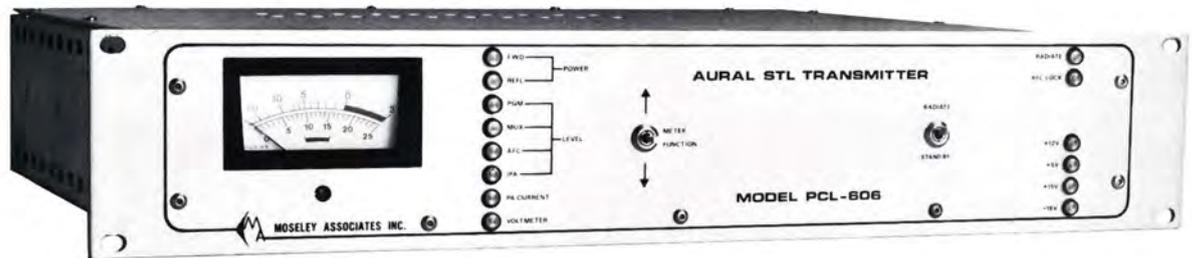




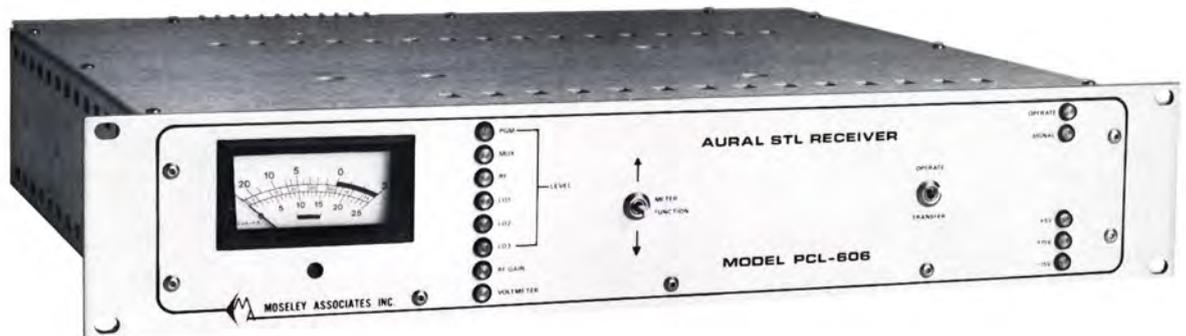
# AURAL STUDIO-TRANSMITTER LINKS

Bulletin 278 A

If You Didn't Get This From My Site,  
Then It Was Stolen From...  
[www.SteamPoweredRadio.Com](http://www.SteamPoweredRadio.Com)



## PCL-606 and PCL-606/C



**FOR** 148-174 MHz  
215-240 MHz  
300-330 MHz  
450-470 MHz  
890-960 MHz

# MOSELEY ASSOCIATES, INC.

A FLOW GENERAL COMPANY

# PCL-606 and PCL-606/C



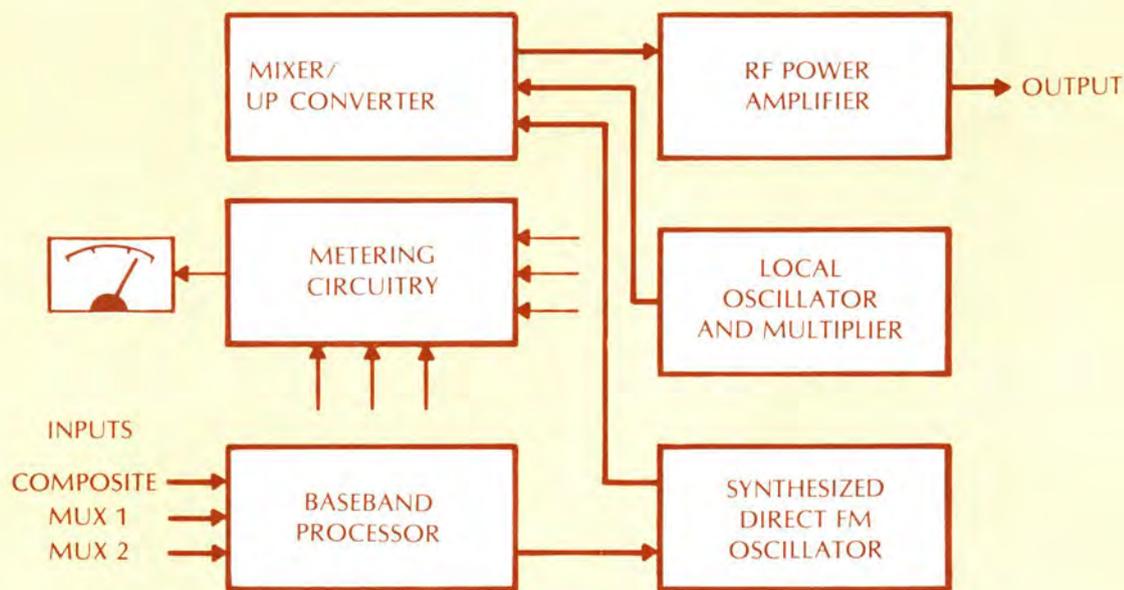
## WHY PCL-606?

The PCL-606 and PCL-606/C Studio-Transmitter Links provide the broadcaster and industrial user alike with the highest quality program conveyance service currently available in equipment of this type. By the use of the latest technology available in today's market, significantly improved specifications and performance are achieved, even in areas overly congested in STL service or in areas presenting high density RF environments. The PCL-606, designed for highest quality monaural audio service, may be used in a dual configuration for stereo service where composite stereo is not desired. The PCL-606/C, the composite stereo version, conveys the composite stereo waveform with virtually no degradation, neither adding to nor taking away from the stereo waveform.

The PCL-606 and PCL-606/C Transmitter and Receiver are of an all-new design, using techniques and components heretofore unavailable. Extensive field testing was done on this new STL system to ensure highest performance in hostile RF environments. Enclosed module construction is used to reduce the possibility of RFI as well as allow easy service access to each printed circuit board. All normal service tuning adjustments are easily, yet securely, accessible through the tops of the modules and unit top covers, while extensive internal metering capabilities are standard in both the Transmitter and Receiver.

## WHY STL?

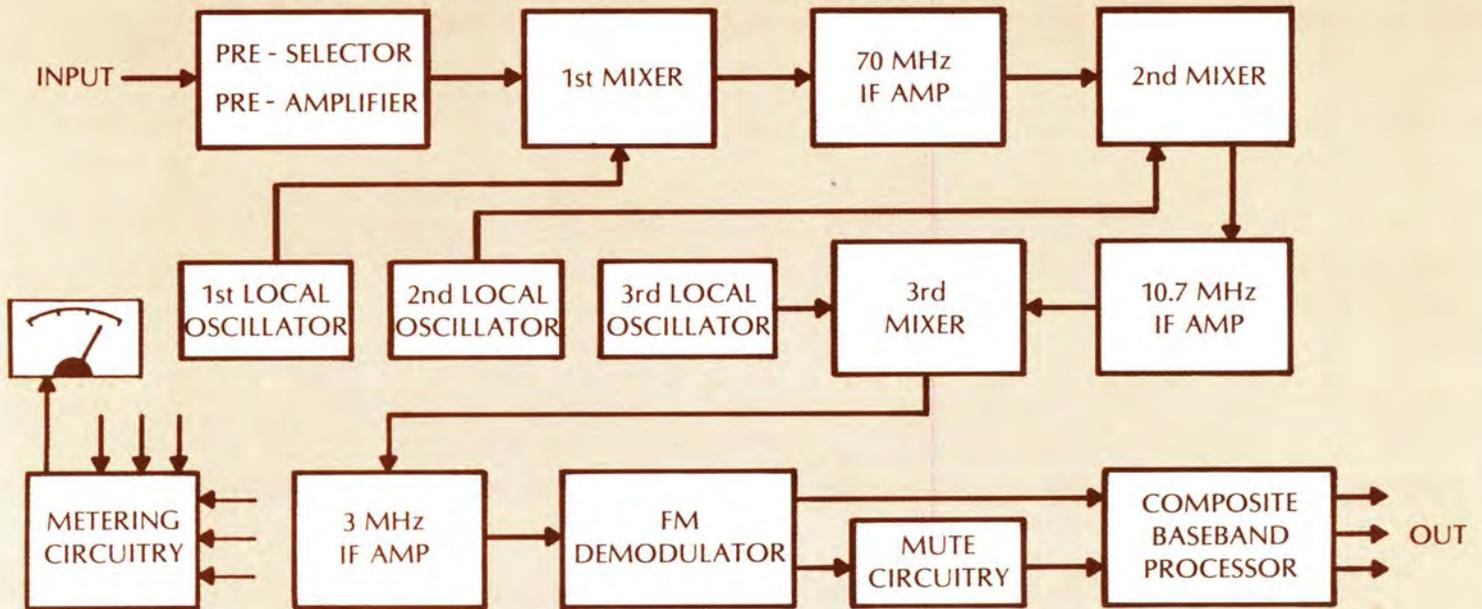
Studio-transmitter link (STL) systems have traditionally offered broadcasters an alternative to leased telephone lines for conveying program information from the studios to a remote transmitter location. Telephone line charges have increased dramatically over the past few years, while line reliability and ultimate audio quality have either degraded or stayed the same. Studio-transmitter links offer the broadcaster complete control over program carriage with excellent reliability, two factors very important in today's broadcasting. Studio-transmitter links will also convey a program subcarrier, such as an SCA feed, as well as remote control information over the same economical link.



## PCL-606/C TRANSMITTER BLOCK DIAGRAM

FOR 940-960 MHz COMPOSITE ONLY

# PCL-606 and PCL-606/C



## PCL-606/C RECEIVER BLOCK DIAGRAM

FOR 940-960 MHz COMPOSITE ONLY

### TRANSMITTER

The PCL-606 and PCL-606/C Transmitters employ a direct FM modulation concept never used before in STL equipment. A synthesized reference oscillator is used for frequency and phase control of the direct FM oscillator. Transmitter FM modulated oscillator frequency conversion is done via a double balanced mixer, instead of employing the usual frequency multiplication of the modulated RF signal.

The transmitter includes a front panel meter with step-switch input selection to allow the metering of important parameters, such as RF forward output, RF reflected output, input levels, and AFC voltage. The metering system even includes built-in absolute value peak responding voltmeter capability, with internal LEDs to indicate DC polarity.

### RECEIVER

The PCL-606 and PCL-606/C Receiver designs incorporate several performance and user-controlled features never before seen in point-to-point audio distribution equipment of this type. A PIN diode attenuator circuit is supplied for user adjustment of

overall system signal to noise ratio. The PIN diode attenuator circuit reduces adjacent signal intermodulation products caused by input signal overloads.

The receiver IF bandwidth may be changed by the user to optimize the tradeoff between distortion and selectivity. All specifications shown are with the IF system in the "narrow" position, providing maximum selectivity.

The receiver demodulator is of an all-new design, offering extremely low distortion and noise characteristics. The demodulator is broadband and adjustment free, using digital pulse counting techniques for maximum fidelity.

The receiver includes a front panel meter with step-switch input selection to allow the metering of several parameters, including audio output level, subcarrier level, and RF input level in microvolts. The metering system includes built-in absolute value peak responding voltmeter capability with polarity indication. The metering circuit output appears on a back panel connector for remote metering.

Built-in transfer circuitry is standard in the PCL-606 and PCL-606/C Receivers to allow automatic changeover to a standby receiver in the event of a detected malfunction.

# SPECIFICATIONS

PCL-606	SYSTEM	PCL-606/C
148-174 MHz, 215-240 MHz, 300-330 MHz 450-470 MHz, 890-960 MHz Specify exact operating frequency	<b>Frequency Range</b>	148-174 MHz, 215-240 MHz, 300-330 MHz 450-470 MHz, 890-960 MHz Specify exact operating frequency
Monophonic audio: $\pm 0.25$ dB or better 30 Hz to 15 kHz	<b>Frequency Response</b>	Composite: $\pm 0.1$ dB or better 30 Hz to 53 kHz, $\pm 0.3$ dB or better 53 kHz to 73 kHz
0.20% or less 30 Hz to 15 Hz (typically better than 0.1% at 1 kHz)	<b>THD &amp; IMD Distortion: Narrow (Wide) I.F. Filter</b>	0.3% (0.2%) or less 30 Hz to 53 kHz, typically better than 0.1% (0.07%) at 1 kHz
Not applicable	<b>Stereo Separation</b>	48 dB or better, 50 Hz to 15 kHz (typically 50 dB or better)
Not applicable	<b>Nonlinear Crosstalk, Subchannel to Main Channel: Narrow (Wide) to I.F. Filter</b>	50 dB (54 dB) or better
Not applicable	<b>Nonlinear Crosstalk, Main Channel to Subchannel: Narrow (Wide) I.F. Filter</b>	50 dB (54 dB) or better
72 dB or better (typically 75 dB) below 100 % modulation	<b>Signal-to-Noise Ratio</b>	72 dB or better (typically 75 dB) below 100 % modulation, demodulated, de-emphasized left or right
3.5" (8.9 cm) high, 19" (48.3 cm) wide, 0°-50°C 16" (40.6 cm) deep	<b>Dimensions, Operating Temperature Range: Transmitter and Receiver</b>	3.5" (8.9 cm) high, 19" (48.3 cm) wide, 0°-50°C 16" (40.6 cm) deep
<b>TRANSMITTER</b>		
10 Watts maximum, 5 Watts minimum 15 Watts maximum, 10 Watts minimum	<b>RF Power Output 890-960 MHz 148-470 MHz</b>	10 Watts maximum, 5 Watts minimum 15 Watts maximum, 10 Watts minimum
Type N Female, 50 ohm	<b>RF Output Connector</b>	Type N Female, 50 ohm
$\pm 40$ kHz	<b>Deviation for 100% Modulation</b>	$\pm 50$ kHz
Better than 0.00025% 0°C to 50°C	<b>Frequency Stability</b>	Better than 0.00025%, 0°C to 50°C
More than 60 dB below carrier level	<b>Spurious and Harmonic Emission</b>	More than 60 dB below carrier level
One Program and Two Subcarrier Channels	<b>Modulation Capability</b>	One Program and Two Subcarrier Channels
Monophonic: +10 dBm, 600 ohm, balanced, floating, barrier strip screw input. Multiplex: 1.5 V peak-to-peak 4 K ohms unbalanced, type BNC female connectors (2), frequency range 22-85 kHz	<b>Modulation Inputs</b>	Composite: 3.5 V peak-to-peak, 6 K ohms unbalanced, type BNC female connector. Multiplex: 1.5 V peak-to-peak, 4 K ohms unbalanced, type BNC female connectors (2), frequency range 110-185 kHz
100/120/220/240 VAC $\pm 10\%$ , 50/60 Hz, 70 Watts	<b>Power Source</b>	100/120/220/240 VAC $\pm 10\%$ , 50/60 Hz, 70 Watts
<b>RECEIVER</b>		
Type N female, 50 ohm	<b>RF Input Connector</b>	Type N Female, 50 ohm
20 $\mu$ V or less required for 60 dB SNR	<b>Sensitivity</b>	150 $\mu$ V or less 60 dB SNR required for left or right channel de-emphasized demodulated,
3 dB I.F. bandwidth $\pm 90$ kHz 60 dB I.F. bandwidth $\pm 400$ kHz 80 dB I.F. bandwidth $\pm 1$ MHz	<b>Selectivity: Narrow (Wide) I.F. Filter</b>	3 dB I.F. bandwidth $\pm 100$ kHz ( $\pm 150$ kHz) 60 dB I.F. bandwidth $\pm 450$ kHz ( $\pm 850$ kHz) 80 dB I.F. bandwidth $\pm 1$ MHz ( $\pm 2$ MHz)
Monophonic: +10 dBm, 600 ohm, balanced, floating, barrier strip screw output. Multiplex: 1.5 V peak-to-peak, 100 ohms, unbalanced, type BNC female connectors (2)	<b>Modulation Outputs</b>	Composite: 3.5 V peak-to-peak, 100 ohm, unbalanced, type BNC female connector. Multiplex: 1.5 V peak-to-peak, 100 ohms unbalanced, type BNC female connectors (2)
100/120/220/240 VAC $\pm 10\%$ , 50/60 Hz, 30 Watts	<b>Power Source</b>	100/120/220/240 VAC $\pm 10\%$ , 50/60 Hz, 30 Watts

FOR FURTHER INFORMATION PLEASE  
CONTACT OUR MARKETING DEPARTMENT

PRINTED IN U.S.A. 4/82  
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE


**MOSELEY ASSOCIATES, INC.**  
 A Flow General Company . Santa Barbara Research Park  
 111 Castilian Drive . . . Goleta, California 93117  
 (805) 968-9621 . Telex: 658-448 . Cable: MOSELEY