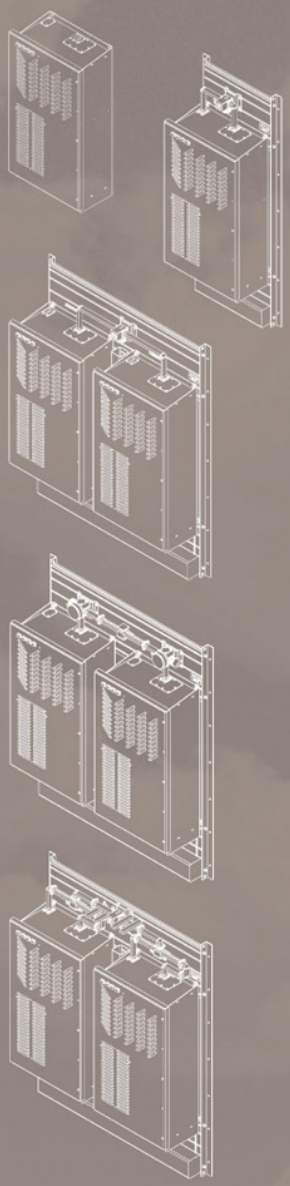
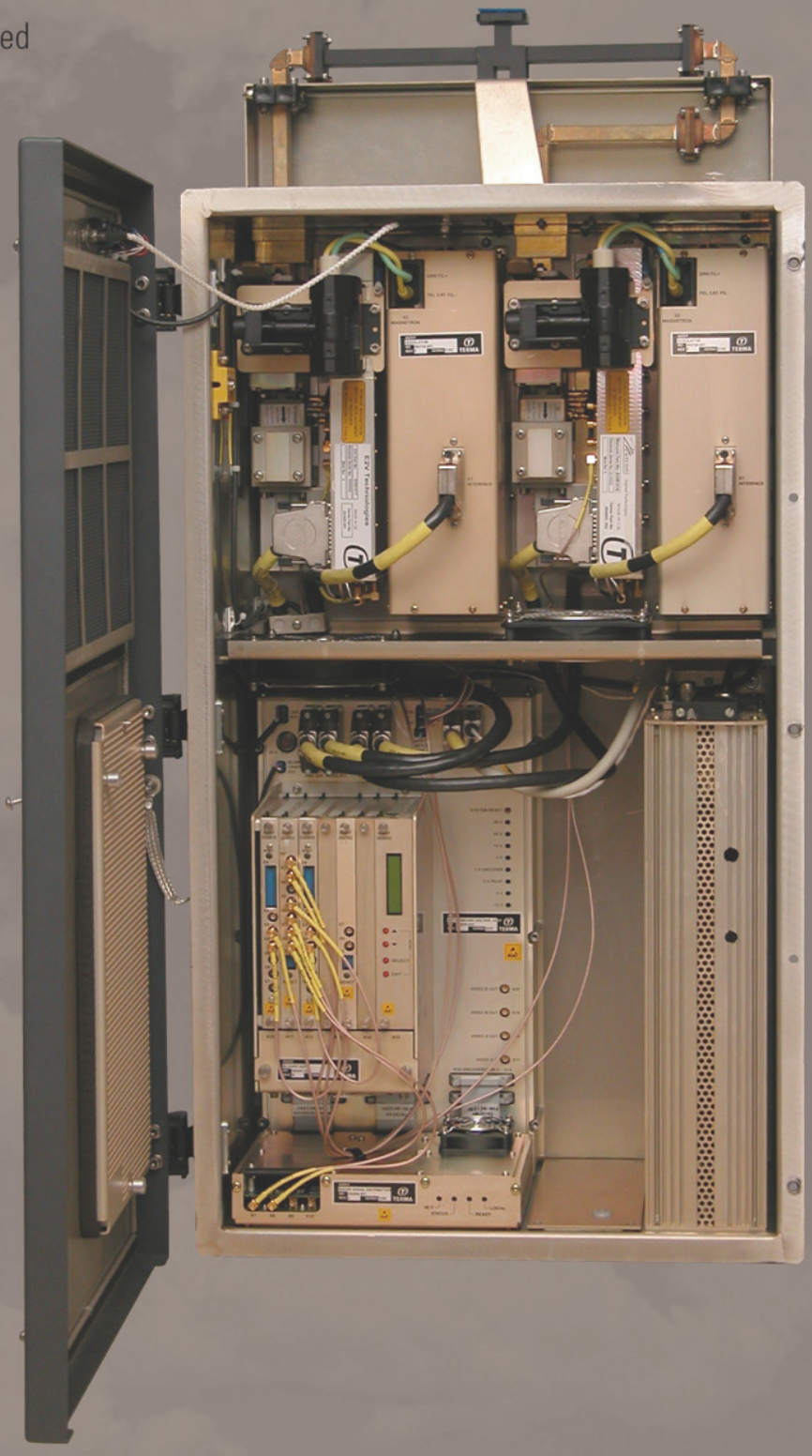
SCANTER 2001

X- / S-Band Transceivers

Modular Design

The configuration may be selected for optimum adaptation to each individual application





TERMA

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SCANTER 2001

Datasheet X- / S-band Transceivers

TERMA
Radar Systems

Transceiver Controller

- Local or remote set-up and control of the transceiver
- Sector transmission, 4 sectors
- Storage of 16 operator-defined profiles
- Control of on-board BITE on the individual modules
- Remote control via Serial Interface or LAN

Receiver

- Low Noise Receiver: Typical 2 dB, overall system: 3.5 dB, max system: 4.5 dB
- Receiver Chain: Modified Logarithmic IF, 100 MHz
- Dynamic range: >125 dB
- Image rejection on RX mixer: ≥18 typically 20 dB

Transmitter

- Nominal Output Power: 25 kW (X-band), 30 kW (S-band)
- Transmitter frequency: Nominal 9375 MHz (X-band) Optional 9172 MHz, 9410 MHz, 9440 MHz, 9490 MHz
- Transmitter frequency for Frequency Diversity: 9170 MHz, 9438 MHz
- Transmitter frequency: Nominal 3050 MHz (S-band)
- Tx Pulse Shape: Fast rise (20 ns), fast fall time (30 ns)
- PRF: 400-8000 Hz, programmable
- PW: (40) 50 -1000 ns, programmable
- Stagger: 0,2,4,8 %, programmable
- Full transmitter performance during short pulse transmission

Signal Processing

Auto-adaptive Sensitivity Control

- Adaptation to changes in sea clutter by automatic adjustment of STC in a large number of individual cells in range and azimuth

Video Processor

- ADC: 80 MHz
- Digital FTC
- Sweep-to-sweep correlation
- 2-64 pulse azimuth integrator
- Digital, Analogue and Composite Video output

Frequency Diversity Processing

- Transmission on two frequencies. Transmitter power will be the total of two pulses, integrated non-coherently
- Target fluctuation reduced after integration of signals from independent pulses
- Time diversity, when using SWG antennas, enables de-correlation of sea clutter, thereby enhancing detection of small targets in situations with high Sea State
- Total system enhancement: Approx. 10 dB

Sea Clutter Discriminator

- Scan-to-Scan processing in 3 parallel channels for enhancement of small target detection

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Built-in Power Supply and Antenna Control

Built-in frequency converter facilitates programmable antenna rotation rate.

Reliability

The system is designed to achieve an MTBF of 20,000 hours, facilitating installation on remote, un-manned radar sites

Installation data

Weight	45-55 kg	Height	900 mm
Width	513 mm	Depth	270 mm

Environmental specifications and approvals

Test	Conditions	Limits	Corresponding standard
Cold,	Storage	– 40° C	IEC 68-2-1, Test Ad
	Function	0 Deg C	IEC 945
Dry Heat	Storage	+70 Deg C	IEC 68-2-2, Test Bd
	Function	+55 Deg C	IEC 945
Protection	Function	IP 52	IEC Publication 529
EMC	Function		MIL-STD-461 EN 60945/A1
Out of band and spurious			ITU-R SM.1541 ITU-R SM.329-9

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