



Miniature VHF/UHF Receiver SCR-7202

DESCRIPTION

The SCR-7202 Receiver is a full-function, high performance, 20 to 500 MHz receiver packaged in a compact 1¼ inch high x 8½ inch wide (half-rack) chassis. When used with the optional SCR-7211 Frequency Extender, the pair offers uncompromised receiver performance over the 20 to 1100 MHz spectrum.

The SCR-7202 can accommodate a wide selection of demodulators ranging from a narrowband 3kHz ISB/SSB unit to an 8 MHz wideband unit. Up to three IF demodulator bandwidths can be installed at any one time and all demodulators feature low distortion detectors, linear AGC response, and excellent selectivity for high adjacent channel rejection.

Detailed attention to component selection and design provides low power consumption to ensure cool, reliable performance. The packaging concept provides excellent access for maintenance and is designed to be rack mounted. See option list for details.

The SCR-7202 Receiver is compatible with other products in the SciComm receiver family such as the SCD-7304 Spectrum Display and the SCC-7101 IF-to-Tape Converters. The flexible bus protocol of these receivers is compatible with other SciComm equipment and can be controlled remotely by our SCC-7806 Controller, SCR-7220 Master Receiver, or a user supplied computer/ controller via an IEEE-488 or optional RS-232C bus.

The SCR-7202 miniature receiver and SCC-7211 frequency extender offer a new capability for surveillance systems - small size without compromising performance.

This new dimension in receivers continues the user oriented tradition of our products. For further information, contact our sales representatives.

FEATURES

- 20 to 1100 MHz (with optional extender)
- Miniature Size
- 100 Channel Memory
- Full Bus Interface
- Display Offset Tuning
- Low Phase Noise, Fully Synthesized
- Variable Tuning Resolution
- High Dynamic Range
- Simultaneous AM & FM Video Outputs

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ANDREW

Government Products Group

SPECIFICATIONS

SCR-7202 RECEIVER

Frequency Range	20 to 500 MHz
Tuning Resolution	1 kHz, synthesized
Noise Figure	8 dB
Third Order Intercept	0 dBm minimum
Second Order Intercept	+40 dBm minimum
Preselection	Automatically switched suboctave bandwidth filters
Spurious Free Dynamic Range	60 dB minimum
Image Rejection	80 dB minimum
IF Rejection	80 dB minimum
RF Input VSWR	2.5:1 maximum
RF Input Impedance	50 ohms
Internal Reference Stability	$\pm 1 \times 10^{-6}$
External Reference Input	1 MHz @ 0 dBm
L.O. Level at RF Input	-85 dBm maximum
Internally Generated Spurious	-120 dBm maximum equivalent input
Phase Noise	-100 dBc/Hz, 20 kHz from carrier
IF Bandwidth options	10/20/50 kHz
(others available on request)	100/300 kHz 20/50/100 kHz 0.5/1/2 MHz 1/2/4 MHz
Ultimate IF Rejection	80 dBm minimum, 2.5 x IF BW offset
Predetection IF Output	21.4 MHz, 8 MHz 3 dB BW minimum, 22 dB ± 2 dB above RF input
Gain Control Modes	AGC, MGC
Detection Modes	AM, FM (SSB, ISB available)
ACG/MGC Range	From maximum sensitivity to -10 dBm
Video Output Level	1V pk minimum, into 50 ohms @ maximum gain setting DC to $\frac{1}{2}$ IF BW
Frequency	
Audio Outputs	
Line	1 V rms minimum, into 600 ohms
Front Panel Phone	10 mW minimum, into 600 ohms
Frequency Response	± 1 dB, 50 Hz to 15 kHz (BW dependent)
COR Output	Normally open relay contact closure, 500 mA DC maximum
Input Power Requirement	120/240 VAC $\pm 10\%$, 50 to 400 Hz
Power Consumption	45 watts, nominal
Remote Control	IEEE-488
Dimensions	Half-rack chassis, 1.75"H x 8.5"W x 20"D
Weight	15 lbs.
Environmental:	
Operating Temperature	0° C to 50° C
Electromagnetic Compatibility	Designed to the intent of MIL-STD-461 for class A3 equipment, specifically: CE03, CE06, CS02, CS04, CS05, CS06, RE02, RS02 and RS03
Tempest	Designed to meet applicable requirements of NACSEM-5100

SCR-7202 RECEIVER with SCC-7211 FREQUENCY EXTENDER

Frequency Range	20 to 1100 MHz
Tuning Resolution	1 kHz synthesized
Noise Figure	8 dB
Third Order Intercept	0 dBm minimum
Second Order Intercept	+40 dBm minimum
Preselection	20 to 500 MHz: automatically switched suboctave bandwidth filters 500 to 1100 MHz: tracking YIG preselector
Spurious Free Dynamic Range	60 dB minimum
Image Rejection	80 dB minimum
IF Rejection	80 dB minimum
RF Input VSWR	2.5:1 maximum
RF Input Impedance	50 ohms
Internal Reference Stability	$\pm 1 \times 10^{-6}$
External Reference Input	1 MHz at 0 dBm
L.O. Level at RF Input	-85 dBm maximum
Internally Generated Spurious	-120 dBm maximum equivalent input
Phase Noise	-100 dBc/Hz, 20 kHz from carrier
IF Bandwidth options	10/20/50 kHz
(others available on request)	100/300 kHz 20/50/100 kHz 0.5/1/2 MHz 1/2/4 MHz
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Gain Control Modes	AGC, MGC
Detection Modes	AM, FM (SSB, ISB available)
ACG/MGC Range	From maximum sensitivity to -10 dBm
Video Output Level	1 V pk minimum, into 50 ohms @ maximum gain setting DC to $\frac{1}{2}$ IF BW
Frequency	
Audio Outputs	
Line	1 V rms minimum, into 600 ohms
Front Panel Phone	10 mW minimum, into 600 ohms
Frequency Response	± 1 dB, 50 Hz to 15 kHz (BW dependent)
COR Output	Normally open relay contact closure, 500 mA DC maximum
Input Power Requirement	120/240 VAC $\pm 10\%$, 50 to 400 Hz
Power Consumption	60 watts
Remote Control	IEEE-488
Dimensions	Half-rack chassis, 1.75"H x 8.5"W x 20"D (SCC-7211 only)
Weight	25 lbs.
Environmental:	
Operating Temperature	0° C to 50° C
Electromagnetic Compatibility	Designed to the intent of MIL-STD-461 for class A3 equipment, specifically: CE03, CE06, CS02, CS04, CS05, CS06, RE02, RS02 and RS03
Tempest	Designed to meet applicable requirements of NACSEM-5100

OPTIONS AND ACCESSORIES

NUMBER	DESCRIPTION	NUMBER	DESCRIPTION
1	rack mount kit (see separate data sheet for configurations)	7	10/20/50 kHz IF BW
2	remote control, RS-232C	8	100/300 kHz IF BW
3	remote control, IEEE-488	9	20/50/100 kHz IF BW
4	SCC-7211 Frequency Extender	10	0.5/1/2 MHz IF BW
5	Audio Compressor	11	1/2/4 MHz IF BW
6	Pulse Stretcher	12	SSB/ISB