Wireless

8800 Analog and Digital Radio Test Set





Hybrid Bench and Portable Radio Test System for Complete Testing of Analog and Digital Radios

Standing on 50 years of experience and leadership in radio test innovation, Aeroflex introduces a NEW, economical radio test sytstem; the Aeroflex 8800.

With its hybrid portable design, the industry's largest color touch-screen display, and unmatched analog and digital test features, the 8800 offers RF professionals a whole new experience in radio test.

LMR System Support

• AM

• FM

• DMR

• P25

• dPMR

NXDN™

• ARIB T98

Features

• Dimensions:

13.50 x 11.54 x 5.75 in

34.3 x 29.3 x 14.6 cm

• Display Size:

• Internal Battery:

30.5 cm (12 inches)

• Weight:

7.71 kg (17 lbs) Base Unit

0

2.5+ Hours

• Rugged:

30 G Shock (Class 3)

- -

Volts, Current, Ohms

• DMM:

500 W, 4% Accuracy

• Record & Playback:

• In-Line Power Meter:

Digital Audio Quality

• Quick Presets:

Ultra-Fast Test Set Up

• Frequency Lists:

Γx Frequency, Tx Level;

Tx Frequency

• "Fast Stack":

Instant Access to Multiple Meters

• Tracking Generator:

VSWR, Return Loss, Distance-to-

Fault, Tuning Duplexers

SPECIFICATION

RF GENERATOR

PORT INPUT PROTECTION

GEN Port: +20 dBm (Input Power Alarm Typical)

T/R Port: +49 dBm CW (Input Power Alarm Typical)

T/R Port: > +90° C (Temperature Alarm Typical)

FREQUENCY

Range

2 MHz to 1000 MHz

<2 MHz to 100 kHz Usable Range

Accuracy

Same as timebase

Resolution

1 Hz

OUTPUT LEVEL

Range

T/R Port: -50 to -125 dBm

ANT Port: -30 to -90 dBm

GEN Port: -5 to -65 dBm

Accuracy

±2 dB (typ)

±3 dB (<-100 dBm)

±3 dB (<-110 dBm Hold Atten Mode)

Resolution

1 dB

0.1 dB (0 to -6 dBm); HOLD ATTEN: ON

PORT VSWR

ANT Port: <1.5:1 Typical

GEN Port: <1.5:1 Typical

T/R Port: <1.2:1

SSB PHASE NOISE

-90 dBc/Hz at 20 kHz offset

-95 dBc/Hz at 1 GHz at 20 kHz offset, Typical

SPURIOUS

Harmonics

-30 dBc, -42 dBc Typical

Non-Harmonics

-40 dBc, -50 dBc Typical

(±20 kHz offset from carrier; 0 to 1 GHz)

RESIDUAL FM

<20 Hz rms in 300 Hz to 3 kHz BW

<4 Hz rms, Typical <100 MHz

<6 Hz rms, Typical <800 MHz

<11 Hz rms, Typical >800 MHz

RESIDUAL AM

<0.5% rms in 300 Hz to 3 kHz BW

RF GENERATOR MODULATION

RF GENERATOR MODULATION TYPES

Group	Modulation	
Analog	None, FM and AM	
Digital	P25, DMR, dPMR, ARIB T98, NXDN	
DTMF	None, FM and AM	
DCS	None, FM and AM	
Two-Tone Sequential	None, FM and AM	
Tone Remote	None, FM and AM	
Tone Sequential	None, FM and AM	

FM MODULATION - INTERNAL (GEN 1, GEN 2)

Modulation Frequency Rate

Range

0 Hz to 20 kHz

Resolution

0.1 Hz

Accuracy

Timebase ±2 Hz

FM Deviation Range

Of

0 Hz to 100 kHz (GEN 1 and GEN 2 selectable)

Total Harmonic Distortion

3% (1000 Hz rate, >2 kHz deviation, 300 Hz - 3 kHz BP filter)

Resolution

1 Hz

Accuracy

±10% (2 kHz to 50 kHz deviation)

150 Hz to 3 kHz rate

FM MODULATION - EXTERNAL (MIC, AUDIO IN)

MICROPHONE IN

Alternate MIC Configurations	MIC Connector Pins
Range 1: 2-15 mVrms (8 mVrms Typical)	Pin 2-OPEN, Pin 6-GND
Range 2: 35-350 mVrms (100 mVrms Typical)	Pin 2-GND, Pin 6-OPEN
Range 3: 2-32 mVrms (20 mVrms Typical)	Pin 2-OPEN, Pin 6-OPEN

(Range 2 enables a nominal 3 Vdc Bias Voltage)

MIC Frequency Range

300 Hz to 3 kHz

MIC Level

Off, 0 Hz to 80 kHz

MIC Modulation Accuracy

±20% (300 Hz to 1.2 kHz)

±30% (>1.2 kHz)

MIC Slope

Positive voltage yields positive deviation

AUDIO IN

AUD IN Input

Range: 30 V, 3 V

AUD IN Switchable Loads

3 V Range: 150 ohms, 600 ohms, 1 K ohms, High Z

30 V Range: High Z

AUD IN Input Levels

3 V Range: 0.05 to 3.2 Vrms 30 V Range: 3 Vrms - 30 Vrms

AUD IN FM Frequency Range

300 Hz to 5 kHz

AUD IN FM Input Level Sensitivity

3 V Range: 1 kHz/35 mVrms Typical 30 V Range: 1 kHz/350 mVrms Typical

AUD IN FM Input Level Slope

Positive voltage yields positive deviation

AM MODULATION - INTERNAL (GEN 1, GEN 2)

Modulation Frequency Rate

Range

0 Hz to 20 kHz

Resolution

0.1 Hz

Accuracy

Timebase ±2 Hz

Range

Off, 0 to 100% (GEN1 and GEN2 selectable)

Resolution

0.1%

Total Harmonic Distortion

3% (20% to 90% mod, 1000 Hz rate, 300 Hz to 3 kHz BP filter)

Modulation Accuracy

10% of setting, 150 Hz to 5 kHz rate

10% to 90% modulation

AM MODULATION - EXTERNAL (MIC, AUDIO IN)

MICROPHONE IN

Alternate MIC Configurations	MIC Connector Pins
Range 1: 2-15 mVrms (8 mVrms Typical)	Pin 2-OPEN, Pin 6-GND
Range 2: 35-350 mVrms (100 mVrms Typical)	Pin 2-GND, Pin 6-OPEN
Range 3: 2-32 mVrms (20 mVrms Typical)	Pin 2-OPEN, Pin 6-OPEN

(Range 2 enables a nomial 3 Vdc bias voltage)

MIC Frequency Range

300 Hz to 3 kHz

MIC Modulation

0% to 80%

MIC Modulation Accuracy

±20% (300 Hz to 1.2 kHz)

±30% (>1.2 kHz)

AUDIO IN

AUD IN Input

Range: 30 V, 3 V

AUD IN Switchable Loads

3 V Range: 150 ohm, 600 ohms, 1 K ohms, High Z

30 V Range: High Z **AUD IN Input Levels**

3 V Range: 0.05 to 3.2 Vrms

30 V Range: 3 Vrms - 30 Vrms

AUD IN AM Frequency Range

300 Hz to 5 kHz

AUD IN Level Sensitivity

3 V Range: 1%/35 mVrms Typical (High Z load)

30 V Range: 1%/350 Vrms Typical (High Z load)

AFGEN 1 AND AFGEN 2

FREQUENCY

Range

0.0 Hz to 20.0 kHz

Resolution

0.1 kHz

Accuracy

Timebase ±2 Hz

OUTPUT LEVEL

Load Impedance

600 ohms

Audio Level Out

O Vrms to 1.57 Vrms

Resolution

0.001 Vrms

Accuracy

±10%; >100 mVrms, 30 Hz to 5 kHz

Distortion

<3% (1 kHz rate, sine 300 Hz to 3 kHz)

RF RECEIVER

Port Input Protection

ANT Port: +20 dBm (Input Power Alarm Typical)

T/R Port: +49 dBm CW (Input Power Alarm Typical)

T/R Port: >+90° C (Temperature Alarm Typical)

FREQUENCY

Range

2 MHz to 1000 MHz

<2 MHz to 100 kHz Usable Range

Accuracy

Same as Timebase

Resolution

1 Hz

INPUT AMPLITUDE

Sensitivity

ANT: -80 dBm, typical 10 dB SINAD (-110 dBm with preamp)

T/R: -40 dBm, typical, 10 dB SINAD

Minimum Level Receiver Measurements

ANT: -60 dBm Preamp off, -80 dBm Preamp On, RF Error Meter

T/R: -20 dBm Preamp Off, -40 dBm Preamp ON, RF Error Meter

DEMOD Meters

ANT: Distortion, SINAD, Modulation, AF Counter

T/R: Modulation, Distortion, SINAD, AF Counter

Maximum Input Level Receiver Measurements

ANT: +10 dBm (Auto, Preamp off)

T/R: +47 dBm CW, FM

+41 dBm AM

RECEIVER DEMODULTION TYPES

AM, FM, DMR, dPMR, ARIB T98, NXDN, P25

AM/FM DEMODULATION

IF Bandwidth

FM: $5~\rm{kHz},~6.25~\rm{kHz},~8.33~\rm{kHz},~10~\rm{kHz},~12.5~\rm{kHz},~25~\rm{kHz},~30~\rm{kHz},~100~\rm{kHz},~300~\rm{kHz}$

AM: 5 kHz, 6.25 kHz, 8.33 kHz, 10 kHz, 12.5 kHz, 25 kHz, 30 kHz

Audio Filters Bandwidth

FM: C-WT BP, CCITT BP, NONE, $15\,$ kHz LP, $300\,$ Hz LP, $300\,$ Hz HP, $5\,$ kHz LP, $300\,$ Hz to $5\,$ kHz BP, $300\,$ Hz to $3\,$ kHz BP, $300\,$ Hz to $20\,$ kHz BP, $3\,$ kHz LP

AM: C-WT BP, CCITT BP, NONE, 15 kHz LP, 0.3 kHz LP, 0.3 kHz HP, 5 kHz LP, 300 Hz to 5 kHz BP, 300 Hz to 3 kHz BP, 0.3 kHz to 20 kHz BP, 3 kHz LP

Audio Output, Level Sensitivity

FM: 3 Vrms/kHz Dev/IF BW (kHz), ±15%

AM: 7 mVrms/% AM, ±15%

LO EMISSIONS

<-50 dBc

RF FREQUENCY ERROR METER

Units

Hz, PPM

Range

±200 kHz, ±1000 PPM

Resolution

1 Hz

Accuracy

Timebase ±1 Hz

RSSI (RECEIVE SIGNAL STRENGTH INDICATOR) RF POWER WITHIN RECEIVER IF BANDWIDTH

Units

dBm, Watts, microWatts

Range

-120 dBm to +60 dBm

RF Level Range

T/R Port (preamp off): -50 dBm to +47 dBm

ANT port (preamp off): -90 dBm to +10 dBm

ANT port (preamp on): -110 dBm to -10 dBm

Resolution

0.01 dBm

Accuracy

±3 dB; (1.5 dB Typical) Normalized

Ext Attention

0 to 30 dB, 0.01 dB resolution

RF POWER METER (BROADBAND RF POWER INTO T/R PORT)

Maximum Input Level

50 Watts continuous, +25° C, ±10° C

Alarms

+49 dBm (Input RF Power Alarm)

>+90° C (Temperature Alarm)

Meter Range

+20 to +53 dBm

Meter Floor

0.10 W/+20 dBm

Averaging Range

1 to 99

Display Units

Watts, dBm

Resolution

0.01 W, 0.1 dBm

Accuracy

10% of reading, (6% Typical)

Ext Attention

0 to 30 dB, 0.01 dB resolution

FM DEVIATION METER

Range

500 Hz to ± 100 kHz

Meter Type

Peak+, Peak-, (Peak-Peak)/2, RMS

Resolution

0.1 Hz

Accuracy

±10% of reading, 500 hz to 100 kHz Deviation

±5% of reading, 1 kHz to 10 kHz Deviation

150 Hz and 1 kHz rate

 $\pm 3\%$ of reading, 1 kHz to 10 kHz Deviation 1 kHz to 1.5 kHz Rate

AM PERCENT METER

Range

5% to 100%

Modes

Peak+, Peak-, (Peak-Peak)/2, RMS

Resolution

0.001%

Accuracy

±5% of reading, 1 kHz rate

30% to 90% modulation, 3 kHz LPF

SINAD METER

Measurement Sources

AUD IN, Demod

DEMOD

FM: >2 kHz Deviation (IF BW set appropriately for received modulation BW)

AM: >25% Modulation (IF BW set appropriately for received modulation BW)

AUDIO IN PORT

Frequency Range

300 Hz to 10 kHz

Input Level

3 V (Audio Config setup): 0.9 Vp-p to 9 Vp-p 30 V (Audio Config setup): 9 Vp-p to 90 Vp-p

Audio Frequency Notch

1 kHz

Reading Range

0 dB to 60 dB

Resolution

0.001 dB

Accuracy

 ± 1.5 dB, reading >8 dB, <40 dB

DISTORTION METER

Measurement Sources

AUD IN, Demod

DEMOD

FM: >2 kHz Deviation (IF BW set appropriately for received modulation BW)

AM: >25% Modulation (IF BW set appropriately for received modulation BW)

AUDIO IN PORT

Frequency Range

300 Hz to 10 kHz

Input Level

3 V (Audio Config setup): 0.9 Vp-p to 9 Vp-p

30 V (Audio Config setup): 9 Vp-p to 90 Vp-p

Audio Frequency Notch

1 kHz

Reading Range

0% to 100%

Resolution

0.001%

Accuracy

 $\pm 10\%$ of reading +0.1% Distortion, >1% to <20%

AUDIO FREQUENCY COUNTER

Measurement Sources

AUD IN, Demod

DEMOD

FM: 15 Hz to 20 kHz Rate (IF BW set appropriately for received modulation BW)

AM: 100 Hz to 10 kHz Rate (IF BW set appropriately for received modulation BW)

AUDIO IN PORT

Frequency Range

300 Hz to 20 kHz

Input Level

3 V (Audio Config setup): 28 mVp-p to 9 Vp-p 30 V (Audio Config setup): 280 mVp-p to 90 Vp-p

Frequency Range

15 Hz to 20 kHz

Resolution

0.1 Hz

Accuracy

 $\pm~1~Hz$

AUDIO FREQUENCY LEVEL METER

Measurement Sources

AUD IN, SCOPE

INPUT RANGE

Aud In Range

3 V, 30 V

Scope Range

2 VDC, 40 VDC

Frequency Range

200 Hz to <5 kHz

LOAD SELECTION

Scope

High Z

Aud In

3 V Input Range: High Z, 150 ohms, 600 ohms, 1 Kohms

30 V Input Range: 10 K

INPUT LEVEL

Aud In Port

3 V Range: 10 mV rms to 3.2 V rms 30 V Range: 1 V rms to 30 v rms

Scope Port

2.0 VDC Range: 10 mV rms to 1 V rms 40 VDC Range: 1 V rms to 28.28 V rms

Display Unit Resolution

Volts 0.001 V mV 0.001 mV dBuV 0.001 dBuV dBm 0.001 dBm Watts 0.001 W

Accuracy

±5% AUD IN Port

OSCILLOSCOPE

Source

SCOPE, AUD IN, Demod

Bandwidth

5 kHz

INPUT IMPEDANCE

Scope Input

2.0 V Range: 53 K ohm 40 V Range: 1 M ohm

Audio I/O Input

3 V Range: 150 ohm, 600 ohm, 1 k ohm, High Z

30 V Range: 10 k ohm

Coupling

Scope: AC, DC and GND

Audio In: AC only

FM Internal Demod: DC AM Internal Demod: AC

VERTICAL RANGE

Scope, Audio in

10 mV to 10 V-div in a 1, 2, 5 sequence

FM Internal Demodulation

0.1 khz to 50 kHz/div in a 1, 2, 5 sequence

AM Internal Demodulation

5, 10, 20, 50%/div

Vertical Accuracy

10% of full scale (DC to 5 kHz)

Horizontal Sweep

0.5 ms/div to 0.1 sec/div

Horizontal Accuracy

3% of full scale

Trigger Type

Internal (Auto, Normal)

Trigger Level

Variable on vertical scale

Markers

Two markers

Displays vertical measurement

(Voltage, kHz, % Modulation)

Displays Delta in time between markers

CHANNEL ANALYZER

Range

2 MHz to 1 GHz

Span

10 kHz to 5 MHz (1, 2, 5 steps)

Windows

Hanning, Flat Top, Rectangle

Vertical Scale

2, 5, 10, 15, 20 dB/Div

Marker Bandwidth

1 kHz to 5 MHz (1, 2, 5 steps)

Marker Offset

 ± 1 kHz to $\pm 1/2$ Span (1, 2, 5 steps)

Power Band Width (PdB) Accuracy

±3 dB typical (30 dB signal to noise)

Noise Floor

-123 dBm (preamp off),

-140 dBm (preamp on) (span 100 kHz), typical

DIGITAL MULTIMETER (DMM)

AC/DC VOLTMETER

Range

200 mv, 2 V, 20 V, 200 V, 2000 V, Auto (150 VAC RMS to VDC MAX input, Category II)

Resolution

3-1/2 digits (2000 counts)

Accuracy

DC: ±1% FS ±1 count

AC: ±5% FS ±1 count +25 mV

AC/DC AMMETER

Range

200 mA, 2 A, 20 A, Auto

(20 A range uses optional shunt connected to Voltmeter)

Maximum Open Circuit Input Voltage

30 V RMS referenced to COMMON or EARTH GROUND, Category I

Resolution

3-1/2 digits (2000 counts)

Accuracy

DC: ±5% FS ±1 count

AC: ±5% FS ±1 count

AC Volts Frequency Range

50 Hz to 10 kHz

OHMMETER

Range

200 ohms, 2 k ohms, 20 k ohms, 200 k ohms, 2 M ohms, 20 M ohms, Auto

Resolution

3-1/2 digits (2000 counts)

Accuracy

±1% FS ±1 count

IN-LINE POWER METER

RF Measurement Type

Average Power, Peak, Burst, Crest, CCDF

Frequency Range

25 MHz to 1 GHz

Power Range

500 mW to 500 W Average

13.3 W to 1300 W peak

Insertion VSWR

<1.05

Insertion Loss

<0.05 dB

Directivity

29 dB up to 50 MHz

30 dB from 51 to 1000 MHz

AVERAGE POWER

Average Forward Power Range

500 mV to 500 W Average

Peak/Average Ratio, Max

12 dB

Accuracy, Average Forward Power

 $\pm 4\%$ of reading +166 mW

Return Loss

0 to 23 dB

VSWR

1.15 to 00.0

BURST AVERAGE POWER

Burst Average Power Range

13.5 W to 500 W Average

Burst Width

 $1 \mu s$ to 5 ms

Repetitions Rate Min

200 Hz

Duty Cycle (D)

0.001 to 1.0 (D=Burst Width/Period)

Accuracy, Burst Average Power

 $\pm 6\%$ of reading +0.166/D mW

PEAK ENVELOPE POWER

Peak Envelope Power Range

13.3 to 1300 W

Peak Envelope Power Accuracy

Burst width >200 μ s: $\pm 7\%$ of reading, +0.70 W

1 $\mu s <$ burst width <200 μs : $\pm 10\%$ of reading, +1.40 W

 $0.5 \,\mu s < burst \, width < 1 \,\mu s: \pm 15\% \, of \, reading, \, + 1.40 \, W \, to \, 5 \, ms$

Burst width $< 0.5 \mu s$: $\pm 20\%$ of reading, +1.40 W

CREST FACTOR

Measurement Range

500 mW to 300 W, 13.3 W Minimum Peak

Accuracy, Crest Factor

Linear Sum of Peak and Average Power Accuracies

COMPLEMENTARY CUMULATIVE DISTRIBUTION FUNCTION (CCDF)

Measurement Range

0.1 to 100%

Threshold Measurement Range

13.5 to 500 W

Measurement Uncertainty

±0.2%

Level Set Accuracy

As Peak Envelope, Power Accuracy +2.0%

SPEAKER OUTPUT

Speaker

On or OFF

Output

75 dBa min at 0.5 m, 600 to 1800 Hz, max volume Speaker disconnects when headphone installed.

VOLUME CONTROL

Level Range

Scale 0 to 100

TIMEBASE

Temperature Stability

±0.15 ppm at -20° C to 70° C

Aging

0.5 ppm/First Year

0.3 ppm/After First Year

FREQ-FLEX (EXTERNALLY REFERENCED TIMEBASE CALIBRATION)

Input Frequency Range

2 MHz to 1000 MHz

Reference Input Port

T/R: >-20 dBm

Antenna: >-40 dBm

Freq-Flex Accuracy

< 0.5 Hz from external source applied + Stability + Aging

Example: 10 MHz External input, after Freq-Flex $=\pm 0.5$ Hz to external input.

I/O CONNECTIONS

T/R Connector Type: N-Type Female ANT Connector Type: N-Type Female GEN Connector Type: N-Type Female Scope Connector Type: BNC Female AUD IN Connector Type: BNC Female AUD OUT Connector Type: BNC Female

Headphone Jack: 3.5 mm Jack

USB Connectors (Qty 3) Type: USB Type A

Ethernet Connector Type: RJ45

DC Power in Connector: 2-position 2.5 mm Jack

GND Connector: Banana

DMM (Qty 3): Banana (Optional)

IN (In-Line Power Meter): N-Type Female (Optional) OUT (In-Line Power Meter): N-Type Female (Optional)

FRONT PANEL INDICATORS

SYS Indicator

Green: 88XX Power On/Awake Mode

Blue: 88XX Sleep Mode Red: 88XX Shutting Down

Green/Red Flashing: Battery Temperature >60° C

Green Flashing: Battery Life <5%

RAT Indicator

Green: Battery at full charge Amber: Battery is charging

MICROPHONE CONNECTOR

6 Pin Mic Connector

Pin Number	Name		Characteristic
1	GROUND		
2	SPEAKER+	Output	75 dBa min at 0.5 m, 600 to 1800 Hz, max volume
3	PTT	Input	GND, open (with internal pullup)
4	Mic/Audio	Input	0 to 30 mVrms, voiced tone (whistle), 300 Hz to 3 kHz
5	MICSEL 1	GND, open with pullup	GND = 3 V DC bias (active Mic) and Mic audio gain of 2 Open = 0 V DC bias and Mic audio gain of 23
6	MICSEL 2	GND, open with pullup	

ENVIRONMENTAL/PHYSICAL

Overall Dimensions

34.3 cm (W) x 29.3 cm (L) x 14.6 cm (D) 13.5 in (W) x 11.54 in (L) x 5.75 in (D)

Weight

17 lbs (No hardware options installed)

Temperature

Storage: -40°C to +71°C, MIL-PRF-28800F, Class 3

Note: Battery must not be subjected to temperatures below -20° C, nor above +60° C

8800 Operation:

DC Operation: -20°C to +50°C

AC/DC Power Supply: See AC Input Power Section Battery Operation: -20°C to approximately +50°C

Note 1: Battery operation over temperature based on actual temperature rise of battery and instrument usage

Note 2: Battery must not be subjected to temperature below -20°C nor above +60°C

Relative Humidty

Operation: 5 to 95%, tested in accordance with MIL-PRF-28800F, Class 3

Altitude

Operation: 4,600 m, tested in accordance with MIL-PRF-28800F, Class 3

Shock, Functional

Operation: 30 G Shock (Functional Shock), tested in accordance with

MIL-PRF-28800F, Class 3

Vibration

Operation: 5 to 500 Hz random vibrations, tested in accordance with MIL-PRF-28800F Class 3

Bench Handling

Operation: Tested in accordance with MIL-PRF-28800F, Class 3

COMPLIANCE

ЕМС

Emissions and Immunity

MIL-PRF-28800F, Class 3

EN61326-1, Class A

EN61000-3-2

EN61000-3-3

Safety

UL 6101B-1

EN61010-1

CSA C22.2 No 61010-1

Reliability

20,000 hours at 25°C

AC INPUT POWER (AC TO DC CONVERTER/CHARGER UNIT)

AC Input Voltage Range

100 to 240 VAC, 1.5 A max., 47 Hz - 63 Hz

AC Input Voltage Fluctuation

Less than 10% of the nominal input voltage

Transient Overvoltage

According to Installation Category II

Usage Environment

Indoor use, Maximum Relative Humidity 80% for temperatures up to 31°C decreasing linearly to 50% RH at +40°C, Installation Category II, Pollution degree 2

Operating Temperature

 0° C to $+40^{\circ}$ C

Storage Temperature

-20°C to + 85°C

EMI

EN55022 Class B, EN61000-3-2, Class D

Safety

UL 1950, CSA 22.2 No 234 and No 950, IEC 950/EN 60950

DC INPUT POWER

Voltage Range

11 to 32 VDC

Maximum Power

55 W, 65 W charging Optional Battery

Typical Power

30 W

Fused

5 A, 32 VDC, Type F

SUPPLEMENTAL ITEMS

Battery Type

Lithium Ion (Li Ion) battery pack

Note: Battery must not be subjected to temperatures below -20°C, nor above $+60^{\circ}\mathrm{C}$

Battery Operation Time

100% Backlight: 2 1/2 hours typical

Minimum Backlight (still viewable): 3 hours typical

Battery Charge Time

4 hours Unit Power Off Typical

4 hours Unit Powered On Typical

Note: Battery to be charged at temperatures between 0°C and +45°C

Charge dead battery (<10% capacity) for 20 minutes before operation on external DC power

VERSIONS	AND ACCESSORIES	114479	External Battery Charger		
		114477	Hard Transit Case		
Versions 112587	8800 Digital Radio Test Set	114478	Soft Carrying Case		
STANDARD ACCESSORIES		114475	Antenna Kit		
Fuse, 5 A, 32 V, Mini Blade Power Supply		114348	Precision DTF/VSWR Accessory Kit for 8800		
AC Power Cord	- USA AC Power Cord - China	63927	AC25081 Site Survey Software		
AC Power Cord	- Europe AC Power Cord - UK	92793	5017B Bird Power Sensor		
Adapter, N(m) t	o BNC(f), Qty 3	114312	Mounting Bracket		
		112861	Microphone		
OPTIONS		62404	DC Cord/Cigarette Adapter		
113334	8800OPT01 DMR	63936	AC24009 DMM Test Leads		
113335	8800OPT02 dPMR				
113336	8800OPT03 NXDN	Extended Warranties			
113337	8800OPT04 P25	114481	Extended Standard Warranty 36 Months		
113338	8800OPT09 ARIB T98	114482	Extended Standard Warranty 60 Months		
113339 8800OPT10 Tracking Generator		114483	Extended Standard Warranty 36 Months with Scheduled Calibration		
113340	8800OPT11 Occupied Bandwidth				
113309 8800OPT12 Internal Precision Power Meter (Meter + Sensor)		114484	Extended Standard Warranty 60 Months with Scheduled Calibration		
113342	8800OPT13 External Precision Thru-Line Meter (for use with Bird WPS Sensor)				
113343	8800OPT14 PTC				
113344	8800OPT15 AAR Channel Plan				
LANGUAGES					
138235	8800OPT300 Simplified Chinese				
138237	8800OPT301 Traditional Chinese				
138238	8800OPT302 Spanish				
138239	8800OPT303 Portuguese				

ACCESSORIES

138236

138240

138241

138242

138243

138244

138245138246

138313 Calibration Certificate - 8800 82560 AC27003 Attenuator - 20 dB/150 W

8800OPT304 Malay/Indonesian

8800OPT305 Korean

8800OPT306 Arabic

8800OPT307 Polish

8800OPT308 Russian

8800OPT309 Japanese 8800OPT310 German

8800OPT311 French

67076 Internal Battery

CHINA Beijing

Tel: [+86] (10) 6539 1166 Fax: [+86] (10) 6539 1778

CHINA Shanghai

Tel: [+86] 21 2028 3588 Fax: [+86] 21 2028 3558

CHINA Shenzhen

Tel: [+86] (755) 3301 9358 Fax: [+86] (755) 3301 9356

FINLAND

Tel: [+358] (9) 2709 5541 Fax: [+358] (9) 804 2441

Tel: [+33] 1 60 79 96 00 Fax: [+33] 1 60 77 69 22

GERMANY

Tel: [+49] 89 99641 0 Fax: [+49] 89 99641 160 HONG KONG

Tel: [+852] 2832 7988 Fax: [+852] 2834 5364

INDIA

Tel: [+91] 80 [4] 115 4501 Fax: [+91] 80 [4] 115 4502

Tel: [+81] (3) 3500 5591 Fax: [+81] (3) 3500 5592

KOREA

Tel: [+82] (2) 3424 2719 Fax: [+82] (2) 3424 8620

SCANDINAVIA

Tel: [+45] 9614 0045 Fax: [+45] 9614 0047 SINGAPORE

Tel: [+65] 6873 0991 Fax: [+65] 6873 0992

Tel: [+886] 2 2698 8058 Fax: [+886] 2 2698 8050

UK Stevenage

Tel: [+44] (0) 1438 742200 Fax: [+44] (0) 1438 727601 Freephone: 0800 282388

USA

Tel: [+1] (316) 522 4981 Fax: [+1] (316) 522 1360 Toll Free: 800 835 2352









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attributes represented by these three icons: solution-minded, performance-driven and customer-focused.