

Deluxe Complete FM Radio Station Package

This system contains all the equipment needed to start broadcasting, plus a whole range of extras:

2 mixing consoles, one for broadcasting and one for additional recording and overdubbing.

3 Networked PCs with Windows Vista, radio production and playlist software, which allow for two editing computers to feed programming directly to a broadcast computer through the network.

3 Portable Digital Mp3 Recorders, which allow 3 community radio journalists to be out making recordings in the field simultaneously.

A studio telephone and telephone hybrid which allow phone calls to be patched into the studio and broadcast live.

A top of the range RVR 300 Watt FM stereo transmitter and two high quality dipole antennas, which provide sufficient power to broadcast to a range of 50km, depending on the height of the antenna, and the terrain of the local area.

And a lot more!

The equipment in this system is suited to a radio station with three rooms:

A Control Room, where the main broadcast mixer, broadcast PC and other broadcast equipment is installed, used to engineer recordings and live broadcasts.

A Recording Room, where the radio presenter and guests are located.

An Editing Room, used for editing and production of pre-recorded programming. The two editing PCs, small mixer and field recording equipment should be kept in here.



RadioActive Deluxe Package Equipment List

Studio Equipment

- 1 D and R Airmate Broadcast Mixing Console (8 Mic 8 Stereo Line)
- 1 Behringer 6 Channel Production Mixing Console
- 1 Alesis Limiter-Compressor
- 3 American Audio Portable Digital Recorders
- 2 Numark CD/MP3 Players
- 3 Dell Desktop PCs with audio production and radio playlist software
- 3 Dell Monitors, Keyboards, Mice
- Computer and Network Accessories (Router, Cabling etc.)
- 2 Pairs of Logitech Computer Loudspeakers
- 1 BT Decor Studio Telephone
- 1 D and R Telephone Hybrid
- 1 Teac Dual Cassette Recorder
- 1 FM Radio
- 1 Pair of Alesis Studio Monitor Speakers
- 2 B1 Behringer Condenser Microphones
- 3 Superlux Dynamic Microphones
- 5 Pairs of Sennheiser Studio Headphones
- 1 RPL 4 Channel Headphone Splitter
- 2 8RU Brackets (for building an equipment rack)
- 2 Beefman Anglepoise Mic Stands
- 4 Beefman Table Mic Stands
- Cables and Connectors
- 2 Recordable CDs 100 pack
- 2 Blank Cassettes 20 pack

Please note: The following equipment is not supplied, but is required for the proper functioning of the station, and should be sourced locally:

- Antenna Tower/Mast
- Studio Building
- Studio Furniture (Tables, Chairs, Shelves)
- Electricity Source
- Voltage Regulator
- Grounding Cable and 4' Copper Rod for Lightning Protection

Please contact us if you would like help with finding any of the above items.

Transmission Equipment

- 1 RVR 300 Watt FM Transmitter
- 2 Jaybeam Wideband Dipole Antennas
- 1 Power Divider
- 1 50 Ω Ohm RG 213 Coaxial Cable 40m
- 1 SWR / Power Meter
- 1 Dummy Load
- 1 Lightning Arrester
- 6 PL259/ N Connectors

Please note: any equipment can be added to or removed from this package to suit specific project needs. Please contact us to discuss your particular requirements.

Extras

- Maintenance Tools and Supplies
- Electrical Supplies
- Training Materials (Manuals, Markers)
- Office Supplies (Pens, Paper, Printer, Ink)

TOTAL

£9750 (excl. shipping and customs)

Payment Details

Payment can be made by wire transfer to:

Account Name: RadioActive Consulting Limited
Bankers: Santander
Bank Account: 47185580
Sort code: 090127
IBAN: GB87 ABBY 0901 2747 1855 80
Swift Code / BIC: ABBYGB2LXXX
Bank Address: Santander UK PLC, Business Banking, 301 St Vincent Street, Glasgow, G2 5NT, United Kingdom

Please note:

Prices are in UK Sterling excluding VAT (no VAT payable on goods exported outside the EU.)

Order will be assembled upon 50% payment. Assembly takes 4 – 6 weeks. Once the assembly is complete will contact you to ask for payment of the remaining fee. Once this has been received the order will be shipped.



Deluxe Package Equipment Details

Below are descriptions and images of all the main pieces of equipment included in the deluxe package.



D and R Airmate Broadcast Mixing Console

The Airmate is a professional quality broadcast mixer designed specifically for radio.

It allows 8 mics to be plugged in, along with 8 stereo audio sources, such as a CD player, cassette player, minidisc player or computer.

It has a clean feed output, which allows a telephone to be patched into the studio through a hybrid (also included in the Deluxe package). It also has a relay feed which sends a signal to turn on an "ON AIR" light outside the studio and switch off the monitor speakers when the microphone faders are opened. This will stop people making too much noise outside the studio and stop feedback from the speakers entering the microphones. (Switch and "ON AIR" lights can be added to the package as extras.)

At the heart of the studio, this mixer is a serious piece of equipment that will serve your station well for many years.



Behringer 6 Channel Mixer (2 Mic, 2 Stereo)

If any recording or overdubbing is required separate to what is being broadcast, is good to have an extra mixer in the studio. This small mixer allows for 2 mics and 2 stereo line sources (a CD player or minidisc recorder) to be plugged in, and has three outputs, for monitoring and recording.



Alesis 3630 Limiter/Compressor

This device helps to ensure that the sound being broadcast is not too quiet or too loud. It helps makes your station sound a lot more professional.



3 American Audio Portable Recorders

These professional quality recorders are handy for recording out in the field, and transferring directly to computer via USB. Records onto SD Card in WAV or mp3 formats. A high quality versatile recorder.

Numark CDN450 Dual DJ CD/Mp3 Players



These are essential for playing audio CDs and mp3 CDs on the air. These are DJ CD players, built to withstand many years of use.

They can also be used to mix music, as they have pitch control.

Please note: these CD players do NOT play VCD CDs. Only Audio and Mp3 CDs. If you would like to play VCDs we can include a DVD player in your system.

3 Dell Desktop PCs with Radio Software



These 3 PCs come with 3 GB of RAM, a 250 GB Hard Drive, 2.2 GHz dual core processor and built-in DVD-RW Burner. Free digital audio editing, recording and production software is provided (Audacity), as well as radio playlist software (ZaraRadio) and a network between the PCs which allows music and programming to be broadcast from any computer. 2 pairs of Computer speakers are included. An extra 250 GB hard drive can be added for **£80**.

Studio Telephone and Telephone Hybrid



A telephone hybrid allows for a telephone call to be patched directly in and broadcast over the radio. There are ways of doing this without a hybrid, but this is the industry standard way, ensuring the quality of the signal between the host and the callers.

Alesis 2-Way Active Loudspeakers



No studio is complete without a pair of monitor speakers. These monitors come with built-in amplifiers and produce 80 watts each. There are plenty of other options for studio monitors.

5 Sennheiser Studio Headphones



These high-quality studio headphones allow the presenter and one host to monitor what is being broadcast. This make and model produce quality sound and will last for a long time in tough conditions.



2 Behringer B1 Condenser Microphones

These condenser mics offer high-quality warm sound for vocals and acoustic instruments, at an affordable price. The B1 comes with gold XLR connectors and a spider mount, providing isolation against knocks and movement in the studio. **Please note:** it is best not to use condenser mics in humid climates.



3 Superlux Top 248 Dynamic Microphones

These clear-sounding mics are sturdy and durable, and able to handle dusty, dirty conditions and being dropped by accident. 3 mics allows one to be used in the field while 2 are in the studio or vice versa.



RPL 4 Channel Headphone DA

This handy little device allows 4 headphones to be plugged in to the mixer, so that 4 guests in the studio can listen to what is being broadcast, in addition to the host.



Teac Dual Cassette Player/Recorder

While the Long Play recorder above is used to record live broadcasts, this dual cassette player/recorder can be used to play cassettes on air and record from cassette to cassette.

Rack Brackets

8RU Brackets are also provided for the construction of an equipment rack for the limiter/compressor, CD players, cassette deck and telephone hybrid.

Studio Accessories: Mic Stands, Cables, Connectors, CDs and Cassettes



300 Watt FM Transmission System



In this system, the audio signal from the studios is fed into the **transmitter**, which converts it into a radio frequency signal, and amplifies the signal to 300 Watts. This is fed into the **SWR/Power Meter**, to monitor the power and efficiency of the system. The signal then passes through a **lightning arrester**, which is connected to the earth via a copper grounding cable and 4' copper rod. From there the signal is sent to the **antenna**, to be broadcast to the surrounding area.

All connections from the transmitter to the antenna are made using **50 Ohm coaxial cable**.



RVR 300 Watt FM Transmitter

The transmitter is the heart of the transmission system. Connecting this 300 Watt transmitter with a stacked dipole antenna will provide an average of 550 Watts ERP (including cable loss).

ERP stands for *Effective Radiated Power*, and refers to the actual power of the signal being broadcast from the antenna, as opposed to the power of the signal being generated by the transmitter.

When you purchase this transmitter we will ask for a frequency from you that we will tune it to. However the frequency can be changed easily at a later date, either on the LCD display on the front or from inside the box.



SWR/Power Meter

SWR stands for "Standing Wave Ratio". It is a measurement of the efficiency of the transmission system. This device measures the SWR and forward and reverse power of the system to ensure that the transmitter and antenna are working correctly.



RG 213 or RG8 50 Ohm Coaxial Antenna Cable

It is important to choose the right cable, as a lot of power can be lost with the wrong cable. RG 213 or RG8 are suitable for carrying an FM signal of 300 watts to a distance of 60 – 75 metres. For longer distances a thicker cable should be used. This cable goes between the transmitter, swr meter, frequency counter, lightning arrestor and antenna.



“Wide End” PL259 Connectors

“Wide end” PL259 connectors are used with RG213 antenna cable. A connector must be soldered to each end of each piece of cable used. The PL259 connects with the SO239 connectors which are on every piece of transmission equipment.



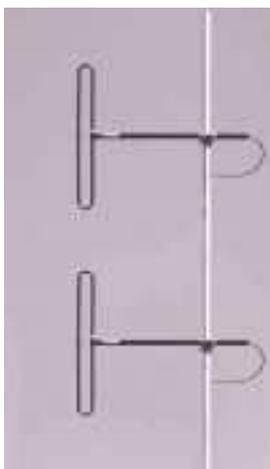
Lightning Protection

This consists of a small lightning arrestor, fitted between the antenna and SWR Meter. It should be connected to a copper cable feeding to a copper rod buried into the earth (copper cable and rod should be sourced locally).



Dummy Load

A dummy load is used to test the transmitter without connecting it to an antenna. A transmitter should NEVER be switched on without being connected to a load, which under normal circumstances would be an antenna. If it is switched on without a load, it can burn out. So if a transmitter needs to be tested, but for some reason cannot be connected to the antenna, then a dummy load is used.



Two-Bay Stacked Dipole Antenna

This antenna gives a boost of 3dB to the power of the signal being broadcast. This increases the power by roughly twice! With loss from cables and connectors included, this will equate to an ERP of 500 Watts when connected to a 300 Watt transmitter. The antennas must be attached to a 3-4 metre long metal pole with a diameter of 25-50cm. This must be placed as high as possible, to cover as large an area as possible.