

## U3700 Series Option Guide

	Product name	Model number	Overview
<b>NEW</b>	<b>75 Ohm Input Impedance</b>	OPT.15	Used for measurement of CATV and TV signals
	<b>High-Stability Frequency Reference Source</b>	OPT.20	High-stability reference oscillator with an aging rate of $\pm 2 \times 10^{-8}$ /day, $\pm 1 \times 10^{-7}$ /year
	<b>EMC Filter</b>	OPT.28	CISPR bandwidths are available for EMI measurement RBW (6dB Down) : 200Hz, 9kHz, 120kHz, 1MHz
<b>NEW</b>	<b>High-Purity Spectrum Analysis</b>	OPT.70	High-purity spectrum analysis with 100 dBc/Hz @ 10 kHz offset. RBW 30 Hz has also been added
<b>NEW</b>	<b>75 Ohm Tracking Generator</b>	OPT.75	Used to evaluate frequency characteristics in a range from 100 kHz to 2.2 GHz. Output power range: 107 to 47 dBμV
<b>NEW</b>	<b>50 Ohm Tracking Generator</b>	OPT.76	Used to evaluate frequency characteristics in a range from 100 kHz to 3 GHz. Output power range: 0 to -60 dBm
<b>Discontinued</b>	<b>50 Ohm Tracking Generator</b>	OPT.74	Used to evaluate frequency characteristics in a range from 10 MHz to 3 GHz. Output power range: 0 to -30 dBm

## Option Guide

Model	Product name	Main unit		Other
		U3741	U3751 U3771 U3772	
OPT.15	Input Impedance		×	
OPT.20	High-Stability Frequency Reference Source			
OPT.28	EMC Filter			OPT.15 and OPT.75 cannot be installed simultaneously
OPT.70	High-Purity Spectrum Analysis			OPT.15 and OPT.75 cannot be installed simultaneously
OPT.75	75 Ohm Tracking Generator		×	OPT.15 is required, and cannot be installed simultaneously with OPT.76
OPT.76	50 Ohm Tracking Generator			OPT.15 and OPT.75 cannot be installed simultaneously

Retrofit option will be available for OPT20 and OPT76

## Accessories

Model number	Product name
JU3700S	Japanese operating manual (printed manual)
EU3700S	English operating manual (printed manual)
A870008	Battery pack
A870009	Charger
ZT-130NC	75 Ohm input impedance converter
A114020	DC power cable
A129001	Carrying bag
A129002	Transit case
A122003	Rack mount kit (JIS)
A124004	Rack mount kit (EIA)

Note on accessories:

The operating manual on the CD is supplied as standard. The printed version of the operating manual is offered as an accessory.

**OPT.15 75 Ohm Input Impedance**

**Excerpt**

**Frequency**

Frequency range	9KHz to 2.2GHz (Preamp 10MHz to 2.2GHz) * Tuning Range 9kHz - 3.0GHz
-----------------	---

**Amplitude range**

Measurement range	Noise to +134dBuV
Maximum input level	+134 dBuV (Atten 10dB) Preamplifier off +120dBuV Preamplifier on ±50 VDC max
Input attenuator range	0 to 50 dB 10dBstep

**Amplitude accuracy**

Calibration signal	Frequency 20MHz Level -20dBm (75ohm) Accuracy ±0.4dB	Panel is dBm
Level Measurement accuracy	±2.1dB 9k-2.2GHz ±0.9dB 10MHz-2.2GHz	After Cal, Preamplifier off Temperature range 20 °C to 30 °C Input Att = 10 dB, Ref = 108.8dBuV Input Signal Level 98.8dBuV to 58.8 dBuV Frequency 9kHz to 2.2 GHz

**Dynamic range**

Displayed average noise level	-12dBuV + 2f (GHz)dB -27dBuV + 3f (GHz)dB	Ref level < 63.8dBuV RBW = 100Hz Preamplifier off Preamp on
Gain compression (1dB)	> 102dBuV > 82dBuV	Frequency >20 MHz Preamplifier off Preamplifier on
Second harmonic distortion	<-70dBc	Preamp: off, f >20MHz Mixer level : +77dBuV
Third order intermodulation	< -60dBc	Preamp: off, Mixer level : 88.8dBuV, f >10MHz 2-signal separation > 200 KHz
Image/Multiple/Out-of-band response	< -60dBc	88.8dBuV Mix Input Level
Residual response	21dBuV	Frequency >1 MHz Preamplifier off

**Inputs/Outputs**

RF Input	Connector N type femal Impedance 75ohm (nominal) VSWR <1.6 : 1	Input Atten. >10dB
Calibration output	Connector BNC female Impedance 75ohm (nominal) Frequency 20MHz Level -20dBm	Panel is dBm (75ohm)

**OPT.70 High-Purity Spectrum Analysis**

	OPT3741+70	OPT3751+70	OPT3771/72+70
Frequency span Range	1kHz ~ Full, zero-span	1kHz ~ Full, zero-span	1kHz ~ Full, zero-span
Resolution bandwidth Range	30Hz ~ 1MHz	30Hz ~ 3MHz	30Hz ~ 3MHz
Spectrum purity	-100dBc/Hz offset: 10kHz span: <1MHz	-100dBc/Hz offset: 10kHz span: <1MHz	(-100+20logN) dBc/Hz offset: 10kHz span <1MHz
Displayed average noise level	Frequency: > 10MHz, Ref level: < -45dBm , RBW:30Hz RF input 1 Band 0: 9kHz ~ 3.1GHz Band 1: 3.0GHz ~ 8GHz RF input 2 Band 1: 10MHz ~ 3.1GHz(N=1) Band 1: 3.0GHz ~ 8GHz(N=1) Band 2: 7.8Hz ~ 14.573GHz(N=2) Band 3: 14.4288GHz ~ 28GHz(N=4) Band 4: 27.8GHz ~ 31.8GHz(N=6) (U3771) Band 4: 27.8GHz ~ 43.0GHz(N=6) (U3772)		
RF1 Band 0 : preamplifier off	-126dBm+2f(GHz)dB F <2.5GHz -126dBm+2.5f(GHz)dB F 2.5GHz	-126dBm+2f(GHz)dB	-126dBm+2f(GHz)dB
RF1 Band 1 : preamplifier off		-125dBm+1f(GHz)dB	-125dBm+1.2f(GHz)dB
RF1 Band 0 : preamplifier on	-141dBm+3f(GHz)dB	-141dBm+3f(GHz)dB	-141dBm+3f(GHz)dB
RF1 Band 1 : preamplifier on		-142dBm+1.3f(GHz)dB	-142dBm+1.4f(GHz)dB
RF2 Band 0			-124dBm+2f(GHz)dB
RF2 Band 1			-123dBm+1.5f(GHz)dB
RF2 Band 2			-114dBm
RF2 Band 3			-112dBm
RF2 Band 4			-108dBm

**OPT.75 75 Ohm Tracking Generator**

Frequency Range	100 kHz – 2.2GHz * Tuning Range: 100kHz - 3GHz
Frequency offset	Range: 0 to 1GHz Resolution: 1kHz Accuracy: $\pm 300\text{Hz}$
Output Level Range	+107 to +47 dBuV (0.5 dB step)
Output Level Accuracy	$< \pm 0.5\text{dB}$ 20MHz, +97dBuV, 20°C to 30°C
Output Level Flatness	Reference signal level: +97dBuV, 20MHz $< \pm 1.0\text{ dB}$ (1 MHz – 1 GHz) $< \pm 1.5\text{ dB}$ (100 kHz – 2.2 GHz)
Output Level Switching Accuracy	Reference signal level: +97dBuV $< \pm 1.0\text{ dB}$ (1 MHz – 1 GHz) [+107 to +47 dBuV] $< \pm 2.0\text{ dB}$ (1 MHz – 2.2 GHz) [+107 to +47 dBuV] $< \pm 3.0\text{ dB}$ (100 kHz – 2.2 GHz) [+107 to +77 dBuV/ Freq offset off] $< \pm 4.0\text{ dB}$ (100 kHz – 2.2 GHz) [+76.5 to +47 dBuV] / Freq offset off $< \pm 5.0\text{ dB}$ (100 kHz - 2.2GHz) Freq offset on
Output Spurious @ +97dBuV output	Harmonics: $< -15\text{ dBc}$ (100 kHz - 1 MHz) Harmonics: $< -20\text{ dBc}$ (1 MHz – 2.2GHz) Non Harmonics: $< -20\text{ dBc}$ freq offset off
TG leakage	$< +31\text{ dBuV}$
Max allowable input	+117dBuV $\pm 10\text{V}$
Output Impedance	75 Ohm nominal: 75ohm VSWR 2:1                      output level 97dBuV

**OPT.76 50 ohm Tracking Generator**

Frequency Range	100 kHz – 3 GHz
Frequency offset	Range: 0kHz to 1GHz Resolution: 1kHz Accuracy : $\pm 300\text{Hz}$
Output Level Range	0 to -60 dBm (0,5 dB step) Base Band
Output Level Accuracy	$< \pm 0.5\text{dB}$ 20MHz, -10 dBm, 20°C to 30°C
Output Level Flatness	Reference signal level: -10 dBm, 20MHz $< \pm 1\text{ dB}$ (1 MHz – 1 GHz) $< \pm 1,5\text{ dB}$ (100 kHz – 3 GHz)
Output Level Switching Accuracy	Reference signal level: -10 dBm $< \pm 1.0\text{ dB}$ (1 MHz – 1 GHz) [0 to -60dBm] $< \pm 2.0\text{ dB}$ (1 MHz – 2.6 GHz) [0 to -60dBm] $< \pm 3.0\text{ dB}$ (100 kHz – 3 GHz) [0 to -30 dBm/ Freq offset off] $< \pm 4.0\text{ dB}$ (100 kHz – 3 GHz) [-30.5 to -60 dBm/ Freq offset off] $< \pm 5.0\text{ dB}$ (100 kHz - 3GHz) Freq offset on
Output Spurious	Reference Level: -10dBm Harmonics: $< -15\text{ dBc}$ (100 kHz - 1 MHz) Harmonics: $< -20\text{ dBc}$ (1 MHz - 3GHz) Non Harmonics: $< -20\text{ dBc}$ freq offset off
TG leakage	$< -80\text{ dBm}$ input ATT0dB
Max allowable input	+10dBm $\pm 10\text{V}$
Output Impedance	50 Ohm VSWR 2 output level -10dBm