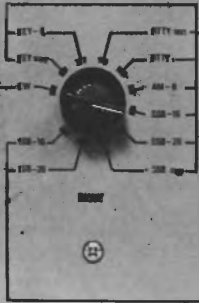


RADIAL MA 1720



TECHNICAL SPECIFICATION

Parameters MA1720J

Frequency: 1 to 29.9999MHz in 100Hz steps.

Frequency Stability and Accuracy: External frequency standard.

Modes of Emission: USB/LSB (A3A, A3J)
Compatible AM (A3H)
ISB (A3B)
MCW (A2H, A2J, in USB or LSB)
CW (A2J in LSB)
Optional: RTTY(F1)(tone shift keying in selected sideband).

Power Output: 200mW max. into 50 ohm load. Power variation not more than ± 1 dB over the frequency range. Power output is adjustable between 25mW and 200mW.

Carrier Suppression: The carrier levels related to modes are:-

- (a) - 6dB ± 1 dB (A3H))
- (b) -16dB ± 1 dB)
- (c) -26dB ± 1 dB) (A3A) relative to p.e.p.
- (d) Not less than -40dB (A3J))
- (e) Tune -6dB ± 1 dB (pre-set))

Unwanted Sideband Suppression: -50dB relative to p.e.p.

Audio Input Level:	-30dB to +10dBm into 600 ohm balanced, by preset adjustment.
A.F. Response:	Standard Within 1dB of peak response from 300Hz to 3000Hz.
Intermodulation Products:	Better than -50dB relative to either one of two equal tones in a standard two-tone test.
Hum:	Better than -50dB relative to p.e.p. in one sideband.
Single Frequency Spurious Emissions:	Better than -53dB relative to p.e.p.
Harmonic Radiation:	Better than -30dB relative to p.e.p.
Inband Noise:	Better than -50dB relative to p.e.p. in a 3kHz bandwidth.
Wideband Noise:	Better than -100dB relative to p.e.p. in a 3kHz bandwidth 500kHz off tune.
Mute:	Better than -70dB below p.e.p. in a 3kHz bandwidth.
RTTY Keying Input:	Single current (neutral/positive or neutral/negative) or double current (polar), from external 5V supply. Input impedance approximately 500 ohms.
Frequency Shift:	85Hz to 850Hz by preset adjustment, centred on 2kHz offset from the nominal carrier frequency. Centre frequency stability is within 2% of total frequency deviation.
Telegraph Distortion:	Not greater than 5%.
CW/MCW/Keying Input:	Operation by contact closure.
CW/RTTY Keying Rate:	200 bauds maximum.
CW On/Off Ratio:	Better than -55dB relative to p.e.p.
Extended Control:	Maximum operating loop impedance 200 ohms.
Meters:	A meter is provided on the front panel to indicate line inputs, input setting levels, RF output and internal supply voltages.
Terminations:	Front Panel: Two sockets for audio input, microphone inputs or monitoring. Connector for test equipment to monitor RF output.

Terminations:

Rear Panel: Supply input with voltage selector panel.
Two audio inputs.
Keying input. Loop keying connections.
RTTY input.
RF output.
External frequency standard input.
Extended and Remote control connectors.
Receiver muting and/or antenna switching from two sets of contacts on internal relay.
Receiver input for monitoring purposes.
Amplifier control (Supply On, Coarse Tune Initiate, Ready, Mute, Reduced Power, Reset/Fault).

Earth Connection.

Controls.

1. Supply: Push button, illuminated when power ON.
2. Standby: Push button, illuminated when ON.
3. EHT/Ready: Push button, illuminated when associated amplifier is READY.
4. Reset/Fault: Push button, illuminated when drive unit is out of lock or amplifier fails.

Frequency Setting:

6 digit thumbwheel selector switch. (Local Control)

Tune/Mute/Operate Switch:

Tune - Supplies a pre-set carrier level for tuning

Mute - Mutes drive unit and associated amplifier

Operate (Low - Low Power, approx. 6dB below
(p.e.p. by adjustable internal
(preset control.
(High - Full Power.

Control Selector Switch:

Selects: Local Synthesizer = (SYNTH)
Local Programmer = (PROG)
Extended = (EXT)
Remote = (REMOTE)

Mode Selector Switch: Switch: SSB, -6dB, -16dB, -26dB, suppressed carrier.
 ISB, -6dB or -26dB carrier.
 Key, -6dB or suppressed carrier.
 A.M. -6dB carrier.
 RTTY Test - Selects 'Mark'
 RTTY - Tone Shift keying
 CW - Selects LSB mode with 1kHz keyed tone. Operating frequency manually reset by adding 1kHz on the thumbwheel switch.

Sideband Selector Switch: Selects Upper or Lower Sideband.

VOX/PTT/Transmit Switch: VOX - Automatic Voice Switching.
 PTT - Press to talk.
 Transmit - Continuous transmission.

Meter Switch: Measure Line input levels, setting line amplifier levels, RF output and internal supply voltages.

Line Input Levels: Two front panel preset controls for setting audio input to the centre of the a.g.c. control range.

Indicator Lamps: Supply ON)
) Drive Unit
 In-Lock)
 Standby)
 Ready)
) From associated Amplifier
 Reduced Power)
 Reset/Fault)
)

Power Supplies: 100 -125V a.c.
 or 200 - 250V a.c.
 45 - 60Hz
 Consumption 70VA approximately.

Control Facilities:

Local

Extended via multicore cable and the MA.1040 Remote Control Panel.

When used with the MA.1038 Pre-programmed Selector the MA.1720 may be operated on any one of six (MA1038A) or ten (MA1038B) pre-selected channels.

Remote via suitable Remote Control System e.g. Racal CSA1505 or the LA7922/LA7923 Remote Control System in conjunction with the MA1038 Pre-programmed Selector and the MA.1040 Remote Control Panel.

Dimensions:

Height 178mm (7in)

Width 550mm (21.7in)

Depth 508mm (20in)

Weight 19,5kg (42.9lb)

Environment:

Temperature Operating -10°C to $+55^{\circ}\text{C}$

Temperature Storage -40°C to $+70^{\circ}\text{C}$

Relative Humidity 95% at $+40^{\circ}\text{C}$

The equipment is suitable for air transportation in unpressurized conditions and for operation at altitudes of 3000 metres above sea level; it is also suitable for transportable and maritime mobile operation and meets certain clauses of British Defence Specification DEF 133 Table L2. In general the parameters in this specification are measured in accordance with CCIR and IEC recommendations.