405-TYPE DATA SYSTEM

INSTALLATION AND CONNECTIONS

1. GENERAL

1.01 This section provides installation and connection information for the 405-type data system.

1.02 Data sets (DSs) 405A (transmitter) and 405B (receiver) types are installed and connected in a central office environment subject to application requirements and local operating conditions. Data set list codes that may be ordered to provide service for a maximum of 32 separate data inputs and outputs are shown in Table A.

1.03 An interface circuit designed for each particular application is required. The interface circuit will normally provide a method of furnishing power, cross connections for data input/output assignments, and alarm indications. One interface circuit may accommodate several data sets and must be connected and installed per local requirement.

2. OPTION CONNECTIONS

2.01 Options for DSs 405A and B are shown in Tables B and C, respectively. The service order should specify the option required for a particular installation.

3. INSTALLATION AND CONNECTIONS

3.01 Figure 1 illustrates a typical 405-type installation with an expansion unit. When the data set is an L1/2 or an L1/3, interconnection between the data set modules (L1 and L2 or L3) is made with an M15F cord which is furnished with the L1/2 and L1/3 units. The two modules have a double size protective cover and are held together with mounting brackets to make them a single unit.

3.02 DSs 405A and B must be connected to the applicable interface circuit via a cable which is part of the interface circuit.

> *Note:* All connections to the data set, including the private line and all data inputs/outputs, are made via the interface circuit.

3.03 The interface connectors on the data set (A or B) are designated as follows:

- L1A (basic 8-bit data set)—P1 connector

- L1/2 (12-bit expansion unit) or L1/3 (24-bit expansion unit)—J4 connector.

The interface pin assignments for the 405A-type transmitter and 405B-type receiver are shown in Table D. The 405-type data sets have an adjustable adapter which allows mounting in either a 23- or 25-inch wide central office frame. The unit is attached to the frame by 12-24 3/8-inch long self tapping screws which are supplied (loose) with the unit.

3.04 Installation of the entire system (405A or 405B with respective interface panels) should be done simultaneously.

4. REFERENCES

4.01 For additional information relating to the 405-type data system and its applications, refer to the following documents:

SECTION	TITLE
CD- & SD-1D203-01	Data Set 405A-Type
CD- & SD-1D204-01	Data Set 405B-Type
CD- & SD-1C451-01	Interface Circuit for Use Between 405-Type Data Sets and Message Registers
312-809-100	405-Type Data Systems—Description
312-809-150	405-Type Data System—Supplementary Information

TABLE A

ORDERABLE CODES

CODE	DESCRIPTION
405A-L1A	8-bit transmitter in wire frame with mounting brackets and protective cover (6-1/2 lbs).
405A-L1/2	Same as 405A-L1A with additional 12-bit input buffer and shift register to provide 20 input bits in wire frame with double size mounting brackets and protective cover (10-3/4 lbs).
405A-L1/3	Same as 405A-L1A with additional 24-bit input buffer and shift register to provide 32 input bits in wire frame with double size brackets and protective cover (11-1/2 lbs).
405B-L1A	8-bit receiver in wire frame with mounting brackets and protective cover (6-3/4 lbs).
405B-L1/2	Same as 405B-L1A with additional 12-bit shift register with output buffers to provide 20 output bits in wire frame with double size mounting brackets and protective cover (11 lbs).
405B-L1/3	Same as 405B-L1A with additional 24-bit shift register with output buffers to provide 32 output bits in wire frame with double size mounting brackets and protective cover (11-3/4 lbs).

312-809-201   405-Type Data System and Interface Circuit for Message Register Remoting—Installation and Connections. (This reference completely covers installation and connections for the message register applications. Other applications will be covered in the applicable BSP.)

252-140-101   Interface Circuit for Use Between 405-Type Data Sets and Message Registers in Remote Registers Operation (SD-1C451-01)—Description

252-140-501   Interface Circuit for Use Between 405-Type Data Sets and Message Registers in Remote Register Operation (SD-1C451-01) — Verification Procedure

TABLE B

405A-TYPE TRANSMITTER OPTIONS

OPTION	DESIG	CONNECT TERMINALS	405A LIST NO.		
			L1A	L1/2	L1/3
Continuous Scan	Y	2 (BE 70) to 13 (BE 70) 6 (BE 70) to 19 (BE 70) 4 (BE 70) to 7 (BE 89)	X	X	X
Start-Stop	X	4 (BE 70) to 6 (BE 70) 9 (BE 70) to 13 (BE 70)			
8 Bits Only More Than 8 Bits	W No W	3 (BE 70) to 27 (BE 70)	X	X	X
700 BPS 880 BPS 1400 BPS 1760 BPS	S R Q P	2 (BE 67) to 10 (BE 67) Close S1, Open S2 2 (BE 67) to 10 (BE 67) Close S2, Open S1 2 (BE 67) to 8 (BE 67) Close S1, Open S2 2 (BE 67) to 8 (BE 67) Close S2, Open S1	X	X	X

Note: Check indicates a factory-furnished option.
No check indicates a customer-requested option.
S1 and S2 are located on BE 67 circuit pack.

TABLE C

405B-TYPE RECEIVER OPTIONS

OPTION	DESIG	CONNECT TERMINALS	405A LIST NO.		
			L1A	L1/2	L1/3
End of Word Check No End of Word Check	Y No Y	7 (BE 68) to 10 (BE 71)	X	X	X
8 Bits Only More Than 8 Bits	W No W	9 (BE 71) to 30 (BE 71)	X	X	X
Space Hold Mark Hold Hold Previous Outputs	S R No R or S	6 (BE 68) to 28 (BE 71) 6 (BE 68) to 25 (BE 71)	X	X	X
700 BPS 880 BPS 1400 BPS 1760 BPS	P N M K	2 (BE 67) to 10 (BE 67) Close S1, Open S2 2 (BE 67) to 10 (BE 67) Close S2, Open S1 2 (BE 67) to 8 (BE 67) Close S1, Open S2 2 (BE 67) to 8 (BE 67) Close S2, Open S1	X	X	X

Note: Check indicates a factory-furnished option.
No Check indicates a customer-requested option.
S1 and S2 are located on BE 67 circuit pack.
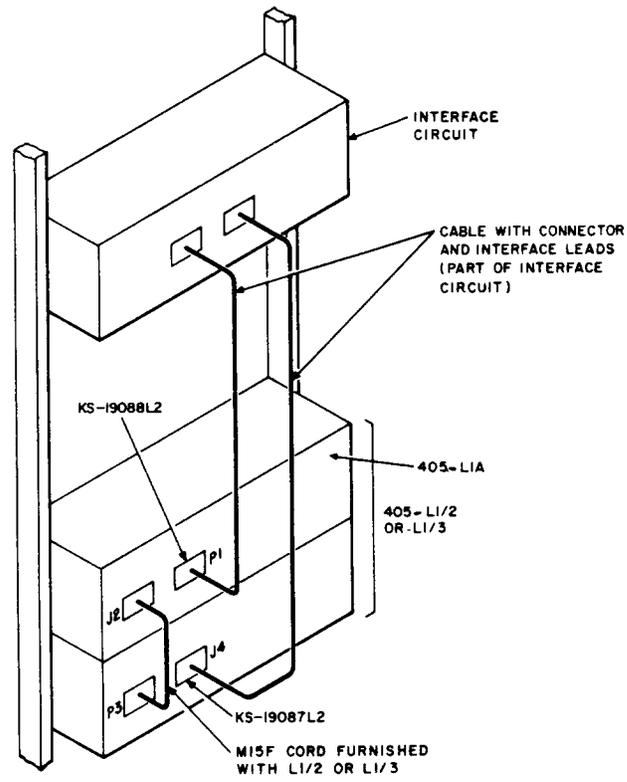
INTERFACE
CIRCUIT

CABLE WITH CONNECTOR
AND INTERFACE LEADS
(PART OF INTERFACE
CIRCUIT)

KS-19088L2

405-LIA

405-LI/2
OR-LI/3

PI

J2

J4

P3

KS-19087L2

MI5F CORD FURNISHED
WITH LI/2 OR LI/3

Fig. 1—405-Type Installation

TABLE D

CUSTOMER INTERFACE PIN ASSIGNMENT FOR THE 405A-TYPE TRANSMITTER AND THE 405B-TYPE RECEIVER

P1 CONNECTOR		J4 CONNECTOR (NOTE 2)		
PIN NO.	DESIG	PIN NO.	L1/2 DESIG	L1/3 DESIG
1	None	1	D9	D9
2	None	2	D10	D10
3	D8	3	D11	D11
4	D7	4	D12	D12
5	D6	5	D13	D13
6	D5	6	D14	D14
7	Fault	7	D15	D15
8	D4	8	D16	D16
9	D3	9	D17	D17
10	D2	10	D18	D18
11	D1	11	D19	D19
12	Alarm	12	D20	D20
13	Alarm	13		D21
14	−48 Volts	14		D22
15	None	15		D23
16	Ground	16		D24
17	None	17		D25
18	None	18		D26
19	None	19		D27
20	None	20		D28
21	Serial Data 600Ω Input/Output	21		D29
22	None	22		D30
23	Serial Data 600Ω Input/Output	23		D31
24	G1 (Note 1)	24		D32
25	EOW (Note 1)	25		None

Note 1: 405A Only
Note 2: Used for expansion beyond 8 bits.