

FLR

2,6,7 and 12 GHz Direct Modulation Microwave System

Features (continued)

- Compact transmitter and receiver units require only three vertical rack units (5¼", 13.33 cm)
- Modular design employs slide-in modules and RF components to enable easy access via hinged front access panel
- Supports simplex with full duplex system configurations, and hot-standby, space and frequency diversity protection options
- Monitor and alarm outputs provided on rear panel "D" connector for driving fault alarms and hot-standby equipment
- Available in all FCC and CCIR approved frequency bands from 2 to 13 GHz

These compact, integrated units (including the four internal audio program channels, the high power amplifier, and either AC or DC power supply) only occupy three vertical rack units of space (5¼ inches, 13.33 cm), thus minimizing the number of racks required in a multi-channel system.

A "D" series connector on the rear of each unit provides access to appropriate alarm and monitoring circuits that supply switching signals and data to hot-standby and fault reporting equipment. Hinged front panels allow easy access to all modules and assemblies, including the power supply, for service and maintenance.

All FCC and CCIR approved frequency bands in the 2 GHz to 13 GHz range are supported for domestic and international applications. Model FLR 12 accommodates A, B and K channeling plans for 12 GHz CATV applications, and Model FLR 6 meets 10 MHz channel requirements for 6 GHz private user applications.

The FLR Series compact, integrated units minimize the number of racks required.

FLR SERIES TRANSMITTER/RECEIVER SPECIFICATIONS

GENERAL

Frequency Bands:	
Model FLR 2	1.71 to 1.99 GHz, 1.99 to 2.11 GHz, 2.30 to 2.70 GHz
Model FLR 6	5.925 to 6.425 GHz, 6.425 to 6.875 GHz, 6.875 to 7.125 GHz
Model FLR 7	7.10 to 8.50 GHz (Any 500 MHz band)
Model FLR 12	10.70 to 11.20 GHz, 11.20 to 11.70 GHz, 12.70 to 13.25 GHz
Capacity:	525 or 625 line video; up to 4 audio channels and pilot carrier or video signal plus data above video
Modulation:	FM
Deviation:	±4 MHz
Baseband Levels:	1V p-p, 75 Ohms
Frequency Stability (-30 to +50°C):	±0.005%
Transmitter Output Power:	(See Table 1)
Receiver Noise Figure:	(See Table 1)

SYSTEM PERFORMANCE

Video Performance

Frequency Response	
10 KHz to 4.5 MHz (525 Line)	±0.25 dB
10 KHz to 5.0 MHz (625 Line)	±0.25 dB
5 MHz to 8 MHz (Baseband Output)	±0.50 dB
Field Tilt:	1% Maximum
Line Tilt:	1% Maximum
Baseband Chroma Delay:	±20 nS Maximum
Baseband Chroma Gain:	±0.5 dB Maximum
Differential Phase:	±0.2 degrees Maximum
Differential Gain:	2% Maximum
Signal to Noise Ratio:	70 dB Minimum (See Table 1)
Signal to Hum (P-P/RMS):	60 dB Minimum
Video Input Level:	1V p-p
Video Input Return Loss:	+26 dB Minimum, referenced to 75 Ohms

Audio Performance

Capacity:	Up to four channels may be included internally Standard CCIR or EIA frequency plan
Sub-carrier Frequencies:	
Frequency Response:	±1.0 dB -1.5 dB Maximum
40 Hz to 12 KHz	
12 KHz to 15 KHz	
Signal to Noise Ratio (@ 75 KHz Peak Deviation)	70 dB Minimum
Distortion:	1% Maximum at 75 KHz peak deviation
Input Level at Peak Deviation:	0 to +9 dBm adjustable
Output Level:	0 to +9 dBm adjustable
Input Impedance:	600 Ohms balanced
Output Impedance:	600 Ohms balanced standard; less than 30 Ohms optional

NOTE: All measurements made in accordance with EIA Specifications or CCIR recommendations, unless noted.

PRIMARY POWER

AC Power:	115/230 Vac, 50/60 Hz
DC Power:	20.5 to 29 Vdc or 40 to 56 Vdc

PHYSICAL CHARACTERISTICS

Size (Space/Mounting Requirements)	
Transmitter/Receiver:	Three vertical rack units 5¼ in. (13.33 cm) Approximately 20 lbs (9 kg)
Weight:	
RF Connections:	
1.71 to 2.70 GHz	Type "N" female connector
5.925 to 7.125 GHz	Type WR137
7.10 to 8.50 GHz	Type WR112
10.70 to 13.25 GHz	Type WR75
IF/Baseband Connectors:	BNC
Power, Audio and Alarm Connections:	Barrier strip, screw terminals

ENVIRONMENTAL

Operating Temperature Range:	0 to +40°C
Relative Humidity:	0 to 95%, non-condensing
FCC ID Number and Emission Designator:	(See Table 2)

Specifications subject to change without notice.

TABLE 1.
FLR SERIES OPERATING SPECIFICATIONS SUMMARY

Model	Freq. Range (GHz)	TX Output Power* (dBm)	RX Noise Figure** (dB)	RX Threshold*** (dBm)	System Gain** (dB)	Signal/Noise*** (dB)
FLR 2	1.7-2.7	+39	2.5	-86	125	75
FLR 6	5.9-7.1	+33	3.5	-85	118	73
FLR 6HP		+37	3.5	-85	122	73
FLR 7	7.1-8.5	+30	3.5	-85	115	70
FLR 7HP		+34	3.5	-85	119	70
FLR 12	10.7-13.2	+30	4.0	-84	114	70
FLR 12HP		+33	4.0	-84	117	70

NOTE: Model "HP" suffix indicates high power option.

***NOTE:** Minimum power to branching network.

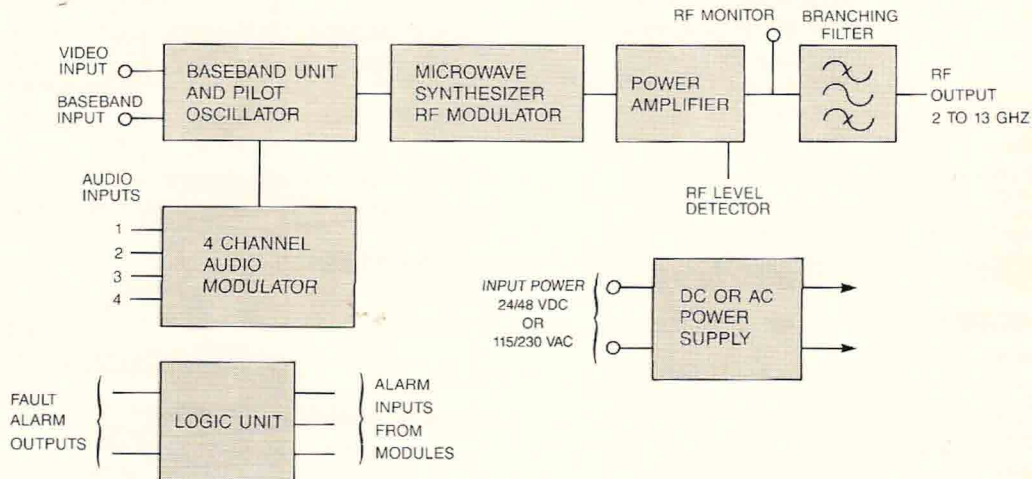
****NOTE:** Does not include branching filter.

*****NOTE:** For one-hop, NTSC video; EIA/CCIR weighting.

TABLE 2.
FLR SERIES FCC DATA

Model	FCC ID Number	Emission Designator	Frequency Tolerance	Power Output	FCC Rules Part No.
FLR 2	FC35DZMRCFLR2	17M0F8W	±0.005%	12W	74
FLR 6	FC35DZMRCFLR6	10M0F8W	±0.005%	2.5W	21, 74, 94
		25M0F8W	±0.005%	2.5W	21, 74, 94
FLR 6HP	FC35DZMRCFLR6HP	10M0F8W	±0.005%	6.0W	21, 74, 94
		25M0F8W	±0.005%	6.0W	21, 74, 94
FLR 12	FC35DZMRCFLR12	12M5F8W	±0.005%	1.5W	21, 74, 78, 94
		25M0F8W	±0.005%	1.5W	21, 74, 78, 94
FLR 12HP	FC35DZMRCFLR12HP	12M5F8W	±0.005%	1.5W	21
		25M0F8W	±0.005%	1.5W	21
		12M5F8W	±0.005%	3.0W	21, 74, 78, 94
		25M0F8W	±0.005%	3.0W	21, 74, 78, 94

FLR TRANSMITTER



FLR RECEIVER

