**AR5000/ AR5000A**

**Frequency range**
- 10 kHz – 2600 MHz (min. 5 kHz)
- 10 kHz – 3000 MHz with AR5000A

**Tuning**
- NCO 1 Hz – 999.999999 kHz

**Modes**
- AM, FM, USB, LSB & CW

**I.F. frequencies**
- 1st I.F. 622.0 MHz
- 2nd I.F. 10.7 MHz
- 3rd I.F. 455 kHz

**Standard fitted filters**
- 3 kHz, 6 kHz, 15 kHz, 30 kHz, 110 kHz & 220 kHz, (500 Hz option)

**Memory channels**
- 1000 (100ch x 10 banks)

**Search banks**
- 20

**Memory scan speed**
- 25 ch/s standard mode
- 45 ch/s (max) in Cyber Scan

**Search speed**
- 25 ch/s in standard mode
- 45 inc/s (step size 100 kHz) in Cyber Search

**PASS frequencies**
- 2100 total
- 21 banks x 100 ch inc VFO)

**Priority**
- 1 channel

**I.F. output**
- 10.7 MHz ± 5 MHz max

**External reference**
- 10.0 MHz input

**Mute**
- CMOS input pull-up to 5 V at 100 kΩ

**Operating temp.**
- 0 to +50°C

**Aerial input**
- 50 Ω unbalanced. N-TYPE & SO239

**Audio output (13.5V)**
- 1.7 WATT into 8 Ω at 10% THD

**Power requirements**
- nominal 13.5 V d.c.
  - (12 — 16 V) at 1 A or less

**Dimensions (WxHxD)**
- 217x100x260 mm

**Weight**
- 3.5 kg

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**ARK-1000**

**Number of inputs**
- 4

**Frequency ranges per inputs**
1. HF 1.5 — 30 MHz
2. LP/VHF 20 — 100 MHz
3. LP/7MHz 100 — 1000 MHz
4. VHF/UHF 20 — 1000 MHz

**Input impedance**
- 50 Ω

**Input VSWR**
- ≤2,5

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**Maximal input level**
- +17 dBm

**Input connectors**
- N

**Output connectors**
- BNC

**Number of outputs**
- 8

**Attenuation of output to input**
- 1. HF 20 dB
- 2. LP/VHF 30 dB
- 3. LP/UHF 30 dB
- 4. VHF/UHF 30 dB

**Gain**
- 3 dB ±1,5 dB

**Noise factor**
- 5 dB typical

**Intermodulation, 2nd order**
- min. –40 dB

**1 dB output compression point**
- min. +12 dBm

**Output VSWR**
- ≤1,5

**Power supply**
- 220 V ±10%, 50 Hz, 60 VA,

**Operated temperature range**
- 0 to +45°C

**Dimensions (WxHxD)**
- 132x428x415 mm

**Weight**
- 3.5 kg

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**RMTA-1004**

**Radio Monitoring and Technical Analysis System**

- **HF/VHF/UHF bands**
- **Frequency range**: 1.6 - 2600/3000 MHz
- **Signal classification and determination of parameters**
- **3 D spectrum representation (“waterfall”)**
- **Spectrum analysis**
- **Cost effective solution**

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**TECHNICAL DATA**

**7/2005**

**Radio Communications**

**http://www.iritel.com**

**e-mail: info@iritel.com**
Radio Monitoring and Technical Analysis System RMTA-1004 is a computer controlled Communications Intelligence System used to provide scanning, monitoring and technical analysis of radio emissions of interest in the frequency range from 1.6 to 2600 MHz (option 3000 MHz). All the relevant collected data are stored in specially designed data base of built-in PC-s.

**Basic configurations**

- **Antenna subsystem,**
- Two operating positions for scanning, monitoring and technical analyses (TA),
- Two operating positions for scanning and monitoring (RM) and
- Line modem (56 kb/s) for remote control of RMTA-1004
- Option: Optical line terminal 8/155 Mbit/s

Antenna subsystem contains:
- Four antennas and
- Antenna distribution unit ARK-1000

TA operating position contains:
- Two radio receivers AR5000 (option AR5000A),
- One rugged PC, ADVANTECH,
- Technical analysis, demodulation and decoding unit W 41 PC MK II, built in PC,
- Audio distribution unit KNF-4/K,
- Signal classifier module, built in KNF-4/K and
- Double audio cassette recorder PMD 510.

RM operating position contains:
- Two radio receivers AR5000 (option AR5000A) and
- Audio distribution unit KNF-4.

**Main features**

- Control of antenna distribution unit, radio receivers, audio distribution units, audio cassette recorders, technical analysis, demodulation an decoding unit and line modem,
- Data base creation
- Remote control of RMTA-1004
- Software packages ARPK:
  - Remote control of AR5000A radio receivers
  - Spectrum scanning and monitoring of radio emissions
  - 3D spectrum representation
  - Signal classification
  - Data decoding

RMTA-1004 has various scanning, monitoring and signal analysis possibilities in HF/VHF and UHF frequency range.

The applications software ARPK made in Visual Basic 6 (Windows NT 4.0 PC operating system) enables control of all functions of RMTA-1004 system:

- Scanning and monitoring algorithms,
  - Fixed frequency operation
  - Memory scanning
  - Band scanning
  - Signal classification
  - Technical analysis
  - Demodulation
  - Decoding of different coding systems

**Wide band receivers AR5000/AR5000A**

AR5000/AR5000A is modern microprocessor controlled receiver which covers the whole frequency range specified for RMTA-1004. The main features of receiver are:

- High speed Cyber Scan and Cyber Search,
- Multi VFO (5-VFO),
- A minimum of 1 Hz tuning rate by NCO,
- Auto aerial selection - programmable,
- Wide range of search/scan facilities,
- Pre-programmed automode (receive mode, step size, IF bandwidth),
- Step-adjust for unusual banplans,
- Standard TCXO plus external 10 MHz input,
- RS232 PC remote control,
- Large capacity EEPROM.

All functions of receivers can be controlled by PC-s or by front panel keyboards of receivers.

**Antenna distribution unit ARK-1000**

Basic purpose of ARK-1000 is to receive the four antenna signals within the frequency range of interest and distribution/commutation of the received signals to eight receivers.

All control functions of ARK-1000 are supported by an internal microprocessor module with front panel key pad and status display which show connection between antenna inputs and outputs. ARK-1000 has two standard RS-232 interfaces for connection with two PC-s, four interfaces for connection with KNF-4 units and two interfaces for tape recorders control.

Choice of wanted antenna, for each of eight receivers, can be done by front panel keypad of ARK-1000, from front panels of KNF-4 units or by keyboards of two PC-s.

**Audio distribution units KNF-4, KNF-4/K**

Audio distribution units KNF-4 and KNF-4/K enables selection of audio signals for monitoring by headphones or speaker and recording by tape recorder. Output levels of selected signals are adjustable. KNF-4/K has built in an additional signal-processing module for signal classification.

One KNF-4 or KNF-4/K is connected with two receivers and one tape recorder. There are interconnections between KNF-4 and KNF-4/K units at RM and TA positions.

KNF-4 and KNF-4/K are also connected with antenna distribution unit ARK-1000. This connections enables the operator to select antenna inputs for two receivers by front panel keyboard of KNF-4.