

AMARS
 ANI-B IDENTIFIER
 TEST DATA AND WAVEFORMS

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| 1. <u>GENERAL INFORMATION</u> | 1.3 Subsequent test sections will refer to the data provided in this section for the execution of tests and trouble locating procedure. |
| 1.1 This section describes the Identifier Test Set J1C081G and the data which it is monitoring. | 2. <u>IDENTIFIER TEST SET - FIG. 1</u> |
| 1.2 Basic waveforms of the solid state Identifier SD-1C593-01 are depicted and described in this section. | 2.1 The function of Status LED's, Hexadecimal Displays and Switches as shown in Figure 1 are described herewith: |

2.2 Status LED's

LED	FUNCTION	CONDITION
MCO	Identifier Idle	Master Clock and Grid JW127 is setting at master count MCO.
ONO	Identifier 0 Off Normal	Identifier 0 Work Timer JW148 generates an off normal ON(-) on seizure.
ON1	Identifier 1 Off Normal	Identifier 1 Work Timer JW148 generates an off normal ON(-) on seizure.
OND	Identifier Off Normal Delay	Work Timer JW148 generates delayed off normal OND(-) 3.5 millisec after ON(-).
ST	Identifier Start	Work Timer JW148 generates start ST(-) after party check.
TPK	Tip Party Check	Party Transfer Check JW133 generates a TPK(-) after ON(-) after checking all secondary network relays are operated. OTP required.
RPK	Ring Party Check	Party Transfer Check JW133 generates an RPK(-) after ON(-) after checking all secondary network relay are normal. <u>NOTE:</u> Also operates on tip party identification during subsequent ring party scan.

2.2 (Cont'd.)

LED	FUNCTION	CONDITION
AK	All Check	Data Clock and Control JW136 generates a $\overline{CK(-)}$ after checking the office and station digits are all present.
AKF	All Check Failure	Data Clock and Control JW136 does not generate a $\overline{CK(-)}$ during data count seven \overline{DCT} .

2.3 Hexadecimal Display

DISPLAY	FUNCTION	CONDITION
OFF	Office Digit (0-6) of calling number	Derived from serial data on four bit "Data Word" DD, CD, BD, AD as generated by Data Mask JW135
Calling Number	Station Digits of Calling Number	"
COS	Class of Service of Calling Number	Derived from serial data on four bit "Data Word: DD, CD, BD, AD as generated by Data Mask JW135 (Toll = 0, Multiparty = 1, Message Rate = 2, Flt Rate = 4.)
CLK BTS	Master Count (1-40) in 2 bit word	Derived from 6 bit "Master Clock Word" MCGB1, MCGA1, MCGD, MCGC, MCGB, MCGA as generated by Master Clock JW124
ADB CDA	CDA Request Address. On local calls indicates associated CDA. On toll calls displays a digit 8.	Derived from 4 bit "CDA Address Word" AD3, AD2, AD1, AD0, as generated by Master Clock JW124 and Office Cross Memory JW130.
MEM B	Generated Office Code (one digit more than OFF display)	Derived from 4 bit "OFF(ABC)WORD" OFX-1, C, B, A as generated by Office Cross Memory JW130.
MEM A	Stored Office Code (same as MEM B)	Derived from 4 bit "OFF(TST)WORD" in Office Cross and Match JW128.
OS	When no Office Cross, Office Match obtained displays a Digit 7, any other digit indicates a trouble.	Derived from Office Match JW128, Digit 7 obtained when: OFX-1 = 0 ERROR 2 = 1 ERROR 1 = 1 ENABLE 1 = 1

2.4 Switches

SWITCH	FUNCTION	CONDITION
MCB1, MCA1, MCD MCC, MCB, MCA	To select master count associated with call desired to be displayed. May Select any master count MCO to MC40 for trouble locating tests.	In the Match Mode, when the call processed in the Identifier is in the same Master Count as set up on the keys, the display is latched.

2.4 (Cont'd)

SWITCH	FUNCTION	CONDITION
ACLR	To automatically clear prior trapped call	Effective only in Match Mode. The momentary ST after ON of each call is used to clear displays.
MDC	To manually clear a trapped call.	Switch clears displays with a 2.6 milli-sec pulse.
MATCH MODE	To trap call associated with master count as set up on MC-1, MC- switches.	Test set monitors "MC-1, MC- leads" and when the master count is in agreement with MC-1, MC- switch settings it latches the display.
AKF MODE	To trap any call processed by the Identifier which fails due to an all check failure.	Display is latched upon receipt of $\overline{CK(-)}$ which indicates all check failure.

3. MASTER CLOCK WORD

- 3.1 The master clock is contained on JW124 and is driven by a remote 5800 Hertz oscillator provided for each Identifier. The oscillator also provides identification tone on local calls.
- 3.2 The master clock resides in the idle state master count MCO and when started counts from MC1 to MC40. However the counting process is momentarily arrested during the operation of the secondary clock.
- 3.3 The master clock count MCO to MC40 is the basis of all synchronization and control in the identifier. This master clock generates a 6 bit word called a "Master Clock Word" which appears on leads MCGB1, MCGA1, MCGD, MCGC, MCGB, MCGA which changes for each master count MCO to MC40. The leads contain a logical 0 or 1. The "Master Clock Word" is transmitted to JW127 where the master counts MCO to MC40 are derived.
- 3.4 Table 1 under MC- column lists the master counts from MCO to MC40. The 6 column headed by MCGB1, MCGA1, MCGD, MCGB, MCGA describes the state of the 6 bit Master Clock Word for each master count MCO to MC40.
- 3.5 The test set monitors the 6 bit "Master Clock Word" and encodes it for display as a 2 bit word on the CLK BTS hexadecimal displays. This 2 bit word is shown in Table 1 for each master count MCO to MC40.
- 3.6 All calls processed by the identifier are continually displayed on the test set. The test set in the match mode has the ability to trap any master count MCO to MC40 with the 6 MC-1, MC- keys. All other data which may occur during the master count is also trapped.
- 3.7 The MCB1, MCA1, MCD, MCC, MCB, MCA keys are shown in the bottom of the Master Clock Word column in Table 1. To trap a particular master count on the test set, place the associated MC-1, MC- switch in the "UP" position if the associated bit is a logical 1 and in the "DOWN" position if the associated bit is a logical 0.

4. SECONDARY CLOCK WORD

- 4.1 The secondary clock is contained on JW124 and is driven by the same 5800 Hertz oscillator, therefore the secondary counts obtained are identical with respect to time and voltage as obtained for the master counts.
- 4.2 The secondary clock resides in the idle state secondary count SCO and when started counts from secondary count SC1 to SC15. The counting process is continuous and it is never stopped as with the master counts.

TABLE 1

	IDENTIFIER TEST SET INDICATORS		MASTER COUNT MC-	MASTER CLOCK WORD					
	CLK	BTS		MCGB1	MCA1	MCD	MCC	MCB	MCA
IDLE STATE	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	1
2	0	2	0	0	0	0	0	1	0
3	0	3	0	0	0	0	0	1	1
4	0	4	0	0	0	0	1	0	0
5	0	5	0	0	0	0	1	0	1
6	0	6	0	0	0	0	1	1	0
7	0	7	0	0	0	0	1	1	1
8	0	8	0	0	0	1	0	0	0
9	0	9	0	0	0	1	0	0	1
A	0	10	0	0	0	1	0	1	0
B	0	11	0	0	0	1	0	1	1
C	0	12	0	0	0	1	1	0	0
D	0	13	0	0	0	1	1	0	1
E	0	14	0	0	0	1	1	1	0
F	0	15	0	0	0	1	1	1	1
0	1	16	0	1	0	0	0	0	0
1	1	17	0	1	0	0	0	0	1
2	1	18	0	1	0	0	0	1	0
3	1	19	0	1	0	0	0	1	1
4	1	20	0	1	0	0	1	0	0
5	1	21	0	1	0	0	1	0	1
6	1	22	0	1	0	0	1	1	0
7	1	23	0	1	0	1	1	1	1
8	1	24	0	1	1	0	0	0	0
9	1	25	0	1	1	1	0	0	1
A	1	26	0	1	1	1	0	1	0
B	1	27	0	1	1	1	0	1	1
C	1	28	0	1	1	1	1	0	0
D	1	29	0	1	1	1	1	0	1
E	1	30	0	1	1	1	1	1	0
F	1	31	0	1	1	1	1	1	1
0	2	32	1	0	0	0	0	0	0
1	2	33	1	0	0	0	0	0	1
2	2	34	1	0	0	0	0	1	0
3	2	35	1	0	0	0	0	1	1
4	2	36	1	0	0	1	0	0	0
5	2	37	1	0	0	1	0	0	1
6	2	38	1	0	0	1	1	1	0
7	2	39	1	0	0	1	1	1	1
8	2	40	1	0	1	0	0	0	0
IDENTIFER TEST SET SWITCHES				MCB1	MCA1	MCD	MCC	MCB	MCA

TABLE 2

IDLE STATE	SECONd. COUNT	SECONdARY CLOCK WORD			
	SC-	SCGD	SCGC	SCGB	SCGA
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
	8	1	0	0	0
	9	1	0	0	1
	10	1	0	1	0
	11	1	0	1	1
	12	1	1	0	0
	13	1	1	0	1
	14	1	1	1	0
NOT USED	15	1	1	1	1

4.3 The purpose of the secondary counts SC1 to SC15 is to extend a master count to provide time to perform the work of the identifier.

4.4 The secondary clock generates a 4 bit word called a "Secondary Clock Word" which appears on leads SCGD, SCGC, SCGB, SCGA which changes for each secondary count SC0 to SC15. The leads contain a logical 0 or 1. The "Secondary Clock Word" is transmitted to the JW130 where the secondary counts SC0 to SC15 are derived.

4.5 The test set does not monitor the "Secondary Clock Word".

4.6 Table 2 under SC- column lists the secondary counts SC0 to SC15. Also the 4 columns headed by SCGD, SCGC, SCGB, SCGA describes the state of the 4 bit Secondary Clock Word for each secondary count SC0 to SC15.

5. CDA ADDRESS WORD

5.1 The 4 bit "CDA Address Word" is generated by JW124 and JW130 from data contained in the "Master Clock Word". The (16) CDA Address Words obtained are directly related to even master counts MC2 to MC32.

5.2 The (16) CDA Address Words are listed in Table 3 under columns AD3, AD2, AD1, ADO respectively. The associated even master counts MC2 to MC34 are listed in column Master Count (MC-).

5.3 The even master counts MC2 to MC32 are associated with Call Data Accumulators 1-16 respectively. The test set may monitor any Call Data Accumulator by operating the MC-1, MC- keys to its associated master count.

TABLE 3

MASTER COUNT (MC-)	TEST SET INDICATION ADB CDA	CDA REQUEST ADDRESS	CDA ADDRESS WORD			
			AD3	AD2	AD1	ADO
2	0	1	0	0	0	0
4	1	2	0	0	0	1
6	2	3	0	0	1	0
8	3	4	0	0	1	1
10	4	5	0	1	0	0
12	5	6	0	1	0	1
14	6	7	0	1	1	0
16	7 (Idle)	8	0	1	1	1
18	8 (Toll)	9	1	0	0	0
20	9	10	1	0	0	1
22	A	11	1	0	1	0
24	B	12	1	0	1	1
26	C	13	1	1	0	0
28	D	14	1	1	0	1
30	E	15	1	1	1	0
32	F	16	1	1	1	1

5.4 Table 3 lists the associated CDA 1-16 under the column CDA Request Address.

6. DATA CLOCK WORD

6.1 The Data Clock contained on JW136 is started by the secondary count SC12 to obtain synchronizing and control pulses (DC1 to DC10) for collecting, handling and transmitting data during secondary counts SC12 to SC15.

TABLE 4

DATA	DATA COUNT DC-	DATA CLOCK WORD			
		MXC	MXB	MXA	MXS
NONE	IDLE STATE	0	0	0	1
OFO-OF6	1	1	0	0	0
THO-TH9	2	1	1	0	0
HO-H9	3	0	1	0	0
TO-T9	4	0	1	1	0
UO-U9	5	0	0	1	0
	0,6,7	0	0	0	0
	8,9,10				

6.2 The data clock repetitively counts four phases A, B, C, D. During each B phase a Data Count occurs which steps from DC0 to DC10.

- 6.3 Data Counts DC1 to DC5 are used internally to generate 5 Data Clock Words as shown in Table 4. The column MXC, MXB, MXA, MXS list the 4 bit Data Clock Word and the associated data count is shown in column DC-.
- 6.4 These Data Clock Words and the associated data counts DC1 to DC5 are used for Office, Thousands, Hundreds, Tens and Units Data as shown in Table 4.
- 6.5 The Data Clock Words obtained for the idle state and other data counts are also shown.
- 6.6 Loading Pulses LOF, LTH, LH, LT, LU, LCOS are derived from data counts DC1 to DC6 and load data into the test set, verifying their successful generation.
- 6.7 DC7 is used for loading a Load ANI Complete signal on local calls.
- 7. OFF (ABC) WORD
- 7.1 The 4 bit Office (ABC) Word is generated by the JW130 board during the Office A or Office B locating scans. The word identifies the office (0-6) or any office cross condition associated with a particular CDA or a toll output.

- 7.3 The THSK, HSK, TSK or USK lead input required to identify a particular office on an Office A or Office B scan are also shown in Table 5. If no input to JW130 is obtained the test set displays a 0 for the MEM B hexadecimal display.
- 7.4 When an office cross condition exists a logical 1 will occur in the bit in the OFX-1 column, and an 8 or 9 digit or a letter A, B, C, D, E, F will be displayed by the MEM B hexadecimal display.
- 7.5 By comparing the Office (ABC) word obtained for an office cross condition with the desired Office (ABC) word the offending cross may be located, or it may be determined that JW130 is faulty.
- 8. OFF (TST) WORD
- 8.1 The OFF (ABC) Word generated by JW130 is stored in JW128 in separate registers for toll or local calls.

TABLE 5

	INPUT TO JW130	TEST SET INDICAT.	OFFICE	OFFICE WORD			
		MEM B		OFX-1	C	B	A
OFFICE A SCAN	THSK	1	0	0	0	0	1
	HSK	2	1	0	0	1	0
	TSK	3	2	0	0	1	1
	USK	4	3	0	1	0	0
OFFICE B SCAN	THSK	5	4	0	1	0	1
	HSK	6	5	0	1	1	0
	TSK	7	6	0	1	1	1
		0	NONE	0	0	0	0
OFFICE CROSS		8	?	1	0	0	0
		9	?	1	0	0	1
	A	?	1	0	1	0	
	B	0,1	1	0	1	1	
	C	?	1	1	0	0	
	D	0,3	1	1	0	1	
E	2,4	1	1	1	0		
F	?	1	1	1	1		

- 7.2 The Office (ABC) Word is listed under columns OFX-1, C, B, A in Table 5. The Test Set MEM B hexadecimal display associated with each Office (ABC) word is listed in the MEM B column. This digit (1-7) is one more than the office as shown in the office column and displayed on the OFF hexadecimal display.

TABLE 6

TEST SET INDICATIONS	OFFICE	TST(OFF) WORD								TST-LEADS
		TOLL				LOCAL				
MEM A		4	3	2	1	12	11	10	9	
1	0	0	0	0	1	1	1	1	0	
2	1	0	0	1	0	1	1	0	1	
3	2	0	0	1	1	1	1	0	0	
4	3	0	1	0	0	1	0	1	1	
		8	7	6	5	16	15	14	13	TST-LEADS
5	4	0	1	0	1	1	0	1	0	
6	5	0	1	1	0	1	0	0	1	
7	6	0	1	1	1	1	0	0	0	
		4	3	2	1	12	11	10	9	TST-LEADS
		8	7	6	5	16	15	14	13	
0	NONE	0	0	0	0	1	1	1	1	
8		1	0	0	0	0	1	1	1	
9		1	0	0	1	0	1	1	0	
A		1	0	1	0	0	1	0	1	
B		1	0	1	1	0	1	0	0	
C		1	1	0	0	0	0	1	1	
D		1	1	0	1	0	0	1	0	
E		1	1	1	0	0	0	0	1	
F		1	1	1	1	0	0	0	0	

- 8.2 The 4 bit OFF(TST) Word is the OFF(ABC) Word as read by the test set over the TST- leads. Therefore if the OFF(ABC) word was properly transferred, stored and read, the MEM A hexadecimal display should be identical to the MEM B hexadecimal display.
- 8.3 The 4 bit OFF(TST) Word obtained for each office 0-6 are listed in Table 6 under columns Toll and Local. Separate listings are required since the word logic is inverted on Local calls.
- 8.4 The four TST- leads over which the test set receives the 4 bit OFF(TST) Word for each office is shown in Table 6.
- 8.5 If the MEM A display is a 0, no OFF(ABC) Word was stored in the JW128 for the particular CDA or toll call.
- 8.6 When a trouble condition exists a digit 8 or 9 or letters A, B, C, D, E, F is displayed in the MEMA hexadecimal display as shown in Table 6.
- 8.7 By comparing the office (TST) word associated with a trouble condition with the desired office (TST) word the trouble may be located or it may be determined that JW128 is faulty.
- 9. DATA WORD
- 9.1 The 4 bit Data Word D, C, B, A as generated by JW121 serially contains office and station digits OFF-, TH-, H-, T-, U-. This data word is input to JW135 where the class of service is added on local calls. The Data Word output from JW135 is described by the 4 bit Data Word DD, CD, BD, AD.

- 9.2 The test set monitors the Data Word DD, CD, BD, AD and using the identifier loading pulses LOF, LTH, LH, LT, LU, LCOS loads this data into the OFF, CALLING NUMBER and COS hexadecimal displays respectively.
- 9.3 The 4 bit Data Words are listed in Table 7 for each encoded digit 0 to 9.
- 9.4 The purpose of the identifier is to obtain the Data Words of a call associated with a particular CDA or toll outputser and transmit them to the respective CDA or translate and then transmit to the outputser.
- 10. OK WORD
- 10.01 The OK Word is generated from the ERROR 2, ERROR 1 leads from JW128, ENABLE-1 lead from JW144 and OFX-1 from JW130.
- 10.02 On a trouble free call the OS hexadecimal display has a 7 digit. The test set receives the following logic in this condition:

OFX-1 = 0
 ERROR 2 = 1
 ERROR 1 = 1
 ENABLE-1 = 1

- 10.03 The OFX-1 is the same bit used in the OFF(ABC) Word and indicates an office cross indication from JW130 when it becomes a logical 1.
- 10.04 The ERROR 2 is normally a 1 and becomes 0 on the office A locating scan or the office B locating scan when the tone is detected in more than one office. This indicates a cross between offices 0, 1, 2, 3 for the office A scan or between offices 4, 5, 6 for the office B scan.
- 10.05 The ERROR 1 is normally a 1 and becomes a 0 when the tone is detected on both the office A and the office B locating scans, indicating a cross between one of the 0, 1, 2, 3 offices and one of the 4, 5, 6 offices respectively.
- 10.06 The ENABLE-1 lead becomes a 1 when the office under scan has a bid registered in JW128 for the CDA or Outputser whose master count is present. The ENABLE-1 lead starts the secondary clock to begin the identification work cycle.
- 10.07 The OK Word is shown in Table 8 for the OK condition when digit 7 is displayed on the OS hexadecimal display. The OK Word is shown for every other possible trouble condition 0-6, 8, 9, A-F.

TABLE 7
DATA WORD

ENCODED DIGIT	D	C	B	A
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
0	1	0	1	0
	DD	CD	BD	AD

TABLE 8

TEST SET INDI.	OK WORD				TROUBLE
	OFX-1	ERROR 2	ERROR 1	ENABLE-1	
0	0	0	0	0	Error 1,2, No OFX
1	0	0	0	1	Error 1,2, No OFX, False Enable
2	0	0	1	0	Error 2 No OFX
3	0	0	1	1	Error 2 No OFX, False Enable
4	0	1	0	0	Error 1 No OFX
5	0	1	0	1	Error 1 No OFX, False Enable
6	0	1	1	0	No Enable
7	0	1	1	1	OK
8	1	0	0	0	Error 1&2, OFX
9	1	0	0	1	Error 1&2, OFX False Enable
A	1	0	1	0	Error 2, OFX
B	1	0	1	1	Error 2, OFX False Enable
C	1	1	0	0	Error 1, OFX
D	1	1	0	1	Error 1, OFX False Enable
E	1	1	1	0	False OFX No Enable
F	1	1	1	1	False OFX

- 10.08 If an office cross condition (OFX-1=1) occurs either ERROR 1 or ERROR 2 or both will become a 0. The ENABLE-1 lead should remain a 0.
- 10.09 Where the OFX-1 or ENABLE-1 indications are not in agreement with the ERROR 1, ERROR 2 conditions JW144 may be defective.
- 10.10 On trouble conditions the logic content of the OK Word associated with the OS hexadecimal display may be analyzed to locate the trouble.

11. OFFICE SCANS - FIGURE 2

- 11.1 The identifier always generates an office A and office B locating scan and an office scan 0-6 for each equipped office 0-6 respectively.
- 11.2 The office scan consists of 17 square-wave pulses as shown in the four waveforms of Figure 2. The 17 pulses are associated with even master counts MC2 to M34 and provide periods to start identification for the 16 CDA's and outpulser respectively.
- 11.3 In a particular OFF(0-6) scan if a CDA or outpulser has a bid in that office the pulse will be expanded to provide time for identification. Figure 2 has three example of this *expanded pulse:

WAVEFORM	EXPANDED PULSE	EQUIPMENT SERVED
2nd	17	Toll Outpulser
3rd	5	5th Call Data Accumulator
4th	1	1st Call Data Accumulator

* The expanded pulse is due to the start of the secondary clock which arrests the master clock while it counts SC1 to SC15.

- 11.4 It should be mentioned at this point that an extended pulse is also obtained on an office cross to enable the transmission of the OFF(TST) Word for trouble locating purposes.
- 11.5 The first waveform of Figure 2 contains 17 squarewave pulses with no extended pulses. In this instance for all CDA's and outpulser no bid was registered for the office under scan.
- 11.6 The OFF(A) and OFF(B) scans have an extended pulse for each CDA or outpulser for which it has a bid registered.
- 11.7 The scan point for all office scans is the EVEN lead as shown in Figure 2. The EVEN lead contains only the even master counts MC2 to MC34. These master counts are associated with the 16 CDA's or an outpulser respectively.
- 11.8 To scan a particular office scan use the scope trigger points listed in Figure 2. Also use the time base and voltage range shown in Figure 2.
- 12. WAVEFORMS - FIGURE 3
- 12.1 This paragraph serves to describe the waveforms depicted in Figure 3.

- 12.2 EVEN
- 12.21 The EVEN lead contains all office scans as they occur. A sufficiently large time base 15MSEC/CM or larger will be required to display the complete office scans.
- 12.22 The JW138 provides the sequence of the office scans by controlling the start of the master clock and related identification processes. This sequence is the office locating scans OFA and OFB followed by the office identification scans OF- for each equipped office.
- 12.23 In Figure 3 the EVEN scan contains the office scans of a (2) office ANI-B Installation.
- 12.24 The 17th pulse is extended in the OFA and OFB locating scan, indicating a toll call is bidding for service.
- 12.25 In the OFO scan there is no extended 17th pulse indicating the call bidding is not in office 0.
- 12.26 In the OF1 scan the 17th pulse is extended indicating the call was present in office 1. The identification process occurs during the extended pulse.
- 12.27 It should be noted that although the office 1 bid was located and registered in the OFA scan (offices 0, 1, 2, 3), the OFB scan (offices 4, 5, 6) nevertheless has an expanded 17th pulse.
- 12.3 MCO
- 12.31 Master Count MCO is the idle state of the master clock and resides at a logical 1. When the ST(-) lead to the master clock is started the master count advances to a master count MC1 and the MCO becomes a logical 0.
- 12.32 MCO remains at a logical 0 during all office scans except when the master count reaches MC40 at the end of each office scan. At this point the master clock is recycled and the MCO momentarily goes to a logical 1.
- 12.33 At the end of all office scans MCO returns to its idle state of a logical 1.
- 12.4 MC1
- 12.41 Master Count MC1 becomes a logical 1 when MCO becomes a logical 0.
- 12.42 MC1 becomes a logical 0 when each office scan begins, and remains a 0 until master counts MC35 to MC40 have occurred or the master clock is recycled by MCO.
- 12.43 MC1 is a logical 1 between the office scans.
- 12.5 OFA, OFB, OFO, OF1
- 12.51 The OFA, OFB, OFO, OF1 indications are generated by JW138 in preparation for the respective office scans. The indications are initiated each time MC1 return to a logical 1, for OFA, OFB, OFO, OF1 respectively.
- 12.52 The secondary network is prepared by operating the required station digit relays for the proper office. Also tip party relays are operated if required.
- 12.53 As OFB becomes a logical 1, OFA becomes a logical 0. This sequence continues through the office count until the last office LOFC is obtained when the JW138 is cleared on master count 39 and OFF 1 becomes a logical 0.
- 12.6 OFAD, OFBD, OFOD, OF1D
- 12.61 The OF-D indications follow 7 milliseconds after their associated OF- indications. This delay is to allow time for the preparation of the secondary network.
- 12.62 The OF-D indications start the master clock moving from master count MC1 to master count MC2 to begin and control the respective office scans.
- 12.63 Each MC1 indication steps the JW138 to the next office removing the prior OF-D indication until the last office when the JW138 is cleared on master count MC39 and OF1D becomes a logical 0.
- 12.7 LOFC
- 12.71 The last office indication LOFC is generated by strapping on JW138 when stepped to the last office, in this case OF1.
- 12.72 LOFC is required by JW124 to perform master clock clearing functions. It is registered on master count MC36 and the MCCLR occurs on master count MC37, if it is a ring party call.
- 12.73 If the identifier is in a tip party mode, the identifier will advance to a complete office scan in the ring mode to enable the master clock clear.

- 12.74 The LOFC indication on master count MC39 clears the JW138 and LOFC becomes a logical 0.
- 12.8 ENABLE
- 12.81 The ENABLE indication becomes a logical 1 during the OFAD and OFBD indications.
- 12.82 The ENABLE indication starts the master clock to move from master count MC1 to master count MC2 to begin the respective OFA and OFB office locating scans.
- 12.83 The ENABLE indication remains a logical 1 until the OFAD or OFBD indications are removed.
- 12.84 On identification office scans the master counts MC36, MC38, MC39 also maintain the ENABLE indications to the master clock.
- 12.9 ENC, MATCH
- 12.91 The ENC is generated by JW123 to start the secondary clock in JW124 to obtain the extended pulse for the identification process.
- 12.92 The ENC occurs during an OFAD, OFBD or ENABLE-1 indication.
- 12.93 The OFAD and OFBD occur during the OFA and OFB scans which explains why an extended pulse always occurs during these scans.
- 12.94 The ENABLE-1 indication from JW144 occurs when an office match is obtained between the current scan and the registered bid. Therefore, when a match is obtained, the secondary clock is started to provide the extended pulse.
- 12.95 The MATCH indication from JW144 is a logical 1 when the office match occurs; and provides the ENABLE-1 indication. Therefore, the MATCH and ENC indications are identical for a trouble free call.
- 12.96 An ENABLE-1 indication however, is also obtained on an office cross. The MATCH indication may be used to validate the ENABLE-1 as a valid match and not an error condition.

Lines presented in Script indicates new or changed information.

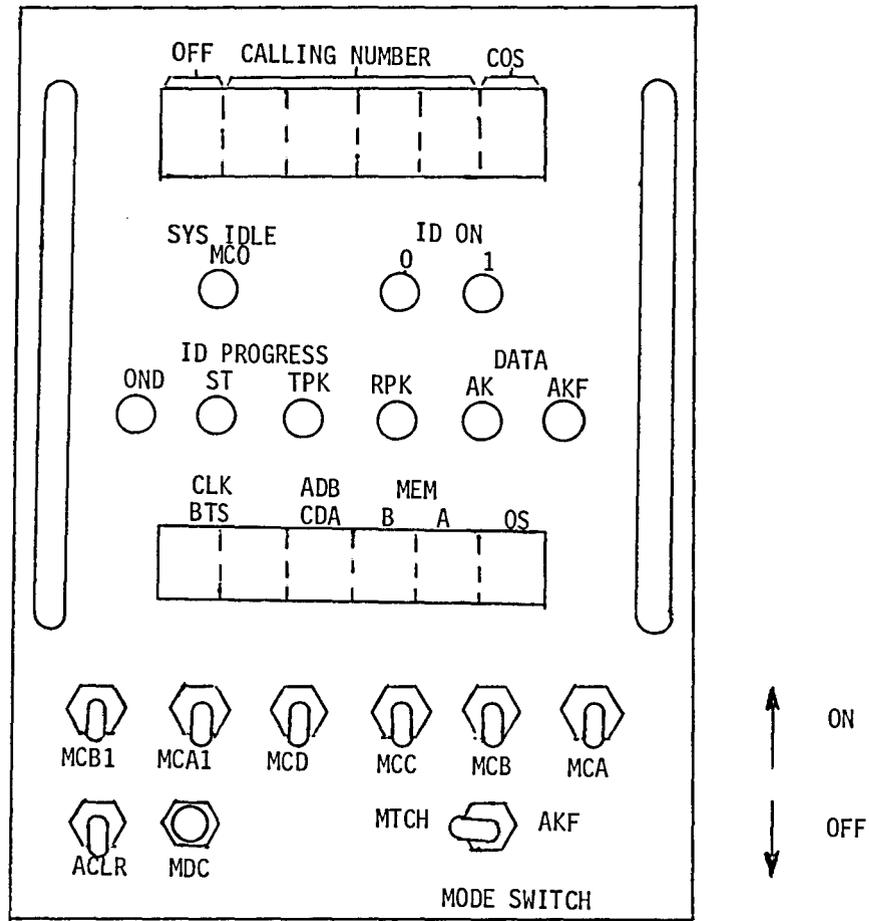
ATTACHMENTS

- Fig. 1 on Page 11
 Fig. 2 on Page 12
 Fig. 3 on Page 13

Manager, Product Engineering
 Control Center

Reason for Reissue:

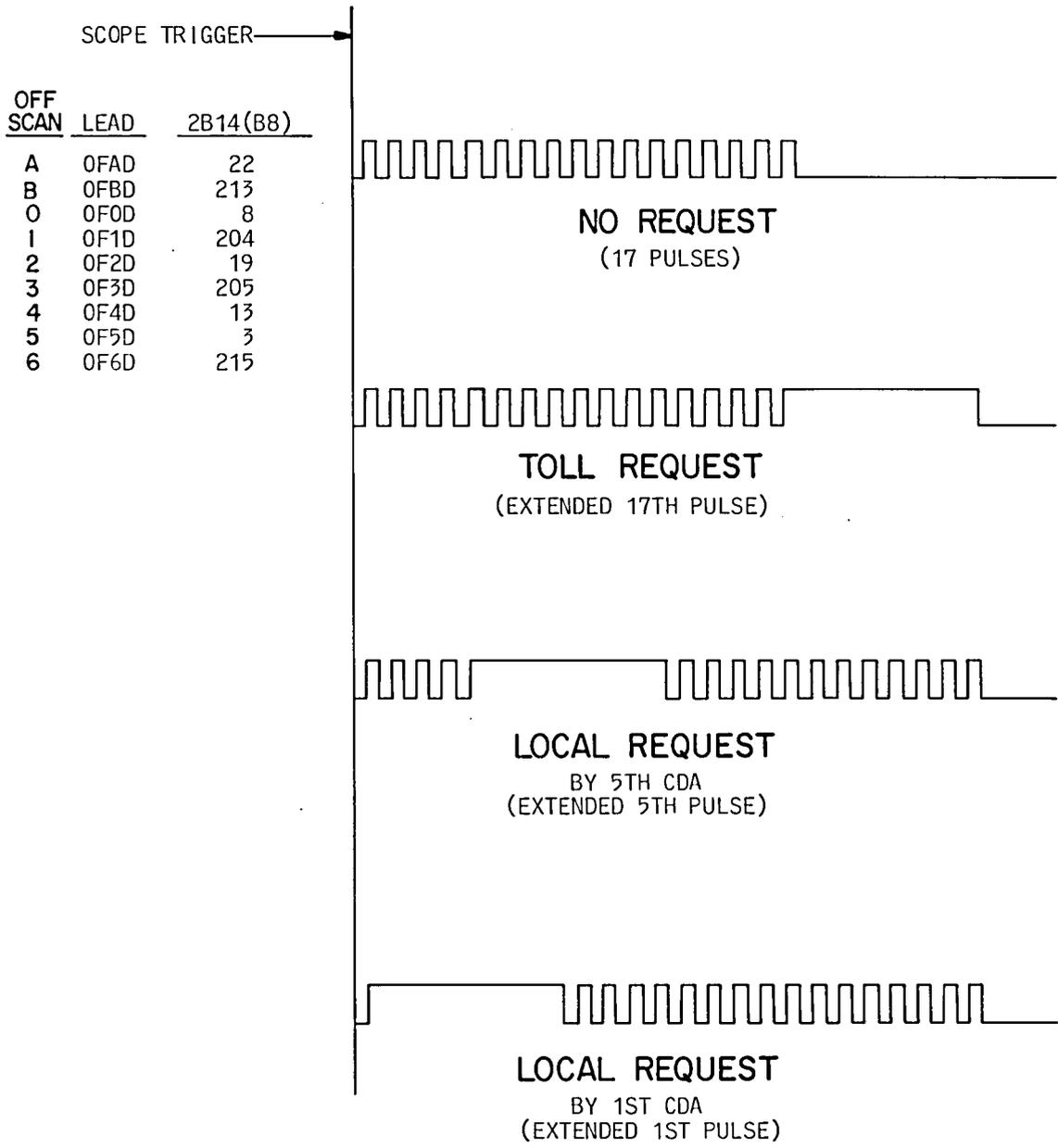
Miscellaneous Corrections and to describe Class of Service display.



IDENTIFIER TEST SET

FIGURE 1

OFFICE SCANS
EVEN LEAD 2A5-39 (B5)



PULSE HEIGHT = 5V

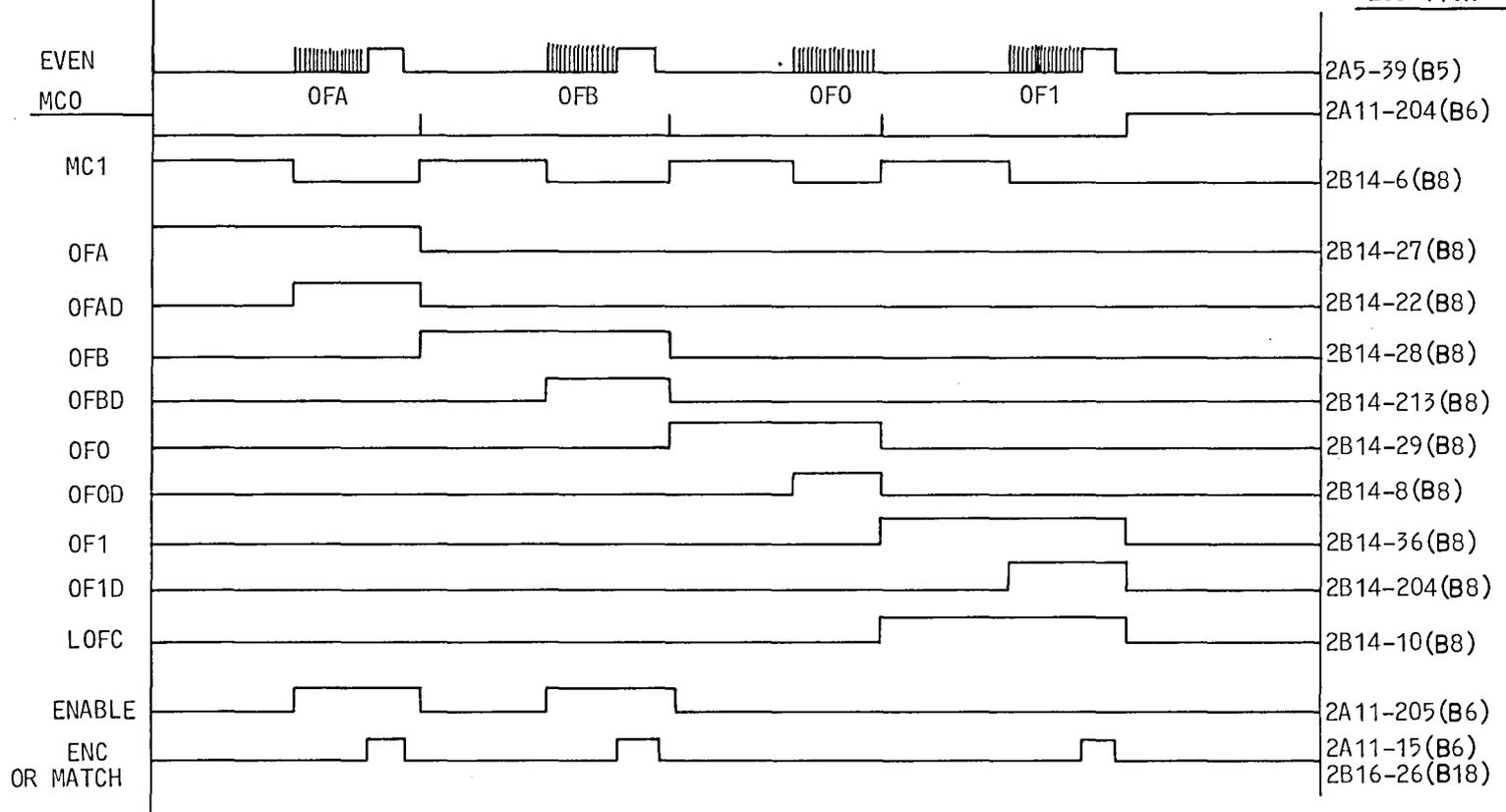
TIME BASE = 2MSFC/CM

FIGURE 2

COMPLETE OFFICE SCANS FOR
A TOLL CALL IN OFFICE 1

SCOPE TRIGGER
ST 2A11-2(B6)

WAVEFORM
LOCATION



PULSE HEIGHT = 5V

TIME BASE 15MSEC/CM

FIGURE 3