

Manual Supplement

Agilent Technologies
ESG-D Series Signal Generators
Option H60

Use this information to supplement the Agilent Technologies ESG-D Series Signal Generator manual set. In all cases, this information supersedes the information in the manuals.



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Introduction

Option H60 is used for generating Motorola iDEN signals using the ESG-D with Option UND (Dual ARB). Option H60 modifies the standard UND option by replacing the 250 kHz reconstruction filter with a 50 kHz filter. In addition, the waveform files are provided in non-volatile RAM (NVARB memory) with backups on floppy disk. The ESG-D Option H60 is compatible with the 89450 Option H01, the M-16QAM radio test personality for the 89441 with the iDEN M-16QAM and the DJSMR added.

Reconstruction Filter

The front panel operation of the H60 is the same as that documented in the standard ESG-D manual set except that a 50 kHz reconstruction filter replaces the 250 kHz filter.

Dual Arb PC Board

The replacement part number of the A5 dual Arbitrary Waveform Generator assembly is E4400-60186.

Outbound Files for iDEN

The outbound waveform files are preloaded in the instrument. Backup I and Q files, shown in parenthesis after the waveform file name, are provided on disk. If you download the I and Q files from the disk into the instrument, they are combined into the waveform file.

iDEN_6_A (iDEN_6_Ai.bin, iDEN_6_Aq.bin)

This file generates an iDEN basestation signal with 6 slots per frame and 16 frames. The data symbols are repeated in each of the 6 slots and are chosen to make BER tests on certain iDEN phones.

iDEN_4_A (iDEN_4_Ai.bin, iDEN_4_Aq.bin)

This file generates an iDEN basestation signal with 4 slots per frame and 16 frames. The data symbols are repeated in each of the 4 slots and are chosen to make BER tests on certain iDEN phones.

DJSMR_A (djsmr_Ai.bin, djsmr_Aq.bin)

This file generates an iDEN basestation signal with 6 slots per frame and 16 frames. This is an iDEN variant according to Digital Japanese Specialized Mobile Radio.

Inbound Files for iDEN

The inbound waveform files are preloaded in the instrument. Backup I and Q files, shown in parenthesis after the waveform file name, are provided on disk. If you download the I and Q files from the disk into the instrument, they are combined into the waveform file.

iDEN_inbound_A (iden_inbound_Ai.bin, iden_inbound_Aq.bin)

This file simulates an iDEN mobile signal with 16 frames. One slot of 6 slots per frame has a bursted signal; the other 5 slots are all turned off.

Setup Procedure to Use iDEN Files

Arb clock = 100 kHz
Reconstruction Filter = 50 kHz
Mkr 2 to RF Blank = Off (Outbound)
On (Inbound)
Marker Polarity = POS (Always)

1. Set the ESG-D signal generator to the desired output frequency and power level.
2. Load the waveforms into the Arb waveform memory as follows:
 - a. Press **Mode > Arb Waveform Generator > Dual ARB**
 - b. Press **Waveform Segments > Load Store** (toggle to highlight **Load**) > **Load All From NVARB Memory**
3. Set the Arb operating parameters to a clock frequency of 100 kHz and the reconstruction filter to 50 kHz as follows:
 - a. Press the **Return** key to display the previous menu.
 - b. Press **ARB Setup > ARB Sample Clock**. Enter 100 kHz and press the **Enter** softkey.
 - c. Press **Reconstruction Filter > 50 kHz**.
 - d. Toggle **Mkr 2 To RF Blank** to **On** for outbound files or **Off** for inbound files.
4. Select the waveform and turn on the ARB as follows:
 - a. Press the **Return** key to display the previous menu.
 - b. Press **Select Waveform**. Highlight the desired waveform and press **Select Waveform**. The name of the selected waveform will appear under the **Select Waveform** softkey label.
 - c. Toggle the **ARB Off On** softkey to **On**.