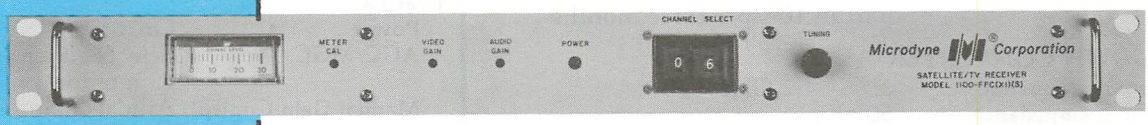
MICRODYNE CORPORATION

SATELLITE EARTH STATION RECEIVER



Model 1100-FFC(X1)(S)

FEATURES

- 24 Channel, Frequency Synthesized
- No Crystals Required For Channel Selection
- Dual Video Outputs
- Threshold at 8.0 dB C/N
- Compact Size Only 1 3/4" High
- Additional Audio Subcarrier Demodulators Available

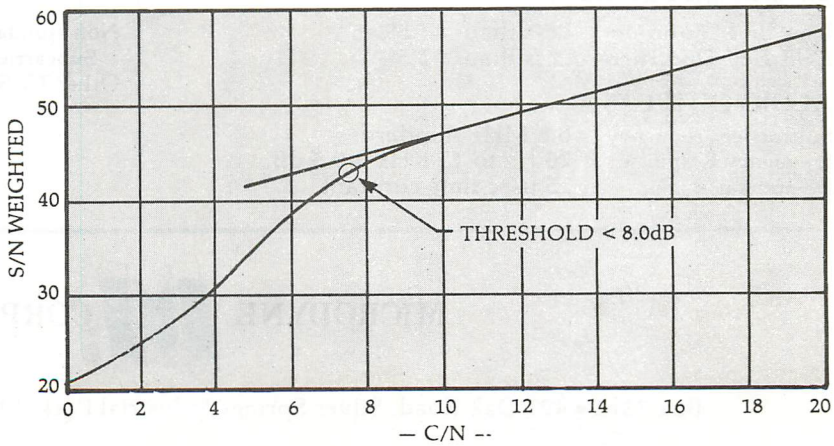
DESCRIPTION

The 1100-FFC(X1)(S), Microdyne 7th Generation Satellite TV Receiver, incorporates the performance, reliability, and technical know-how gained from years of specializing in receiver design to meet customer requirements. Because of this specialization, Microdyne receivers are recognized as the standard of performance throughout the industry.

This frequency synthesized receiver can be manually tuned, using front panel controls without the use of crystals through the 24 channels available via satellite. The unique threshold extension circuitry (patent pending) is a standard feature that insures optimum video performance in the presence of low carrier-to-noise ratios.

The receiver is fully EIA and CCIR compatible and is specifically designed for the reception of wideband FM signals via domestic and international satellites. Applications include,CATV as well as broadcast television stations. It readily interfaces with any existing TVRO terminal and can be supplied separately or as part of Microdyne's complete Satellite Television Receive Only Terminals.

Additional flexibility is available with an optional Model SCB-1 Subcarrier Demodulator. This self-contained, 1 3/4" rack mount unit provides up to four standard or special subcarrier demodulators covering a range from 4.5 to 8.0 MHz. Separate slow scan video, high fidelity audio, data, cueing and various switching modes are thus available without interference with the receiver's regular video and audio programming.



Threshold Characteristics

SPECIFICATIONS

Single conversion, manually tuned, 24 channel operation.

SYNTHESIZER

Stability	±0.001% from 0° to 50°C; one part in 10^6 per three months

DOWN CONVERTER

Input Frequency	3.7 — 4.2 GHz
Input Impedance	50 ohms
RF Bandwidth	40 MHz nominal at 1 dB
Output Frequency	70 MHz

IF DEMODULATOR

IF Frequency	70 MHz
IF Bandwidth	30 MHz
AGC Range	65dB
Demodulator Type	FM
Demodulator Linearity	Linear to within ±1% over ±18 MHz
Video S/N vs C/N	Threshold occurs at < 8.0 dB C/N ratio (See curve)

VIDEO PERFORMANCE

Operating Parameters	Format System fv Maximum 525/60 M 4.25 MHz
Deviation Range	5 to 13 MHz peak at de-emphasis crossover frequency
Video Output Frequency Response	10 Hz to 4.25 MHz, ±0.5dB
Impedance	75 ohms
Level	1 volt peak-to-peak
Level Adjustment (front panel)	±0.5 volts continuous
De-emphasis	525 lines per CCIR Rec. 405.1
Polarity	Black to white transitions positive going
Clamping	> 40dB for 30 Hz triangular dispersion waveform

NON-LINEAR DISTORTION

Differential Gain	±2% maximum, 10 to 90% APL
Differential Phase	Less than ±1°, 10 to 90% APL
2T Pulse Distortion	Less than 2%

LINEAR DISTORTION

Line Time Distortion	Less than ±1.5%
Field Time Distortion	Less than ±1.5%

AUDIO OUTPUTS

Subcarrier Frequency	6.8 MHz standard
Frequency Response	20 Hz to 15 KHz ±0.5 dB
De-emphasis	75 usec time constant
Output Level	Continuously adjustable, 0V to 6.8V peak-to-peak (+10dBm)
Impedance	600 ohms balanced
Harmonic Distortion	1% maximum

METERING AND CONTROLS

Rear Panel:	
Power	On/off
AGC/MGC	Selects either AGC or manual gain mode
Manual Gain Control	Adjusts manual gain level (65dB range)
Front Panel:	
Channel Select	Digital numerical switch provides channel selection. Front panel control is adjusted for maximum indication on the signal strength meter
Audio Gain	Adjusts audio output level 0V to 6.8V peak-to-peak (+10 dBm)
Video Gain	Adjusts video output level to 1 ±0.5V
Meter Calibration	Calibration control for signal strength meter

ENVIRONMENTAL

Temperature	Operating: 0° to 50°C Storage: −60° to 60°C
Atmospheric Pressure	Operating: to 10,000 feet Storage: to 50,000 feet
Mechanical	1.75"H x 19"W x 14"D
Weight	Approximately 10 lbs
Prime Power	115V AC,50 to 400 Hz
Power Consumption	Approximately 20 watts

OPTIONS

De-emphasis	PAL 625 lines and other de-emphasis filters available
Additional Audio Subcarriers	An external Model SCB-1 subcarrier demodulator is available to provide up to four separate audio subcarriers covering the range of from 4.5 to 7.5 MHz (See SCB-1 brochure)
Other Power Source	DC power supply also available
Other IF Bandwidths	17.5, 20, 25, 36 and 40MHz in place of standard 30 MHz
Non-standard Audio Subcarrier	Available from 4.5 to 7.5 MHz in place of standard 6.8 MHz
Other TV Satellites	Available for 12 transponder operation in lieu of 24 channels

MICRODYNE CORPORATION ®

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