EP7/8 V.I.F.M. DRIVE UNIT

The EP7/8 variable-inductance frequency-modulated drive unit accepts either a monophonic or coded stereophonic input, and provides a frequency-modulated output centred at the required frequency in Band II. The nominal output power is five watts.

Fig. 1 shows the arrangement of the three constituent plug-in units which are mounted in a PN3/23 panel.

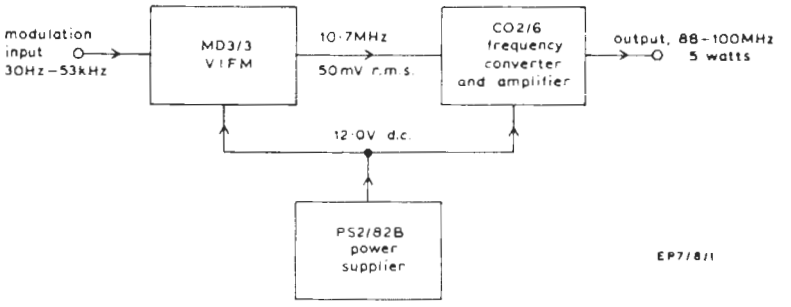

Fig. 1. Block Diagram of EP7/8

General Specification

Modulation Frequencies	30 Hz to 53 kHz
Input Impedance	75 or 600 ohms unbalanced
Input Level for ±75 kHz Deviation	75 ohms: 400 mV p-p ±10% 600 ohms: −3·5 dB ±1 dB
Output Frequency	88 – 100 MHz
Nominal Output Power	5 watts
Load Impedance	50 ohms unbalanced
Temperature Range	+2°C to +40°C
Power Requirements	240 volts ±10%, 35 watts
Power Supplier Output	12·0 volts d.c. at about 1·1 amp
Audio Frequency Response	±0·5 dB from 10 Hz to 100 kHz
Noise (Maximum)	−70 dB relative to ±75-kHz deviation in a 22-kHz bandwidth (weighted and unweighted)
Stereophonic Crosstalk (Total up to ±75 kHz deviation)	Crosstalk introduced is: Less than −40 dB from 150 Hz to 6 kHz Less than −34 dB from 75 Hz to 12 kHz Less than −30 dB from 30 Hz to 17 kHz
Harmonic Distortion (Maximum)	
Up to ±40 kHz deviation	−60 dB second harmonic −60 dB third harmonic
Up to ±75 kHz deviation	−54 dB second harmonic −52 dB third harmonic
Amplitude Modulation	Less than 0·5% at full deviation

General Description

Either a monophonic or coded stereophonic signal is fed into the MD3/3 variable-inductance frequency-modulator unit. The frequency-modulated output of the MD3/3, centred on 10·7 MHz, provides the input for the CO2/6 frequency converter. The frequency converter output is at the required Band II frequency.

The power supplier PS2/82B is set to provide 12·0 volts d.c.

Maintenance Notes

Ensure that the CO2/6 has a 50-ohms load before the unit is powered.

Interconnections between plugs and sockets on the rear panel and the plug-in unit connecting sockets are shown in Table 1.

Centre Frequency Adjustment

The output centre frequency can be adjusted over a small range by the control marked FREQUENCY on the front of the MD3/3.

Deviation Adjustment

The control marked SENSITIVITY on the front of the MD3/3 is used to set the deviation.

Linearity Adjustment and Frequency Response

See Instruction MD3/3.

Output Power Adjustment

See Instruction CO2/6.

TABLE 1

To or from		*Duty*	*From or to*		*Remarks*
	Pin			*Pin*	
MD3/3	1	spare			
	2	spare			
	3	spare			
	4	screen)			
		) coax. 10·7–MHz output	CO2/6	1	
	5	inner)			
	6	spare			
	7	spare			
	8	spare			
	9	supply input –ve (earth)	PS2/82B	5	
	10	supply input +12·0V	PS2/82B	4	
	11	spare			
	12	spare			
	13	spare			
	14	a.f. input)			
		) monophonic or	Painton 7 pin socket	1	
		) coded stereophonic			
	15	a.f. input)	Painton 7 pin socket	4	earth

Table 1 continued

To or from		*Duty*	*From or to*		*Remarks*
	Pin			*Pin*	
	1	coax. 10·7–MHz input	MD3/3	4,5	
	2	spare			
	3	coax. Band II output	BNC output socket		
	4	supply input +12·0V (driver stages)	Painton 7 pin socket	5	Painton 7 pin socket linked on pins 2,3 & 5 unless remotely switched.
	5	spare			
	6	spare			
	7	Ext. monitor	Painton 7 pin socket	6	
	8	supply input +12·0V (output stages)	Painton 7 pin socket	3	
CO2/6	9	spare			
	10	supply input –ve (earth)	(PS2/82B ((CO2/6	5 16	
	11	supply input +12·0V (mixer and oscillator)	(PS2/82B ((Painton 7-pin socket	4 2	
	12	spare			
	13	spare			
	14	spare			
	15	spare			
	16	Earth	(Earth tag ((CO2/6	 10	

Table 1 continued

To or from		*Duty*	*From or to*		*Remarks*
	Pin			*Pin*	
PS2/82B	1	line)			
	2	neutral) 240-volt mains supply	Cannon 3-pin socket		
	3	earth)			
	4	positive output (+12·0V)	(CO2/6 (MD3/3	11 10	
	5	negative output (earth)	(CO2/6 (MD3/3	10 9	
	6	spare			
	7	spare			
	8	spare			
	9	spare			
	10	spare			
	11	spare			
	12	spare			
	13	spare			
	14	spare			
	15	spare			

Table 1 continued

To or from		*Duty*	*from or to*		*Remarks*
	Pin			*Pin*	
Painton 7 pin Socket	1	a.f. input	(MD3/3 ((PO jack inner	14 –	Painton 7 pin socket linked on pins 2,3 & 5 unless remotely switched.
	2	supply input +12·0V	CO2/6	11	
	3	supply input +12·0V	CO2/6	8	
	4	a.f. input	(MD3/3 ((PO jack outer	15 –	)) earth)
	5	supply input +12·0V	CO2/6	4	
	6	CO2/6 ext monitor output	CO2/6	7	
	7	earth			

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