


Figure 3 - Interface Connector Panel

4. INTERFACE CONNECTIONS

4.01 The interface connections are made at the rear of the discrete calling generator (Figure 3).

SERIAL DATA SET

4.02 The interface connections for the discrete calling generator with a serial type data set (Type 201A, 201B, 202A, 202B, 202C, or 202D) are summarized in Table 2. Plug the power cord into a 115 volt ac outlet. Make the interface connections as directed in the following paragraphs.

A. Data Set Connection

4.03 With 115 volt ac power available to the discrete calling generator, attach the interconnecting cable to the generator receptacle, P3002, and to the data set. Perform the operating test which applies to the selected service option.

B. Serial Logic Checkout

Service Option A

4.04 If the data set is Type 201A, 201B, 202A, 202B, or Type 202C or 202D with contact interface, terminals 19 and 20 of receptacle J3002 should be strapped together. If it is Type 202C or 202D with voltage interface, terminals 9 and 20 of receptacle J3002 should be strapped together.

- (a) Place a call to an identically coded sending terminal (with same discrete calling code).
- (b) Go from the TALK mode to the DATA mode. At the transition from TALK to DATA, the discrete calling generator should start and trigger the remote sender. Remove the strap.

Service Option R

- 4.05 Arrange the strap for receptacle J3002 as indicated in Paragraph 4.04.
- (a) Place a call to an identically coded sending terminal. Go from the TALK mode to the DATA mode. At the transition, the discrete calling generator should not start.
 - (b) Add a strap between terminal 9 of J3002 and terminal 1 of J3003 (auxiliary control receptacle). Again, after placing a call to the remote sending terminal, go from the TALK mode to the DATA mode. The generator should start and trigger the remote sender. Remove the straps.

Service Option RD

- 4.06 Arrange the strap for receptacle J3002 as indicated in Paragraph 4.04.
- (a) Place a call to an identically coded sending terminal. Go from the TALK mode to the DATA mode. At the transition, the discrete calling generator should not start.

TABLE 2 - SERIAL DATA SET INTERFACE CONNECTIONS FOR DISCRETE CALLING GENERATOR

SERVICE OPTION		CONNECTION FROM DATA PROCESSING TERMINAL	CONNECTION FROM DATA SET	AUXILIARY CONNECTION FROM DATA PROCESSING TERMINAL
SYMBOL	DEFINITION			
A	Automatic Operation	J3002	P3002	Not used
R	Remote Control Operation Through Auxiliary Connector	J3002	P3002	J3003
RD*	Remote Control Operation Through Data Set Connector	J3002	P3002	Not used

* Cannot be used if reverse channel feature is being used by data processing terminal.

(b) Add a strap between terminals 9 and 11 of J3002. Again, after placing a call to the remote sending terminal, go from the TALK mode to the DATA mode. The generator should start and trigger the remote sender. Remove the straps.

C. Final Checkout

4.07 Complete the interface connection(s) between the data processing terminal and the discrete calling generator as indicated in Table 2. Operate the discrete calling generator under command of the data processing terminal. The proper one-to-one relation on the interface circuits should be present.

4.08 If any function of the discrete calling generator is not performed as specified, refer to the appropriate servicing section. If the discrete calling generator is operating properly, replace the plastic cover and tighten the four screws.

PARALLEL DATA SET

4.09 The interface connections for the discrete calling generator with a parallel type data set (Type 402D) are summarized in Table 3. Plug the power cord into a 115 volt ac outlet. Make the interface connections as directed in the following paragraphs.

A. Data Set Connection

4.10 With 115 volt ac power available to the discrete calling generator, attach the interconnecting cable to the generator receptacle, P3001, and to the data set. Perform the operating test which applies to the selected service option.

B. Parallel Logic Checkout

Service Option A

4.11 Place a strap between terminals 14 and 24 of receptacle J3001. Mechanically latch relays 3002U and 3003L by pulling the fiber cutouts forward and pressing down until the relays lock.

- (a) Place a call to an identically coded sending terminal.
- (b) Go from the TALK mode to the DATA mode. At the transition from TALK to DATA, the generator should start and trigger the remote terminal. Remove the strap.

Service Option R

4.12 Arrange the strap for receptacle J3001 and latch relays as indicated in Paragraph 4.11.

- (a) Place a call to an identically coded sending terminal. Go from the TALK mode to the DATA mode. At the transition, the discrete calling generator should not start.
- (b) Add a strap between terminals 4 and 7 of the auxiliary control receptacle, J3003. Again, after placing a call to the remote sending terminal, go from the TALK mode to the DATA mode. At the transition, the generator should start and trigger the remote sender. Remove the straps.

TABLE 3 - PARALLEL DATA SET INTERFACE CONNECTIONS FOR DISCRETE CALLING GENERATOR

SERVICE OPTION		CONNECTION FROM DATA PROCESSING TERMINAL	CONNECTION FROM DATA SET	AUXILIARY CONNECTION FROM DATA PROCESSING TERMINAL
SYMBOL	DEFINITION			
A	Automatic Operation	J3001	P3001	Not used
R	Remote Control Operation Through Auxiliary Connector	J3001	P3001	J3003

SECTION 592-901-200

C. Final Checkout

4.13 Complete the interface connection(s) between the data processing terminal and the discrete calling generator as indicated in Table 3. Operate the discrete calling generator under command of the data processing

terminal. The proper one-to-one relation on the interface circuits should be present.

4.14 If any function of the discrete calling generator is not performed as specified, refer to the appropriate servicing section. If the discrete calling generator is operating properly, replace the plastic cover and tighten the four screws.