



FC-30

**Solutions for
Tomorrow's Radio**

The FC 30 SCA Generator offers the highest performance available for data or audio transmission, suitable for either high performance audio or DC-coupled data transmission on a multiplexed subcarrier.

Occupying only 1.75 inches of vertical rack space, the FC 30 separate rack enclosure. Extensive RFI filtering permits trouble-free operation in high RF fields.

All operating controls are accessible from the front panel which also accommodates LED peak-modulation indicators.

Subcarrier muting is adjustable over a 0.5 to 10 second range, controlled-decay subcarrier attenuation circuitry which completely eliminates the annoying "squelch belch" effect, common to earlier designs.

In the event of power interruption, the FC 30 will retain its operating mode for up to a one-hour period, automatically returning to operation when power is restored.

Need Solutions?
www.bdcast.com

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SCA Generator



Features

- DC coupled VCO for direct NRZ FSK of the subcarrier
- High-stable, ultra-linear modulated oscillator ensures minimum distortion at 39 to 99 kHz
- Dual-mode, controlled-decay subcarrier attenuator ensures noise-free receiver muting
- DC coupled data input and AC coupled audio output
- Front panel LED peak modulation indicators and control adjustment access
- Memory logic retains mode of operation during power interruption up to one hour, with automatic restart
- Unique, optically-isolated remote control
- Recommended by the leading SCA data transmission equipment manufacturers





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SCA Generator

Performance Specifications

Subcarrier Frequency: 67 kHz (39 to 95 kHz to order).

Subcarrier Frequency Stability: $\pm 0.5\%$ (330 Hz @ 67 kHz, $0^\circ - 50^\circ$ C).

Subcarrier Harmonic Content: Less than 0.3%.

Subcarrier Output Level: 0.5 to 4.0 V, into 600 ohms peak-to-peak; adjustable.

Subcarrier Output Impedance: 600 ohms unbalanced, resistive.

Subcarrier Envelope Decay: Greater than 100 msec. from 90% to 10% sub-carrier levels.

Modulation Capability: $\pm 20\%$ of subcarrier frequency.

FM Noise: 72 dB below +6 kHz deviation @ 400 Hz (150 usec de-emphasis).

Audio Input Impedance: 600 ohms balanced, resistive.

Data Input Impedance: 75 ohm unbalanced resistive, DC coupled.

Input Levels: (Audio) Adjustable, +10 dBm to -10 dBm for ± 6 kHz deviation @ 400 Hz. (Data) Adjustable, 1.0 to 4.0 V p-p for ± 6 kHz deviation (DC coupled).

Preemphasis: (Audio) 150 unseconds standard (75 usec with internal jumper). (Data) No pre-emphasis.

Frequency Response: (Audio) ± 0.5 dB 10-10,000 Hz exclusive of audio low-pass filter (Data) ± 0.5 dB, DC-10,000 Hz.

Audio Low-Pass Filter: Sixth order, -3 dB @ 4.3 kHz, standard (resistor changes for other values).

Data Low-Pass Filter: Same as FM filter or may be bypassed.

Total Harmonic Distortion: Less than 0.5% throughout AF pass band.

Crosstalk SCA To Stereo: -60 dB or better below 100% modulation of left or right, 75 usec de-emphasis, using FX50 Exciter.

Crosstalk Stereo To SCA: -60 dB or better below ± 6 kHz deviation of SCA using 150 usec de-emphasis and FS30 Stereo Generator.

Intermodulation Distortion: Less than 0.5%, 60 Hz / 7 kHz, 1:1 ratio (audio preemphasis and LPF bypassed).

Auto Muting Level: Adjustable from 10 to 30 dB below program level.

Auto Muting Delay: Adjustable 0.5 to 10.0 seconds.

Operating Temperature Range: 0° to 50° C.

Maximum Altitude: 15,000 feet (4,572 M)

AC Power Requirements: 97-133 or 194-266 Vac, 50/60 Hz, 7 watts.

Dimensions: 19"W x 1.75"H x 9"D (48.3 x 4.5 x 22.9 cm).

Net Weight: 4.5 lbs. (2 kg).

Ordering Information: FC30, 909-0051, Single Phase, 97 to 133 Vac or 194 to 266 Vac.