



BLACK CANYON INDUSTRIAL PARK • 8146 N. 23RD AVENUE  
PHOENIX, ARIZONA 85021 • (602) 995-0608

#### MILSPEC 1030 SPECIFICATIONS

**GENERAL:** The Milspec 1030 HF transceiver is capable of fixed and mobile applications to carry voice, CW, and AFSK services. It is fully compatible with a linear amplifier or can be used alone. It carries a CCS rating at a reduced RF Output level.

**FREQUENCY RANGE:** 10khz to 30Mhz continuous receive, 1.6Mhz to 30Mhz transmit. This range allows additional applications not specified

**FREQUENCY STABILITY:** 0.0001% over 20° - 55°C with optional oven controlled TCXO. 1hz/C° without TCXO.

**CHANNELS:** Virtually an infinite number of channels are accessible using leverswitch frequency entry with resolution to 10Hz. Ten discrete channels can be permanently stored within the memory provided and is switch selected at the front panel.

**CRYSTALS:** The Milspec 1030 is fully synthesized therefore only the reference oscillator requires ovened high stability crystals. Being synthesized also allows for instantaneous channel changes without requiring technical support personnel or equipment. Channels 1-9 can be permanently stored by entering into the RX/TX Channel Memory.

**ANTENNA IMPEDANCE:** 50 Ohms, nominal, unbalanced. PA stage will accept a 2:1 VSWR with only a 10% reduction in output. Fully ALC protected for high VSWR or in the event of antenna failure.

**MODES:** USB, LSB, CW, AFSK, FSK, AM -RECEIVE  
USB, LSB, CW, AFSK - TRANSMIT

**POWER INPUT:** 115v and 230v nominal AC supply. Can be used with external 13.8v DC supply. Provision for automatic pickup of external DC supply upon failure of AC mains requires optional change over module.

**RF POWER OUTPUT:** 200 watts CW/PEP 50% duty cycle, 15 minutes KEY DOWN Max. 100 watts CW/PEP CCS. CCS rating requires High Power Option which includes twin cooling fans and Jennings vacuum T/R relay. Input supply value requires 30 amps at 13.8 VDC.

**INTERMODULATION PRODUCTS:** -35db relative to the tones of a standard two tone test at 100 watts PEP output.

**HUM:** -40 db relative to PEP

**CARRIER LEVELS:** A3J = -50 db min.



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SIDEBAND SUPPRESSION: -50 db PEP minimum

AF INPUTS: 1) High impedance microphone. (50K adjustable) Can be changed to low impedance.  
2) 600 ohms balanced or unbalanced. -20 to 0 dbm range with internal preset adjustment for full rated output PEP.

ALC: Internally adjusted ALC for RF Output. External ALC for use with vacuum tube linear amplifiers excepts negative going DC voltage with full ALC limiting at -7VDC. External ALC circuitry can be changed to accept positive going voltage used in solid state linear amplifier designs.

SENSITIVITY: 1) .25uv (-118dbm or better) for 10db S/N ratio SSB  
2) 2.6uv (-98dbm or better) for 10db S/N ratio AM

Note: No front end pre-amp is used to achieve this level of sensitivity giving unequalled performance in strong RF environments.

IF & IMAGE REJECTION: -80db  
required.)

CROSS MODULATION: 20db below output of channel signal with wanted signal level of 200uv and unwanted signal of 200mv modulated 30%, 25Khz off tune.

BLOCKING: With the wanted signal of 100uv, the unwanted signal 20Khz away must be greater than 300mv to reduce the wanted signal's output by 3db.

CLARIFIER RANGE: The Milspec 1030 has Receive Incremental Tuning while in the RA/TB (split) mode, which is capable of tuning in 10Hz steps the entire receive range of 10Khz to 30Mhz.

SELECTIVITY: 2.1Khz -- Minimum -3db  
5.0Khz -- typical -60db

Selectivity is accomplished with an 8 pole crystal filter at the 1st I.F. of 40.455 + 3.5khz @ 6db. 2nd I.F. 455khz using Collins Mechanical filters insuring filter stability and reliability.



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AF OUTPUTS: 1) 2 watts nominal into a 4 ohm load @ 1Khz . Not more than 5% distortion with 1 uv input signal. Not more than 10% distortion with 2uv input signal.

2) +15dbm maximum, adjustable, 600 ohm balanced.

RECEIVER PROTECTION: Full front<sup>end</sup> protection is provided using back to back diodes. Receive signal passes through Low Pass filter then directly into specially developed high level monolithic double quad balanced mixer, making the system virtually immune to extremely strong local RF energy.

#### ADDITIONAL SPECIFICATIONS DATA:

NOISE BLANKER: Pre I-F blanker with adjustable threshold and 80db dynamic range; effective on pulsed noise such as over the horizon radar and ignition type noise.

PASSBAND TUNING: 1st & 2nd IF tuning in 10Hz steps over +5khz range with respect to 1st & 2nd IF filter passbands allowing maximum interference rejection.

I-F NOTCH FILTER: Active 300Hz notch in 2nd IF. Adjustable  $\pm 1.5$ Khz with 40db rejection. Receiver AGC not affected by notched signal.

HIGH POWER TRANSMIT SYSTEM: PA is MOTOROLA designed capable of 200 watts output CW/PEP. System consists of MOTOROLA MHW 591 predriver module, MOTOROLA MRF 433 drivers, and MOTOROLA MRF 421 Finals. Fully ALC protected along with thermal shutdown.

SITOR ARQ: Milspec 1030 is fully compatible with HF receivers, antennas and TOR Modem supplied for operation in the sitor ARQ mode. --Because of the rapid T/R & synthesizer switching time,(10ms) the 1030 could be made to function in the SITOR ARQ mode as a stand alone unit, without the need of a separate receiver. This capability is only found in systems costing many times that of the Milspec 1030.

CONSTRUCTION: All circuit boards & synthesizer modules plug in. Exchange of defective module takes about 2 minutes with cover removed. Front panel can be exchanged by removing only four screws and disconnecting five ribbon cables. All IC's & transistors socketed for ease in field servicing. Trouble-shooting to board or module levels is quite simple and field replacement of defective module can be made by relatively inexperienced personnel.

SIZE: 16.2" wide, 7.8" high, 17.8" deep. WEIGHT: 45 lbs Transceiver  
9 lbs Plug in Power Xfmr



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#### OPTIONAL ACCESSORIES

200 Watt Output option with twin cooling fans & vacuum T/R relay  
Multi-color L.E.D. Readout  
13.8 Volt DC cable and connector  
60 Pin remote control factory wired harness and chassis socket  
AFSK 300 Hz Mechanical Filter (Collins-Rockwell) 2210Hz CF  
CW 375 Hz Mechanical filter " "  
CW 200 Hz Narrow Mechanical filter " "  
5.8Khz AM Mechanical filter " "  
TCXO - High Stability option  
AC Mains interrupt/ DC supply takeover module  
Rack Mount  
Additional Mechanical Filters with special requirements available-  
contact factory for special needs.

#### SERVICE & FIELD SUPPORT OPTIONS

Complete service manual & trouble-shooting guide  
Operating Manual  
Field Service extender cables

#### ADDITIONAL OPTIONS

RS-232 Computer Interface (available early 1983)



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SIGNAL ONE MILSPEC 1030 HF TRANSCEIVER -- SUGGESTED RETAIL PRICES (3/31/83)

Milspec 1030 HF Transceiver (amateur) \$ 4995.00 \*  
Milspec 1030CM (Commercial/Military) HF Transceiver \$ 6500.00  
(Includes full transmit capability 1.6 to 30 Mhz)

AVAILABLE OPTIONS

200 Watt High Power Option (Includes twin cooling fans  
and High Power vacuum transmit/receive relay) \$ 395.00  
Multi-Color L.E.D. Readout (Red/Amber/Green-(R R A A A G G), <sup>Khz</sup>) \$ 30.00  
60 Pin Remote Control chassis socket \$ 60.00  
TCXO - High Stability Option (crystal oven) \$ 125.00  
Front Panel Control for Receive only antenna \$ 60.00  
SPL-1 3 Way Hybrid Splitter for External Receiver \$ 150.00  
13.8 Volt DC Cable & Connector \$ 60.00  
RS-232 Computer Interface (available 6/83) \$ TBA

OPTIONAL COLLINS/ROCKWELL MECHANICAL FILTERS

5.8 Khz AM Filter \$ 130.00  
300Hz AFSK Filter (Hi-Tone Pair, allows full AFSK  
Transceive) \$ 200.00  
375 Hz CW2 Filter \$ 130.00  
200 Hz CW2 Narrow Filter (steep skirts) \$ 200.00  
Additional Custom filters available - Contact factory

SPECIAL CUSTOM REQUIREMENTS --- CONTACT FACTORY

FACTORY AUTHORIZED MILSPEC 1030 DEALERS (3/31/83)

PAYNE RADIO  
P.O Box 100  
Springfield, Tenn 37172

MADISON ELECTRONICS SUPPLY  
1508 McKinney  
Houston, Texas 77010

HAM RADIO OUTLET  
2620 W. La Palma  
Anaheim, Calif. 92801

Contact DON PAYNE  
(615) 384-2224

Contact DON BUSICK  
(713) 658-0268  
1-800-231-3057

Contact JIM RAFFERTY  
1-800-854-6046  
(714) 761-3033

\*Special Introductory Price -- All Suggested List Prices F.O.B. Phoenix, Arizona