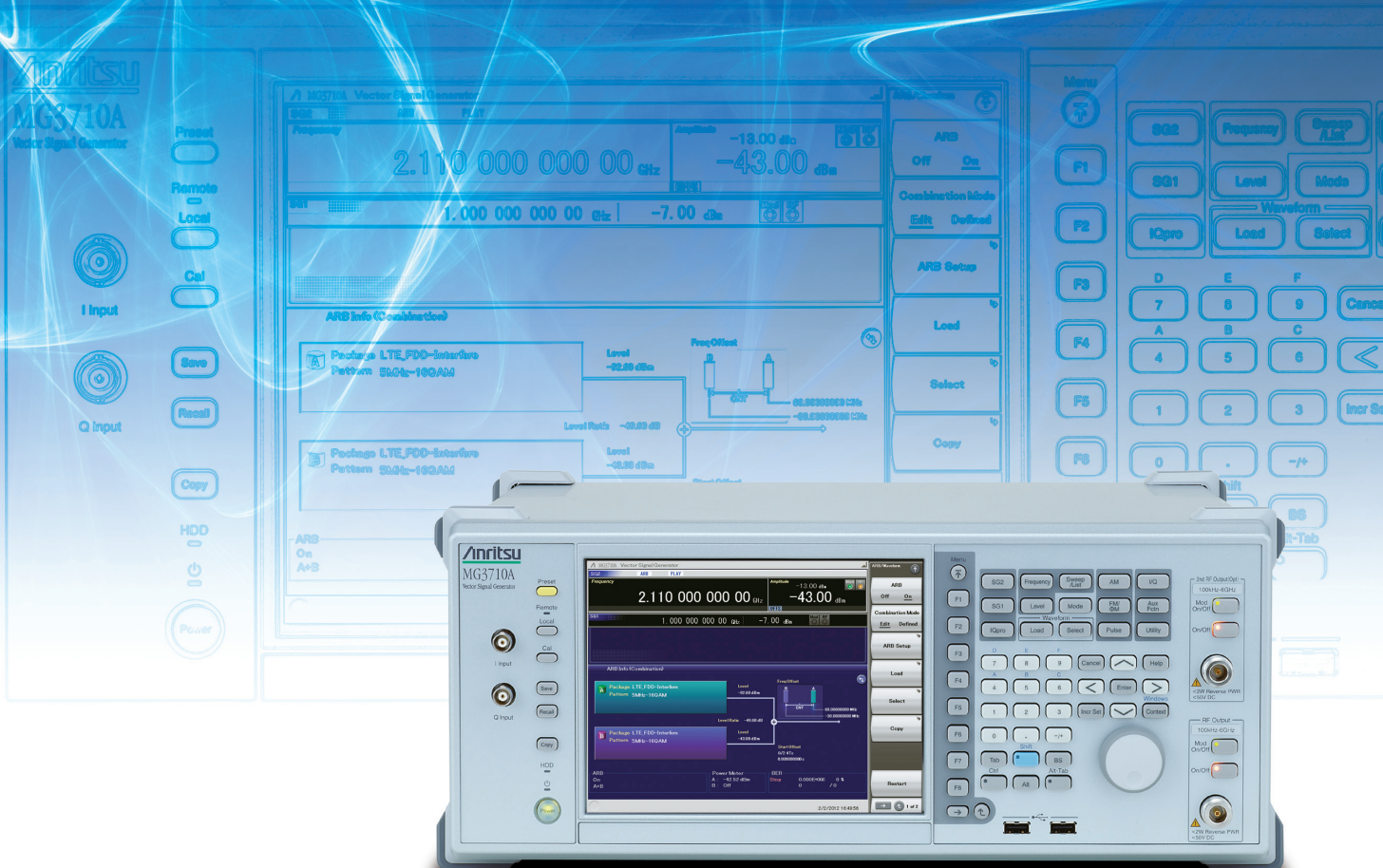


MG3710A

Vector Signal Generator

Configuration Guide



MG3710A Vector Signal Generator

MG3710A
Vector Signal Generator

Reference Oscillator

Pre-installed
Aging Rate: $\pm 1 \times 10^{-7}$ /day

MG3710A-002/102
High Stability Reference Oscillator
Aging Rate: $\pm 1 \times 10^{-8}$ /day

MG3710A-001/101
Rubidium Reference Oscillator
Aging Rate: $\pm 1 \times 10^{-10}$ /month

Frequency Range for 1stRF

* Require one of following

MG3710A-032
1stRF 100 kHz to 2.7 GHz

MG3710A-034
1stRF 100 kHz to 4 GHz

MG3710A-036
1stRF 100 kHz to 6 GHz

MG3710A-041/141
High Power Extension for 1stRF

MG3710A-042/142
Low Power Extension for 1stRF

MG3710A-043/143
Reverse Power Protection for 1stRF

Frequency Range for 2ndRF

* Select one of following

MG3710A-062/162
2ndRF 100 kHz to 2.7 GHz

MG3710A-064/164
2ndRF 100 kHz to 4 GHz

MG3710A-066/166
2ndRF 100 kHz to 6 GHz

MG3710A-071/171
High Power Extension for 2ndRF

MG3710A-072/172
Low Power Extension for 2ndRF

MG3710A-073/173
Reverse Power Protection for 2ndRF

 Order at least one of these items.

Options with -0xx appended are standard options at shipment.

Options with -1xx can be retrofitted after shipment but no other option numbers can be retrofitted.

MG3710A-017/117
Universal Input/Output
(with J1539A)

MG3710A-021/121
BER Test Function
(with J1539A)

J1539A
AUX Conversion Adaptor

MG3710A-011/111
2ndary HDD

MG3710A-313
Removable HDD
* Not simultaneously with Opt. 029

MG3710A-029
OS Upgrade to Windows 7
* Not simultaneously with Opt. 313

ARB Memory Upgrade

* Select one of following

Pre-installed for 1stRF
64 Msamples

MG3710A-045/145
ARB Memory Upgrade
256 Msample for 1stRF

MG3710A-046/146
ARB Memory Upgrade
1024 Msample for 1stRF

MG3710A-048/148
Combination of Baseband Signal for
1stRF

MG3710A-049/149
AWGN for 1stRF

MG3710A-050/150
Additional Analog Modulation Input
for 1stRF

MG3710A-018/118
Analog IQ Input/Output

ARB Memory Upgrade

* Select one of following

Pre-installed for 2ndRF
64 Msamples

MG3710A-075/175
ARB Memory Upgrade
256 Msample for 2ndRF

MG3710A-076/176
ARB Memory Upgrade
1024 Msample for 2ndRF

MG3710A-078/178
Combination of Baseband Signal for
2ndRF

MG3710A-079/179
AWGN for 2ndRF

MG3710A-080/180
Additional Analog Modulation Input
for 2ndRF

This document explains how to order the new MG3710A and MG3710A retrofit options and software. Follow the steps below to select your MG3710A configuration. Functions marked standard are built-in at factory shipment. Options and software can be added as necessary. Two RF outputs (1stRF and 2ndRF) can be installed in the MG3710A. The options for each RF output are color coded as follows:

Options for both 1stRF and 2ndRF	Options only for 1stRF	Options only for 2ndRF
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To add options to the MG3710A order as follows:

Example

Model	MG3710A
Option	MG3710A-032
Option	MG3710A-048

Step. 1 Choose frequency range for 1stRF.

(Required option: The frequency range cannot be upgraded.)

Name	Option No.	Additional Information
1stRF 100 kHz to 2.7 GHz	MG3710A-032	1stRF output of vector signal generator.
1stRF 100 kHz to 4 GHz	MG3710A-034	Select the model with the required frequency range.
1stRF 100 kHz to 6 GHz	MG3710A-036	The 1stRF frequency cannot be changed retroactively after ordering.

Step. 2 Choose frequency range for 2ndRF.

(This extra option cannot be retrofitted.)

Name	Option No.	Additional Information
2ndRF 100 kHz to 2.7 GHz	MG3710A-062	2ndRF output of vector signal generator.
2ndRF 100 kHz to 4 GHz	MG3710A-064	Select one model with the required frequency range.
2ndRF 100 kHz to 6 GHz	MG3710A-066	The 2ndRF frequency cannot be changed retroactively after ordering.

Step. 3 Choose frequency reference.

Choose one reference oscillator. The selected reference oscillator performance is enabled and other reference oscillators are disabled.

Name	Option No.	Additional Information
Standard Reference Oscillator	Standard	Aging Rate: $\pm 1 \times 10^{-6}$ /year, $\pm 1 \times 10^{-7}$ /day
Rubidium Reference Oscillator	MG3710A-001	Aging Rate: $\pm 1 \times 10^{-10}$ /month
High Stability Reference Oscillator	MG3710A-002	Aging Rate: $\pm 1 \times 10^{-7}$ /year, $\pm 1 \times 10^{-8}$ /day

Step. 4 Select the signal output level setting range expansion and the reverse input power protection.

Name	Option No.	Additional Information
High Power Extension for 1stRF	MG3710A-041	Extends signal output setting range upper limit (Standard +17 dBm) Opt. 041/141 installed and Opt. 043/143 not installed, CW Level setting range: Hi limit +30 dBm Opt. 041/141 installed and Opt. 043/143 installed, CW Level setting range: Hi limit +25 dBm
Low Power Extension for 1stRF	MG3710A-042	Extends signal output setting range lower limit (Standard -110 dBm) Level setting range: Lo limit -144 dBm
Reverse Power Protection for 1stRF	MG3710A-043	Protects signal output connector against reverse input power (Standard 2 W nominal) Max. reverse input: 20 W nominal (1 MHz < frequency ≤ 2 GHz) 10 W nominal (2 GHz < frequency ≤ 6 GHz)
High Power Extension for 2ndRF	MG3710A-071	Extends signal output setting range upper limit (Standard +17 dBm) Opt. 071/171 installed and Opt. 073/173 not installed, CW Level setting range: Hi limit +30 dBm Opt. 071/171 installed and Opt. 073/173 installed, CW Level setting range: Hi limit +25 dBm
Low Power Extension for 2ndRF	MG3710A-072	Extends signal output setting range lower limit (Standard -110 dBm) Level setting range: Lo limit -144 dBm
Reverse Power Protection for 2ndRF	MG3710A-073	Protects signal output connector against reverse input power (Standard 2 W nominal) Max. reverse input: 20 W nominal (1 MHz < frequency ≤ 2 GHz) 10 W nominal (2 GHz < frequency ≤ 6 GHz)

● Setting Range of the Signal output level

Options	Setting Range [dBm]	
	Without RPP*	With RPP*
Standard	-110 to +17	-110 to +17
With High Power Extension	-110 to +30	-110 to +25
With Low Power Extension	-144 to +17	-144 to +17
With High & Low Power Extension	-144 to +30	-144 to +25

*RPP: Reverse Power Protection

● Accuracy guaranteed upper limit level of the signal output level

Without Reverse Power Protection

Frequency Range	Without High Power Extension	With High Power Extension
100 kHz ≤ f < 10 MHz	+5 dBm	+5 dBm
10 MHz ≤ f < 50 MHz	+10 dBm	+10 dBm
50 MHz ≤ f < 400 MHz	+13 dBm	+20 dBm
400 MHz ≤ f ≤ 3 GHz		+23 dBm
3 GHz < f ≤ 4 GHz		+20 dBm
4 GHz < f ≤ 5 GHz		+13 dBm
5 GHz < f ≤ 6 GHz	+11 dBm	+11 dBm

With Reverse Power Protection

Frequency Range	Without High Power Extension	With High Power Extension
100 kHz ≤ f < 10 MHz	+2 dBm	+2 dBm
10 MHz ≤ f < 50 MHz	+7 dBm	+7 dBm
50 MHz ≤ f < 400 MHz	+10 dBm	+17 dBm
400 MHz ≤ f ≤ 3 GHz		+20 dBm
3 GHz < f ≤ 4 GHz		+17 dBm
4 GHz < f ≤ 5 GHz		+10 dBm
5 GHz < f ≤ 6 GHz	+8 dBm	+8 dBm

Step. 5 Select the baseband vector signal generator ARB memory size option.

The selected memory is enabled and others are disabled.

Name	Option No.	Additional Information
ARB Memory 64 Msample for 1stRF	Standard	Standard baseband generator for 160 MHz sampling rate and 64 Msamples ARB memory size (256 MB)
ARB Memory Upgrade 256 Msample for 1stRF	MG3710A-045	Upgrades ARB size to 256 Msamples (1 GB) With Opt. 048/148 not installed, installs 1 × 256 Msamples With Opt. 048/148 installed, installs 2 × 256 Msamples
ARB Memory Upgrade 1024 Msample for 1stRF	MG3710A-046	Upgrades ARB size to 1024 Msamples (4 GB) With Opt. 048/148 not installed, installs 1 × 1024 Msamples With Opt. 048/148 installed, installs 2 × 1024 Msamples
ARB Memory 64 Msample for 2ndRF	Standard	Standard baseband generator for 160 MHz sampling rate and 64 Msamples waveform memory size (256 MB)
ARB Memory Upgrade 256 Msample for 2ndRF	MG3710A-075	Upgrades ARB size to 256 Msamples (1 GB) With Opt. 078/178 not installed, installs 1 × 256 Msamples With Opt. 078/178 installed, installs 2 × 256 Msamples
ARB Memory Upgrade 1024 Msample for 2ndRF	MG3710A-076	Upgrades ARB size to 1024 Msamples (4 GB) With Opt. 078/178 not installed, installs 1 × 1024 Msamples With Opt. 078/178 installed, installs 2 × 1024 Msamples

Note: Since each waveform pattern size is different, if the memory is not upgraded, sometimes the waveform pattern cannot be used.
For details, refer to the Waveform Pattern Catalog and the IQproducer catalog.

Step. 6 Select the baseband signal combine and AWGN function options.

Name	Option No.	Additional Information
Combination of Baseband Signal for 1stRF	MG3710A-048	Two internal ARB memories. Selects two waveform patterns per one RF output for setting mutual frequency offset, level offset, delay time, etc., to output 2 signals from 1 RF connector
AWGN for 1stRF	MG3710A-049	Internal AWGN addition function. Adjusts AWGN bandwidth range setting as follows for selected waveform pattern: Band limit: waveform pattern sampling rate × 0.2 to waveform pattern sampling rate × 0.8 CN: ≤40 dB
Combination of Baseband Signal for 2ndRF	MG3710A-078	Two internal ARB memories. Selects two waveform patterns per one RF output for setting mutual frequency offset, level offset, delay time, etc., to output 2 signals from 1 RF connector
AWGN for 2ndRF	MG3710A-079	Internal AWGN addition function. Adjusts AWGN bandwidth range setting as follows for selected waveform pattern: Band limit: waveform pattern sampling rate × 0.2 to waveform pattern sampling rate × 0.8 CN: ≤40 dB

Step. 7 Choose the analog input/output options.

Name	Option No.	Additional Information
Analog IQ Input/Output	MG3710A-018	Installs analog I/Q input and output connectors on rear panel of main frame but only supports SG1 side (1stRF side)

Step. 8 Choose the external input/output options.

Name	Option No.	Additional Information
Universal Input/Output	MG3710A-017	Installs following signal I/O connectors on rear panel of main frame Baseband Reference Clock Input/Output Sweep Output (only supports 1stRF) Local Signal Input/Output *: Also provides J1539A AUX Conversion Adapter for Opt. 017/117 to use rear panel AUX connector
AUX Conversion Adapter	J1539A	Adapter for converting rear panel AUX connector to BNC connector
Additional Analog Modulation Input for 1stRF	MG3710A-050	Adds additional analog modulation inputs function for 1stRF. Extends to two internal modulation sources (AM/FM/ΦM), and one external modulation source supporting simultaneous two-signal modulation. Installs external signal input connector on rear panel of main unit.
Additional Analog Modulation Input for 2ndRF	MG3710A-080	Adds additional analog modulation inputs function for 2ndRF. Extends to two internal modulation sources (AM/FM/ΦM), and one external modulation source supporting simultaneous two-signal modulation. Installs external signal input connector on rear panel of main unit.

Step. 9 Choose the BER test function.

Name	Option No.	Additional Information
BER Test Function	MG3710A-021	Installs BER measurement function Input signals: Data, Clock, Enable Bit rate: 100 bps to 40 Mbps *: Also provides J1539A AUX Conversion Adapter for Opt. 021/121 to use rear panel AUX connector

Step. 10 Choose OS and HDD options.

Name	Option No.	Additional Information
OS Upgrade to Windows 7	MG3710A-029	Upgrades embedded Windows XP OS to Windows 7 (32-bit, Professional) This option cannot be applied to Opt. 313 (Removable HDD).
2ndary HDD	MG3710A-011	User installable/removable HDD
Removable HDD	MG3710A-313	User exchangeable HDD with Windows XP OS Opt. 029 cannot be applied to this HDD option.

Step. 11 Choose warranty options.

Name	Option No.	Additional Information
1 Year Warranty Service	Standard	Excludes consumables
2 Years Extended Warranty Service	MG3710A-ES210	
3 Years Extended Warranty Service	MG3710A-ES310	
5 Years Extended Warranty Service	MG3710A-ES510	

Step. 12 Choose waveform pattern software.

The waveform pattern software function sets the selected waveform using previously set parameters. The waveform patterns are installed in the MG3710A and the signal is output by selecting them.

When outputting a waveform pattern from the MG3710A, no signal is output unless a license for that system is installed in the main frame.

Note: Since the size of each waveform pattern is different, sometimes waveforms cannot be output if the memory upgrade option has not been installed.

For details refer to the waveform pattern catalog.

Name	Option No.	Additional Information
Standard Waveform Patterns	Standard	LTE FDD (E-TM1.1 to E-TM3.3), LTE TDD (E-TM1.1 to E-TM3.3), W-CDMA/HSDPA, GSM/EDGE, CDMA2000 1X/1xEV-DO, <i>Bluetooth</i> [®] , GPS, PDC, PHS, Broadcast (ISDB-T/BS/CS/CATV), WLAN (IEEE802.11a/11b/11g)
DFS Radar Pattern	MX370073A	Sets pulse signals for testing 5-GHz band WLAN DFS functions. The MX370073A supports the waveform patterns for the TELEC and FCC test specifications. Pulse signals are output simply by selecting the pattern.
DFS (ETSI) Waveform Pattern	MX370075A	Sets pulse signals for testing 5-GHz band WLAN DFS functions. The MX370075A supports the waveform patterns for the ETSI specifications. Pulse signals are output simply by selecting the pattern.
ISDB-Tmm Waveform Pattern	MX370084A	Archive of ARIB STD-B46 waveform patterns. Supports MER and spectrum evaluation of Tx characteristics tests and sensitivity/ simple BER tests at Rx characteristics tests.

Step. 13 Choose IQproducer software license.

IQproducer is PC application software for generating waveform patterns. The parameters are set using IQproducer and the waveform pattern is created to output the signal by selection at the MG3710A. This one software application includes all the following systems.

Since it runs on any PC, the supported functions and parameter range can be verified before purchase.

When outputting a waveform pattern from the MG3710A, no signal is output unless a license for that system is installed in the main frame.

Note: Since the size of each waveform pattern is different, sometimes waveforms cannot be output if the memory upgrade option has not been installed.

For details refer to the waveform pattern catalog.

Name	Option No.	Additional Information
HSDPA/HSUPA IQproducer	MX370101A	Sets parameters according to 3GPP HSDPA/HSUPA (Uplink and Downlink) specifications, and generates HSDPA/HSUPA waveform patterns including Fixed Reference Channel (3GPP TS 25.101 Annex A.7).
TDMA IQproducer	MX370102A	Sets required parameters for TDMA waveform patterns and generates various waveform patterns. Setting parameters include Modulation, Frame, Slot, Data, Filter, etc. Supports wide application range including public wireless.
CDMA2000 1xEV-DO IQproducer	MX370103A	Sets parameters according to CDMA2000 1xEV-DO Forward/Reverse specifications and generates 1xEV-DO waveform patterns.
Multi-carrier IQproducer	MX370104A	Generates multi-carrier waveform patterns combination files using MG3710A Baseband Signal Combine function (requires Opt. 048/078).
Mobile WiMAX IQproducer	MX370105A	Sets parameters according to IEEE 802.16e-2005, IEEE P802.16Rev2/D3 WirelessMAN-OFDMA MAC, PHY specifications and generates waveform patterns. Supports WirelessMAN-OFDMA specification used by 802.16e mobile standard.
DVB-T/H IQproducer	MX370106A	Sets parameters according to ETSI EN 300 744 V1.5.1 (2004-11) physical layer standard and generates DVB-T/H waveform patterns. Generated waveform patterns can be used for device TRx characteristics evaluation tests (Error Correction BER, graphics).
Fading IQproducer	MX370107A	Performs IQ channel fading processing, correlation matrix calculation, AWGN combination. Input data file created by selecting waveform pattern file created with other IQproducer software, and IQ data (ASCII) created with other general-purpose simulation tools.
LTE IQproducer	MX370108A	Generates wanted waveform patterns with parameters modified according to 3GPP TS 36.211, TS 36.212, TS 36.213 LTE FDD specifications.
LTE-Advanced FDD Option	MX370108A-001	Installing in the MX370108A supports simple generation of carrier aggregation signals added by 3GPP Rel. 10. Additionally, clustered SC-FDMA signals can be generated at Uplink. *: Requires MX370108A
LTE TDD IQproducer	MX370110A	Generates wanted waveform patterns with parameters modified according to 3GPP TS 36.211, TS 36.212, TS 36.213 LTE TDD specifications.
LTE-Advanced TDD Option	MX370110A-001	Installing in the MX370110A supports simple generation of carrier aggregation signals added by 3GPP Rel. 10. Additionally, clustered SC-FDMA signals can be generated at Uplink. *: Requires MX370110A
WLAN IQproducer	MX370111A	Generates waveform patterns for IEEE Std 802.11-2007 and IEEE Std 802.11n-2009 IEEE 802.11a/b/g/j/n/p specifications.
802.11ac (160 MHz) Option	MX370111A-002	Installing in the MX370111A supports waveform patterns generation compliant with LTE-Advanced FDD specifications. *: Requires MX370111A. Only for MG3710A
TD-SCDMA IQproducer	MX370112A	Generates wanted waveform patterns with parameters modified according to TD-SCDMA specifications standardized by TRx characteristics evaluation tests (excluding performance tests) for 3GPP TS 25.221, TS 25.222, TS 25.223, TS 25.105, TS 25.142

Retrofit to Current MG3710A

Hardware Option Retrofits

The following hardware options can be retrofitted. Order the Z1572A Installation Kit as well. The MG3710A must be returned to the Anritsu plant for hardware retrofitting.

Name	Option No.	Additional Information	Reference Steps
Options for both 1stRF and 2ndRF			
Rubidium Reference Oscillator	MG3710A-101		3
High Stability Reference Oscillator	MG3710A-102		3
2ndary HDD	MG3710A-111		10
Universal Input/Output	MG3710A-117		8
BER Test Function	MG3710A-121		9
OS Upgrade to Windows 7	MG3710A-313	Cannot applied to MG3710A with Opt. 029 (Windows 7)	10
1stRF Options			
Analog IQ Input/Output	MG3710A-118		7
High Power Extension for 1stRF	MG3710A-141		4
Low Power Extension for 1stRF	MG3710A-142		4
Reverse Power Protection for 1stRF	MG3710A-143		4
ARB Memory Upgrade 256 Msample for 1stRF	MG3710A-145	Not simultaneously with Opt. 046/146	5
ARB Memory Upgrade 1024 Msample for 1stRF	MG3710A-146	Not simultaneously with Opt. 045/145	5
Combination of Baseband Signal for 1stRF	MG3710A-148		6
AWGN for 1stRF	MG3710A-149		6
Additional Analog Modulation Input for 1stRF	MG3710A-150		8
2ndRF Options			
2ndRF 100 kHz to 2.7 GHz	MG3710A-162	Cannot be installed if 2ndRF option not installed	2
2ndRF 100 kHz to 4 GHz	MG3710A-164	Cannot be installed if 2ndRF option not installed	2
2ndRF 100 kHz to 6 GHz	MG3710A-166	Cannot be installed if 2ndRF option not installed	2
High Power Extension for 2ndRF	MG3710A-171		4
Low Power Extension for 2ndRF	MG3710A-172		4
Reverse Power Protection for 2ndRF	MG3710A-173		4
ARB Memory Upgrade 256 Msample for 2ndRF	MG3710A-175	Not simultaneously with Opt. 076/176	5
ARB Memory Upgrade 1024 Msample for 2ndRF	MG3710A-176	Not simultaneously with Opt. 075/175	5
Combination of Baseband Signal for 2ndRF	MG3710A-178		6
AWGN for 2ndRF	MG3710A-179		6
Additional Analog Modulation Input for 2ndRF	MG3710A-080		8
Application parts			
Installation Kit	Z1572A	Required when retrofitting hardware options or installing IQproducer (MX3701xxA)	—

Software Option Retrofits

The following software options can be retrofitted. Order the Z1572A Installation Kit as well.
The MG3710A does not require return to the Anritsu plant for software retrofitting.

Name	Option No.	Additional Information	Reference Steps
Waveform Patterns			
DFS Radar Pattern	MX370073A		12
DFS (ETSI) Waveform Pattern	MX370075A		12
ISDB-Tmm Waveform Pattern	MX370084A		12
IQproducer			
HSDPA/HSUPA IQproducer	MX370101A		13
TDMA IQproducer	MX370102A		13
CDMA2000 1xEV-DO IQproducer	MX370103A		13
Multi-carrier IQproducer	MX370104A		13
Mobile WiMAX IQproducer	MX370105A		13
DVB-T/H IQproducer	MX370106A		13
Fading IQproducer	MX370107A		13
LTE IQproducer	MX370108A		13
LTE-Advanced FDD Option	MX370108A-001	*: Requires MX370108A	13
LTE TDD IQproducer	MX370110A		13
LTE-Advanced TDD Option	MX370110A-001	*: Requires MX370110A	13
WLAN IQproducer	MX370111A		13
802.11ac (160 MHz) Option	MX370111A-002	*: Requires MX370111A. Only for MG3710A	13
TD-SCDMA IQproducer	MX370112A		13
Application parts			
Installation Kit	Z1572A	Required when retrofitting hardware options or installing IQproducer (MX3701xxA)	—

Options Configuration Guide

The following table shows the recommended option combinations.

Type	Opt. No	Retrofit	Name	032	034	036	018	041	042	043	045	046	048
1stRF	MG3710A-032		1stRF 100 kHz to 2.7 GHz		*1	*1							
1stRF	MG3710A-034		1stRF 100 kHz to 4 GHz	*1		*1							
1stRF	MG3710A-036		1stRF 100 kHz to 6 GHz	*1	*1								
1stRF	MG3710A-018	118	Analog IQ Input/Output										
1stRF	MG3710A-041	141	High Power Extension for 1stRF										
1stRF	MG3710A-042	142	Low Power Extension for 1stRF										
1stRF	MG3710A-043	143	Reverse Power Protection for 1stRF										
1stRF	MG3710A-045	145	ARB Memory Upgrade 256 Msample for 1stRF									*3	
1stRF	MG3710A-046	146	ARB Memory Upgrade 1024 Msample for 1stRF								*3		
1stRF	MG3710A-048	148	Combination of Baseband Signal for 1stRF										
1stRF	MG3710A-049	149	AWGN for 1stRF										
1stRF	MG3710A-050	150	Additional Analog Modulation Input for 1stRF										
2ndRF	MG3710A-062	162	2ndRF 100 kHz to 2.7 GHz										
2ndRF	MG3710A-064	164	2ndRF 100 kHz to 4 GHz										
2ndRF	MG3710A-066	166	2ndRF 100 kHz to 6 GHz										
2ndRF	MG3710A-071	171	High Power Extension for 2ndRF										
2ndRF	MG3710A-072	172	Low Power Extension for 2ndRF										
2ndRF	MG3710A-073	173	Reverse Power Protection for 2ndRF										
2ndRF	MG3710A-075	175	ARB Memory Upgrade 256 Msample for 2ndRF										
2ndRF	MG3710A-076	176	ARB Memory Upgrade 1024 Msample for 2ndRF										
2ndRF	MG3710A-078	178	Combination of Baseband Signal for 2ndRF										
2ndRF	MG3710A-079	179	AWGN for 2ndRF										
2ndRF	MG3710A-080	180	Additional Analog Modulation Input for 2ndRF										
Common	MG3710A-001	101	Rubidium Reference Oscillator										
Common	MG3710A-002	102	High Stability Reference Oscillator										
Common	MG3710A-011	111	2ndary HDD										
Common	MG3710A-017	117	Universal Input/Output										
Common	MG3710A-021	121	BER Test Function										
Common	MG3710A-029		OS Upgrade to Windows 7										
Common	MG3710A-313	313	Removable HDD										

*1: Only one of 2.7 GHz, 4 GHz, and 6 GHz options. Install any one 1stRF option. Retrofitting one of these options disables previously installed option.

*2: Only one of 2.7 GHz, 4 GHz, and 6 GHz options. Retrofitting one of these options disables previously installed option. Install any one 2ndRF option. Can be retrofitted only when 2ndRF not installed.

*3: Select any one. Selected memory size enabled and all others disabled.

*4: Removable HDD (Opt. 313) cannot be upgraded to Windows 7. Opt. 313 can only be applied to MG3710A with Opt. 029 (Windows 7) applied.

Maximum Waveform Pattern Size and Required Options for Simultaneous Use

• 1stRF (Opt. 032/034/036)

Combination of Baseband Signal (Opt. 048)	ARB Memory Upgrade 256 Msample (Opt. 045) ARB Memory Upgrade 1024 Msample (Opt. 046)		
	W/O	With Opt. 045	With Opt. 046
W/O	64 Msamples × 1 pc	256 Msamples × 1 pc	1024 Msamples × 1 pc* ¹
With Opt. 048* ²	64 Msamples × 2 pcs 128 Msamples × 1 pc	256 Msamples × 2 pcs 512 Msamples × 1 pc	1024 Msamples × 2 pcs* ¹

• 2ndRF (Opt. 062/064/066)

Combination of Baseband Signal (Opt. 078)	ARB Memory Upgrade 256 Msample (Opt. 075) ARB Memory Upgrade 1024 Msample (Opt. 076)		
	W/O	With Opt. 075	With Opt. 076
W/O	64 Msamples × 1 pc	256 Msamples × 1 pc	1024 Msamples × 1 pc* ¹
With Opt. 078* ²	64 Msamples × 2 pcs 128 Msamples × 1 pc	256 Msamples × 2 pcs 512 Msamples × 1 pc	1024 Msamples × 2 pcs* ¹

*1: The maximum size per waveform pattern supported by the MG3710A varies with the IQproducer version.

For details refer to the MG3710A catalog.

*2: The Baseband Signal Combine option supports two ARB memories and can either set two different waveform patterns or combine them as one memory to support one large waveform pattern.

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Model/Order No.	Name	Remarks
MG3710A	- Main frame - Vector Signal Generator	
P0031A	- Standard accessories - Power Cord: USB Memory Install CD-ROM	1 pc USB2.0 Flash Driver, ≥256 MB Operation manual (PDF) and application software (IQproducer)
MG3710A-001 MG3710A-002 MG3710A-011 MG3710A-017	- Options - (Common Parts) Rubidium Reference Oscillator High Stability Reference Oscillator 2ndary HDD Universal Input/Output	Select when ordering main frame, aging rate: $\pm 1 \times 10^{-10}$ /month Select when ordering main frame, aging rate: $\pm 1 \times 10^{-7}$ /year Select when ordering main frame, spare HDD for saving user data without Windows OS Select when ordering main frame, Adds BNC connectors for following signals to rear panel of main frame, includes J1539A AUX Conversion Adapter (Baseband Reference Clock Input/Output, Sweep Output, Local Signal Input/Output) Select when ordering main frame, Built-in BER measurement, Bit Rate: 100 bps to 40 Mbps J1539A AUX Conversion Adapter required for Data/Clock/Enable signal input Select when ordering main frame, Upgrades MG3710A OS to Windows 7 (32 bit, Professional) (retrofit not supported)
MG3710A-021	BER Test Function	Retrofitted to shipped MG3710A
MG3710A-029	OS Upgrade to Windows 7	Retrofitted to shipped MG3710A
MG3710A-101 MG3710A-102 MG3710A-111 MG3710A-117 MG3710A-121 MG3710A-313	Rubidium Reference Oscillator Retrofit High Stability Reference Oscillator Retrofit 2ndary HDD Retrofit Universal Input/Output Retrofit BER Test Function Retrofit Removable HDD	Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Spare HDD for storing user data with Windows OS MG3710A with Opt. 029 (Windows 7) cannot apply Opt. 313.
MG3710A-032	(For 1stRF) 1stRF 100 kHz to 2.7 GHz	Select when ordering main frame, select 1stRF frequency range, frequency cannot be changed after installation
MG3710A-034	1stRF 100 kHz to 4 GHz	Select when ordering main frame, select 1stRF frequency range, frequency cannot be changed after installation
MG3710A-036	1stRF 100 kHz to 6 GHz	Select when ordering main frame, select 1stRF frequency range, frequency cannot be changed after installation
MG3710A-041 MG3710A-042 MG3710A-043	High Power Extension for 1stRF Low Power Extension for 1stRF Reverse Power Protection for 1stRF	Select when ordering main frame, increases upper limit of output signal power setting range Select when ordering main frame, increases lower limit of output signal power setting range Select when ordering main frame, prevents damage caused by reverse input to output connector
MG3710A-045 MG3710A-046 MG3710A-048 MG3710A-049 MG3710A-050	ARB Memory Upgrade 256 Msample for 1stRF ARB Memory Upgrade 1024 Msample for 1stRF Combination of Baseband Signal for 1stRF AWGN for 1stRF Additional Analog Modulation Input for 1stRF	Select when ordering main frame, expands ARB memory capacity Select when ordering main frame, expands ARB memory capacity Select when ordering main frame, adds baseband combine function Select when ordering main frame, adds AWGN combine function Select when ordering main frame, Adds BNC connector for inputting external signals to rear panel of mainframe.
MG3710A-018 MG3710A-141 MG3710A-142 MG3710A-143 MG3710A-145 MG3710A-146 MG3710A-148 MG3710A-149 MG3710A-150 MG3710A-118	Analog IQ Input/Output High Power Extension for 1stRF Retrofit Low Power Extension for 1stRF Retrofit Reverse Power Protection for 1stRF Retrofit ARB Memory Upgrade 256 Msample for 1stRF Retrofit ARB Memory Upgrade 1024 Msample for 1stRF Retrofit Combination of Baseband Signal for 1stRF Retrofit AWGN for 1stRF Retrofit Additional Analog Modulation Input for 1stRF Retrofit Analog IQ Input/Output Retrofit	Select when ordering main frame, installs IQ input/output BNC connector in main frame Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A
MG3710A-062	(For 2ndRF) 2ndRF 100 kHz to 2.7 GHz	Select when ordering main frame, select 2ndRF frequency range, frequency cannot be changed after installation
MG3710A-064	2ndRF 100 kHz to 4 GHz	Select when ordering main frame, select 2ndRF frequency range, frequency cannot be changed after installation
MG3710A-066	2ndRF 100 kHz to 6 GHz	Select when ordering main frame, select 2ndRF frequency range, frequency cannot be changed after installation
MG3710A-071 MG3710A-072 MG3710A-073 MG3710A-075 MG3710A-076 MG3710A-078 MG3710A-079 MG3710A-080	High Power Extension for 2ndRF Low Power Extension for 2ndRF Reverse Power Protection for 2ndRF ARB Memory Upgrade 256 Msample for 2ndRF ARB Memory Upgrade 1024 Msample for 2ndRF Combination of Baseband Signal for 2ndRF AWGN for 2ndRF Additional Analog Modulation Input for 2ndRF	Select when ordering main frame, increases upper limit of output signal power setting range Select when ordering main frame, increases lower limit of output signal power setting range Select when ordering main frame, prevents damage caused by reverse input to output connector Select when ordering main frame, expands ARB memory capacity Select when ordering main frame, expands ARB memory capacity Select when ordering main frame, adds baseband combine function Select when ordering main frame, adds AWGN combine function Select when ordering main frame, Adds BNC connector for inputting external signals to rear panel of mainframe.
MG3710A-162 MG3710A-164 MG3710A-166 MG3710A-171 MG3710A-172 MG3710A-173 MG3710A-175 MG3710A-176 MG3710A-178 MG3710A-179 MG3710A-180	2ndRF 100 kHz to 2.7 GHz Retrofit 2ndRF 100 kHz to 4 GHz Retrofit 2ndRF 100 kHz to 6 GHz Retrofit High Power Extension for 2ndRF Retrofit Low Power Extension for 2ndRF Retrofit Reverse Power Protection for 2ndRF Retrofit ARB Memory Upgrade 256 Msample for 2ndRF Retrofit ARB Memory Upgrade 1024 Msample for 2ndRF Retrofit Combination of Baseband Signal for 2ndRF Retrofit AWGN for 2ndRF Retrofit Additional Analog Modulation Input for 2ndRF Retrofit	Retrofitted to shipped MG3710A when 2ndRF not installed Retrofitted to shipped MG3710A when 2ndRF not installed Retrofitted to shipped MG3710A when 2ndRF not installed Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A Retrofitted to shipped MG3710A
MG3710A-ES210 MG3710A-ES310 MG3710A-ES510	- Maintenance service - 2 Years Extended Warranty Service 3 Years Extended Warranty Service 5 Years Extended Warranty Service	

Model/Order No.	Name	Remarks
MX370073A	- Softwares - (Waveform pattern) DFS Radar Pattern	(License for waveform patterns) WLAN 5.3/5.6 GHz band DFS tests (for TELEC and FCC) waveform pattern, license for main frame, manual (PDF)
MX370075A MX370084A	DFS (ETSI) Waveform Pattern ISDB-Tmm Waveform Pattern	WLAN 5.3/5.6 GHz DFS test (ETSI) waveform pattern, license for main frame, manual (PDF) ISDB-Tmm Waveform Patterns, license for main frame, manual (PDF)
MX370101A MX370102A MX370103A MX370104A MX370105A MX370106A MX370107A MX370108A MX370108A-001 MX370110A MX370110A-001 MX370111A MX370111A-002 MX370112A	- Softwares - (IQproducer) HSDPA/HSUPA IQproducer TDMA IQproducer CDMA2000 1xEV-DO IQproducer Multi-carrier IQproducer Mobile WiMAX IQproducer DVB-T/H IQproducer Fading IQproducer LTE IQproducer LTE-Advanced FDD Option LTE TDD IQproducer LTE-Advanced TDD Option WLAN IQproducer 802.11ac (160 MHz) Option TD-SCDMA IQproducer	(License for IQproducer) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF). Requires MX370108A. IQproducer software, license for main frame, manual (PDF) IQproducer software, license for main frame, manual (PDF). Requires MX370110A. IQproducer software, license for main frame, manual (PDF) Only for MG3710A. Requires MX370111A. IQproducer software, license for main frame, manual (PDF)
W3580AE W2496AE W3581AE W3596AE W3597AE W3508AE W2915AE W2916AE W2505AE W2917AE W2918AE W2798AE W2995AE W3023AE W3221AE W3488AE W3582AE	- Optional accessories - MG3710A/MG3740A Operation Manual (Main Unit) MG3710A/MG3740A Operation Manual (IQproducer) MG3710A Operation Manual (Pre-installed Waveform Patterns) MX370073A Operation Manual MX370075A Operation Manual MX370084A Operation Manual MX370101A Operation Manual MX370102A Operation Manual MX370103A Operation Manual MX370104A Operation Manual MX370105A Operation Manual MX370106A Operation Manual MX370107A Operation Manual MX370108A Operation Manual MX370110A Operation Manual MX370111A Operation Manual MX370112A Operation Manual	Booklet, for MG3710A/MG3740A Main Frame (Operation, Remote Control) Booklet, for IQproducer (Operation for Common Parts) Booklet, for Pre-installed Waveform Patterns (Usage, Detailed Parameters) Booklet, for DFS (TELEC and FCC) Waveform Patterns Booklet, for DFS (ETSI) Waveform Patterns Booklet, for ISDB-Tmm Waveform Patterns Booklet, for HSDPA/HSUPA IQproducer Booklet, for TDMA IQproducer Booklet, for CDMA2000 1xEV-DO IQproducer Booklet, for Multi-carrier IQproducer Booklet, for Mobile WiMAX IQproducer Booklet, for DVB-T/H IQproducer Booklet, for Fading IQproducer Booklet, for LTE IQproducer/LTE-Advanced FDD Option Booklet, for LTE TDD IQproducer/LTE-Advanced TDD Option Booklet, for WLAN IQproducer/802.11ac Option Booklet, for TD-SCDMA IQproducer
J1539A Z1572A Z1594A MA24105A MA24106A MA24108A MA24118A MA24126A K240B	AUX Conversion Adapter Installation Kit Standard Waveform Pattern for Backup Inline Peak Power Sensor USB Power Sensor Microwave USB Power Sensor Microwave USB Power Sensor Microwave USB Power Sensor Power Divider (K connector)	Converts MG3710A rear-panel AUX connector to BNC connector Required when retrofitting hardware options or installing IQproducer (MX3701xxA) Latest MG3710A Pre-installed waveform pattern set for backup 350 MHz to 4 GHz, Inline type, with USB A to micro-B Cable 50 MHz to 6 GHz, with USB A to mini-B Cable 10 MHz to 8 GHz, with USB A to micro-B Cable 10 MHz to 18 GHz, with USB A to micro-B Cable 10 MHz to 26 GHz, with USB A to micro-B Cable DC to 26.5 GHz, K-J, 50Ω, 1 Wmax
MA1612A MP752A MA2512A J0576B J0576D J0127A J0127B J0127C J0322A J0322B J0322C J0322D J0004 J1261B J1261D J0008 B0635A B0657A B0636C B0645A B0671A Z0975A Z0541A	Four-Port Junction Pad Termination Band Pass Filter Coaxial Cord, 1.0 m Coaxial Cord, 2.0 m Coaxial Cord, 1.0 m Coaxial Cord, 2.0 m Coaxial Cord, 0.5 m Coaxial Cord, 0.5 m Coaxial Cord, 1.0 m Coaxial Cord, 1.5 m Coaxial Cord, 2.0 m Coaxial Adapter Ethernet Cable (Shield Type) Ethernet Cable (Shield Type) GPIB Cable, 2.0 m Rack Mount Kit Rack Mount Kit (JIS) Carrying Case Soft Carrying Case Front Cover for 1MW4U Keyboard (USB) USB Mouse	5 MHz to 3 GHz, N-J DC to 12.4 GHz, 50Ω, N-P For W-CDMA, passband: 1.92 GHz to 2.17 GHz N-P · 5D-2W · N-P N-P · 5D-2W · N-P BNC-P · RG-58A/U · BNC-P BNC-P · RG-58A/U · BNC-P BNC-P · RG-58A/U · BNC-P SMA-P · SMA-P, DC to 18 GHz, 50Ω SMA-P · SMA-P, DC to 18 GHz, 50Ω SMA-P · SMA-P, DC to 18 GHz, 50Ω SMA-P · SMA-P, DC to 18 GHz, 50Ω N-P · SMA-J Conversion Adapter, DC to 12.4 GHz Straight-through, 3 m Crossover, 3 m EIA JIS Hard Type. With Casters and B0671A Front Cover Soft Type

Typical (typ.): Performance not warranted. Must products meet typical performance.

Nominal (nom.): Values not warranted. Included to facilitate application of product.

Measured (meas): Performance not warranted. Data actually measured by randomly selected measuring instruments.

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