SPP-_____ PRODUCTION TEST PROCEDURE

PURPOSE:

TO ENSURE THAT THE SWITCHING PATCH PANEL CONFORMS TO THE FOLLOWING SPECIFICATIONS:

TEST ONE: POWER CAPABILITY OF 1 WATT CONTINUOUS WAVE POWER

TEST TWO: INSERTION LOSS LESS THAN .1DB FROM 2-30 MHZ

TEST THREE: JACK-TO-JACK ISOLATION OF AT LEAST 41DB @ 30 MHZ AND 54DB AT 8 MHZ

TEST FOUR: VSWR OF 1.02:1 OR BETTER

TEST EQUIPMENT REQUIRED:

MARCONI TF-1515 SIGNAL GENERATOR OR EQUIVALENT
MILLIVAC MV-28 RF VOLTMETER OR EQUIVALENT
CALIBRATED DUMMY LOAD TEKTRONIX P/N 011-0049-01 OR EQUIVALENT
APPROPRIATE R.F. CONNECTORS
4 FOOT RG-58/U WITH APPROPRIATE CONNECTORS
20DB RF AMPLIFIER AND POWER SUPPLY IF REQUIRED TMC A-5819 RF OUTPUT MODULE
ANZAC PRECISION BRIDGE OR EQUIVALENT RB-1-50

TEST 1 --- POWER HANDLING CAPABILITY

PURPOSE:

TO DEMONSTRATE THAT ALL SWITCHES ARE CAPABLE OF HANDLING ONE WATT
OF CONTINUOUS RF POWER WITHOUT DEGRADATION.

PROCEDURE:

CONNECT THE PATCH PANEL, THE MARCONI TF1515 SIG GEN OR EQUIVALENT,
THE MILLIVAC RF VOLTMETER OR EQUIVALENT, THE 20DB RF AMPLIFIER
AS SHOWN IN FIGURE 1. ADJUST THE MARCONI TF1515 SIG GEN OR EQUIV-
ALENT TO THE APPROPRIATE DRIVE LEVEL FOR A 1 WATT OUTPUT (7.07VRMS)
INTO 50 OHMS.

        TEST JACKS BY CONNECTING AND DISCONNECTING LOAD SEVERAL
TIMES.

2 MHZ	_____
15 MHZ	_____
30 MHZ	_____

CHART 1
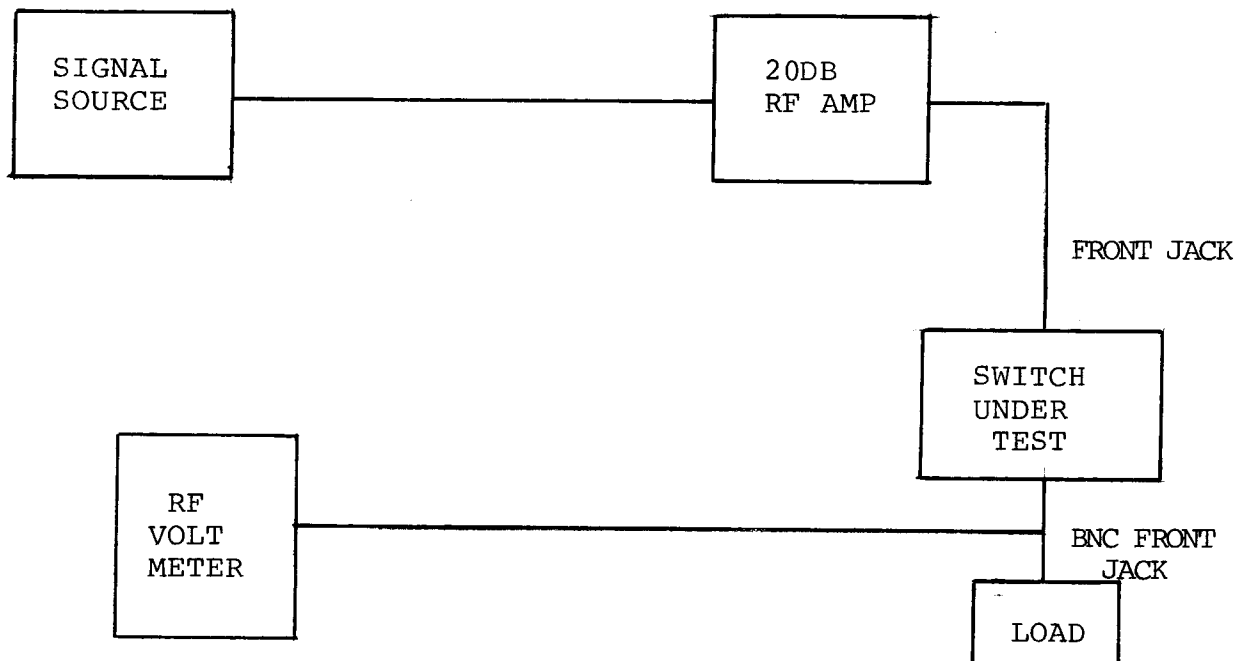
FIG. 1

TMC SPECIFICATION

REV:																						

NO. 1419

COMPILED: | **CHECKED:** | **APPD:** | **SHEET** 3 | **OF** 6

TITLE:

TEST 2 --- INSERTION LOSS

PURPOSE:

TO ENSURE THAT THE INSERTION LOSS OF THE PATCH PANEL DOES NOT
EXCEED 0.1 DB THROUGHOUT FREQUENCY RANGE 2-30 MHZ.

PROCEDURE:

CONNECT TEST EQUIPMENT AS SHOWN IN FIGURE 2. ESTABLISH A 0DB
REFERENCE AT 50 OHMS. PLACE THE SWITCH UNDER TEST BETWEEN THE
SIGNAL SOURCE AND THE HP DUMMY LOAD USING THE TWO REAR CONNECTORS
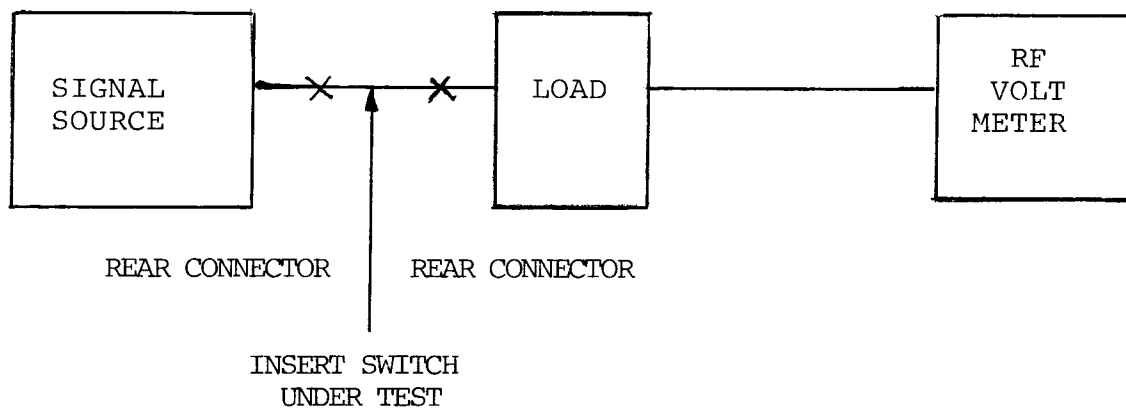ON THE SWITCH.

```
  ┌──────────┐              ┌──────────┐            ┌──────────┐
  │ SIGNAL   │──X────X──────│  LOAD    │────────────│    RF    │
  │ SOURCE   │              │          │            │   VOLT   │
  └──────────┘              └──────────┘            │  METER   │
                                                    └──────────┘
      REAR CONNECTOR    REAR CONNECTOR

          INSERT SWITCH
          UNDER TEST
```

FIG. 2

TEST 3 --- JACK-TO-JACK ISOLATION

PURPOSE:

  TO TEST UNITS FOR JACK-TO-JACK ISOLATION OF GREATER THAN 54DB AT
  8MHZ AND GREATER THAN 41DB AT 30MHZ.

PROCEDURE:

  SET A 0DB REFERENCE LEVEL AT (SEE CHART) MHZ ON THE MILLIVAC RF
  VOLTMETER OR EQUIVALENT AND CHECK AS IN FIGURE 3 ALL ADJACENT JACKS
  ON THE PATCH PANEL, RECORDING THE LEAST AMOUNT OF JACK-TO-JACK ISO-
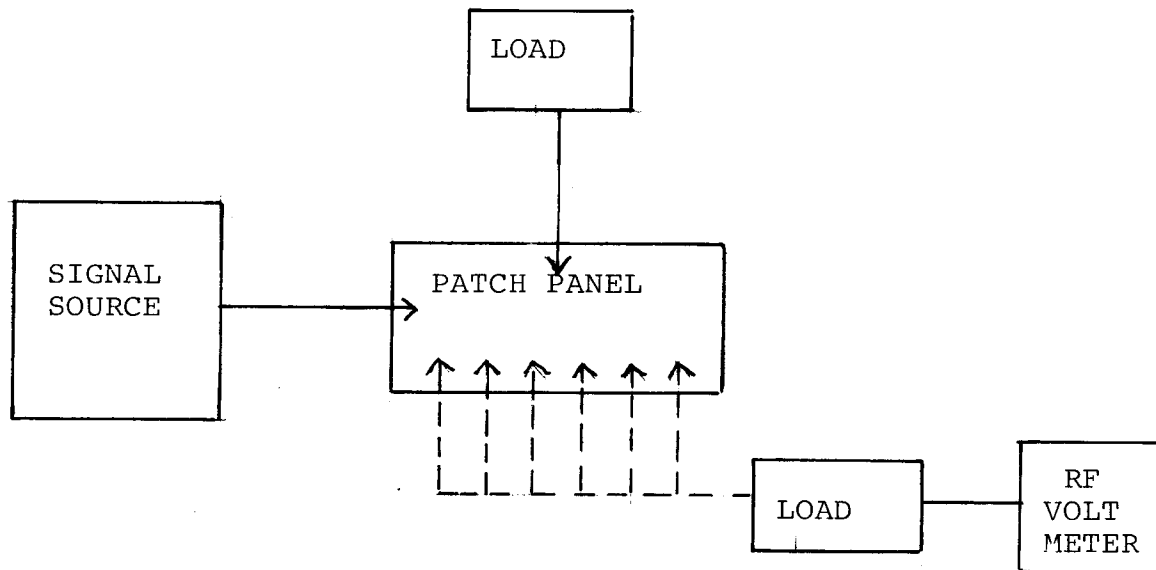 LATION ON THE TEST DATA SHEET.

FIG. 3

TEST 4 --- VOLTAGE STANDING WAVE RATIO

PURPOSE:

TO ENSURE THAT THE V.S.W.R. OF ALL SWITCHES, WHATEVER THE OPERA-
TING POSITION, MAINTAINS A V.S.W.R. OF 1.02:1 OR BETTER.

PROCEDURE:

ESTABLISH A ODB REFERENCE POINT ON THE MILLIVAC RF VOLTMETER OR
EQUIVALENT WITH THE MARCONI TF1515 SIG GEN OR EQUIVALENT AND THE
ANZAC PRECISION BRIDGE OR EQUIVALENT UNKNOWN PORT OPEN CIRCUITED.
SHORT CIRCUIT THE UNKNOWN PORT ON THE ANZAC PRECISION BRIDGE OR
EQUIVALENT AND THE DIFFERENCE BETWEEN BRIDGE OPEN-SHORT SHOULD BE
LESS THAN 1DB.   PLACE A DUMMY LOAD THAT GIVES A VSWR OF BET-
TER THAN 1.01:1 (WITHOUT THE SWITCH) TO THE OUTPUT PORT OF THE
SWITCH AND INSERT THE SWITCH ON TO THE UNKNOWN PORT OF THE ANZAC
PRECISION BRIDGE OR EQUIVALENT. RECORD ON THE DATA SHEET AT THE
FREQUENCIES GIVEN IN CHART 1, THE V.S.W.R. AS CALCULATED FROM THE
RETURN LOSS FIGURE INDICATED BY THE RF VOLTMETER.

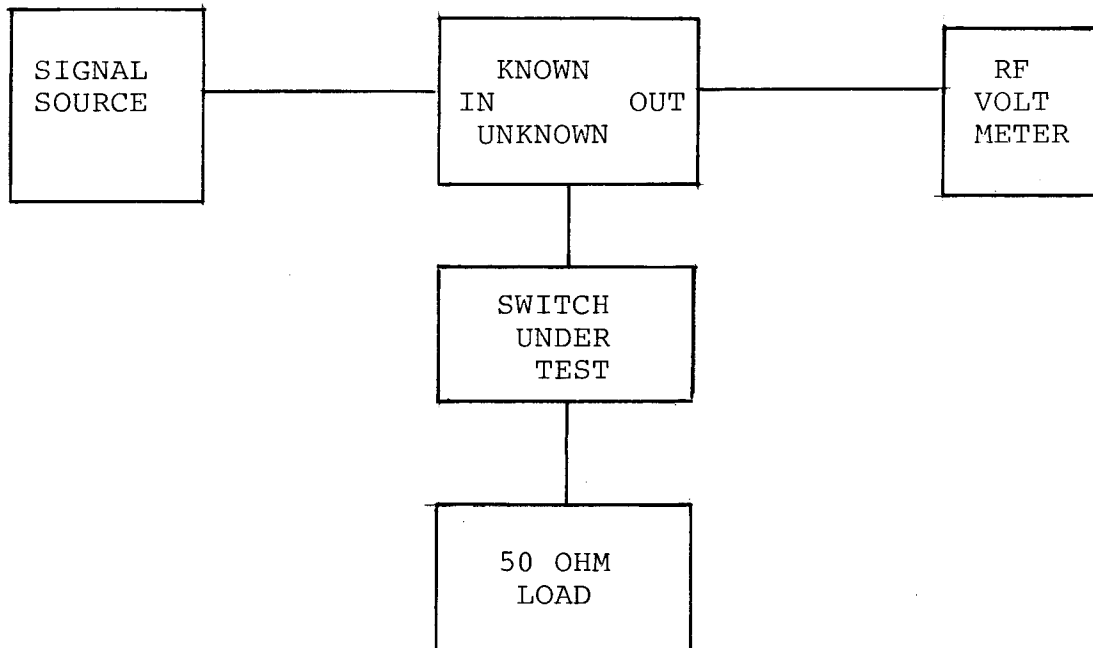THIS COMPLETES THE PRODUCTION TEST OF THE SWITCHING PATCH PANEL.

PRECISION BRIDGE

FIG. 4

TMC SPECIFICATION

REV:																								NO.	1419		

COMPILED:	CHECKED:	APPD:	SHEET 6 OF 6

TITLE:

TEST CHECK OFF SHEET SPP- _____ SW _____

CHECK=OK

MECHANICAL INSPECTION   _____

TEST 2   INSERTION LOSS   _____
            NOT TO EXCEED .1DB

TEST 3   JACK-TO-JACK ISOLATION - 54DB AT 8MHZ   _____
                                     41DB at 30MHZ   _____

TEST 4   V.S.W.R. 1.02:1 OR BETTER   _____

TEST 1   POWER TEST   _____

SERIAL NUMBER _____   TESTER _____

MANUFACTURER NUMBER _____   DATE _____