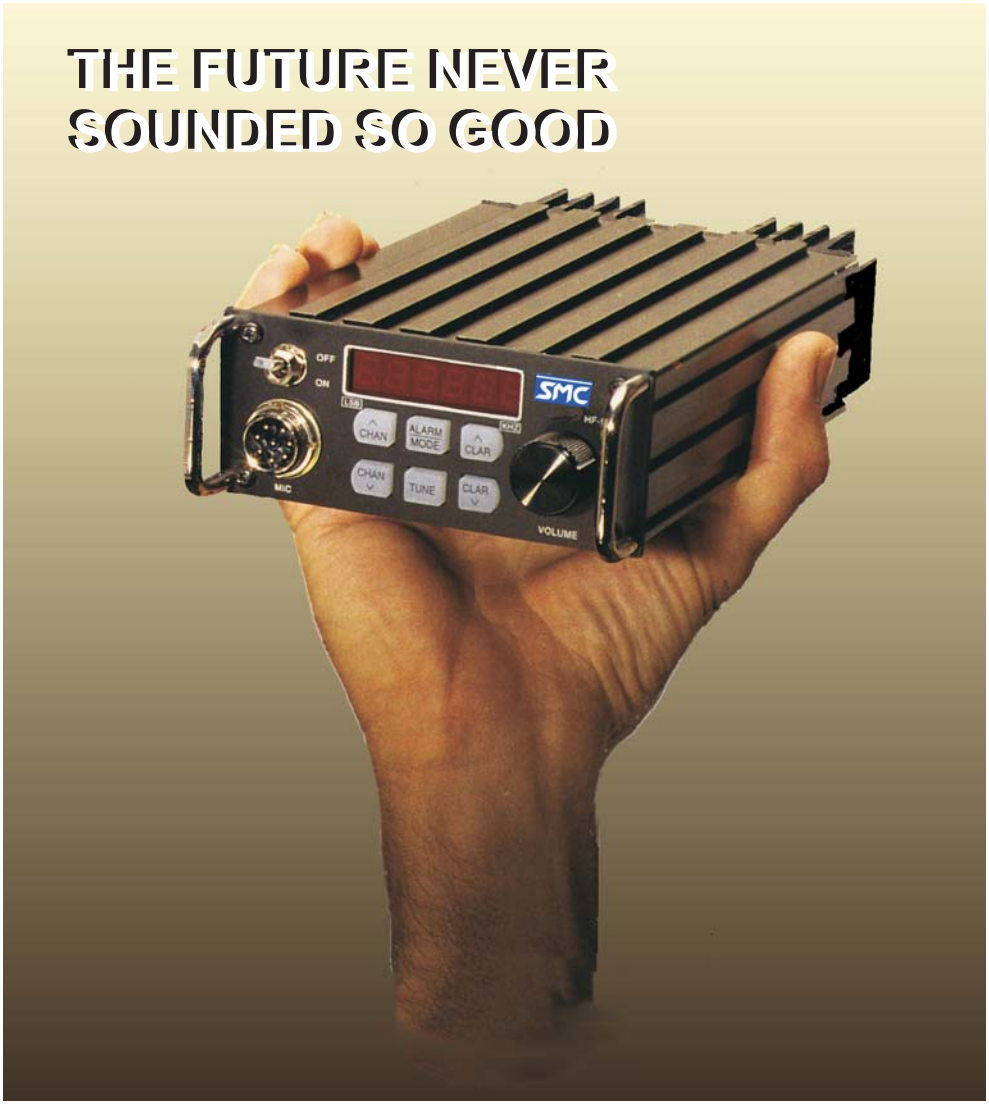


SMC

HF-90 Compact SSB Transceiver

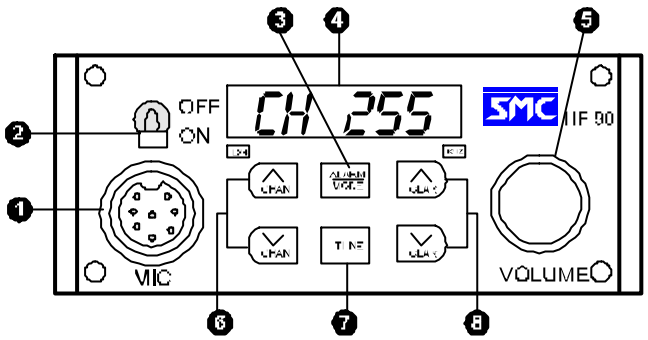
Compact, Rugged, Reliable and Affordable

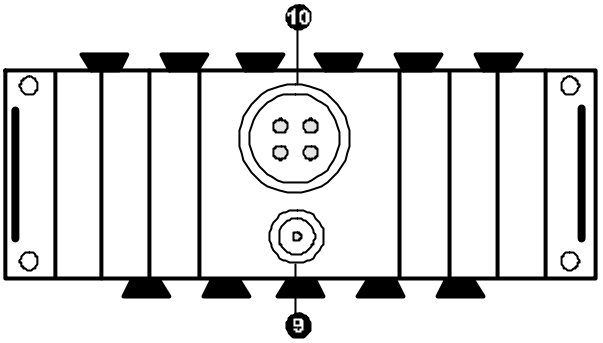
50 watts PEP maximum, 2 - 30 MHz

255 Channels (programmable)

The future never sounded so good

CONTROLS & SOFTWARE FEATURES





FRONT PANEL

1 *Eight pin microphone connector (screw in type), incorporates RS-232 link.*
2 *On/Off Switch*
3 *USB / LSB mode selection key*
4 *Six digit LED display. Shows Channel number in receive mode and frequency when in transmit mode. Incorporates LSB indicator*
5 *Volume control*
6 *Channel up and down scroll keys*
7 *Tune keys. Allows continuous signal to be transmitted for tuning long wire antennas.*
8 *Clarifier up/down scroll keys.*

REAR PANEL

9 *BNC antenna connector (bayonet type).*
10 *Four pole DC connector. Incorporates ATU control and loudspeaker signal.*

HF-90 Transceiver is simple to operate, however, an advanced option incorporating additional features is also available. The differences between the standard and advanced model are outlined below:

STANDARD MODEL

The standard HF-90 incorporates the features indicated in the above illustrations. In addition, the transceiver offers programming and cloning facilities for dealers and authorised users. Both these facilities are accessed via the microphone connector (which provides an RS-232 link) on the front panel of the transceiver. The programming facility is enabled by simple to use PC programming software which allows programming of channels and other parameters. A compact speaker microphone is provided with the standard model.

ADVANCED MODEL

The advanced HF-90 includes all features in the standard model plus Selcall (Selective Calling), which provides radio/telephone access via an approved telephone interconnect system). Selcall scanning and mute facilities are also included, together with an enhanced microphone/handset incorporating a 12 button DTMF keypad for Selcall ID entry, telephone number entry and associated functions.

The Selcall format used is the Australian standard, based on CCIR International Standard 493-4, thus allowing the HF-90 to interface directly with other major Australian brands using the same Selcall format. The HF-90 Selcall incorporates proprietary software which is extremely advanced, using a special DSP (Digital Signal Processing) technique to ensure that Selcalls are successful even in very noisy circuits.

South Midlands Communications Ltd
S M House, School Close, Chandlers Ford Ind Est, Eastleigh, Hampshire, England, SO53 4BY, UK
Tel: +44 (0)23 8024 6200 Fax: +44 (0)23 8024 6206 Email: sales@smc-comms.com

CONSTRUCTION & SERVICE FEATURES

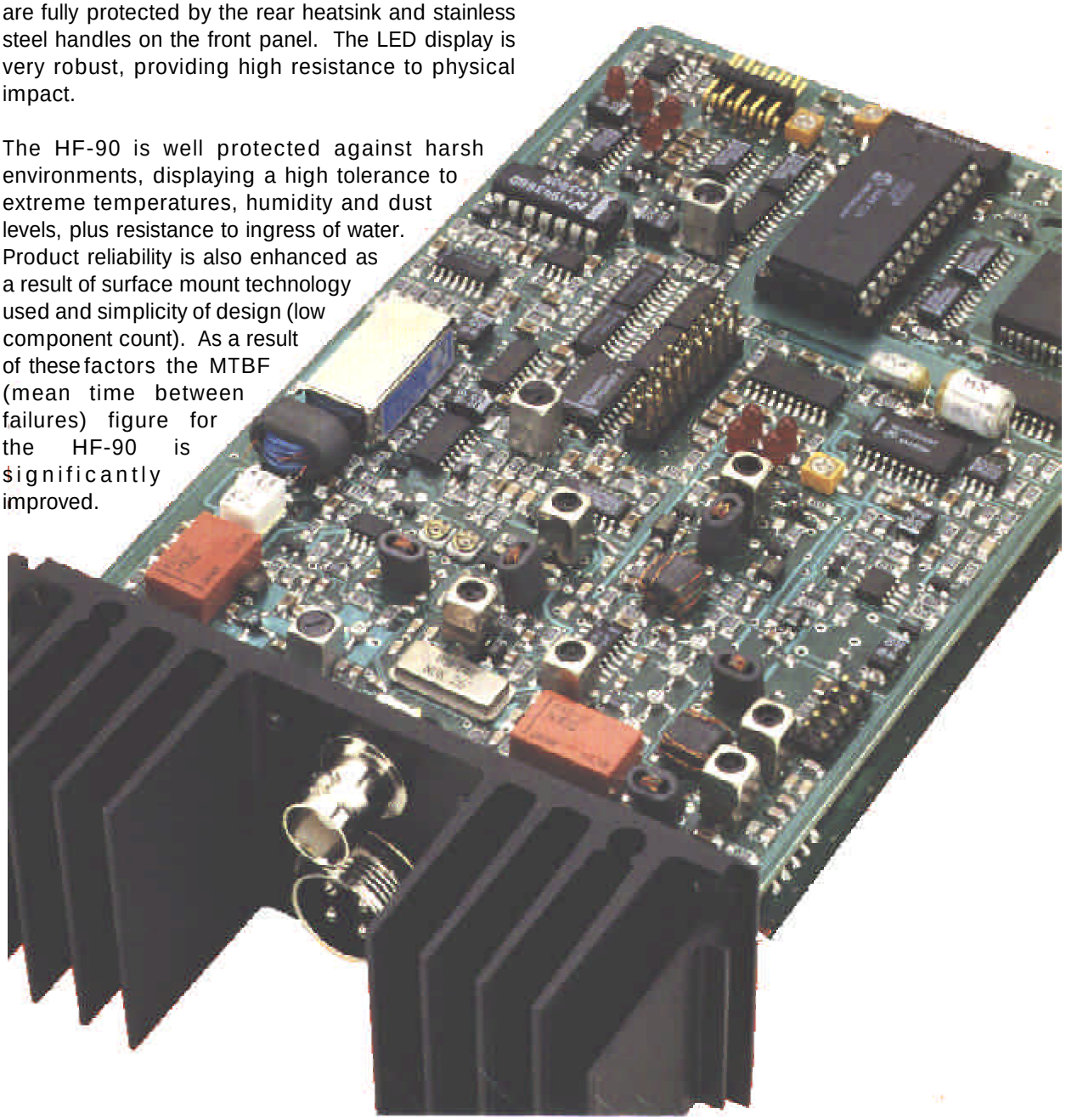
The HF90 is designed so that it will adapt to multiple configurations. Its compact size, light weight and low battery consumption make it ideal for portable and man-pack applications. Its maximum power output of 50 Watt and full frequency coverage also make it suited to vehicle and base station configurations. In addition, the HF-90 has a DC supply requirement from 10-28 Volts, accommodating a variety of batteries and AC power supplies. The high voltage capability is a significant advantage for military and heavy vehicle installations. A full range of accessories is offered by SMC to support the multiple configurations of the HF-90.

The transceiver is extremely rugged in its construction. The exterior case is made from a tough anodised aluminium extrusion, and all connectors and controls are fully protected by the rear heatsink and stainless steel handles on the front panel. The LED display is very robust, providing high resistance to physical impact.

The HF-90 is well protected against harsh environments, displaying a high tolerance to extreme temperatures, humidity and dust levels, plus resistance to ingress of water. Product reliability is also enhanced as a result of surface mount technology used and simplicity of design (low component count). As a result of these factors the MTBF (mean time between failures) figure for the HF-90 is significantly improved.

The unit incorporates a BITE (built-in test equipment) function, which allows identification of possible faults, to a board or subunit level. Accurate fault location is further enabled by the provision of test points on IDC pin headers. If a fault is identified the unit is extremely simple to service. All internal PCBs can be accessed and probed without the need for special tools or jigs. In addition, the PCBs connect together directly so that there is no requirement for any looms or de-soldering of joints when exchanging boards. Furthermore, the low component count in the HF-90 means that the requirement to carry spares inventory is reduced.

The HF-90 is designed so that it is simple and economical to service.



HF - 90 TECHNICAL SPECIFICATIONS

GENERAL

Frequency range:	2 - 30MHz
Modes of operation:	USB, LSB (J3E)
Number of channels:	255
Channel resolution:	100Hz
Supply voltage:	12 - 24V nominal)
Power consumption:	
Transmit:	2A - 10A (subject to pre-set power output)
Receive:	350mA
Frequency stability:	Better than ±50Hz
Antenna impedance:	50 Ohms
Antenna connector:	BNC
Handsets:	Speaker microphone DTMF microphone/ handset
Selcall system:	Based on CCIR 493-4 (Australian Standard)
Serial programming:	IBM PC 4800N1
BITE-:	Micro, Rx, Tx tests

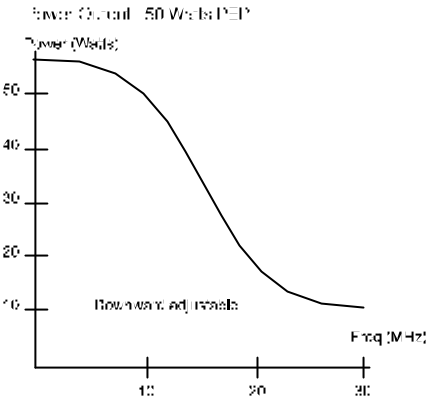
ENVIRONMENTAL

Operating temperature:	-10°C - +60°C
Storage temperature:	-30°C - +80°C
Humidity:	95% non-condensing
Environmental rating:	IP54

PHYSICAL CHARACTERISTICS

Dimensions:	112(W) x 47(H) x 220(D)
Weight:	1kg (HF-90 only)
Construction:	All metal extruded sleeve with front panel and heatsink
Finish:	Black anodised aluminium

TRANSMITTER



Duty cycle:	Normal speech
Unwanted sideband:	Better than -45dB
Carrier suppression:	Better than -50dB
Harmonic suppression:	Better than -40dB
Spurious emissions:	Better than -40dB
Noise suppression:	Better than -35dB
Distortion:	Less than 5% @ 70% PEP
Audio response:	270Hz > 2800Hz
Microphone impedance:	400 Ohms
Tune:	20W radiated @ +1000Hz
Load protection:	ALC

RECEIVER

Sensitivity:	0.25,µV for 10dB S+N/N
Selectivity:	2.3kHz @ -6dB 6kHz @ -60dB
Image rejection:	Better than -50dB
Intermodulation:	Better than -70dB
3rd order intercept:	+18dBm (GaAsFET mixer)
Blocking:	Better than -70dB
Spurious response:	Better than -60dB
IF rejection:	Better than -60dB
Intermediate freq s:	83.16MHz, 455kHz
AGC:	Less than 3dB from 3µV - 1V
Clarifier range:	±7ppm (±70Hz @ 10MHz)
Audio response:	270Hz - 2800Hz
Audio output:	2Watt
Audio load impedance:	8 Ohms
Audio distortion:	Less than 5% @ 1W

Specifications are subject to change without notice

South Midlands Communications Ltd

S.M. House, School Close, Chandlers Ford Ind Est, Eastleigh, Hampshire, England SO53 4BY
Tel: +44 (0)1703 255111 Fax: +44 (0)1703 263507 Email: sales@smc-comms.com