MX920 DESKTOP BASESTATION/REPEATER SPECIFICATIONS

Minimum performance to exceed the following for 148MHz to 520MHz*:

AS4295-1995,
ETS 300 086 Jan 1991, ETS 300 113,
ETS 300 279,
CEPT T/R 24-01 E Sept 1988,
RFS25, RFS26, RFS32,
TIA/EIA-603,
BAPT 225 ZV 1/2098 (German soft keying),
FCC Part 22, 74, 90, 90.210, 80.475,
MIL-STD-810E (Parts thereof),
EC Marking, EC EMC Directive 89/336/EEC

*Conforms but not all approved.

GENERAL

Frequency Coverage: 135-520 MHz.

Base Model Bands	Nom. Spec. Bands	SW. BW MHz	RX Freq Limit Lo	RX Freq Limit Hi	TX Freq Limit Lo	TX Freq Limit Hi
MX920D3	148-174 MHz	26	135 MHz	178 MHz	132 MHz	180 MHz
MX920L3	350-385 MHz	35	335 MHz	390 MHz	325 MHz	408 MHz
MX920N2	400-435 MHz	35	380 MHz	445 MHz	380 MHz	445 MHz
MX920O2	435-470 MHz	35	420 MHz	480 MHz	420 MHz	485 MHz
MX920P2	450-485 MHz	35	440 MHz	500 MHz	450 MHz	500 MHz
MX920Q	485-520 MHz	35	475 MHz	530 MHz	460 MHz	520 MHz

Note# When operating the MX920 in the extended frequency limits, the switching bandwidth (SW.BW) still applies. Depending on the user frequencies, some re-alignment may be necessary when working in the extend frequency range.

Synthesis Method:	Non mixing PLL. Fractional N synthesizer.
Modulation:	Direct FM two point method.
Channel Spacing:	Programmable 25kHz / 12.5 kHz.
Synthesizer Step Size:	6.25kHz or 5kHz auto select.
Channels:	99 front panel selectable, 255 PC software selectable.
Supply Voltage:	13.8 +/- 20% or optional AC mains input.
DC Power Consumption:	<400 mA receive, typ 360mA. <10A for 50W TX RF, typ 7.8A.
Operating Temperature:	-30 to +60C.
Physical Size:	120mm Height x 355mm Width.
Standard LED indicators:	Power, RX, TX, Tone, Alert, Repeater.
Standard Switches:	Repeater ON/OFF, Accessory ON/OFF.
Standard Controls:	Volume, Squelch.
Interface:	Front panel Microphone accessory socket.
Weight:	8kg to 15kg depending on options.

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TRANSMITTER

MEASURED IN ACCORDANCE WITH TIA/EIA-603 STANDARDS

RF Power Output:	1W to 50W.
Frequency Stability >300MHz:	1.5PPM for –10 to 60C, 2.5PPM for –30 to -10C.
<300MHz:	2.5PPM for –10 to 60C, 5PPM for –30 to -10C.
Audio Response:	Flat within +1,-3dB across BW.
Audio Bandwidth:	300Hz to 3000Hz.
Modulation Distortion:	Less than 3% @ 60% deviation.
S/N Ratio:	Better than 46dB, (WB).
	Better than 42dB, (NB).
Spurii:	Better than -90dBc.
RF Switching Bandwidth:	Full Sub band.
RF Switching Bandwidth PA:	Full Sub band.
Duty Cycle:	100% for 50W RF output with
	Thermal controlled fan.
RF Rise Time:	<10mS with continuous VCO selected
	<200mS with VCO in cold standby

RECEIVER

MEASURED IN ACCORDANCE WITH TIA/EIA-603 STANDARDS

Sensitivity:	Better than -117dBm for 12dB SINAD, typ –120dBm.
Selectivity 135-520MHz:	More than 85dB for 25kHz adj channel.
	more than 75dB for 12.5kHz adj channel.
Audio Bandwidth:	300Hz to 3000Hz (+1,-3dB).
Image Freq Rejection:	Better than 100dB
Spurious Response Immunity:	Better than 80dB.
Intermodulation Immunity:	Better than 80dB.
Blocking:	Better than 100dB at +/- 1MHz point.
Distortion:	Less than 3% @ 60% deviation.
Frequency Stability:	1.5PPM for –10 to 60C, 2.5PPM for –30 to -10C.
S/N Ratio:	Better than 46dB (WB).
	Better than 42dB (NB).
Co-Channel Rejection:	Better than 5dB.
RF Switching Bandwidth:	Equal to Sub band allocation.
Receiver Front End BW:	Equal to Sub band allocation.
Receiver Audio Power:	3 Watts nominal, 5 Watts peak.

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MX920 DESKTOP BASESTATION/REPEATER SPECIFICATIONS

ANCILLARIES AND FEATURES SUMMARY

Full Duplex Base Station or Repeater selectable from front panel
Fully Programmable / Configurable via PC or serial device.
System independent, no additional software program required.
High Speed CTCSS, Full Duplex DCS/DPL
Remote controllable Multi tone CTCSS community decoder
100% full power duty cycle
Multi staged TX VF processing with triple limiters
Flash Firmware Upgrade Capable
Battery backup system ready
Built In Test Equipment (B.I.T.E.) and remote diagnostics
Broad Band High Efficiency LDMOS PA module
RX & TX Switching BW covers full sub band
Fast Serial Data Interface
Full Digital alignment and calibration
Low RFI and EMI emission design
Controlled TX RF envelope
Low current consumption
DTMF encoder and decoder
Latest technology, full SMD
Advanced and optimized RF design
High performance 16 bit Flash processor
Programmable 12.5/25kHz channel spacing
Configurable Function Front Panel LEDs
Ultra bright LEDs viewable in Sunlight with digital intensity control
Simple and fast disassembly for service
Precision internal shielding system
Minimal technician adjustments for future maintenance
Design spec –40 to 70 degrees C
Low aging oscillators
Universal microphone input circuit
Minimal interconnections
Options cans be easily retrofitted
Minimal mechanical adjustments
Front end RX filter never needs realignment
Built in TX modulation alignment circuit
Built in auto alignment software guides technician
Fast and simple disassembly
Built on proven technology
Configuration password protected
Virtual elimination of internal wiring
Field swappable modules include auto alignment
Elimination of helical filters, quadrature coils, MCF matching and trim potentiometers

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OPTIONS

Desk Mic
Internal PSU
Internal Duplexer
Internal Simplex relay
Internal Battery backup
Horizontal or vertical desktop case
Vertical case with carry handle for portable repeater/base station operation
Rackmount tray
Wall mountable kit
Virtual PC Console including ANI / CTCSS / DCS / DTMF display (future proposed)

NOTES:

Not all items and features initially available.
Future software releases and features can be Flash Memory upgraded.
Due to ongoing development we reserve the right to alter specifications without notice.

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