



Wideband receiver

BO-35 receiver family

10kHz - 3,5GHz

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2 boger electronics – defense technology made in Germany

“protecting people and values. A sign of our appreciation”

As an ISO 9001 certified family-owned enterprise we develop systems and solutions geared to providing maximum operational readiness in the civil and military sector. Even in unforeseeable situations. And for prolonged operation.

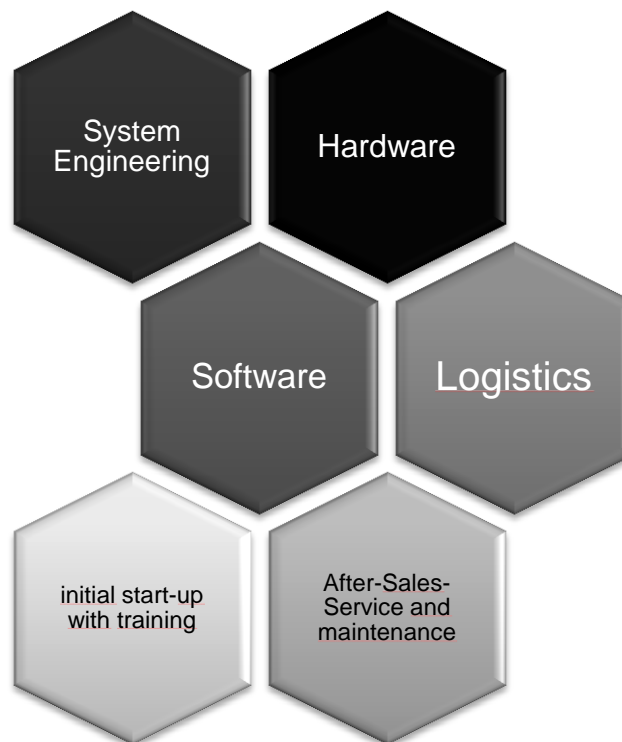
This is our key to success and sustained growth. Among the experts, boger has long been the trusted synonym for security. Your areas of operation also deserve maximum appreciation! Because a fleeting moment can decide a whole life...



We are your long-term partner for growing challenges and strengthen civil and military interests on the basis of top quality and innovative technologies.



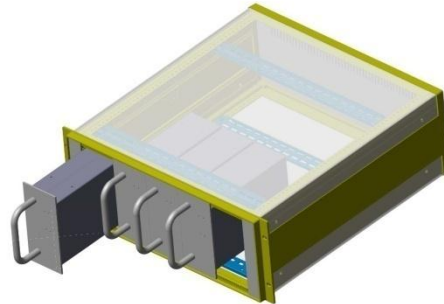
In a crisis many processes require a high degree of sensitivity – something which human beings alone are unable to provide. Boger is your single source for planning, development, production, integration and quality assurance. Your team is now prepared for anything. Because routine is the enemy of reality.



3 The BO-35 receiver family

At the beginning was the vision of a universal-receiver that will use all requirements.

- radio surveillance
- radio monitoring
- automatic signal classification
- recording and analysis



The BO-35 receiver family is the result of our developments and meet all the requirements.

- big frequency range 10kHz – 3500MHz
- excellent high frequency characteristics
- modular design guarantees subsequent extensions
- ideally suited for system integration
- controlled by LAN
- incl. sensors for boger-BITE system (**B**uilt **I**n **T**est **E**quipment for permanent monitoring of the signals from the antenna to the work station)
- The receiver is developed under consideration of following norms:
 - EN 50081, EN 50082, EN 55022 for EMC
 - MIL-STD-167-1A "Mechanical Vibrations"
 - MIL-STD-461E "Electromagnetic Interference"
- 19" case

4 BO-35D

"Digital" digital-receiver (from the 2. IF digital signal processing). Digital IF-OUT/ LAN
"On Board" PC with Intel® Celeron® M432 (or equivalent)

Excellent RF characteristics and LAN ability (IP address) are basics for the professional receiver BO-35D.

One highlight of the BO-35D is the focus on digital signal processing. The complex baseband (I/Q) is available for further signal processing e.g. for **Radio Monitoring – Reconnaissance – Classification of signals** etc.

The modular construction allows integrating each quantity of receiver. The limitation is the power of the Control-PC.

The BO-35D is controlled by the system-software. The command list, which is scope of delivery, supports the programming of an individual user software.

The receiver is supplied in a ½ 19" metal case to provide system integration.

boger electronics realized systems for automatically classification of technical signals, the heart of this systems is the BO-35D. The system is running 24h a day.

The BO-35D provides the connection of other devices e.g. Decoder, DF etc.

4.1 BO-35D highlights

• Digital real time bandwidth	up to 1.5MHz
• Snapshot Mode	up to 10MHz
• Digital IF	LAN
• Data Format	complex baseband (I/Q)
• Interface	TCP/IP
• F-Resolution	1Hz
• 10MHz Clock Socket	switchable intern/extern Synchronisation
• "on board" PC	with Intel® Celeron® M423 or equivalent
• Frequency-switching time	10mSec.

Option

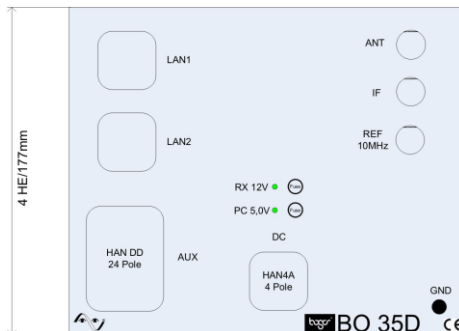
• Analog IF	10.7MHz narrow/wide (max. 12MHz) switchable to 455kHz
• IF-filter (analog) and demodulators	user defined combined
• BO-10MHz Clock	10MHz reference extern
• Frequency stability	+/- 10ppb -10° - +75°C
• ANT-select	2 nd antenna socket, frequency-dependent switching changing at 30MHz
• Filter	500Hz filter

- Software: SW35I
- SW35S
- Classifier software

Interface Software

Spectrum- and waterfall diagram including digital-modulation AM, FM, USB and LSB

Automatic signal classification including speech. Classifier software works extremely effective and reliable.



E.g. rear side BO 35D

To provide the system-integration all sockets are mounted on the rear-side of the case.

Individual requirements of the customer are welcome.

5 Technical data

5.1 BO-35D

Frequency range	10kHz-3,5GHz
Frequency resolution	1Hz
Switching time	10ms (100 steps/sec.)
Frequency accuracy	10MHz reference intern: <+/- 1,5ppm, -10° - +75°C
Analog Demodulators	AM, FM, USB, LSB, CW
Analog Audio	1,0 watt at 8 Ohm – 1% THD
IF-filter switchable	2,4/ 5,5/ 7,0/ 15,0/ 30,0/ 110/ 220kHz optional 500Hz
Analog IF-out	Switchable: on/off 10,7MHz BW = 10MHz 10,7MHz BW = 10,7MHz IF-filter 455kHz BW = IF-filter
Digital IF	Digital real-time bandwidth up to 2,0MHz Snapshot Mode 10MHz
Digital IF-out	LAN TCP/IP
Data format	Complex baseband (I/Q)
Typ. Sensitivity	2-30MHz SSB 0,4µV, 10dB S/N, BW 2,4kHz AM 1,3µV, 10dB S/N, BW 6,0kHz >30MHz

	SSB 0,3µV, 10dB S/N, BW 2,4kHz FM 0,4µV 12dB SINAD, BW 15kHz
Immunity to interference	IP ³ >+20dBm (10kHz – 1.5GHz)* IP ³ >+10dBm (1.5 – 3.5GHz)* 18 Preselector-ranges IP ² >+70dBm
Lineare dynamic	>115db (without <u>A</u> utomatic <u>G</u> ain <u>C</u> ontrol-IF OUT)
Pre-amplifier	20dB in the frequency range <30MHz switchable to off
Attenuator	<1100MHz: 4 positions: 0dB, -10dB, -20dB, -30dB
Operation power	DC 12,0 volt 25 watt (230 V/AC with internal power supply)
Temperature range	-10° - +75°C
Sockets	ANT N-socket 10MHz REF: SMA LAN: RJ45
Case	metal

6 Contact

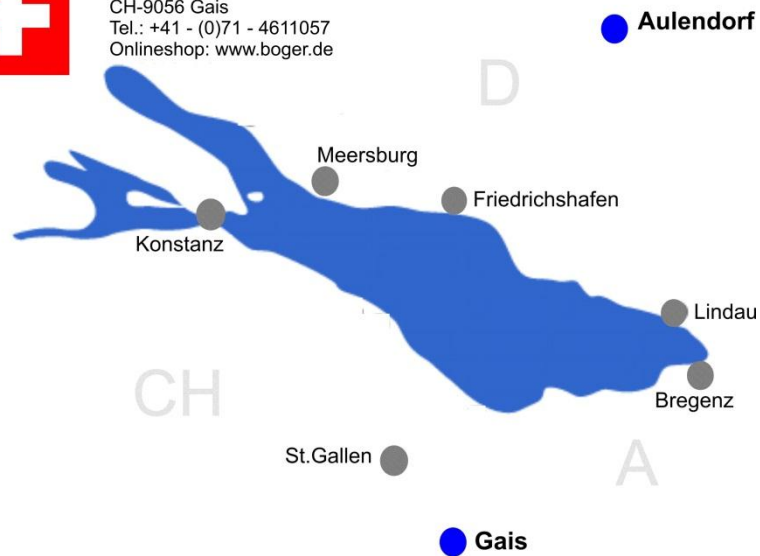
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„please do not hesitate to contact us”