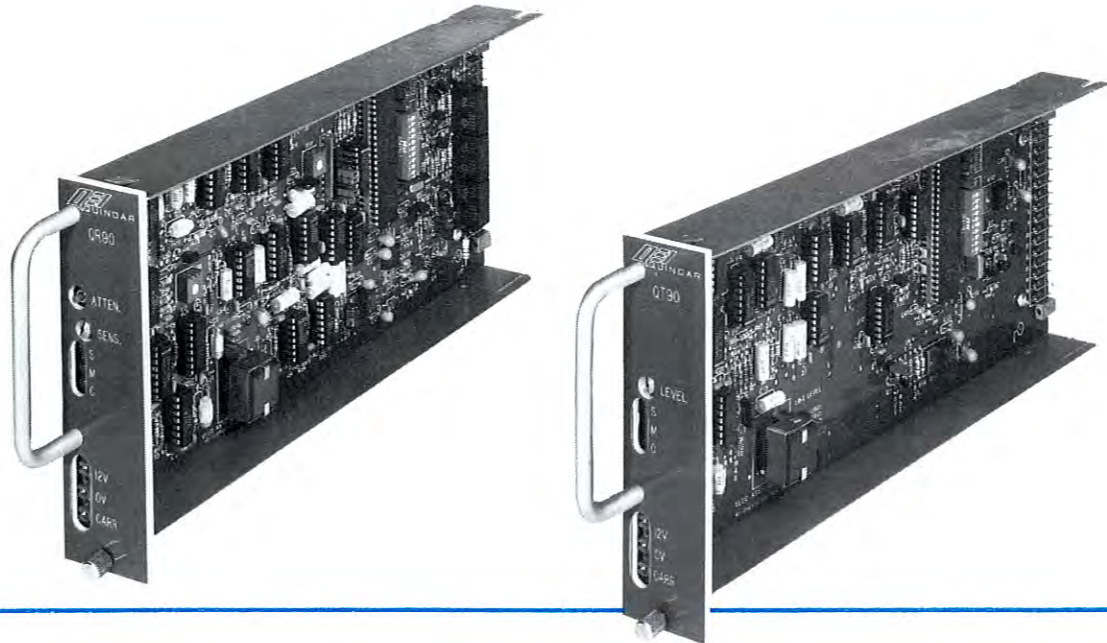




## QS - 90 FULLY PROGRAMMABLE Frequency Division Multiplex System



The QEI, Inc. QS-90, Fully Programmable Frequency Division Multiplex (FDM) system is composed of the QT-90 Transmitter and the QR-90 Receiver. Frequency domain multiplexing, using frequency shift keying, is a classical proven technology for those applications which require multiple independent sets of transmit and receiver locations. This system is another innovation from QEI/Quindar in the tradition of providing state-of-the-art communication and tone telemetry products spanning three decades. Unlike its earlier cousins, the QS-90 incorporates a vast collection of more sophisticated techniques to make it achieve higher reliability, more versatility, and better economics. It employs a unique patented signal processing technique, utilizing advanced analog and digital technology to syn-

thesize narrow band, multi-channel, frequency shift keying (FSK) signals. Each unit is field programmable for both center frequency and shift to provide the user with the flexibility to accommodate any standard audio channel requirement by simply changing programming straps. There is no need to stock filters or modules which greatly reduces spares inventory. A single unit will serve as a spare for all channels. Both the QT-90 and the QR-90 are crystal controlled for a high degree of stability and frequency accuracy. The QS-90 System is compatible with existing QEI/Quindar QT-30 and QR-30 units. The QT-90 and QR-90 can be mounted in any standard QEI/Quindar QX type frame. They can be powered by existing QEI/Quindar power supplies as well as the newly released, innovative QP-21.

# SPECIFICATIONS

## QT - 90 Transmitter

Frequency Range	120 - 5235 Hz
Frequency Selection	Switchable in 5 Hz steps
Output Impedance	> 10 K $\Omega$
Frequency Stability	Better than +/- 0.01%
Frequency Shift	10, 25, 30, 35, 42.5, 60, 70, 75, 120, 240 and 300 Hz (User Selectable)
Modulation	3 State or 2 State FSK
Output Level into 600 Ohms	0 dBm Maximum, adjustable (-5 dBm Maximum for frequencies > 3500 Hz)
Carrier Control	External or Continuous
Test Points	Front Panel test jacks
Power Requirements	+12 Vdc, +/- 10%, 100ma @ 12 Vdc
Weight	1.2 lbs
Dimensions:	
Height	5-1/4 inches
Width	1-1/4 inches
Depth	13-3/4 inches
Protection	1.0 Ampere fuse located internally (on printed circuit board)

## QR - 90 Receiver

Frequency Range	120 to 5235 Hz
Frequency Selection	Switchable in 5 Hz steps
Input Impedance	> 10 K $\Omega$
Maximum Input Signal	+3 dBm composite
Frequency Shift	10, 25, 30, 35, 42.5, 60, 75, 120, 150, 240, and 300 Hertz (User Selectable)
Adj Channel Rejection	>40 dB
Input Sensitivity	0 dBm to -45 dBm
Modulation	3 state or 2 state FSK
Test Points	3 Front Panel Test Jacks
Power Requirements	+12 Vdc, +/-10%, 200 ma at 12 Vdc
Weight	1.2 lbs
Dimensions:	
Height	5-1/4 inches
Width	1-1/4 inches
Depth	13-3/4 inches
Protection	1.0 Ampere fuse located internally (on printed circuit board)
Relay Contacts	30 VA maximum 28 Vdc or 115 Vac maximum