The standard AR7030 receiver has been awarded a five star rating by Radio Netherlands and Table-top Receiver of the Year award 1996/97 by the World Radio TV Handbook, it has also been awarded five stars by Passport to World Band Radio... truly a remarkable receiver.

The AR7030 stunned the world when first released due to exceptionally high performance, indeed the AR7030 still wins the analogue / DSP battle in respect of high dynamic range and low noise, a testimony to the successful project between internationally acclaimed UK designer John Thorpe and AOR.

High performance coupled to enhanced microprocessor features and facilities forms the cornerstone of its success. Frequency coverage is from 0 - 32 MHz all mode: AM, Synchronous AM, USB, LSB, CW, DATA & NFM. Four 455 kHz IF filters are provided as standard with provision for a further two (including Collins mechanical filters), all of which are 'self aligned' by the receiver for optimum performance and passband symmetry; this plus the standard fitted TCXO makes the AR7030 ideal for ECSS applications.

The self tuning variable bandwidth synchronous detector is a pleasure to use and 'hangs on' to the weakest of signals, audio quality is superb.

Where good strong signal handling, high performance and transportability are of great importance, the AR7030 is the solution offering an IP3 greater than +30dBm (typical +35dBm reduced by 10dB with the preamp on). Intermodulation free dynamic range with the 2.2kHz filter is typically 105dB @ 100/200kHz spacing, 104dB @ 20/40kHz and still better than 90dB @ 5kHz. This fantastic strong signal handling is aided by the innovative configuration of a lateral DMOS FET QUAD first mixer running at 15V, relay switching in the front end (not diodes) and the use of shielded inductors throughout the signal path. All this and GREAT SENSITIVITY better than 0.5uV for 10dB S/N in AM mode and better than 0.3uV for 10dB S/N in SSB. Selectivity too is razor sharp typically offering greater than 90dB @ 5kHz SSB, almost 100dB @ 10kHz and greater than 100dB @ 20kHz, these excellent figures are achieved by the implementation of a remarkably low phase noise local oscillator <-158dBc/Hz @ 100kHz.

The receiver is built around a TCXO frequency standard which provides the reference for all circuitry ensuring the ultimate in stability and optimum alignment. Single loop DDS provides the clean local oscillator reference essential for low reciprocal mixing levels and seamless tuning in 2.655MHz steps (10.62Hz in AM & NFM modes) with no tuning "plops" at regular intervals. The receiver is a double conversion superheterodyne with intermediate frequencies of 45MHz and 455kHz.

Enhanced features include pass band tuning ±4.2kHz, variable audio pitch tune on CW & data modes and a “variable bandwidth synchronous detector” for AM listening to eliminate the effects of transmitter / receiver drift as well as reducing distortion from selective fading. The pass band tuning may be used in synchronous AM mode to select synchronous USB, LSB, DSB or anything in between. A specially developed AGC release characteristic has been developed to provide very smooth SSB. Noise spike compression has also been included to reduce the effects of noise pulses. A built-in six level attenuator provides levels of sensitivity from +10dB to -40dB.

Assignable controls enable you to place the functions YOU want at your fingertips. It is also possible to save a few of your ‘favourite’ receiver setups for later retrieval. Twin VFOs are provided in addition to the 100 memory channels (400 with the ‘features CPU’ fitted) with versatile scanning facilities including independent squelch settings for each memory and VFO. Virtually every aspect of the AR7030 is controllable via the standard REMOTE port for straightforward computer connection, optional PC Windows based software is available.

Despite the deceivingly simple front panel layout, the AR7030 really packs a punch with enhanced facilities including an extensive computer command set ideally placing the receiver for semi-commercial applications...
The tape recorder configurable outputs and slave relay may be programmed to operate from the built-in clock timer or from the squelch control. Mute input is available for use with transmitters.

The AR7030 features a stylish custom CNC machined solid aluminium front panel with extruded aluminium engraved sides, metal top, bottom & rear panels. The front panel finish is brushed & anodised with the sides and other surfaces toned in a matching textured paint. Smooth lines, detailed front panel, domed top mounted speaker grille and ergonomically placed controls spell out the attention to detail of the robust cabinet. An internal battery option adds the possibility of portable operation. An infrared remote controller is supplied as standard along with a low noise power supply and comprehensively illustrated operating manual.

AR7030 PLUS: For those who want the 'edge' then this model has been designed for you. All aspects of performance have been carefully studied and specific performance enhancements have been applied making excellent into the ultimate:

- Increased balance of the mixer for greatest IP2 & IP3
- High tolerance 0.1% components in DDS ladder for low noise
- Enhanced RF attenuator operation for minimal intermod
- Higher spec wireless input for minimal intermod
- Ceramic metal cased 4 kHz (displayed) AM filter fitted as standard (typical bandwidths: 2.2kHz, 4.0 kHz, 5.3kHz 9.5kHz)
- Bourns optical encoder for the smoothest DX tuning
- Features CPU fitted, 400 memories, multi timers & alpha tag

The NB7030 multi-option is not fitted as standard to the AR7030 PLUS, just the ‘features’ CPU is fitted. Should you wish to add the hardware noise blanker and audio notch filter, order the UPNB7030. The AR7030 PLUS is the best of the best!

Enhancement continues in production, the latest production features alternative click encoders which provide a smoother and more consistent quality feel and a new-style liquid crystal display with higher contrast and a wider viewing angle. The AR7030 has established itself as the popular performance trendsetting short wave receiver representing the new ‘bench mark’ in excellence and sheer performance.

**AR7030 options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MF500</td>
<td>Collins 500 Hz mechanical CW filter</td>
</tr>
<tr>
<td>CF4505K</td>
<td>Murota 1.0 kHz audio filter</td>
</tr>
<tr>
<td>X TLALL4</td>
<td>Quality 2.4 kHz crystal filter for AR7030/FL124 daughter board recommended for fitting</td>
</tr>
<tr>
<td>MF25</td>
<td>Collins 2.5 kHz mechanical SSB filter</td>
</tr>
<tr>
<td>CF4065J</td>
<td>Murota 3.0 kHz metal caused filter (displays around 3.8 kHz in AR7030) as fitted in the AR7030 PLUS</td>
</tr>
<tr>
<td>CF4065</td>
<td>Murota 4.0 kHz metal caused filter (displays around 4.7 kHz in AR7030)</td>
</tr>
<tr>
<td>MF4</td>
<td>Collins 4 kHz mechanical filter</td>
</tr>
<tr>
<td>MF6</td>
<td>Collins 6 kHz AM mechanical filter</td>
</tr>
<tr>
<td>FL124</td>
<td>Daughter board for fitting up to three crystal filters to the AR7030</td>
</tr>
</tbody>
</table>

**AR7030 features**

- Wide frequency coverage 0 – 20 MHz
- All mode reception: USB, LSB, CW, AM, SSB, CW, AM
- Advanced IF greater than +30dBm
- Very high dynamic range
- Low noise local oscillator phase noise <15dBc/Hz
- Variable bandwidth auto tuned synchronous detector with selectable USB, LSB, SSB or anything in between using PBS
- Pasband tuning ± 4 kHz
- Audio pitch tune in CW & DATA modes
- Frequency display resolution to 10Hz
- Seamless tuning using solo loop/DGS
- TCXO/frequency standard fitted
- Automatically calibrated and aligned filters
- Specially developed AGC release characteristic
- 100 memory channels plus dual VOCS
- Clock & timer facility
- Distinguished MAT RLR w/illuminated LCD
- Assignable controls
- Re-configurable receiver
- Infrared hand control as standard
- Compact style high cabinet
- Built-in whip amplifier
- 50 ohm 0.05dB/1kHz, 9.5kHz & 10kHz
- Four standard IF bandwidths provided as options
- Four standard IF bandwidths provided as options
- Four standard IF bandwidths provided as options
- Data-Master PC Windows control software
- Designed & built in the UK by AOR Ltd Japan by AOR Manufacturing Ltd

**AOR Ltd**

2-6 4 Misui, Taito-ku, Tokyo 111-0055, Japan.
Tel: +81 3 3865 1695 Fax: +81 3 3865 1697
post@aorja.com www.aorja.com

**AOR (UK) Ltd**

4E East Mill, Bridgefoot, Belper, Derbys DE56 2UA, England
Tel: +44 1773 880788 Fax: +44 1773 880780
info@aoruk.com www.aoruk.com

**AOR USA, INC.**

20655 S. Western Avenue, Suite # 112 Torrance, CA. 90401, USA
Tel: (310) 787 8615 Fax: (310) 787 8619
info@aorusa.com www.aorusa.com

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