TMC SPECIFICATION

NO. S 1062

REV: Ø A β

COMPILED: CHECKED A. Dvoblkr   APPD: 1/12/66

SHEET 1 OF 10

TITLE:

Typed by mtp 1/11/66

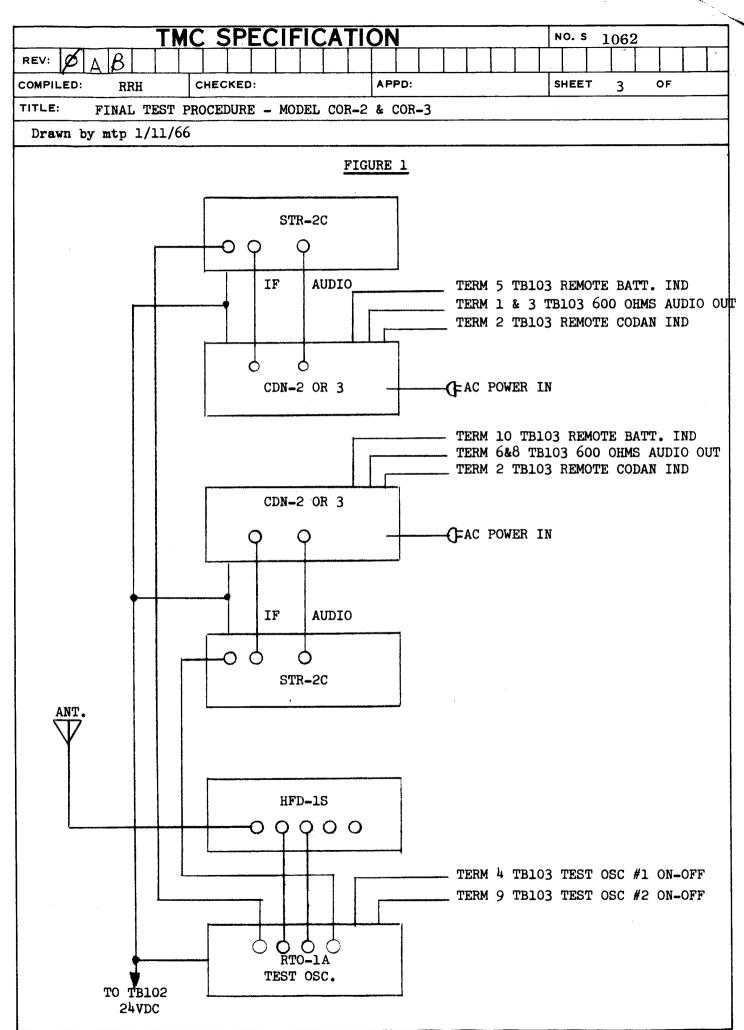FINAL TEST PROCEDURE

MODEL COR-2 & COR-3

TMC SPECIFICATION

NO. S 1062

REV: Ø A B

COMPILED: RRH   CHECKED: APPD: SHEET 2   OF

TITLE: FINAL TEST PROCEDURE - MODEL COR-2 & COR-3

Typed by mtp 1/11/66

1. ## INTRODUCTION

The TMC Model COR equipment is a two (2) channel fixed tuned radio receiving system designed for pole mounting in a TOC case. Normal input power to the system is 115 VAC. However, the system is designed to operate from battery power also and a battery case, which may also be pole mounted, is included as an optional item. Batteries may be TMC or customer supplied.

2. ## SYSTEM DESCRIPTION (REF: CK1086   FOR COR-2 & CK1091   FOR COR-3)

A. The Model COR consists of the following components:

    1) One (1) each Model TOC case. (TOC-5 for COR-2, TOC-7 for COR-3)

    2) Two (2) each Model STR-2C receivers.

    3) Two (2) each Model CDN CODAN units. (CDN for COR-2, CDN-3 for COR-3)

    4) One (1) each Model HFD-1S multicoupler.

    5) One (1) each Model RTO-1A test oscillator. for COR-3 (RTO-1 for COR-2)

    6) One (1) each TOC case modified for use as a battery case.- optional. (TOC-6 for COR-2, TOC-8 for COR-3)

B. Figure 1 is a functional block diagram of the system. Referring to Figure 1 and wiring diagram, a description of the system is as follows:

    1) The antenna is connected to the input jack on the HFD-1S and routed to each of the STR-2C receivers via outputs 1 and 2. Outputs 3 and 4 of the HFD-1S are terminated with 50 ohm dummy loads.

    2) The Model RTO-1A test oscillator consists of two (2) crystal controlled 1000 cycle tone modulated oscillators which receive their power from the CDN. Each oscillator operates on the receive frequency of the associat d STR-2C receiver. Each oscillator may be turned on by the application of 12.0volts d-c via terminals 4 or 9 of TB103. The +12 volts d-c is supplied from a remote source by the customer to enable the operator to test each system separately. Additionally, each oscillator may be turned on locally by means of "push-to-test" momentary contact switches on the front panel of the RTO-1A.

FIGURE 1

TERM 5 TB103 REMOTE BATT. IND
TERM 1 & 3 TB103 600 OHMS AUDIO OUT
TERM 2 TB103 REMOTE CODAN IND

AC POWER IN

TERM 10 TB103 REMOTE BATT. IND
TERM 6&8 TB103 600 OHMS AUDIO OUT
TERM 2 TB103 REMOTE CODAN IND

AC POWER IN

TERM 4 TB103 TEST OSC #1 ON-OFF
TERM 9 TB103 TEST OSC #2 ON-OFF

STR-2C

CDN-2 OR 3

CDN-2 OR 3

IF   AUDIO

STR-2C

ANT.

HFD-1S

RTO-1A
TEST OSC.

TO TB102
24VDC

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2.   DESCRIPTION - Cont'd

B.   3)   The IF and audio outputs of the STR-2C receivers are connected to their associated CODAN units. The CODAN unit serves to mute its associated receiver in the absence of a signal and to unmute the receiver when a signal of sufficient strength and suitable for communications is received. A front panel threshold control on each CODAN unit provides adjustment of the level at which muting of the receiver occurs. Remote indication of operation of the CODAN is accomplished by dry contact relay closure in each CODAN unit. These dry contacts are connected to terminals 2 and 7 of TB103.

4)   Audio output from each CODAN unit is connected to terminals 1-3 or 6-8 of TB103 and thence to the customers telephone lines. Remote indication of a-c power failure for either or both systems is achieved by dry contact relay closure to ground in each CODAN unit. These dry contacts are connected to terminals 5 and 10 of TB103 and thence to the customers lines.

5)   It is to be noted that the STR-2C receivers, CDN CODANS, and the RTO-1 test oscillators are connected together to a common +24 volt battery via terminals 1 and 3 of TB102. A-c power is supplied to the two CDN units only and no a-c power is required for the STR-2C receivers. During normal a-c operation the STR-2C receivers and the RTO-1 test oscillators receive their power from the 24 volt output of the CDN units while the 24 volt battery floats across the 24 volt d-c buss and is trickle charged as required. Upon failure of a-c power the system continues to operate on the 24 volt battery.
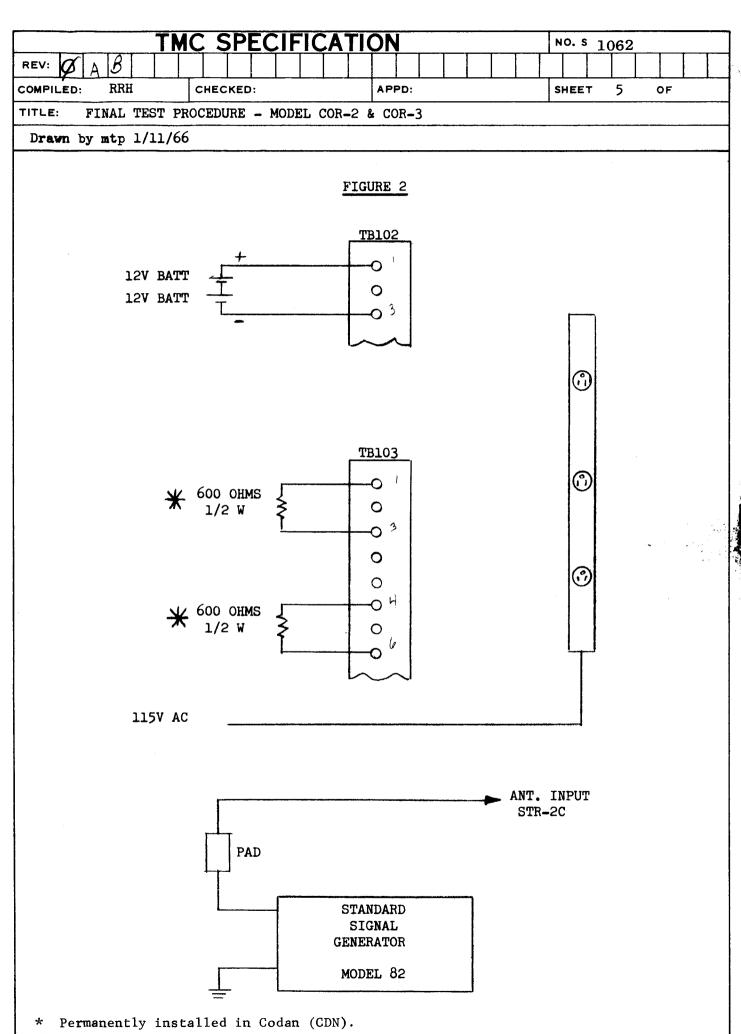
3.   SYSTEM TEST PROCEDURE

A.   Test equipment required:

1)   One (1) each standard signal generator Model 82.

2)   Two (2) each 12 volt batteries.

3)   One (1) each 12.0 volt d-c Power Supply.

4)   Two (2) each Simpson 260 VOM.

5)   Ballantine VTVM.

B.   Procedure:

1)   It is assumed that all equipments in the system have been individually tested and aligned as per their respective test procedures and that the interconnect cabling harness has been checked against the rack wiring diagram. Upon completion of these tests and the installation and inter-connection of all units in the TOC case make all external connections to the system as indicated in Figure 2. As each of the following steps is completed, so indicate by appropriate notation on the attached check-off sheet.

TMC FORM SPEC 1

2M 9-65-A1NS.

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FIGURE 2

TB102

12V BATT   +

12V BATT   1

                    3

            −

TB103

✳ 600 OHMS
  1/2 W   1

                    3

                    4

✳ 600 OHMS
  1/2 W   6

115V AC

ANT. INPUT
STR-2C

PAD

STANDARD
SIGNAL
GENERATOR

MODEL 82

* Permanently installed in Codan (CDN).

TMC SPECIFICATION

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3.   <u>SYSTEM TEST PROCEDURE</u> - Cont'd

B.   2) Turn a-c power switches in each CODAN to "on".

3) Adjust the signal generator to the operating frequency of STR-2C No. 1 modulated at 1000 cycles 30% modulation. Set output attenuator for a 3 microvolt signal.

4) Connect a Simpson 260 or equivalent to terminals 1 and 3 of TB103.

5) Adjust the line level control on the rear apron of STR-2C No. 1 for a reading of zero db on the meter.

6) Connect the VTVM to RF Monitor Jack J1012 on rear of CODAN No. 1 and adjust the rear apron IF attenuator on the CODAN unit until CDN just triggers with threshold at midrange and generator output set to 3 microvolts at 30% modulation.

7) Remove the VTVM.

8) Deleted.

9) Connect an ohmmeter, Simpson 260 or equivalent, between terminal 2 of TB103 and ground. The reading must be infinity with CODAN threshold CCW.

10) Adjust the threshold control on the CODAN unit until CODAN relay operates.

11) Check that a short circuit condition exists between terminal 2 and ground of TB103.

12) Repeat steps 3 through 11 for STR-2C No. 2 and its associated CODAN unit, except that in Step 7 the ohmmeter should be connected between terminal 7 and the ground of TB103 and in Step 8 the Simpson 260 meter should be connected between terminals 6 and 8 of TB103.

13) Remove the signal generator and meters and reconnect cable to STR ANT Jack.

14) Connect Simpson 260 between terminals 1 and 3 of TB103.

15) Connect 12 volt power supply between terminal 4 (+) on TB103 and ground.

16) The level indicated on the meter must be zero db. (If not, adjust modulation level control in RTO-1A for "0" db on meter.)

17) Disconnect the 12 volt supply from terminal 4 on TB103.

18) Press the "push-to-test" button for test oscillator No. 1 on the front panel of the RTO-1.

19) The level indicated on the meter must be zero db.

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3. SYSTEM TEST PROCEDURE - Cont'd

B. 20) Connect Simpson 260 between terminals 6 and 8 of TB103 and ground.

21) Connect 12 volt power supply terminal 9 (+) on TB103 and ground.

22) The level on the meter must be zero db. (If not, adjust modulation level control in RTO-1Afor "0" db on meter.)

23) Disconnect the 12 volt supply from terminal 9 on TB103.

24) Press the "push-to-test" button for test oscillator No. 2 on the front panel of the RTO-1.

25) The level on the meter must be zero db.

26) Deleted

27) Connect the ohmmeter between terminal 5 on TB103 and ground. The reading must be infinity.

28) Disconnect all a-c power from the system.

29) The ohmmeter should read zero and the system should continu to operate.

30) Repeat Steps 27 through 29 except in Step 27 the ohmmeter must be connected between terminal 10 and ground on TB103.

31) Repeat Steps 3 through 27 with all a-c power disconnected. In Step 27 on battery operation, the ohmmeter should read zero.

32) Disconnect all test equipment, batteries, and external 24.0 volt d-c power supply from the system.

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MAMARONECK, N.Y.

MODEL COR-
FINAL TEST PROCEDURE
CHECK-OFF SHEET

STEP	INDICATION	A-C OPERATION	BATTERY OPERATION
6)	VTVM Reading	_____	_____
9)	Ohmmeter Reading	_____	_____
11)	Ohmmeter Reading	_____	_____
5)	Meter Reading	_____	_____

RECEIVER NO. 1

STEP	INDICATION	A-C OPERATION	BATTERY OPERATION
6)	VTVM Reading	_____	_____
9)	Ohmmeter Reading	_____	_____
11)	Ohmmeter Reading	_____	_____
5)	Meter Reading	_____	_____

RECEIVER NO. 2

STEP	INDICATION	A-C OPERATION	BATTERY OPERATION
6)	VTVM Reading	_____	_____
9)	Ohmmeter Reading	_____	_____
11)	Ohmmeter Reading	_____	_____
5)	Meter Reading	_____	_____

MODEL COR-   FINAL TEST PROCEDURE CHECK-OFF SHEET – Cont'd

SYSTEM TEST

STEP	INDICATION	A–C OPERATION	BATTERY OPERATION
16)	Meter Reading	_____	_____
19)	Meter Reading	_____	_____
22)	Meter Reading	_____	_____
25)	Meter Reading	_____	_____

SYSTEM NO. 1

STEP	INDICATION	A–C OPERATION	BATTERY OPERATION
27)	Ohmmeter Reading	_____	_____
29)	Ohmmeter Reading	_____	_____

SYSTEM NO. 2

STEP	INDICATION	A–C OPERATION	BATTERY OPERATION
27)	Ohmmeter Reading	_____	_____
29)	Ohmmeter Reading	_____	_____

SERIAL NO.: _____

DATE: _____

TESTER: _____

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
1/13/66	Ø			Original Release for Production	
5/19/66	A	2 to 7	16266	Revised per EMN	
7/26/66	B	6	16617	Revised per EMN	
			THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK		
1/13/66	Ø			Original Release for Production	

TMC FORM MLR-1 2-65—AINS.