

**8594Q Option R56
16 and 256 QAM Retrofit Kit**

Installation Note



Part Number 08594-90096

Printed in USA

May 1998

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Safety Notes

The following safety notes are used throughout this Installation Note. Familiarize yourself with each of the notes and its meaning before proceeding.

CAUTION:

Caution denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in damage to or destruction of the instrument. Do not proceed beyond a *caution* sign until the indicated conditions are fully understood and met.

WARNING:

Warning denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a **warning** sign until the indicated conditions are fully understood and met.

**INSTRUCTION
MANUAL**



The **instruction manual** symbol. The product is marked with this symbol when it is necessary for you to refer to the instructions in the manual.

WARNING:

These Installation Instructions are for use by qualified personnel only. To avoid electrical shock, do not perform any part of the installation unless you are qualified to do so.

WARNING:

The power cord is connected to internal capacitors that may remain live for 10 seconds after disconnecting the plug from its power supply.

General Safety Considerations

WARNING:

This is a Safety Class I product (provided with a protective earthing ground incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor, inside or outside the instrument, is likely to make the instrument dangerous. Intentional disruption is prohibited.

WARNING:

The opening of covers or removal of parts is likely to expose dangerous voltages. Disconnect the instrument from all voltage sources while it is being opened.

CAUTION:

Before switching on this instrument, make sure that the line voltage selector switch is set to the voltage of the power supply and the correct fuse is installed.

Protection from Electrostatic Discharge

Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static safe workstation. Figure 1 shows an example of a static safe workstation using two types of ESD protection:

- Conductive table-mat and wrist-strap combination.
- Conductive floor-mat and heel-strap combination.

WARNING:

These techniques for a static-safe workstation should not be used when working on circuitry with a voltage potential greater than 500 volts.

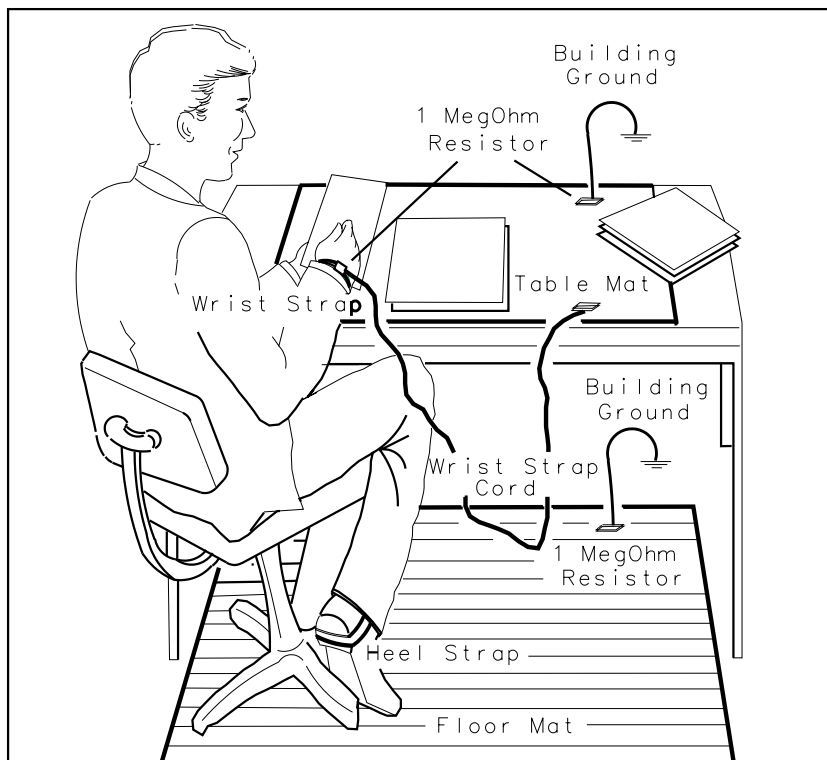


Figure 1

Example of a Static-Safe Workstation

Parts List

Parts List

Parts included with this kit:

Part Number	Quantity	Description
as supplied	1	Measurement Software DLP card
08594-80048	1	EEPROM U10
08594-80049	1	EEPROM U11
08594-80050	1	EEPROM U12
5963-6043	1	Update Information
08594-90096	1	Installation Note (and Calibration Guide update) <i>This document.</i>

Introduction

IMPORTANT

Before carrying out the installation of the R56 material ensure you have familiarized yourself with the Safety Considerations and Reliability Considerations at the beginning of this Installation Note.

Purpose

The retro-fit of 8594Q Option R56 to an 8594Q Option 190 DVB-C QAM Analyzer.

Reason

To add 16 and 256 QAM constellation sizes to the measurement capability of the 8594Q DVB-C QAM Analyzer.

NOTE

Before carrying out this procedure, ensure you have access to a source of known quality 16, 64 and 256 QAM RF signals.

Installation Procedure

The installation of the 8594Q Option R56 Retrofit kit involves fitting replacement of 3 signal processing ROMs to the 8594Q Option 190 DVB-C QAM Analyzer and loading new measurement software.

Carry out the ROM replacement first:

EEPROM Replacement

Cover

1. Ensure all power cables are disconnected from the analyzer.
2. Protect the front face of the analyzer and place it, face down, on a smooth work surface.
3. Loosen the 4 Allen headed fixing bolts on the rear of the analyzer.
4. Loosen and remove the 4 screws that fix the analyzer cover to the rear panel.

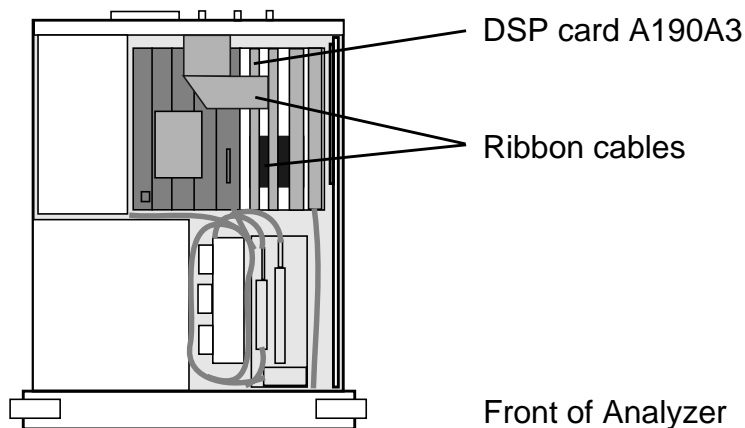
WARNING:

The spectrum analyzer contains potentially hazardous voltages. Ensure you are familiar with the general safety considerations at the front of this Installation Note.

5. Remove the analyzer cover.

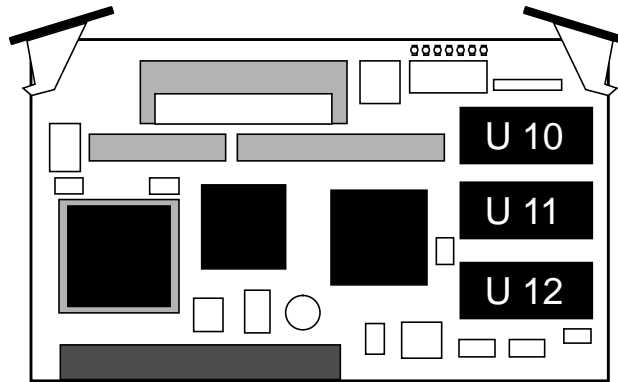
Card Cage

6. Remove the Ribbon Cable connecting the Digital Signal Processor card (A190A3) to the Digital Demodulation card (A190A2).



7. Remove the Digital Signal Processor card from the card cage.

8. Remove the 3 ROMs U10, U11 and U12 and replace each with the respective device supplied with this kit. Ensure each device is correctly oriented and located.



9. Refit the Digital Signal Processing card into the card cage and refit the Ribbon Cable connecting to the Digital Demod card.

Cover

10. Refit the analyzer cover. Take care to avoid snagging any loose cables.
11. Fix the 4 screws and 4 bolts to the rear of the analyzer.

The assembly of the analyzer is now complete.

Measurement Software Replacement and Analyzer Verification

The next procedure details the installation of the new measurement software (DLP) and verifies the correct operation of the analyzer.

CAUTION:

Do not connect AC power until you have verified that the line voltage is correct, the proper fuse is installed, and the line voltage selector switch is properly positioned. Damage to the analyzer could result.

Delete old DLP

1. Press **(LINE)** to power up the analyzer.
2. Erase the currently installed measurement DLP by pressing **(CONFIG)**, **More 1 of 3**, **Dispose User Mem**, **ERASE DLP MEM**. Press **ERASE DLP MEM** again to delete the DLP.
3. Press **(PRESET)** to initialize the analyzer.

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Installation Procedure

- Install new DLP**
4. Insert the DLP card into the analyzer card reader.
 5. Load the new measurement DLP by pressing **(RECALL)**, **INTERNAL CARD** (to underline CARD), **Catalog Card**, **Catalog All**. Ensure the file **dDCATV_D** is highlighted and press **LOAD FILE** to load the DLP.
- Verification**
6. Connect the analyzer to the QAM source and confirm the constellations lock at 16, 64 and 256 QAM.

On successful completion of Verification the analyzer is ready for use. The supplied Update Information (5963-6043) provides brief details of the new features.