



# AR8200

## Wide Range Receiver

### The Superior Concept

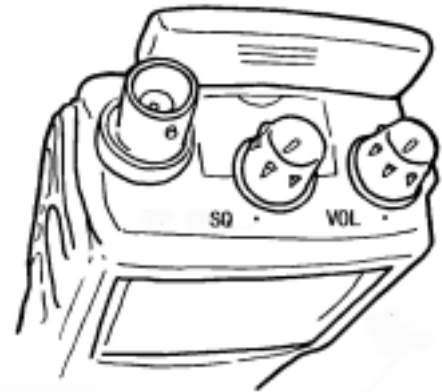
The AR8200 is a beacon representing a new approach, new features and forward thinking. This certain recipe for success builds on the popularity of the AR8000, adds technology originally developed for the award winning high performance AR5000 base receiver, ideas from listening to the needs of enthusiasts and a “touch” of AOR design & innovative magic.



### Specifications & Details

- Frequency coverage 500 kHz ~ 2040 MHz no gaps
- All mode reception with Super narrow FM plus Wide and Narrow AM in addition to the standard modes
- True carrier re-insertion in SSB modes
- RF preselection of mid VHF bands
- Detachable MW bar antenna with negative feedback
- Tuning steps programmable in multiples of 50 Hz in all modes, 8.33 kHz airband step correctly supported
- Step-adjust, frequency offset, AFC
- Noise limiter & attenuator
- Versatile band scope with save trace facility
- Twin frequency readout with bar signal meter
- Battery save facility with battery low legend
- Arrow 4-way side rocker with separate main tuning dial
- Configurable keypad beep / illumination & LCD contrast
- Programmable scan & search including LINK, FREE, DELAY, AUDIO, LEVEL, MODE
- Computer socket fitted for control, clone & record

The AR8200 is a totally new design rather than simply an updated model. The all important **8.33 kHz airband channel step** is **correctly implemented** (eight-and-one-third, 33, 66, 00). Channel steps are provided in a menu and may be programmed in multiples of 50 Hz in any mode (i.e. 5 kHz, 12.5 kHz or even 1.25 kHz). Extensive **step-adjust** and **frequency offset** facilities are also provided (as per AR5000) to ensure tracking of the most obscure band plans, **AFC** (Automatic Frequency Control) is included for spot on tuning ensuring that nothing is missed. A wide frequency coverage is available from 500 kHz to 2040 MHz (no gaps) with actual minimum acceptable frequency of 100 kHz. The RF front-end is preselected around VHF to ensure the highest levels of adjacent channel rejection with software spuri cancellation. The short wave bands are converted directly to an IF of 45 MHz to remove compromise and the AR8200 is supplied with a **detachable plug in medium wave bar antenna** for localised monitoring with a negative feedback circuit employed.



**All mode receive:** WFM, NFM, SFM (Super Narrow FM), WAM, AM, NAM (Wide, standard, Narrow AM), USB, LSB & CW. A 3.0 kHz SSB filter is employed with true carrier re-insertion resulting in non-offset frequency readout for easy tuning of SSB transmissions. An attenuator and noise blanker are also featured.

A meaningful band plan is factory programmed specific to market area, this ensures that the AR8200 automatically selects the correct receive mode and tuning step (although mode and tuning step may be manually selected at any time), the band plan may be edited via computer control.

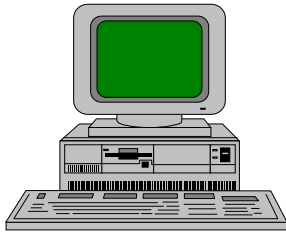


The **side keypad provides four arrow keys presented as a single “rocker”** resulting in more natural and intuitive navigation through the on-screen menus. Tuning is accomplished via a variety of controls including a side panel indented main tuning dial, arrow keys and keypad.

A larger than average back lit LCD with contrast control provides operational data with the ability to add **12 character text comments** to each memory

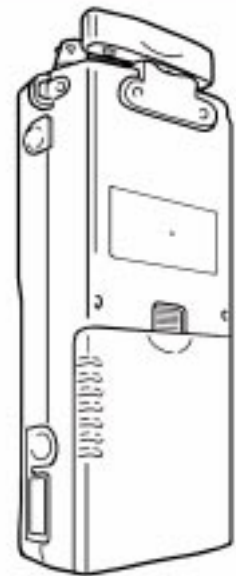
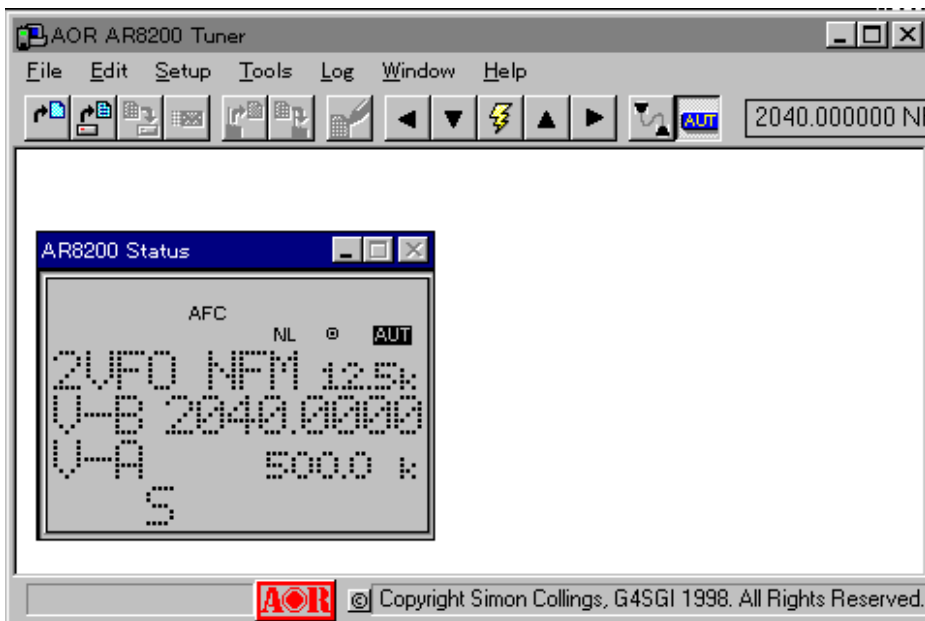
channel, memory bank and search bank, a text search feature simplifies identification and recall of stored information. Many text prompts aid operation making programming of search banks etc straight forward. Two frequencies may be displayed along with operating legends and high resolution signal meter and **multi-function band scope**. The band scope provides adjustable span width from 10 MHz to 100 kHz, you can move the marker, operate peak hold, transfer the marker frequency to VFO and save trace for later recall. The scratch resistant “military green” cabinet has a quality feel.

**Flexible dynamic memory bank layout** is provided (memory banks may be varied in size between 10 and 90 channels each i.e. bank “A” 80 channels / bank “a” 20 channels with bank “B” 40 channels / bank “b” 60 channels etc.). A total of 1,000 memories are provided in 20 memory banks, lockout, select scan, priority and auto store are also provided. In addition 40 search banks are provided with 50 pass channels per search bank and a further 50 for VFO search lockout. Comprehensive edit, move, swap and delete facilities are provided, it is possible to move whole memory & search banks. In addition you may write **PROTECT** memories, banks and search banks to prevent accidental over-writing of stored data including protection of the entire receiver! Scan & search rates provide a maximum of approximately 37 increments per second. Flash-ROM memory storage ensures that data is automatically saved without the need for a backup battery or capacitor.



# Computer control

**Computer control** is available via a metallic side mounted robust connector and optional lead, an extensive RS232 command list is supported. A software package is under development which will be made available as an internet **free** download from the AOR website <http://www.aorja.com/>. This connector also supports clone of data between two AR8200 along with tape output, detector output, mute and AGC.



The AR8200 is powered from **4 x AA internally fitted NiCad cells** (supplied), dry cells may be used. External power may also be connected to the charge socket for extended periods of operation (9 - 16V d.c.).



# SLOT CARDS

“As if this was not enough”, **optional internal SLOT CARDS** (which fit into the AR8200 base) extend the AR8200 capability even further: **Memory slot card** (increase storage to 4,000 memories, 160 search banks). **CTCSS slot card** squelch & search. **Record chip slot card** (records up to 20 seconds of audio). **Tone eliminator slot card**, **Voice inverter card**.



# Optional accessories

**Slot cards:** Five slot cards are available, only one may be fitted at a time.

<b>VI8200</b>	Voice inverter (analogue) in 157 steps.
<b>CT8200</b>	CTCSS squelch & search.
<b>TE8200</b>	Tone eliminator in 256 steps.
<b>RU8200</b>	Chip based recording and playback, 20 seconds approx.
<b>EM8200</b>	External extended memory, backup 4,000 memories, 160 search banks (can hold as much data as 4 x AR8200).

**Leads:** Three leads are available for use with the option socket.

<b>CR8200</b>	Tape recording lead.
<b>CO8200</b>	Data clone lead.
<b>CC8200</b>	Computer control lead with level shift (available with imperial (PC98) & metric (DOSV) screws) and supplied with RS232 protocol listing in PDF format.

**Antenna:** There are many suitable antenna available on the market, these include.

<b>DA900</b>	VHF/UHF flexible whip 245mm in length.
<b>TW500</b>	VHF/UHF telescopic whip. Comprises of 6 sections, extends to 625mm in length.
<b>SA7000</b>	Passive twin element wide band antenna with 15m of coax. Coverage is 30 kHz to 2 GHz.
<b>MA500</b>	VHF/UHF whip antenna on magnetic base with 4m of coaxial cable. Base is 85mm in diameter, total height is 720mm. Coverage is 25 to 1300 MHz.
<b>DA3000</b>	16 element discone antenna with 15 of coax. Coverage is 30 MHz to 2 GHz.
<b>LA320</b>	Desktop loop antenna 1.6 to 15 MHz. Optional elements available for LW & MW.
<b>ABF125</b>	VHF airband filter for increased adjacent channel selectivity.



# AR8200 Specification

<b>Frequency Range:</b>	<b>500 kHz to 2040 MHz</b> (Actual frequency input 100 kHz to 2040 MHz, performance between 100 kHz to 500 kHz is not guaranteed).
<b>Receive Modes:</b>	<b>WFM, NFM, SFM, WAM, AM, NAM, USB, LSB, CW</b>
<b>Sensitivity:</b>	<b>500 kHz ~ 2.0 MHz</b> AM: 3.50 uV (10dB S/N)
	<b>2.0 MHz ~ 30 MHz</b> SSB: 1.50 uV (10dB S/N) AM: 2.50 uV (10dB S/N)
	<b>30 MHz ~ 470 MHz</b> SSB: 0.30 uV (10dB S/N) AM: 0.70 uV (10dB S/N) NFM: 0.35 uV (12dB SINAD) WFM: 1.00 uV (12dB SINAD)
	<b>470 MHz ~ 1 GHz</b> NFM: 0.50 uV (12dB SINAD) WFM: 1.50 uV (12dB SINAD)
	<b>1.0 GHz ~ 1.3 GHz</b> NFM: 1.00 uV (12dB SINAD)
	<b>1.3 GHz ~ 2.039 GHz</b> NFM: 2.50 uV (12dB SINAD)
<b>Selectivity:</b>	<b>SSB/NAM</b> 3kHz (-6dB), 9kHz (-60dB) <b>AM/SFM</b> 9kHz (-6dB), 20kHz (-40dB) <b>WAM/NFM</b> 12kHz (-6dB), 25kHz (-40dB) <b>WFM</b> 150kHz (-3dB), 380kHz (-20dB)
<b>Power Consumption:</b>	190mA (nominal), 145mA (stand by), 25mA (power save). 4 x AA internal cells or 12V d.c. external supply
<b>Dimensions:</b>	<b>61(W) x 143(H) x 39(D) mm</b>
<b>Weight:</b>	<b>196g</b> (335g including NiCads)
<b>Memory channels:</b>	<b>1,000</b> (20 banks)
<b>Select scan channels:</b>	<b>50</b>
<b>Priority channels:</b>	<b>1</b>
<b>Search banks:</b>	<b>40</b>
<b>PASS channels:</b>	<b>50 per search bank + 50 for VFO search</b>
<b>Scan/Search Rate:</b>	<b>Maximum 37.42 steps per second</b> With auto-mode off, 10 kHz step, * lock time 2mS, Squelch wait 15mS. (*this value is preset and varies depending upon band and step, squelch wait times of 15mS, 25mS and 30mS are employed).

**Specifications subject to change without notice due to continuous development of the receiver. E&OE.**

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