



## PRODUCT FEATURES

- ▶ Wideband receiver coverage: 30kHz - 72MHz; 135MHz - 165MHz
- ▶ Two independent digitizers / Spectral Capture Units (SCUs)
- ▶ Up to 8 simultaneous full-performance receivers and panadapters
- ▶ Maximum panadapter bandwidth 14MHz
- ▶ High Definition waterfall per panadapter with time machine review capability
- ▶ Programmable multi-stage pre-amp for each SCU
- ▶ Seamless, cable free digital mode streaming: 8 digital audio streams plus 4 192kHz IQ streams
- ▶ Seamless I/Q data conforms to VITA-49 standard
- ▶ Master clock phase noise: > -152 dBc @ 100kHz
- ▶ 10MHz reference clock stability 0.02ppm OCXO
- ▶ Optional GPSTCXO
- ▶ Fully network ready via Ethernet port
- ▶ 2U tall with optional 19" rack mounting kit

## OVERVIEW

The FLEX-6700R Signature Series software defined receiver is built for the most demanding receiving application where ultimate performance is key. The FLEX-6700R receiver is built on a digital direct sampling receiver foundation. By removing analog mixers and components, the FLEX-6700R provides an ultra-quiet receiving platform for the most demanding applications.

With dual spectral capture units (SCUs), the FLEX-6700R allows multiple active antennas and provides reception and unprecedented spectrum visibility across up to eight panadapters and waterfalls. The FLEX-6700R's multi-stage RF preamplifiers enhance weak signal reception up through the VHF bands. This coupled with the incredible realtime DSP processing capability inside the radio, allow the operator to view signals well below the "noise floor" while effectively eliminating adjacent interference.

At the heart of the FLEX-6700R is FlexRadio's SmartSDR™. This is the dawn of High Definition (HD) visual radio -- Radios that "see" as well as they hear. A decade ago FlexRadio Systems pioneered SDR for the amateur radio market and set the standard for visual radio interaction. Today, SmartSDR sets a new bar for visual radio display and control. Following the *simple is better* rule, we built a new graphical interface that is easy to learn and use. Multiple high-definition, real-time spectral displays are at the heart of the SmartSDR experience. Intuitive controls are hidden from view to minimize clutter yet are instantly available when needed.

SmartSDR is built from the ground up optimized for network bandwidth and control. By placing key processing elements inside the radio hardware, SmartSDR can reduce the amount of data transmitted over the Ethernet network that connects the radio to the client software. Because of the concentration of data that occurs before data is sent to the client, SmartSDR performs seamlessly in network situations where other radios simply can not perform. SmartSDR's networking capabilities, now and in the future, will enable use in the shack, across the house or around the world.

# FLEX-6700R

## General Specifications

Ethernet Communications	1 Gbps
USB 2.0 Ports (peripheral control)	2
Master Clock Frequency	983.04 MHz
Master Clock Phase Noise in dBc/Hz @245.76 MHz	-147 dBc@ 10kHz, -152 dBc@ 100 kHz
10 MHz Reference Clock Stability (0 to +50 C; +32 to +122 F)	0.02ppm OCXO
GPSTCXO with Rear Panel 10MHz Reference	Optional
GPSTCXO Frequency Stability (GPS locked)	5x10 <sup>-12</sup> over 24 hours
Modes	USB, LSB, CW, RTTY, AM, Synchronous AM, FM*
Frequency Resolution	1 Hz min.
Antenna Connectors	SO-239x2; BNCx2; XVTR-BNCx1
Antenna Impedance (w/o tuner)	50 Ohm Unbalanced
Number of Memory Channels	Unlimited

## Receiver Specifications

Receiver Architecture	Direct Digital Sampling
Spectral Capture Units	2
Maximum Slice Receivers	8
ADC Resolution	16-bits
ADC Sampling Rate	245.76 Msps
Wideband Frequency Coverage	30kHz - 72MHz; 135 - 165MHz
Amateur Band Preselector Coverage	160m - 2m (except 60m)
Preamplifiers/Attenuators	-10 to +30dB
Spurious and Image Rejection Ratio	>100 dB
External Powered Speaker Output Impedance Level	600 Ohm stereo unbalanced

## Receiver Data Output

Data I/O Format	32-bit per channel streaming IQ in VITA-49 format over UDP/IP
Data Output Transport	1000Base-T (Gigabit) Ethernet
Bandwidth per Channel	1.6 Mb/s - 12.5 Mb/s
Streaming Data Target	Selectable by channel
Control Interface	TCP/IP
Firmware Updates	Available over Ethernet

## Electrical

Power Supply Requirements	100-240 VAC; 50-60Hz; < 5W standby < 50W operational
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## Mechanical

Height	4" (2RU) 3.5" without feet or 10.2cm (8.9cm) without feet
Width	13" (33cm)
Depth	12" (30.5cm) or 13" (33.04 cm) with front handles
Weight:	10 lbs. or 4.5 kg
Operating Temperature	0 to +50 C; +32 to +122 F

## Options

2U, 19 inch (48.26cm) Rack Mounting Kit	Optional
Front Handle Kit (Adds 1 inch/2.54cm to total depth)	Optional
GPSTCXO with Rear Panel 10MHz Reference Output	Optional



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Software Defined Radios

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FlexRadio Systems 4616 W. Howard Lane, Ste. 1-150, Austin, Texas 78728 +1-512-535-5266, Fax 512-233-5143