

# The exceptional **AMSTRAD INTEGRA** 4000 Mk II

## STEREO AMPLIFIER *now with* **Quadrosound**



*This stereo amplifier has been designed in the AMSTRAD laboratory in London using the latest circuit techniques. Its performance has been improved in many respects, while retaining all the excellent features of the Mk I version. The new Mk II amplifier now has a greater power output of 15 Watts R.M.S. per channel or a total of 60 Watt music power, also improved is the hum and noise figures by the introduction of new circuits including a new type design transformer made exclusively for AMSTRAD and special Zener Diode circuits. A new facility is the addition of two more speaker outputs to allow four-speaker operation. The amplifier offers the facilities for Magnetic or Ceramic Stereo Cartridges, Stereo or Mono Radio, Tape recording and replay.*

*In this INTEGRA Mk II amplifier, a pleasing exterior design has been combined with advanced high fidelity circuitry to give you an amplifier which will give you greatest satisfaction in your listening pleasure.*

### FACILITIES

**Input Select Buttons.** Using these buttons you may select the input you require from pickup (magnetic or ceramic) tape or radio tuner.

**Bass and Treble Controls.** These controls enable you to adjust the tone to suit the type of loudspeakers you are using and to adjust the sound to suit the acoustics of your home. A large range of control on these two slider knobs has been provided to cater for all listening conditions.

**Middle Control.** AMSTRAD have provided a 'Middle' control on the INTEGRA 4000 Mk II, to enable you to adjust the tonal brilliance of the middle range of frequencies in the sound you are listening to.

**Volume Controls.** Two separate Volume Controls have been provided on this amplifier to enable you to adjust the sound level of the left and right channels independently.

**Mono/Stereo Button.** Operating this switch will give Monophonic output in the speakers.

**Loudness Button.** This switch brings into operation a special circuit in the amplifier which reduces the overall loudness whilst giving boost of low Bass and high Treble frequencies.

**Scratch Filter.** This button can be used to reduce surface noise and scratch effects on old records. It will also help to reduce hiss or whistles when a radio tuner is being used. This control is specially designed to reduce the reproduction quality of the amplifier.

**Rumble Filter.** This may be used if rumble is produced by the type of turntable you are using. It may be necessary to use this control if maximum Bass boost and Loudness controls are in operation together, as the overall bass boost capability of this amplifier is so good that any imperfections in the turntable may be accentuated.

**Four Speaker Listening.** If you require the amplifier to be used in the surround-sound mode, you will require a further two loudspeakers, these can either be used in the same area as your original speakers giving *Stereo* from four speakers or you can use the other speakers in another area so as to have stereo reproduction in two places at once.

## TECHNICAL SPECIFICATION

**Power Output.** 15 Watts per channel R.M.S. into 8 Ohm loads with both channels fully driven - Stereo mode.

**Recommended Loads.** Speakers: 8 Ohms for full performance. Not less than 8 Ohms under any circumstances. Headphones: 4-16 Ohms.

**Frequency Response.** Flat between 20 Hz and 20 KHz ( $\pm 2$ dB).

**T.H. Distortion.** Less than 0.5% at 1 KHz at full rated output. Less than 0.3% at 1 Watt output - Stereo mode.

### Tone Controls.

Bass:	$\pm 20$ dB at 40 Hz
	$\pm 12$ dB at 100 Hz
Middle:	$\pm 7$ dB at 1 KHz
	$\pm 1$ dB at 100 Hz and 10 KHz
Treble:	$\pm 20$ dB at 20 KHz
	$\pm 15$ dB at 10 KHz

### Input Sensitivities.

Magnetic:	3.5 mV - 47 K $\Omega$
Ceramic:	55 mV (Velocity loaded)
Tape:	100 mV - 150 K $\Omega$
Radio:	100 mV - 150 K $\Omega$

**Crosstalk.** Better than 36 dB on any input, with 1 channel driven to full output.

**R.I.A.A. Magnetic Compensation** within  $\pm 1$  dB of B.S.1928 response.

**Magnetic Input Overload Factor.** 30 dB

### Filters.

Rumble:	-17 dB at 20 Hz
Scratch:	-9 dB at 20 KHz

**Loudness Control.** -16 dB at 1 KHz; 0 dB at 50 KHz and 20 KHz, with volume controls at mid. position.

**Signal to Noise Ratio.** 54 dB on magnetic input, with volume controls at maximum and tone controls level - Stereo mode.

**Tape Recording Output.** 70 mV from 47 K  $\Omega$  source impedance.

**Speaker Operation.** A high quality pair of speakers are required to be plugged in the two stereo outlets. The other two speaker outlets will not function unless the stereo outlets are in circuit with the two main high quality Stereo speakers.

**Mains Supply.** Nominal: 240 V. a.c., 50 Hz, 75 Watts.  
Minimum: 200 V. a.c., 50 Hz.

**Fuses.** 1 amp quick blow, 20 mm.

**Styling.** Teak cabinet, affixed to anodised brushed extruded fascia trimmed with black, silver slider knobs and push buttons.

**Size.**  $13\frac{1}{2}'' \times 9'' \times 2\frac{3}{4}''$ .

## ANCILLARY EQUIPMENT

The AMSTRAD INTEGRA 4000 Mk II High Fidelity Amplifier may be used with all types of Magnetic Cartridge, and with Ceramic cartridges of medium output. The signal levels on the various inputs should be kept as follows:-

**Magnetic Cartridge.** 1.5 mV or greater, use magnetic input socket.

**Ceramic Cartridge.** 50-300 mV input levels are acceptable on this input; use ceramic input socket.

**Crystal Cartridge.** Although reduced performance will be obtained from a crystal cartridge, it may be used if necessary by plugging into the ceramic input socket.

**Tape Recorder.** Any tape recorder having an output level of between 50 mV 300 mV may be used with this amplifier. The amplifier will also supply an output back to the tape recorder for recording purposes of approximately 60 mV, dependent on loading. This output is independent of tone control and volume control settings.

**Radio Tuner.** Any A.M. radio tuner or V.H.F./F.M. radio tuner with an output level between 50 mV and 300 mV may be used with this amplifier. The AMSTRAD MULTIPLEX 3000 STEREO F.M. TUNER is recommended for use with the INTEGRA 4000 Mk II amplifier.

**Speakers.** The AMSTRAD ACOUSTRA 1500 high fidelity loudspeakers are particularly recommended for use with this amplifier. If required, speakers with a poorer frequency response can be used on the two other outputs, as a restricted bass response does not degrade the surround-sound performance greatly. All speakers, on both Stereo and surround-sound outputs, must have a nominal impedance of 8 Ohms or greater, and must have a continuous power rating of 15 Watts R.M.S. each. 3 Ohm or 4 Ohm loudspeakers must not be used with this amplifier.

**Headphones.** The amplifier had been designed to feed low impedance headphones of nominal impedance 4-16 Ohms.

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